STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

DEPARTMENT OF BIOINFORMATICS

PROGRAMME DESCRIPTION

The M.Sc. programme in Bioinformatics at Stella Maris College was started in the year 2002. The programme gives a strong interdisciplinary foundation to Biology and Informatics with courses like Molecular Biology, and ensures adequate Programming skills in C++, Perl, R and Python. The programme includes recent advancements and internationally demanding research cum job courses like Next Generation Sequencing Analysis, Big Data Analysis and Molecular Modeling and Computer Aided Drug Design. Other courses like Data Mining, Algorithms, Clinical Research Management and Systems Biology cover not only the theoretical aspects of the field, but also the practical essentials of Bioinformatics. The Summer Internship is an integral part of the course, and is done at the end of the first year where the students intern in reputed institutions such as IGIB, IBAB, NCBS, IIT-M, IISc, etc., where they are involved in live projects, and acquire hands-on experience in both wet lab and dry lab techniques and learn work ethics as well. The students are encouraged to choose their area of interest and work under the guidance of the faculty for their Master's Dissertation during the fourth semester.

PROGRAMME SPECIFIC LEARNING OUTCOMES

On successful completion of the Course, students will be able to

- Foster interdisciplinary research in the fields such as computer science, biosciences, mathematics, chemistry and physical sciences
- Interpret biological information computationally
- Develop programming skills in the languages of C++, Perl, Python and R
- Analyse genomic data and contribute to personalised medicine
- Demonstrate entrepreneurial skills
- Establish Bioinformatics start-ups
- Prepare scientific reports to publish and present quality research
- Evaluate the experimental raw data to infer molecular models

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks								
SEMESTER-I								
19BI/PC/BM14	Biomolecules and Biochemistry	4	4	1	0	3	50	50	100
19BI/PC/EB14	Essentials of Bioinformatics	4	4	0	2	3	50	50	100
19BI/PC/CP14	Programming in C++ and Perl	4	3	0	2	3	50	50	100
19BI/PC/DB14	Database Management Systems	4	3	0	2	3	50	50	100
	SAP / SL	2	2	0	0	-	50	-	100
	Department Elective I								
SEMESTER-II								
19BI/PC/MB24	Molecular Biology	4	4	1	0	3	50	50	100
19BI/PC/P122	Molecular Biology-Practical	2	0	0	3	3	50	50	100
19BI/PC/GP24	Genomics and Proteomics	4	3	0	2	3	50	50	100
19BI/PC/RM24	Research Methodology	4	4	1	0	3	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19BI/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
	Department Elective II								
	Common Elective I								
SEMESTER-III								
19BI/PC/PR34	Python and R Programming	4	4	1	0	3	50	50	100
19BI/PC/P232	Python and R Programming-Practical	2	0	0	3	3	50	50	100
19BI/PC/AL34	Algorithms for Bioinformatics	4	4	1	0	3	50	50	100
19BI/PC/MC34	Molecular Modeling and Computer Aided Drug Deisgn	4	4	1	0	3	50	50	100
19BI/PC/P332	Molecular Modeling and Computer Aided Drug Design-Practical	2	0	0	3	3	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19BI/PN/SI32	Summer Internship	2	2	0	0	-	50	-	100
	Common Elective II								
SEMESTER-IV								
19BI/PC/AB44	Advances in Bioinformatics	4	4	1	0	3	50	50	100
19BI/PC/BD44	Big Data Analysis	4	4	1	0	3	50	50	100
19BI/PC/P442	Advances in Bioinformatics-Practical	2	0	0	3	3	50	50	100
19BI/PC/DS47	Dissertation	7	0	0	9	0	50	50	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department								
19BI/PE/CG15	Cell Biology and Genetics	5	4	1	0	3	50	50	100
19BI/PE/BS15	Biomathematics and Biostatistics	5	4	1	0	3	50	50	100
19BI/PE/DM15	Data Mining	5	4	1	0	3	50	50	100
19BI/PE/IM15	Immunoinformatics	5	4	1	0	3	50	50	100
19BI/PE/CR15	Basics of Clinical Research Management	5	4	1	0	3	50	50	100
19BI/PE/CI15	Cheminformatics	5	4	1	0	3	50	50	100
19BI/PE/BP15	Biophysics	5	4	1	0	3	50	50	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086
M.Sc. DEGREE : BIOINFORMATICS
COURSES OF STUDY
(Effective from the academic year 2019-2020)
CHOICE BASED CREDIT SYSTEM

C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks								
Postgraduate Elective Courses Offered to Other Departments								
19BI/PE/IB23	Introduction to Bioinformatics	3	3	0	0	3	50	50	100
19BI/PE/AP23	Applications of Bioinformatics	3	3	0	0	3	50	50	100
19BI/PE/CD23	Computer Aided Drug Design	3	3	0	0	3	50	50	100
Independent Elective Courses								
19BI/PI/PG24	Pharmacogenomics	4	0	0	0	3	0	100	100
19BI/PI/SB24	Systems Biology	4	0	0	0	3	0	100	100

SYLLABUS
(Effective from the academic year 2019-2020)

BIOMOLECULES AND BIOCHEMISTRY

CODE: 19BI/PC/BM14   **CREDITS: 4**
                                                              L T P: 4 1 0
                                         TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand the concepts of the structure of biomolecules
- To understand the basics of metabolism and enzyme kinetics
- To give a basic understanding about the forces that determines the structure of biological macromolecules
- To provide knowledge about the techniques used in studying biological structure and function

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Understand the importance of structural studies in bioinformatics and
- Gain an insight about the forces that determines the structure of biological macromolecules
- Apply the knowledge gained to interpret the properties of biological macromolecules
- Apply the recent advances in Biochemistry and Biophysical techniques in Clinical Chemistry and Life science Research

Unit   1   **(15 Hours)**
   Biomolecules
   1.1 Basics of Biomolecules - Structure and functions of Atoms, Molecules and Chemical bonds.
   1.2 Biomolecule structures – Carbohydrates, Lipids, and Nucleic acids
   1.3 Water - Properties and its importance in Biosystems

Unit   2   **(10 Hours)**
   Metabolic Biochemistry
   2.1 Carbohydrate metabolism – Glycolysis, Glycogen metabolism, TCA cycle, HMP shunt
   2.2 Protein metabolism – Oxidative Deamination, Transamination and Urea Cycle
   2.3 Fatty acid metabolism- β- oxidation and Biosynthesis of fatty acids. Xenobiotics and general detoxification methods in the body

Unit   3   **(15 Hours)**
   Proteins
   3.1 Proteins - Levels of organisation, Amino acid properties, peptide bonds, disulphide bridges and other conformations.

3.2   Four levels of protein structure, The Ramachandran Plot, Structure prediction by crystallography

3.3   Folding pathways. Domains, Motifs and their importance

Unit 4   (10 Hours)

Enzyme Kinetics and Bioenergetics

4.1 Enzyme action Mechanisms, Enzyme Kinetics, Michaelis-Menten Equation, significance of V max and Km, Line weaver-Burk plot

4.2 Competitive and non-competitive Inhibition, Feedback inhibition. Enzyme regulation. Allosteric modulation

4.3 Thermodynamics systems - laws of thermodynamics, statement and applications – concepts of entropy and enthalpy

Unit 5   (15 Hours)

Analytical Techniques

5.1 Principles and applications of Visible, UV, IR spectroscopy, Raman spectroscopy and Fluorescence spectroscopy

5.2 Nuclear Magnetic Resonance -The phenomenon, One dimensional and Two dimensional, NMR application to Macromolecules

5.3 Mass Spectrometry for protein and peptide analysis, MALDI-TOF Analyser, Tandem Mass Analyser, The Ion Trap Mass Analyser, Q-TOF Instrument

BOOKS FOR STUDY

Albert, L. Lehninger**,** *Biochemistry,* Worth Publishing, UK. 2012.

Thomas. E. Creighton, *Protein*s**,** W. H. Freeman, New York.2012.

Igor, Serdyuk, Nathan R. Zaccai and Joseph Zaccai. *Methods in Molecular Physics.*UK: Cambridge University Press, 2007.

Narayanan P. *Introductory Biophysics* Mumbai, India: New Age Publishing Co., 2005

Kensal E.vanHolde, Johnson Curtis W. and Ho Shing P.*Principles of Physical Biochemistry***,** USA: Prentice Hall International Inc., 2005.

BOOKS FOR REFERENCE

Champe, Pamela C, Richard A. Harvey and Denise R. Ferrier. *Lippincott's Illustrated Reviews: Biochemistry*, India: J.P. Brothers Medical Publishers, 2013.

Garrett, H. Reginald and Grisham, M. Charles. *Biochemistry.* USA: Thomson–BroCole, 2012.

Jeremy, M. Berg. *Biochemistry***,** New York: W.H. Freeman, 2010.

Lubert and Stryer. *Biochemistry***,** New York: W.H. Freeman, 2012.

Voet, D. and Voet, G. *Biochemistry,* New York: John Wiley and Sons Inc, 2012.

Bengt Nolting. *Methods in Modern Biophysics,* Germany: Springer, 2004.

D.Freifelder. *Physical Biochemistry.* New York, USA: W.H.Freeman and Company, 1982.

Banwell C.N. *Fundamentals of Molecular Spectroscopy.* New DelhiIndia: Tata McGraw-Hill Publishing Company Lt., 1994.

D.Sherwood, *Crystals, X-rays and Proteins.* London, UK: Longman Group Lts., 1976.

JOURNALS
Journal of Biochemistry
Indian Journal of Clinical Biochemistry
Biochemistry
Biophysical Journal
European Biophysics Journal
Journal of Biophysics

WEBSITES
http://www.biophysics.org/Education/Careers/CareersinBiophysics/tabid/112/Default.aspx
http://www.rcsb.org/pdb/101/static101.do?p=education_discussion/Looking-at-Structures/methods.html
http://www2.chemistry.msu.edu/faculty/reusch/VirtTxtJml/Spectrpy/MassSpec/masspec1.htm
www.themedicalbiochemistrypage.org
www.biochemistry.org

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**   **Duration: 90 mins.**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B – 2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C – 1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Assignment/Open book test/Case study/Clinical implications of metabolic pathways/
Diagnostic applications of biochemicals/Role of Biomarkers

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

SYLLABUS
(Effective from the academic year 2019 -2020)

ESSENTIALS OF BIOINFORMATICS

CODE: 19BI/PC/EB14   **CREDITS: 4**
                                                            L T P: 4 0 2
                                                            TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
  • To provide an integrative approach to the understanding of both theory and practice of bioinformatics
  • To apply biological concepts at different levels to study gene / protein analysis, and the proteins implicated in diseases
  • To understand the evolution of the life

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

  • Better understanding of the bioinformatics concepts
  • Applications of the gene and protein sequence analysis
  • Apprehending the different databases in bioinformatics
  • Perform a complete analysis of the genes and protein
  • Compare and identify the differences in sequences

Unit   1   **(16 Hours)**
  Introduction to Biological Databases
    1.1 Type of Databases, Public Biological Databases – NCBI, EBI, CMBI, OMIM. Primary Nucleotide Sequence Databases: EMBL, GenBank, DDBJ
    1.2 Secondary Nucleotide Sequence Databases: UniGene, SGD. Sequence Submission Methods and Tools (Sequin, Sakura, Bankit)
    1.3 Sequence Retrieval Systems (Entrez & SRS); Sequence File Formats and Conversion Tools. Finding Scientific Articles, Using Pubmed

Unit   2   **(16 Hours)**
  Introduction to Sequence Alignment
    2.1 Protein Alignment, Homology, Similarity, Identity, Gaps
    2.2 Pairwise alignments: Dot Plots, Scoring Matrix-PAM, BLOSUM, Gap Penalty
    2.3 Dynamics programming - Alignment Algorithms: Global Sequence Alignment: Needleman-Wunsch Algorithm. Local Sequence Alignment: Smith –Waterman Algorithm. Rapid, Heuristic Versions of Smith Waterman: FASTA

Unit   3   **(16 Hours)**
  Basic Local Alignment Search Tool
    3.1 BLAST Search Steps, Search Strategy, General concepts

3.2 BLAST Algorithm: Local Alignment Search Statistics and E Value. Raw Scores and Bit Scores, Relation between E and P Values. Gapped Alignments in BLAST, Evaluation of Results

3.3 Advanced BLAST Searching-Specialised BLAST sites: - Organism Specific BLAST Sites, Ensemble BLAST, TIGR BLAST, PSI-BLAST

Unit 4 (15 Hours)
Multiple Sequence Alignment
4.1 Definition of Multiple Sequence Alignment
4.2 Databases of Multiple Sequence Alignment Programs- BLOCKS, PRINTS
4.3 Integrated Multiple Sequence Alignment Resources: InterPro, iProClass

Unit 5 (15 Hours)
Evolutionary Analysis
5.1 Introduction to Evolutionary Analysis, Bootstrap, Tree Construction Methods
5.2 Neighbor-Joining Method, Unweighted Pair Group Method with Arithmetic Mean (UPGMA)
5.3 Maximum Parsimony Method and Maximum-Likelihood Method

BOOKS FOR STUDY

Pevsner, Jonathan. *Bioinformatics and Functional,Genomics.* USA: John Wiley,2009.

Baxevanis, Andreas, D. and Francis B.F. Ouellette, *Bioinformatics- A Practical Guide to the Analysis of Genes and Proteins.* NewYork: John Wiley, 2004.

David W.Mount. *Bioinformatics Sequence and Genome Analysis.* :CBS Publishers,2003.

BOOKS FOR REFERENCE:

Baldi, P. and Brunak, S. *Bioinformatics: Machine Learning Approach.*USA: MIT Press, 2003.

Chen and Yi-Ping Phoebe. *Bioinformatics Technologies*. Germany: Springer, 2005.

Durbin, R., S. Eddy, A. Krogh and G. Mitchison. *Biological Sequence Analysis: Probabilistic Models of Proteins and Nucleic Acids.* USA: Cambridge University Press, 2005.

Higgins, Des and Willie Taylor. *Bioinformatics –Sequence, Structure and Databanks – Practical Approach.* London: Oxford University Press, 2001.

Lesk, Arthur M. *Introduction to Bioinformatics.* UK: Oxford University Press, 2014.

JOURNALS
BMC Bioinformatics
Bioinformatics
Journal of Bioinformatics and Computational Biology
Journal of Biomedical Informatics
Journal of Integrative Bioinformatics

WEB RESOURCES

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50   Duration: 90 minutes**
Theory:
Section A – 15 x 1 = 15 Marks (All questions to be answered)
Section B – 2 x 5 = 10 Marks (2 out of 4 to be answered)

Practical:
Section C – 2 x 10 = 20 Marks
           1 x 5 = 5 Marks

Other Components: **Total Marks: 50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100   Duration: 3 hours**
Theory:
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   2 x 15 = 30 Marks (2 out of 4 to be answered)

Practical:
Section C – 5 x 10 = 50 Marks

Questions comprising the following:
Primary Nucleotide Sequence Databases: NCBI, EMBL, DDBJ
Basic Local Alignment Search Tool (BLAST)
Protein Sequence Databases – PIR, RefSeq, Swiss-Prot
Protein Structure Databases – PDB
Protein Family Databases –Pfam, TIGRFAM
Protein Visualization Tools- Rasmol, Swiss PDB Viewer
Specialized Database -IMGT
Multiple Sequence Alignment Tools: Clustal W
Phylogenetic Tree Construction Tool: MEGA

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M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

PROGRAMMING IN C++ AND PERL

CODE: 19BI/PC/CP14
CREDITS : 4
L T P : 3 0 2
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To facilitate the students in gaining programming skills.
- To enable the students to design and execute C++ and Perl scripts
- To interpolate biological demands through programming

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

- Learn the basics of programing
- Relate the necessity for programming in biology
- Handling biological concepts with C++ and Perl scripts
- Apply programing to analyze genomic sequences
- Understand Bio-Perl and their application in bioinformatics to handle the complex data

Unit 1 (12 Hours)
Introduction to Programming language
1.1 Introduction to Programming, Machine/Assembly Language, Higher Level Languages, Simple and Compound Data, Code: Syntax and Semantics
1.2 Introduction to Programming in C++: C++ Characteristics, Tokens, Keywords, Identifiers and Constants, Basic Data Types, User Defined Data Types, Derived Data Types, Expressions and Control Structures
1.3 Functions and Variables: Scope, Declaration and Definition, Arrays and Strings in C++

Unit 2 (13 Hours)
Object Oriented Programming – C++
2.1 Object Oriented Programming – Using Objects, Classes, Encapsulation, Inheritance, Abstraction and Polymorphism. Using Constructors, Destructors, Friend functions
2.2 String manipulation – creating string objects, Standard Streams, String operators Manipulating String, String characteristics, Comparing and Swapping
2.3 Working with files – File streams, Open, close, EOF, updating files and error Handling.

Unit 3 (15 Hours)
Introduction to Perl Programming
    3.1 Introduction, Statements and Declarations, Default Variable, Expressions, Statements, Operators in Perl, Control Structures
    3.2 Variable Types and Data types– Scalar, Arrays, Hashes. Functions- split, join, length, lcfirst, ucfirst, index and exists
    3.3 Creating Regular Expressions-Characters, Character Classes, Alternative Match Patterns, Quantifiers, Assertions, Back References, Modifiers and Translator

Unit 4 (13 Hours)
Subroutines and File Handling
    4.1 Subroutines- Defining Subroutines, Returning Values, Using Arguments
    4.2 Files- Overview and working with File handles, Various Ways of Opening a Perl File Handlers- Normal Scalar variable, Use Perl IO, Open the Standard Input and Standard Output, Use Sysopen (). Closing the files, printing, renaming files
    4.3 Reading and writing perl – arrays and hash files

Unit 5 (12 Hours)
Bioperl
    5.1 Introduction to Bioperl: Installation Procedures, Architecture, Uses of Bioperl
    5.2 Modules of bioperl- seq, seqio, alignio, db
    5.3 Modules of Bioperl – Annotation, location, tools

BOOKS FOR STUDY

E. Balagurusamy. *Object Oriented Programming with C++*. New Delhi: Tata McGraw- Hill, 2017.

Tisdall James D. *Beginning Perl for Bioinformatics.* USA: O'Reilly and Associates, 2014.

BOOKS FOR REFERENCE

Conrod Bessant, Ian Shadforth and Darren Oakley. *Building Bioinformatics Solutions with Perl, R and MySQL.* New York: Oxford University Press, 2014.

Bjarne, Stroustrup. *The C++ Programming Language*. India: Addison Wesley, 2013.

Holzner and Steven. *Perl Black Book*. India: Dream Tech Press, 2006.

Hubbard, John. *Programming with C++, Schaum's Outline Series*. New Delhi: Tata McGraw Hill, 2003.

Tisdall James D. *Beginning Perl for Bioinformatics.* USA: O'Reilly and Associates, 2003.

Ellen Siever, Weber, Stephen Figgins, Robert, Arnold Robbins*Linux in a Nutshell-ADesktop Quick Reference.* USA: O'Reilly and Associates, 2006

Sanjeev Sofat. *Object Oriented Programming Using C++,* India : Cyber Tech. Publication, 2009.

JOURNALS
C/C++ Users Journal
International Journal of Computer Applications
Computer Methods and Programs in Biomedicine
Perl in communities

WEB RESOURCES
http://www.cplusplus.com/doc/tutorial/
http://www.cprogramming.com/
http://www.stroustrup.com/4th.html

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Theory:
Section A – 15 x 1 = 15 Marks (All questions to be answered)
Section B – 2 x 5 = 10 Marks (2 out of 4 to be answered)
Practical:
Section C – 2 x 12.5 = 25 Marks

Other Components: **Total Marks: 50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Theory:
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   2 x 15 = 30 Marks (2 out of 4 to be answered)
Practical:
Section C – 4 x 10 = 40 Marks
Record and Viva – 10 Marks

Questions comprising the following:
Find the area and circumference of a circle
Armstrong Number
Prime Number
Convert DNA to RNA (transcription)
Calculate the frequency of bases
Find the reverse complement of the DNA sequence
Using Bioperl retrieve a sequence from database
Using Bioperl Convert DNA to Protein (Translation)
Using Bioperl retrieve last 30 amino acids from the given protein sequence
Using Bioperl run BLAST locally

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SYLLABUS
(Effective from the academic year 2019 -2020)

DATABASE MANAGEMENT SYSTEMS

CODE : 19BI/PC/DB14   **CREDITS : 4**
                                                                                        L T P : 3 0 2
                                                                    TOTAL TEACHING HOURS : 65

OBJECTIVES OF THE COURSE
- To introduce the basic concepts of Relational Database Management System and Client / Server Environment
- To be trained in designing databases and manipulating them for biological applications
- To understand the working knowledge of Linux environment

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

- Understand data models and schemas in DBMS
- Skills to Create, update, retrieve and Manage data
- Handle files and databases
- Gain efficient skills on Atomicity, Consistency, Isolation, and Durability
- Clear understanding and usage of SQLanguage

Unit   1   **(12 Hours)**
Introduction to Database Systems and Linux
1.1 Introduction to File and Database systems- Database System Structure, Data Models Introduction to Network Models – ER Model. Relational Model
1.2 Introduction to Linux Operating System, Properties of Linux, Desktop Environment, Linux basics commands
1.3 Working With Files, Text Editors, I/O Redirections, Pipes, Filters, and Wildcards. Changing Access Rights

Unit   2   **(13 Hours)**
SQL definition and Normalization
2.1 SQL – Data Definition- Queries in SQL- Updates- Views – Integrity and Security
2.2 Relational Database design – Functional dependences and Normalization for Relational Databases (up to BCNF)
2.3 Query Forms

Unit   3   **(15 Hours)**
Files and RDBMS
3.1 Record Storage And Primary File Organization- Secondary Storage Devices- Operations on Files- Heap File- Sorted Files- Hashing Techniques – Index Structure For Files –Different Types Of Indexes- B-Tree - B+Tree – Query Processing

3.2 Multimedia Databases - Basic Concepts and Applications. Indexing and Hashing. Text Databases

3.3 Overview of RDBMs, Advantages of RDBMs Over DBMs - Data Mining

Unit 4 (13 Hours)
Data Definition and Manipulation Language

4.1 Data Definition Language, Data Manipulation Language, Transaction Control and Data Control Language Grant and Revoke Privilege Command

4.2 Set Operators, Joins-Kinds of Joins, Table   Aliases, Sub queries, Multiple and Correlated Sub Queries

4.3 Functions-Single Row, Date, Character, Numeric, Conversion, Group Functions

Unit 5 (12 Hours)
Constraints and MySQL

5.1 Constraints-Domain, Equity, Referential Integrity Constraints

5.2 Locks -Types of Locks, Table Partitions, Synonym

5.3 Introduction to PL/SQL, Introduction, MySQL as an RDBMS Tool, Data types and Commands

BOOKS FOR STUDY

Ramakrishnan Raghu and Gehrke Johannes. *Database Management Systems*, USA: McGraw–Hill, 2003.

BOOKS FOR REFERENCE

George Koch and Kevin Loney. *Oracle 8 - The Complete Reference*, USA: Tata McGraw – Hill, 2000.

Kyte, Thomas. *Expert Oracle Database Architecture- 9i and 10g Programming Techniques and Solutions*. USA: Berkeley press, 2006.

Michael Abbey and Michael J. Correy.*Oracle 8i - A Beginners Guide.* USA :McGraw-Hill, 1999.

JOURNALS
International Journal of Database Management Systems
Journal of Database Management
Journal of Advanced Database Management & Systems
International Journal of Intelligent Information and Database Systems
International Journal of Computer Science and Information

WEB RESOURCES
www.oracle.com/technetwork/oem/db-mgmt/db-mgmt-093445.html
http://education-portal.com/academy/lesson/what-is-a-database-management-system-purpose-and-function.html
www.odbms.org/
http://www.comptechdoc.org/os/linux/usersguide/linux_ugbasics.html
http://www.dummies.com/how-to/content/common-linux-commands.html

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**   **Duration: 90 mins.**

Theory:
Section A – 15 x 1 = 15 Marks (All questions to be answered)
Section B – 5 x 2 = 10 Marks (2 out of 4 to be answered)

Practical:
Section C –   2 x 12.5 = 25 Marks

Other Components: **Total Marks: 50**
Seminars/Group discussion/Assignments/Problem solving

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**

The question paper pattern: theory and practical

Theory:
Section A – 30 x 1 = 30 Marks (All questions to be answered)
Section B – 10 x 2 = 20 Marks (2 out of 4 to be answered)

Practical:
Section C –   2 x 25 = 50 Marks (2 out of 3 to be answered)

Question comprising the following:

Display the output for the given query,
Error finding,
Output of the given programme,
Find the missing statements in a given programme.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

MOLECULAR BIOLOGY

CODE: 19BI/PC/MB24   **CREDITS : 4**
                                                   L T P : 4 1 0
                                     TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand the general principles of gene organization and expression
- To explore the various levels of gene regulation and protein function
- To analyse the various genetic and molecular changes occur in a normal cell

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to
- Represent and illustrate the structural organization of genes and the control of gene expression
- Explore the prokaryotic and eukaryotic protein synthesis mechanism
- Conceptualize mechanisms of signal transduction, cell cycle and cell death
- Link the concepts of cell and molecular biology to a better understanding of diseases, including cancer

Unit   1   **(15 Hours)**
Structure and Organisation of Genes and Chromosomes
1.1 DNA-Structure and Conformations, Histones and Non-Histones, Chromosomes - Structure and Function of Chromosomes
1.2 Cell division - Mitosis and meiosis, Cell cycle regulation, Check points
1.3 Organisation of Genomes –Coding Sequences, Repetitive Sequences, transposons

Unit   2   **(15 Hours)**
Replication and Transcription
2.1 DNA replication, repair and recombination, DNA damage and repair mechanisms in prokaryotes and eukaryotes, Mutations
2.2 Transcription: Eukaryotes and Prokaryotes, Genetic code, Transcriptional Control by Regulatory Proteins, Steroid Hormone Receptors - Heat Shock Genes- Homeotic Genes
2.3 Mechanisms Modifying Transcriptional Control – DNA Methylation, Histone Modification, Post Transcriptional Regulation

Unit 3 (12 Hours)

Translation

3.1 RNA- Types, structure and functions, Ribosomes – Structure and Assembly

3.2 Translational Regulation - Regulation of gene expression in Prokaryotes (Operon) and Eukaryotes, Gene Silencing

3.3 Genetic Control of Vertebrate Immune System

Unit 4 (10 Hours)

Organelle Genome

4.1 Mitochondrion genome – Organisation and Function

4.2 Chloroplast genome – Organisation and Function

4.3 Transcription and Translation in Mitochondria

Unit 5 (13 Hours)

Cell Signalling and Cancer

5.1 Cell signalling – Signalling molecules, Receptors - Hormones receptors, cell surface receptor, signal transduction pathways, regulation of signalling pathways

5.2 Cancer Biology- Characteristics of Cancer, Genetic basis of cancers, Proto-oncogene, Oncogenes, Tumor Suppressor Genes, Tumor Metastasis

5.3 Oncogenesis - Cancer Immunotherapy, Regulation of Cell Death, Apoptosis

BOOKS FOR STUDY

Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Anthony Bretscher, Hidde Ploegh. *Molecular Cell Biology.* USA: W. H. Freeman, Eighth edition, 2016.

Wolfe, Stephen L. *Molecular and Cellular Biology.* USA: Wadsworth, 2005.

Watson, James, D. *Molecular Biology of the Gene.* USA : The Benjamin Cummings Publishing Company, 2007.

BOOKS FOR REFERENCE

Cooper, Geoffrey M. and Robert E. Hausman*. The Cell, A Molecular Approach.* USA: Sinauer Associates, 2004.

Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Matthew P. Scott, Anthony Bretscher, Hidde Ploegh and Paul Matsudaira. *Molecular Cell Biology.* USA: W.H.freeman, 2008.

Watson, James, D. *Molecular Biology of the Gene.* UK: Pearson, Seventh edition, 2017.

Darnell, James, Harvey Lodish and David Baltimore. *Molecular and Cell Biology*, Scientific American Books, USA: W.H. Freeman, 2004.

Karp and Gerald. *Cell and Molecular Biology- Concepts and Experiments*, USA : John Wiley, 2013.

Lewin and Benjamin. *Genes IX*, UK :Oxford University Press, 2009.

Roitte, Ivan M., Brostoff, Jonathan and Male, David K. *Immunology*. Philadelphia: J.B.
    Lippincott, 1990.

Purvis, William K, David Sadava, Craig Heller and Gordan H. Orians. *Life: The Science of
    Biology*. USA : Sinauer, 2004.

JOURNALS
Journal of Molecular Biology
Molecular Biology
Journal of Genetics and Genomics
BMC Cell Biology

WEB SOURCES
www.cellbio.com
www.molbiolcell.org
www.sciencedirect.com
http://www.nature.com/scitable/topic/cell-biology-13906536
http://www.biology.arizona.edu/cell_bio/cell_bio.html
http://ghr.nlm.nih.gov/

PATTERN OF ASSESSMENT
Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B –   2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C –   1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: Total Marks: 50
Assignment/Test/Seminars

End Semester Examination: Total Marks: 100   Duration: 3 hours
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

MOLECULAR BIOLOGY PRACTICAL

CODE: 19BI/PC/P122   CREDITS : 2
                                                                                    L T P : 0 0 3
                                                                                    TOTAL HOURS : 39

OBJECTIVE OF THE COURSE:
* To identify subcellular structures, organelles and understand their functions
* To provide practical experience of the various techniques involved in Molecular Biology and Biochemistry
* To perform a range of molecular techniques used for the isolation, estimation, purification of biomolecules

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

* Utilize laboratory skills to enhance understanding of cell structure and function while participating in a group environment
* Develop responsible conduct of laboratory skills appropriate to the field of cell and molecular biology
* Apply the molecular biology techniques to biotechnological approaches

Unit   1   **(8 Hours)**
     1.1 Cell Fraction and Extraction of cell organelles
     1.2 Isolation of Sub-Cellular Organelles and Particles –Mitochondria and
          Chloroplast

Unit   2   **(10 Hours)**
     2.1 Extraction of DNA from Onion, Extraction of RNA from Yeast
     2.2 Estimation of DNA and RNA
     2.3 Estimation of Proteins by Lowry's Method

Unit   3   **(7 Hours)**
     3.1 Estimation of Mitochondria by Assessing The Marker Enzyme
     3.2 Denaturing Proteins and Identification of Amino Acids by Thin Layer
          Chromatography

Unit   4   **(7 Hours)**
     4.1 Isolation of Plasmid DNA (Demo)
     4.2 Amplification of DNA by PCR

Unit 5   **(7 Hours)**
    5.1 Electrophoretic Techniques: Agarose Gel Electrophoresis, SDS PAGE   (Demo)
    5.2 Southern Blotting (Demo)

BOOKS FOR REFERENCE:

Wilson, K; Walker, J. *Principles and techniques of Biochemistry and Molecular Biology.* USA: Cold Spring Harbor Laboratory Press, 2010.

Sambrook, J; Russel, DW. *Molecular Cloning*. USA: Cold Spring Harbor Laboratory Press, 2001.

Sadasivam, S. and Manickam, A. *Biochemical Methods*. India: New Age International, 2009.

Wilson, K; Walker, J. *Principles and techniques of Biochemistry and Molecular Biology.* USA: Cold Spring Harbor Laboratory Press, Eighth edition, 2010.

Swati Agarwal, Suphiya Khan. Advanced Lab Practices in Biochemistry & Molecular Biology. India: I K International Publishing House, 2018.

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Spotters 2 in number each carrying 5 marks totalling 10 marks

Any two experiments each carrying 15 marks each - 5 marks for procedure, 5 marks for the result and 5 marks for the conduct of the experiment

Viva - 5 marks

Record - 5 marks

End Semester Examination   **Total Marks: 100**   **Duration: 3 hours**

Spotters 4 in number each carrying 5 marks totalling 20 marks

Any two experiments each carrying 30 marks each—10 marks for procedure, 10 marks for the result and 10 marks for the conduct of the experiment

Viva - 10 marks

Record - 10 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

GENOMICS AND PROTEOMICS

CODE: 19BI/PC/GP24   **CREDITS : 4**
                                                    L T P : 3 0 2
                                       TOTAL CONTACT HOURS: 65

OBJECTIVES OF THE COURSE
- To provide an insight into the complete genome sequences of a few organisms as well as the Human genome through Comparative and Functional genomics
- To acquaint knowledge on functional genomics techniques such as microarrays, EST, SAGE and interpret data obtained through high throughput expression studies
- To develop an understanding of the entire protein complement of a cell through analytical approaches, Data mining and other software tools

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

- Gain an insight of the basic and advanced concepts and applications of sequencing technologies
- Understand the mechanisms of genomics and proteomics and exploit the same in the growing field of omics
- Apply functional genomics techniques to analyse data for biological system
- Implement techniques and database search to analyze complex protein samples
- Analyze the proteomic interactions in complex diseases

Unit   1   **(13 Hours)**
   Genomics
   1.1 Understanding a Genome sequence, Locating the genes in a Genome Sequence, Gene location by Sequence Inspection, Experimental Techniques for Gene Location, Determining the Functions of Individual Genes
   1.2 Genome Sequencing technologies - Conventional Sequencing techniques (Maxam Gilbert and Sanger Sequencing), Whole Genome Shotgun Sequencing, Genome assembly, Genome annotation and Genome databases
   1.3 Rates and patterns of Nucleotide substitution, Molecular Clocks, Local Clocks, Computer Analysis of a Gene Function, Assigning Gene Function by Experimental Analysis

Unit 2   **(12 Hours)**
   Comparative Genomics
   2.1 Comparative Genomics - Genome Sequencing Projects, Variations at the Level of individual Nucleotides, Duplications, Comparisons at the Chromosome Level: Synteny, Genomes of Chimpanzees and Humans

2.2 Phylogenetic Analysis - Relationship of Phylogenetic Analysis to Sequence Alignment, Genome Complexity and Phylogenetic Analysis, Maximum Parsimony Method, Distance Methods, Gene Prediction by ORF analysis

2.3 Gene mapping - pedigree analysis, Application of DNA markers - RFLPs, SNPs, Physical mapping - Restriction mapping, Fluorescent *in situ* hybridization, Assessing genomic variations

Unit 3 (15 Hours)
Functional Genomics

3.1 Transcriptomes and analysis - Micro Array technology, SAGE, Applications of Microarrays In Medicine, Databases – GEO, MAML

3.2 ESTs Generation, EST Clustering and Assembly, EST databases (DB-EST, UNIGene)

3.3 KEGG and Metabolic Pathways, Regulatory Networks, Sequence based and structure-based approaches to assign gene functions, Role of databases in function assignment, Structural changes in sequences by the influence of polymorphisms (dbSNPs)

Unit 4 (13 Hours)
Proteomics

4.1 Introduction to Proteomics - Proteins structure, Organization of protein structure, structural conformation of proteins, three dimensional structures of proteins

4.2 Analytical tools in Proteomics - 1D and 2D-gel electrophoresis, Mass Spectrometry - ESI, MALDI etc., Software for Matching MS Data with Specific Protein Sequences, Peptide sequencing by tandem mass spectrometry

4.3 Preparative IEF, HPLC, Tandem LC/ MS-MS, Protein Digestion Techniques

Unit 5 (12 Hours)
Application of Proteomics

5.1 Proteomic interactions - Yeast Two-Hybrid, Mammalian Screen Methods and Co-Immuno Precipitation techniques

5.2 Protein-Protein Interactions and Protein Complexes, Databases and proteomic tools

5.3 Protein Interaction Networks and Protein Pathways, Mapping Protein modifications

BOOKS FOR STUDY

Arthur Lesk M. *Introduction to Genomics*. New York: Oxford university press, Third edition, 2017.

Brown, T. A. *Genomes -3*. USA: John Wiley and Sons inc., 2006.

Leland Hartwell, Michael L. Goldberg and Janice Fischer. *Genetics: From Genes to Genomes*. USA:McGraw-Hill Publishing Company. 2018

Daniel C. Leibler. *Introduction to Proteomics: Tools for New Biology*. USA: Humana Press, 2002.

Srivastava Sudhir. *Informatics in Proteomics*. USA: Taylor & Francis Group, 2005.

BOOKS FOR REFERENCE

Brown P. O and Botstein D. *Exploring the new world of the genome with DNA microarrays*. USA: Nat. Genet, 1999.

Collado Vides Julio and Ralf Hofstadter. *Gene Regulation and Metabolism – Post Genomic Computational Approaches*. India: Ane Books, 2004.

Dale, Jeremy W and Malcolm von Schantz. *From Genes to Genomes – Concepts and Applications of DNA Technology*. USA: John Wiley and Sons, 2012.

Arthur Lesk M. *Introduction to Genomics*. New York: Oxford university press, 2008.

Griffiths, A.J.F, Miller, J.H, Suzuki, D.T. Lewontin, R. C. and Gelbart, W.M. *An Introduction to Genetic Analysis*. USA: W.H. Freeman, 1996.

Hunt Stephen P and Livesey Fredrick J. *Functional Genomics -A Practical Approach*. Great Britain: Oxford University Press, 2000.

Golemis and Erica. *Protein-Protein Interaction*. USA: CSHL, 2005.

Lesk Arthur M. *Introduction to Protein Science: Architecture, Function and Genomics*. New York: Oxford university press, 2016.

Mount David W. *Bioinformatics: Sequence and Genome Analysis*, USA: Cold Spring Harbor Lab., 2005.

Pennington S and M. J. Dunn. *Proteomics: From Proteins Sequence to Function*. Germany: Springer Publications, 2001.

Palzkill and Timothy. *Proteomics*. USA: Kluwer Academic Publishers, 2013.

JOURNALS

Genomics, Proteomics & Bioinformatics
Journal of Data Mining in Genomics & Proteomics
Human Genomics and Proteomics
Journal of Proteomics and Genomics

WEB RESOURCES

http://www.oncolink.org/resources/article.cfm?id=326
http://www.nature.com/nature/journal/v422/n6928/full/nature01510.html
http://proteomics.cancer.gov/whatisproteomics
http://www.isaaa.org/resources/publications/pocketk/15/default.asp

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Theory:
Section A – 15 x 1 = 15 Marks (All questions to be answered)
Section B – 2 x 5 = 10 Marks (2 out of 4 to be answered)

Practical:
Section C – 5 x 5 = 25 Marks

Other Components: **Total Marks: 50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Theory:
Section A – 20 x 1 = 20 Marks (All questions to be answered)
Section B – 2 x 15 = 30 Marks (2 out of 4 to be answered)

Practical:
Section C – 5 x 10 = 50 Marks

Questions comprising the following:
Genome databases of plants, animals and pathogens
Clusters of Orthologous Groups (COGs)
Gene Prediction by ORF analysis, Gen scan, UCSC Genome Browser
DNA markers - dbSNP, Restriction mapping
Transcriptomes analysis - Micro Array data analysis, GEO
EST Clustering databases - DBEST, UNIGene
Metabolic pathway database – KEGG, PharmGKB
Protein classification and structure analysis - CATH, SCOP
Protein Motif and Domain search - PROSITE, PDBeMotif
Protein - protein interaction analysis - DIP, STRING, BIND

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M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2024)

RESEARCH METHODOLOGY

CODE: 19BI/PC/RM24   CREDITS : 4
                                                          L T P : 4 1 0
                                            TOTAL TEACHING HOURS : 65

OBJECTIVES OF THE COURSE
- To describe and express the role and importance of research in basic and applied sciences
- To facilitate writing of research proposals / projects and apply for grants in the field of bioinformatics
- To understand the analytical tests to be applied for research

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to
- Better understanding of the research methods
- Design an action plan of research
- Acquire skills of writing a research manuscript
- Application of statistical study in research
- Understand the ethics in writing research work

Unit   1   **(15 Hours)**
  Types of Data and research problem identification
  1.1 Data Collection, Sampling. Sources of Data Primary, Secondary and Tertiary Sources Classification and Presentation of Data
  1.2 Documents, Types of Documents, Archives, Chronologies
  1.3 Definition of Research and Research Methodology. Principles and Practice of Research. Exploring the Broad Area – Using the Library and Online Resources. Identifying The Research Problem

Unit   2   **(15 Hours)**
  Scientific Communication
  2.1 Literature Review - Its Relevance and Importance in Directing Research. Citations – Types Of Citations, Bibliography and End Matters, Editing and Proof Reading
  2.2 Action Plan, Design and Pilot Study Undertaking a Research Project, Writing a Research grant Proposal, writing papers and posters, Format of thesis
  2.3 Paper critiquing- the Purpose and the Methodology of Paper Critiquing

Unit   3   **(10 Hours)**
   Writing well
   3.1 Writing for non- native audiences, usage of simple sentences, untangle long noun
        phrases, make complete sentences.
   3.2 Use of punctuations- comma, colon, semicolon, dash and periods.
   3.3 Creating non-textual information- acquiring, processing and printing illustrations.
        Concepts of mind maps.

Unit   4   **(12 Hours)**
   Bioethics
   4.1 Introduction. Intellectual Property Rights (IPR) and Patents, TRIPS
   4.2 Case studies on Patents (Basmati, Turmeric and Neem), ethics in science practicals
   4.3 Plagiarism and Common Errors in Scientific Writing. Misconduct in science

Unit   5   **(13 Hours)**
   Tools for research
   5.1 Use of Encyclopaedias, Research Guides, Handbook etc., Academic Databases for
        Computer Science Discipline.
   5.2 Use of tools / techniques for Research: methods to search required information
        effectively, Reference Management Software like Zotero/ Mendeley,
   5.3 Software for paper formatting like LaTeX/MS Office, Software for detection of
        Plagiarism

BOOKS FOR STUDY
Gopalan, R. *Thesis Writing*. India: Vijay Nicole Imprints Private Limited, 2005.

Gurumani, N. *Research Methodology for Biological Sciences*. India MJ Publishers, 2010.

BOOKS FOR REFERENCE

Pence, G.E. *Classic Cases in Medical Ethics.*India: McGraw-Hill, 2004.

Kothari C R. *Research Methodology, Methods and Techniques.* India: Wishwa Prakashan, 2009.

JOURNALS
The Journal of Communication
International Association for Media And Communication Research
Indian Journal of Science Communication

WEB RESOURCES
http://www.palgrave.com/studentstudyskills/page/choosing-appropriate-researchmethodologies/
https://explorable.com/research-methodology

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B –   2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C –   1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

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M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19BI/PK/SS22   **CREDITS: 2**
                                                          L T P: 2 0 0
                                       TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE
- To empower students and create opportunities for self-development.
- To instill confidence in students to face challenges.
- To manage emotions and resolve conflicts.
- Top organize activities and manage time.
- To set goals and plan ahead.

COURSE LEARNING OUTCOMES
- Communicate with confidence and poise.
- Accept themselves and improve on their weaknesses.
- Strengthen their relationships through confronting and solving problems.
- Work more effectively and complete activities on time.
- Plan their future with clarity and focus.

Unit   1
   Behavioural Traits   **(6 Hours)**
   1.1   Self Awareness
   1.2   Communication Skills –Verbal and Non Verbal
   1.3   Leadership Qualities
   1.4   Etiquette and Good Manners
   1.5   Experiential Learning –Based on activities

Unit   2
   Team Work   **(5 Hours)**
   2.1.   Interpersonal Skills
   2.2.   People Management
   2.3.   Creative Thinking
   2.4.   Critical Thinking
   2.5.   Experiential Learning – Based on activities

Unit   3
   Time Management   **(5 Hours)**
   3.1.   Importance of time management
   3.2.   Planning and Prioritizing
   3.3.   Organizing skills
   3.4.   Action Plan
   3.5.   Experiential Learning – Based on activities

Unit 4

Conflict Resolution   (5 Hours)
4.1.   Reasons for conflict
4.2.   Consequences of conflict
4.3.   Managing emotions
4.4.   Methods of resolving conflicts
4.5.   Experiential Learning – Based on activities

Unit 5

Career Mapping   (5 Hours)
5.1.   Goal Setting and Decision Making
5.2.   Career Planning
5.3.   Resume Writing
5.4.   Handling Interviews
5.5.   Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment: **Total Marks: 50**

Quiz / Group Presentation /Assignment

No End Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
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SYLLABUS
(Effective from the academic year 2019 -2020)

PYTHON AND R PROGRAMMING

CODE: 19BI/PC/PR34   **CREDITS : 4**
                                                          L T P : 4 1 0
                                          TOTAL TEACHING HOURS : 65

OBJECTIVES OF THE COURSE
- Demonstrate how to locate and download files for data analysis involving genes and medicine
- Select datasets, open files and pre-process data using Python and R language
- Develop and write R scripts to replace missing values, normalize data, discretize data, and sample data

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to
- Relate the necessity for programming in biology
- Handling biological concepts with Python and R scripts
- Apply programing to analyse genomic sequences
- Gain efficient programming skills
- Perform genomic data analysis

Unit   1   **(12 Hours)**
    Introduction to Python
    1.1 Installation of Python, Variables, types, strings, Jupiter notebooks
    1.2 Objects, functions, control structures, operators, Numpy and Scipy
    1.3 Fasta files, Parsing DNA and protein information, Gene locations splices, extracting all gene locations

Unit   2   **(12 Hours)**
    Biopython
    2.1 Getting started and installation, Coding DNA, proteins, extracting translations
    2.2 Modules- Bio Import, Bio Seq, Bio Align
    2.3 Plot ABI traces, Retreive and Annotate Entrez gene

Unit 3   **(15 Hours)**
    R programming
    3.1 Introduction to R, Installing R, Loops
    3.2 R as a Deluxe Calculator, Creating Objects and Assigning Values
    3.3 Graphics: Simple Plotting, Advanced Plotting, Using Color in Plots, Using Subscripts and Superscripts in Graph Labels, Interactive Graphics, Saving Graphical Output, Loops

Unit 4 (13 Hours)

Gene Expression Data Analysis

4.1 Feature selection models, Data Preprocessing, Normalization- methods

4.2 Data reduction, data sampling, Heatmaps

4.3 Classification based on analogy, rules, probabilities, statistics and prediction with R

Unit 5 (13 Hours)

Bioconductor

5.1 Introduction, Bioconductor Packages

5.2 Expression set, data annotation biomart

5.3 Applications of R in Phylogenetics and Sequence analysis

BOOKS FOR STUDY

Robert Gentleman*, R programming for Bioinformatics*, CRC Press, 2016

Jason Kinser. *Python for Bioinformatics*. Massachusetts: Jones and Barlett Publishers, 2009.

Mitchell L Model. *Bioinformatics Programming Using Python***.** USA**:** O'Reilly Media Publication, 2009.

BOOKS FOR REFERENCE

Mark Lutz. *Learning Python.* USA: O'Reilly Media Publication, 2009.

Martin C Brown. *Python: The Complete Reference*. Osborne: McGraw-Hill Media, 2001

Gentleman R, Carey V.J, Huber W, Irizarry, RA, and Dudoit, S. *Bioinformatics and Computational Biology Solutions Using R and Bioconductor.* New York: Springer, 2008.

JOURNALS

The Python Papers Source Codes
The Python Papers Anthology
Python Journal
The R Journal

WEB RESOURCES

www.sthurlow.com/python/
www.learnpython.org
www.codecademy.com/en/tracks/python
https://docs.python.org/2/tutorial/
www.pyschools.com/
http://cran.r-project.org/doc/Rnews/

PATTERN OF ASSESSMENT

Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes

Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B –   2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C –   1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100** **Duration: 3 hours**

Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

PYTHON AND R PROGRAMMING PRACTICAL

CODE: 19BI/PC/P232   **CREDITS : 2**
                                                                L T P : 0 0 3
                                                                TOTAL HOURS: 39

OBJECTIVE OF THE COURSE
- Demonstrate how to locate and download files for data analysis involving genes and medicine
- Select datasets, open files and pre-process data using Python and R language
- Develop and write R scripts to replace missing values, normalize data, discretize data, and sample data

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

- Relate the necessity for programming in biology
- Handling biological concepts with Python and R scripts
- Apply programing to analyse genomic sequences
- Gain efficient programming skills
- Perform Microarray data analysis using R language

Unit   1   **(7 Hours)**
Basics of Python
1.1 Counting letters in DNA strings
1.2 Write a Python program related to Bioinformatics transcription

Unit   2   **(8 Hours)**
Biopython
2.1 Biopython- using Bioseq –Sequence reading and writing
2.2 Biopython using Bio.Genbank – reading enteries

Unit   3   **(8 Hours)**
Basics of R
3.1 Creating vectors and dataframes
3.2 Plots – simple and advanced plots

Unit   4   **(8 Hours)**
Bioconductor
4.1 Bioconductor packages- bioclite, biostrings
4.2 Bioconductor packages- edge r

Unit   5   **(8 Hours)**
Data Analysis
5.1 Data Manipulation and visualization
5.2 Microarray data analysis – Limma

BOOKS FOR STUDY

Robert Gentleman*, R programming for Bioinformatics*, CRC Press, 2016

Jason Kinser. *Python for Bioinformatics*. Massachusetts: Jones and Barlett Publishers, 2009

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50   Duration: 90 minutes**

Part - A - Programs   3X 10- 30 marks
Part- B Programs and error handling   2X5   - 10 marks
Viva -   5 marks

Record -   5 marks

End Semester Examination   **Total Marks: 100**   **Duration: 3 Hours**

Part - A - Programs -   3X 20- 60 marks
Part- B Programs and error handling   2X10 - 20 marks
Viva -   10 marks

Record -   10 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

ALGORITHMS FOR BIOINFORMATICS

CODE: 19BI/PC/AL34   **CREDITS : 4**
                                                                                 L T P : 4 1 0
                                                          TOTAL TEACHING HOURS : 65

OBJECTIVES OF THE COURSE
- To develop a quantitative understanding of how living things are built
- To raise the awareness of the impact of algorithms on the efficiency of the   system
- To develop skills to analyse algorithms related to Bioinformatics

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

- Know the main problems in the field of bioinformatics and computational molecular biology
- Analyse the correctness of algorithms and how it works
- Describe the divide-and-conquer paradigm and explain when an algorithmic design situation calls for it.
- Apply the algorithms and design techniques to solve problems
- Analyse the complexities of various problems in different domains

Unit   1   **(10 Hours)**
   Introduction
   1.1 Algorithms and Complexity. Definition, Biological Algorithms versus Computer Algorithms, Fast versus Slow Algorithms Big-O Notation
   1.2 Algorithm Design Techniques Exhaustive Search Branch-and-Bound Algorithms Greedy Algorithms
   1.3 Dynamic Programming Divide-and-Conquer Algorithms Machine Learning Randomized Algorithms

Unit   2   **(10 Hours)**
   Restriction Mapping
   2.1 Impractical Restriction Mapping Algorithms, Practical Restriction Mapping Algorithm
   2.2 Regulatory Motifs in DNA Sequences Profiles: The Motif Finding Problem Search Trees
   2.3 Finding a Median String. String matching algorithm

Unit 3   **(15 Hours)**

Sequence Alignment

3.1 Longest Common Subsequences - Global Sequence Alignment- Local Sequence Alignment

3.2 Graph Algorithms- Graphs and Genetics- DNA Sequencing Shortest Superstring Problem

3.3 DNA Arrays as an Alternative Sequencing Technique. Sequencing by Hybridization

Unit 4   **(15 Hours)**

Clustering and Evolutionary Trees

4.1 Gene Expression Analysis. Hierarchical Clustering -k-Means Clustering- Clustering and Corrupted Cliques

4.2 Evolutionary Trees - Distance-Based Tree Reconstruction Reconstructing Trees from Additive Matrices. Evolutionary Trees and Hierarchical Clustering Character-Based Tree Reconstruction

4.3 Secondary Structure Prediction methods, Artificial Neural Networks

Unit 5   **(15 Hours)**

Pattern Matching

5.1 Combinatorial Pattern Matching. **-** Identical, Similar and Distant Repeats Finding methods. Exact Pattern Matching

5.2 Keyword Trees and Suffix Trees. Heuristic Similarity Search Algorithms

5.3 BLAST: Comparing a Sequence against a Database

BOOKS FOR STUDY

Neil C Jones and Pavel A. Pevzner. *An Introduction to Bioinformatics Algorithms*. USA: MIT press, 2011.

Pavel A. Pevzner. *Computational Molecular Biology- An algorithmic approach*. USA: MIT press, 2004.

BOOKS FOR REFERENCE

Alfred V. Aho, John E. Hopcroft and Jefferey D.Ullman. *Data Structures and Algorithms.* London: Addison Wesley,1983.

Clark, John and Derek Allan Holton. *A First Look at Graph Theory*. Singapore: Singapore Publishers,1995.

Horowitz, Ellis, and Sartag Sahni. *Fundamentals of Computer Algorithms*. New Delhi: Galgotia Publications,1994.

Jeffrey J. McConnell. *Analysis of Algorithm*. New Delhi: Narosa Publishing House, 2002.

Thomas H. Cormen, Charles E. Leiserson and Ronald L. Rivest. *Introduction to Algorithms*. New Delhi: Prentice Hall of India, 1990.

JOURNALS

Algorithms for Molecular Biology
Journal of Computational Intelligence in Bioinformatics
International Journal of Bioinformatics Research and Applications
Developments in Bioinformatics Algorithms

WEB RESOURCES

http://www.comp.nus.edu.sg/~ksung/algo_in_bioinfo/
http://bioinformaticsalgorithms.com/
http://bix.ucsd.edu/bioalgorithms/presentations/Ch08_GraphsDNAseq.pdf
http://www.ait-budapest.com/advanced-algorithms-for-bioinformatics

PATTERN OF ASSESSMENT

Continuous Assessment:　　　　**Total Marks: 50**　　**Duration: 90 minutes**
Section A: 5×10　 = 50 (7 questions to be set)

Other Components:　　　　**Total Marks: 50**
Seminars/Assignments/Problem solving

End Semester Examination:　　**Total Marks: 100**　　**Duration: 3 Hours**
Section A: 10×10　 = 100 (12 questions to be set)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE BIOINFORMATICS

SYLLABUS

(Effective from the academic year 2019 -2020)

MOLECULAR MODELING AND COMPUTER AIDED DRUG DESIGN

CODE: 19BI/PC/MC34   **CREDITS : 4**
                                       L T P : 4 1 0
                           TOTAL TEACHING HOURS : 65

OBJECTIVES OF THE COURSE
- To provide clear concepts on bond angle, bond stretching, bond distance and role on different types of bonds in interactions
- To provide a theoretical background to the various methods of molecular modelling, mechanics and interaction
- To develop and understand the mechanism of drug design using computers

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

- Perform protein structure prediction and understand energy simulation methods and its importance in drug action
- Gain insight on the molecular dynamics and Monte Carlo simulation methods
- Understand the concept of molecular interactions and QSAR studies
- Apply the knowledge gained to find new targets and design drug to treat diseases
- Learn the concept of drug development

Unit   1   **(13 Hours)**
Molecular Mechanics
1.1 Concepts in Molecular Modeling **-** Molecular Representations, Coordinate Systems, Potential Energy Surfaces
1.2 Molecular Mechanics, Force fields - Bond Length, Bond Angle and Torsion Angle potential
1.3 Non- bonded interactions-Van der Waals and Electrostatic Potential – Hydrogen Bonding Terms

Unit   2   **(12 Hours)**
Energy Minimization Methods
2.1 Energy Minimization- Derivative and Non-derivative Energy Minimization Methods
2.2 Calculation of Simple Thermodynamic Properties, Computer Simulation, Boundaries, Monitoring the Equilibration, Long Range Forces
2.3 Analyzing the Results of Simulation and Estimating Errors

Unit 3 (15 Hours)

Molecular Dynamics and Monte Carlo Simulations

3.1 Molecular Dynamics Using Simple Model, Molecular Dynamics with Continuous Potentials

3.2 Molecular Dynamics at Constant Temperature and Pressure, Incorporating Solvent effects into Molecular Dynamics, Conformational Changes From Molecular Dynamics Simulation

3.3 Monte Carlo Simulation of Molecules, Calculation of Chemical Potential-Simulating Phase Equilibria by Gibbs Ensemble Monte Carlo Method

Unit 4 (12 Hours)

Molecular Modeling and Structure Analysis

4.1 Protein Structure prediction - Secondary Structure Prediction, Homology modeling

4.2 Threading and *ab initio* method, Tools for Structure prediction; Protein structural visualization; Geometry optimization and Loop refinement

4.3 Structure validation tools - Ramachandran Plot.

Unit 5 (13 Hours)

Molecular Docking

5.1 Molecular Docking -Structure Based Drug Design - Target Discovery and Validation, Active Site Prediction, Lead identification and Optimization, De Novo Drug Design

5.2 Molecular Descriptors - QSAR, 3D Pharmacophore identification and mapping

5.3 Ligand-based drug designing approaches: Lead Designing, High Throughput Screening (HTS), Chemical libraries, ADME prediction

BOOKS FOR STUDY

N. Claude Cohen. *Guidebook on Molecular Modelling In Drug Design*. California: Academic Press, 2006.

Andrew R. Leach. *Molecular Modeling: Principles and Applications*. USA: Prentice Hall, 2007.

Daan Frenkel and Berend Smit. *Understanding Molecular Simulation: From Algorithms to applications*. USA: Academic Press, 2002.

Claudio N. Cavasotto. *In Silico Drug Discovery and Design: Theory, Methods, Challenges, and Applications*. USA: Taylor & Francis Group, 2017

BOOKS FOR REFERENCE

Charifson P S. *Practical Application of Computer Aided Drug Design*. New York: Dekker, 1997

Alan Hinchliffe. *Molecular Modelling for Beginners*. USA: John Wiley & Sons, 2008

Sivasamy Ramasamy. *Molecular Modeling*. India: LAMBERT Academic Publishing, 2015

Luca Monticelli, Emppu Salonen. *Biomolecular Simulations: Methods and Protocols.* USA: Humana Press, 2016**.**

JOURNALS

Journal of Molecular Modeling

Journal of Molecular Graphics and Modelling

Journal of Computer-Aided Molecular Design

Current Computer Aided-Drug Design

WEB RESOURCES

http://accessengineeringlibrary.com/browse/computer-aided-drug-design-and-delivery systems

http://www.southernresearch.org/life-sciences/lead-discovery-and-optimization/medicinal-chemistry/computational-chemistry

http://www.ch.ic.ac.uk/local/organic/mod/

http://www.chemcomp.com/MOE-Molecular_Modeling_and_Simulations.htm

PATTERN OF ASSESSMENT

Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B –   2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C –   1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: Total Marks: 50
Assignment/Test/Seminars

End Semester Examination: Total Marks: 100   Duration: 3 hours

Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE BIOINFORMATICS

SYLLABUS

(Effective from the academic year 2019 -2020)

MOLECULAR MODELING AND COMPUTER AIDED DRUG DESIGN PRACTICAL

CODE: 19BI/PC/P332   CREDITS : 2
                                                        L T P : 0 0 3
                                                        TOTAL TEACHING HOURS : 39

OBJECTIVE OF THE COURSE
- To provide practical experience in the analysis of protein sequences
- To understand the use of informatics in drug design and development, finding new targets to treat disease; mechanism of drug designing
- To gain insights on protein-ligand docking and knowledge-based scoring functions

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

- Perform, understand, and interpret the results of the calculations and bring them in a publication ready form
- Understand the importance of drug-like properties and their prediction
- Describe the use of lead candidates and database representations
- Apply Molecular modeling and molecular dynamics methods to study structure from sequence

Unit   1   **(8 Hours)**
    1.1 Drug target identification - structural databases, RCSB PDB
    1.2 Drug target databases, Protein function prediction tools – RaptorX and
        online other tools)

Unit   2   **(8 Hours)**
    2.1 Homology modeling - Swiss model, Modeller software
    2.2 Protein structure validation – Rampage, Procheck

Unit   3   **(7Hours)**
    3.1 Ligand Search – Pubchem, Drug bank, CHEMBL, ZINC databases
    3.2 Chemical drawing package – Marvin Sketch, Chemdraw

Unit   4   **(8 Hours)**
    4.1 ADME prediction – Online tools (Swiss ADME, etc.,)
    4.2 QSAR model prediction – In Silico tools

Unit   5   **(8 Hours)**
    5.1 Protein Active site prediction – (CASTp and online tools)
    5.2 Molecular Docking – Auto dock, Argus Lab and other docking software, Scoring
        Functions, Simple Interaction Energies, Visualizing tools – Pymol, Rasmol

BOOKS FOR REFERENCE:

N. Claude Cohen. *Guidebook on Molecular Modelling In Drug Design***.** California: Academic
    Press, 2006.

Andrew R. Leach. *Molecular Modeling: Principles and Applications*. USA: Prentice Hall,
    2007.

Daan Frenkel and Berend Smit. *Understanding Molecular Simulation: From Algorithms to
    applications*. USA: Academic Press, 2002.

Claudio N. Cavasotto. In Silico Drug Discovery and Design: Theory, Methods, Challenges,
    and Applications. USA: Taylor & Francis Group, 2017

Charifson P S. *Practical Application of Computer Aided Drug Design***.** New York:
    Dekker, 1997

Alan Hinchliffe. *Molecular Modelling for Beginners*. USA: John Wiley & Sons, 2008

Luca Monticelli, Emppu Salonen. Biomolecular Simulations: Methods and Protocols. USA:
    Humana Press, 2016**.**

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Two out of four questions to be answered   (2 X 20=40)
Viva -   5 marks
Record -   5 marks

End Semester Examination   **Total Marks: 100**   **Duration: 3 Hours**

Four out of five questions to be answered   (4 X 20=80)
Viva -   10 marks
Record -   10 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE BIOINFORMATICS

SYLLABUS

(Effective from the academic year 2019 -2020)

SUMMER INTERNSHIP

CODE: 19BI/PN/SI32   **CREDITS: 2**

OBJECTIVES OF THE COURSE

- ➢ To enable students to gain experiential learning in the field of Bioinformatics
- ➢ To acquire hands on training in Bioinformatics Softwares

The Summer Internship program is for a minimum period of three weeks. The students are expected to have regular attendance in their respective Institutes and submit a report to the Department reporting the experiments they have observed/conducted. The students are expected to give a seminar presentation in the third semester of the work they have observed/conducted.

Guidelines for Evaluation

The maximum marks for the Summer Internship is 50 and is divided into the following:

a) Log Book (20 Marks)
b) Seminar presentation (15 Marks)
c) Attendance (15 Marks)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

ADVANCES IN BIOINFORMATICS

CODE: 19BI/PC/AB44   **CREDITS : 4**
                                                                    L T P : 4 1 0
                                                TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To develop a quantitative understanding of recent and emerging fields of Bioinformatics
- To provide Hands on experience of handling the genomic and proteomic datasets
- To provide a better understanding of data and its applications in Bioinformatics

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

- Students will be able to analyse the raw reads of sequences
- Understand the analysis of gene expression
- Experiential knowledge on gene editing techniques
- Perform genomic data analysis
- Learn the skills of cancer genomic data analysis

Unit   1   **(10 Hours)**
   Next Generation Sequencing
   1.1 Introduction to Next-generation sequencing. History and Future of DNA Sequencing
   1.2 Introduction to Linux commands and Different Platforms and Applications
   1.3 Different file formats – FASTQ, SAM, BAM, GFF, Databases and tools – UCSC genome, Galaxy, SRA, NCBI refseq, ENA, FastQC, Bowtie

Unit   2   **(12 Hours)**
   Metagenomics
   2.1 Metagenomics – Introduction and biological background, case studies of recent research
   2.2 Alpha and Beta diversity of metagenomic studies
   2.3 Analysis of metagenome data and logical steps for metagenome analysis

Unit   3   **(15 Hours)**
   Transcriptomics
   3.1 Introduction and Biological background, case studies of recent research
   3.2 Quantifying RNA: RNA seq and other techniques. Generating expression table
   3.3 Logical steps for analysing RNA seq data – differential expression and factor regression analysis

Unit 4
Epigenetics (15 Hours)
4.1 Gene regulatory dynamics from analysis of regulatory sequence motifs, transcription factor-DNA interaction,
4.2 Local chromatin dynamics and epigenetic modifications, RNA dynamics at the level of transcription and post-transcriptional processing,
4.3 3D dynamics of chromatin and the resulting gene regulatory dynamics on daily and development time scales

Unit 5 (13 Hours)
Crispr- Cas 9
5.1 Introduction to Crispr, cas9, selection of targets from sequences
5.2 Targeted mutagenesis – guide RNA design, recognition sequences
5.3 Repair and data analysis of the edited genome, Therapeutic applications

BOOK FOR STUDY
Head, Steven R., Ordoukhanian**,** Phillip, Salomon, Daniel R, *Next Generation Sequencing Methods and Protocols*, Springer, 2018

Eija Korpelainen, Jarno Tuimala, Panu Somervuo, Mikael Huss, Garry Wong, *RNA-seq Data Analysis: A Practical Approach,* Taylor and Francis publishers, 2017

BOOKS FOR REFERENCE

Takashi Yamamoto. *Targeted Genome Editing Using Site-Specific Nucleases: ZFNs, TALENs, and the CRISPR/Cas9 System*, 2015

Jennifer Doudna, Prashant Mali, *CRISPR-Cas: A Laboratory Manual*, Cold Spring Harbor Laboratory Press, 2016

Richard Cummings, J. Pierce, *Handbook of Glycomics*, Academic Press, 2009
ISBN: 9780123736000

WEB RESOURCES
http://www.ebi.ac.uk/training/online/course/ebi-next-generation-sequencing-practicalcourse/
what-you-will-learn/what-next-generation-dna-
http://www.personal.psu.edu/iua1/courses/2014-BMMB-852.html
https://www.illumina.com/science/technology/next-generation-sequencing.html
https://bitesizebio.com/21193/a-beginners-guide-to-next-generation-sequencing-ngs-technology/
https://edu.t-bio.info/courses

JOURNALS
Next generation sequencing

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Theory:
Section A – 20 x 1 = 20 Marks (All questions to be answered)
Section B – 5 x 2 = 10 Marks (2 out of 4 to be answered)
Section C – 2 x 10 = 20 Marks

Other Components: **Total Marks: 50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Theory:
Section A – 20 x 1 = 20 Marks (All questions to be answered)
Section B – 4 x 10 = 40 Marks (2 out of 4 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

BIG DATA ANALYSIS

CODE: 19BI/PC/BD44   **CREDITS : 4**
                                                          L T P : 4 1 0
                                          TOTAL TEACHING HOURS : 65

OBJECTIVES OF THE COURSE
- To develop a quantitative understanding of how Data Science in Bioinformatics plays a role in current decade
- To understand the various aspects of data science and applying them in health care
- To obtain adequate knowledge of machine learning approaches

OUTCOMES OF THE COURSE
On Successful completion of the course, the student will be able to

- Describe the Big Data landscape including examples of real world big data problems
- Explain the V's of Big Data and impacts of data collection, monitoring, storage, analysis and reporting
- Identify what are and what are not big data problems and be able to recast big data problems as data science questions
- Gain skills of Hadoop technology
- Learn to get value out of bigdata

Unit   1   **(12 Hours)**
   Introduction to Data Science
   1.1 Introduction to data science, Case Studies: Data Science in Biomedicine and
       Healthcare
   1.2 Sequence Processing, Medical Image Analysis, Natural Language Processing
   1.3 Network Modelling and Probabilistic Modelling

Unit   2   **(15 Hours)**
   Big Data
   2.1 What is big data? What makes big data valuable Example of Big Data
   2.2 Where Does Big Data Come From? Machine-Generated Data and Advantages
   2.3 Big Data Generated by People, organization of Generated Data, integrating the
       data

Unit   3   **(13 Hours)**
   Characteristics of Big Data
   3.1 Characteristics of big data Volume, Variety, Velocity
   3.2 Characteristics of Big Data – Veracity, Valence and Value
   3.3 Getting value out of big data using a 5-step process to structure your analysis

Unit 4 (12 Hours)

Data Science: Getting Value out of Big Data
4.1 Building a Big Data Strategy, How does big data science happen? Five Components of Data Science
4.2 Steps in the Data Science - Acquiring Data , preprocessing and Exploring Data
4.3 Analyzing Data, Communicating Results, Turning Insights into Action

Unit 5 (13 Hours)

Big data systems and Hadoop
5.1 What is a Distributed File System? Scalable Computing over the Internet, Programming Models for Big Data6m
5.2 Introduction to Hadoop systems, The Hadoop Distributed File System: A Storage System for Big Data, YARN: A Resource Manager for Hadoop
5.3 MapReduce: Simple Programming for Big Results, When to Reconsider Hadoop? Cloud Computing: An Important Big Data Enabler

BOOKS FOR STUDY

Peter Guerra and Kirk Borne, *Ten Signs of Data Science Maturity*, O'Reily media Pvt ltd, 2016,

Tom White, *Hadoop: The Definitive Guide" Third Edition*, O'reily Media, 2012.

Seema Acharya, Subhasini Chellappan, *Big Data Analytics*, Wiley 2015.

BOOKS FOR REFERENCE

Howard Wen, *Big Ethics for Big Data*, O'Reilly Media

Michael Mineli, Michele Chambers, Ambiga Dhiraj, *Big Data, Big Analytics: Emerging Business Intelligence and Analytic Trends for Today's Businesses*, Wiley Publications, 2013.

Judith S.Hurwitz, Alan Nugent, Fern Halper, Marcia Kaufman **,** *Big Data for Dummies*, 2015

JOURNALS

Journal of Bigdata, Springer
Big Data Research, Elseiver

WEB RESOURCES

https://www.coursera.org/learn/big-data-introduction/home/welcome
https://www.coursera.org/learn/bioconductor?action=enroll&authMode=login

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50   Duration: 90 minutes**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B –   2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C –   1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100   Duration: 3 hours**
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

SYLLABUS
(Effective from the academic year 2019 -2020)

ADVANCES IN BIOINFORMATICS PRACTICAL

CODE: 19BI/PC/P442   **CREDITS : 2**
                                                          L T P : 0 0 3
                                                          TOTAL HOURS: 39

OBJECTIVES OF THE COURSE
- Demonstrate how to locate and download files for data analysis involving genes and medicine
- Select datasets and pre-process data using
- Develop and replace missing values, normalize data, discretize data, and sample data

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to
- Analyse genomic sequences
- Handle raw data
- Understand the steps of data assembling
- Learn RNA sequence analysis
- Understand and design sg RNA for genome editing

Unit	1	(7 Hours)

Basics of NGS
1.1 Introduction to UNIX commands and Virtual machine

Unit	2	(8 Hours)

Metagenomics
2.1 Analysis of metagenomic raw data using galaxy

Unit	3	(8 Hours)

Transcriptomics
3.1 Cancer data analysis using Webmev

Unit	4	(8 Hours)

RNA seq analysis
4.1 RNA seq analysis using Biojupies

Unit	5	(8 Hours)

Crispr cas 9
5.1 Small guide RNA design – Chop Chop, primerX

BOOKS FOR STUDY

Head**,** Steven R**.,** Ordoukhanian, Phillip, Salomon, Daniel R, *Next Generation Sequencing*

Methods and Protocols, Springer Protocols, Humana Press, 2018.

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50   Duration: 90 minutes**

Data analysis any two methods   2X20= 40 marks
Viva -   5 marks
Record -   5 marks

End Semester Examination   **Total Marks: 100   Duration: 3 Hours**

Data analysis any two methods   2X40= 80 marks
Viva -   10 marks

Record -   10 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

DISSERTATION

CODE: 19BI/PC/DS47   **CREDITS: 7**

The Dissertation shall contain at least 50 pages and shall be typed with double spacing.

The format for the thesis is as follows:

1. Cover page shall contain
    a) Title of the dissertation
    b) Name of the Candidate
    c) Department of Bioinformatics
        Stella Maris College (Autonomous), Chennai – 86
    d) Month, Year

2. The dissertation shall contain
    a) Contents page
    b) i. Certificate page
        ii. Acknowledgement page
    c) At least 5 Chapters including an introduction, Review of Literature, Materials and Methods, Result and Discussion and Summary
    d) List of figures / list of abbreviations (if needed) shall be given as an appendix
    e) Bibliography shall be given in alphabetical / chronological order at the end.

3. Each candidate may prepare 3 hard copy and one soft copy of the thesis, one copy for her and submit 2 copies to the Head of the department 15 days before the commencement of the fourth semester examination.

4. The candidate may be advised that the dissertation will be valued and given credit on the criteria of
    a) Motivation towards the chosen area / formulation of the problem
    b) Methodology and Analysis
    c) Capacity to interpret the results obtained

5. The Controller of Examination is requested to arrange for the valuation of the Dissertation as well as the conduct of the Viva – Voce at the college where the candidates take examinations, within two weeks of the last date of

examination for M.Sc. Degree. The panel of examiners will consist of an external examiner and the guide. The guidelines for the Viva-Voce examiners would be that a) They will satisfy themselves that this is a work of the candidate as certified by the department b) The thesis is in the given form and c) The candidate has clear understanding of the concepts, discussed in the thesis.

PATTERN OF ASSESSMENT

Continuous Assessment :   **Total Marks: 50**

Periodic review   25 marks
Presentation   25 marks

End Semester Examination: **Total Marks: 100**

i.	Style, format and neatness in presentation	15
ii	Chapterization, logic and reasoning	10
iii	Methodology – Analysis and interpretation	25
iv	Viva	50

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

CELL BIOLOGY AND GENETICS

CODE: 19BI/PE/CG15   **CREDITS : 5**
                                                         L T P : 4 10
                                          TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To understand the structure and function of the basic unit of life
- To gain knowledge about the Cell and all its components in both Prokaryotic and Eukaryotic cells
- To familiarize the students with the basic concepts of Genetics

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Understand the functions of the cell at the molecular level
- Represent and illustrate the structural organization of genes and the control of gene expression
- Explore the prokaryotic and eukaryotic protein synthesis mechanism
- Conceptualize mechanisms of signal transduction, cell cycle and cell death
- Link the concepts of cell and molecular biology to a better understanding of diseases, including cancer

Unit   1   **(10 Hours)**
   Prokaryotic and Eukaryotic cells
   1.1 Introduction - Prokaryotic and Eukaryotic cell - Characteristics, Similarities and differences
   1.2 Bacteria Cells - Structure, organisation and bacterial genetics
   1.3 Virus - Structure, Viral Infective cycles, origin and significance, Viroids and Prions

Unit   2   **(15 Hours)**
   Organelles
   2.1 Structure and function of Mitochondria, Plastids (i.e. chloroplasts), Endoplasmic Reticulum Golgi bodies, Lysosomes and Peroxisomes
   2.2 DNA -Structure – conformations, Histones and Non-Histones, Nuclear matrix and Lamins; Nuclear envelope, Pore complexes, transport through the envelope
   2.3 RNA- Types, Ribosomes – Structure, Assembly of polypeptides on Ribosomes

Unit 3   **(15 Hours)**
      Cytoskeleton
      3.1 Structure of the Cell Wall
      3.2 Structure and Role of Microtubules and Microfilaments in cells -cell-cell
          interactions- cell adhesion, tight junctions and plasmodesmata
      3.3 Introduction to Membranes - Structure, Function, and Communication:
          Roles of membranes in eukaryotic cells; Membrane structure and composition,
          The Plasma Membrane - Fluid Mosaic Model

Unit 4   **(13 Hours)**
      Multiple alleles
      4.1 Human blood groups (A, B, AB, O, M, N and H) and Rh factor - Inheritance and
          significance
      4.2 Gene Linkage and Recombination: Coupling and repulsion hypothesis Linkage
          in *Drosophila* Cytological proof of crossing over - Example – *Drosophila*
      4.3 Mapping: Locating genes along a chromosome: Two - point and three - point
          crosses

Unit 5   **(12 Hours)**
      Cell Cycle and Karyotyping
      5.1 Chromosomes- Structure and function, Centromers and Telomers, Cell Cycle-
          Mitosis and Meiosis
      5.2 Karyotyping, Sex determination in Human - Barr body - Importance of Y
          Chromosome - Klinefelters' and Turners' Syndromes
      5.3 Inter –sexuality Linked Inheritance: Colour blindness and Haemophilia Y -
          linked genes

BOOKS FOR STUDY

Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Anthony Bretscher, Hidde
    Ploegh. Molecular Cell Biology. USA: W. H. Freeman, Eighth edition, 2016.

Wolfe, Stephen L. *Molecular and Cellular Biology.* USA: Wadsworth, 2005.

Watson, James, D. *Molecular Biology of the Gene.* USA : The Benjamin Cummings
    Publishing Company, 2007.

Klug, William, S. and Michael R. Cummings. *Concepts of Genetics.* USA: Prentice Hall,
    2008.

Purvis, William K, David Sadava, Craig Heller and Gordan H. Orians. *Life: The Science of
    Biology.* USA : Sinauer, 2004.

BOOKS FOR REFERENCES

Watson, James, D. *Molecular Biology of the Gene.* UK: Pearson, Seventh edition, 2017.

Darnell, James, Harvey Lodish and David Baltimore. *Molecular and Cell
    Biology*, Scientific American Books, USA : W.H. Freeman, 2000.

Karp and Gerald. *Cell and Molecular Biology- Concepts and Experiments*, USA : John Wiley, 2013.

Karp, Gerald and Nancy L. Puritt, *Cell and Molecular Biology- Concepts and Experiments*, USA: John Wiley, 2004.

Lodish Harvey, Arnold Berk, Paul Matsudaira, Chris A. Kaiser, Monte Krieger, Mathew P. Scott, S. Lawrence Zipursky and James Darnell. *Molecular Cell Biology.* USA: W.H. Freeman,2004.

Burns, George W., and Botto, Paul J. *The Science of Genetics.* USA: Macmillan Publishing Company, 1989.

Lewin and Benjamin. *Genes IX*, UK :Oxford University Press, 2009.

Roitte, Ivan M., Brostoff, Jonathan and Male, David K.*Immunology.* Philadelphia: J.B. Lippincott, 1990.

Watson, James, D. *Molecular Biology of the Gene.* USA : The Benjamin Cummings Publishing Company,2007.

JOURNALS

Journal of Molecular Biology
Journal of Genetics and Genomics
BMC Cell Biology

WEB SOURCES

www.cellbio.com
www.molbiolcell.org
www.sciencedirect.com
http://www.biology.arizona.edu/cell_bio/cell_bio.html

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B –   2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C –   1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks:50**
Assignment/Quiz/Case studies/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
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SYLLABUS
(Effective from the academic year 2019-2020)

BIOMATHEMATICS AND BIOSTATISTICS

CODE: 19BI/PE/BS15 **CREDITS: 5**
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To enhance the skills in mathematics those are essential for learning Bioinformatics
- To understand and implement various mathematical techniques being applied in analyzing information of biological data
- To understand statistical methods in its several forms is the basis of biological research
- To introduce the various statistical techniques useful for handling quantitative data

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Understand the importance of mathematics for research based problems
- Apply the different statistical tests for the research
- Learn to solve aptitude based problems in competitive exams
- Gain skills on solving the population genetics equations
- Apply the regression and correlation techniques to interpret Drug activity based on QSAR

Unit   1   **(15 Hours)**
Set Theory and Matrices
1.1 Introduction, Representation of a Set, Set Operations - Types of Sets, Subsets, Complement of Sets, Union and Intersection of Sets, Difference of Sets
1.2 De Morgan's Law, Venn diagram, Cartesian Product of Sets
1.3 Matrix, Basic Operations, Transpose, square matrices, Non Singular Matrices, Inverse of a Matrix, Determinants, Elementary Applications

Unit   2   **(10 Hours)**
Relations and Functions
2.1 Introduction – Product sets, Relations
2.2 Functions – Linear Function
2.3 Related Functions – Polynomials and Differences

Unit   3   **(15 Hours)**
Probability
3.1 Rules of probability, Theorems of probability, Addition and Multiplication Theorem
3.2 Probability distributions: Binomial distribution, Poisson distribution, Normal distribution.
3.3 Binomial Co-efficient, Permutations, Combinations, Identities Applications

Unit 4   **(12 Hours)**
   Introduction to Biostatistics
   4.1 Scope, collection, classification and tabulation, Graphical representation of data-measures of location and dispersion -Diagrammatic and Graphical Presentation of data, Types of data, Significance and uses of diagrammatic representation-limitations.
   4.2 Frequency distribution: Discrete and continuous frequency distribution. Mean-Median- Mode.
   4.3 Measures of dispersion- Standard Deviation, Coefficient of variation, Range

Unit 5   **(13 Hours)**
   Application and Testing
   5.1 Sampling techniques, Sampling Distribution, Standard error, testing of hypotheses, Null Hypothesis
   5.2 Correlation - Types of correlation-Simple, Linear and Nonlinear- Pearson's Coefficient Correlation, Regression analysis- Types of Regression, Regression Equation of X on Y
   5.3 χ^2 test, t-test, Analysis of Variance (ANOVA), Population Genetics: Hardy–Weinberg principle

BOOKS FOR STUDY

Jae K.Lee, *Statistical Bioinformatics for Biomedical and Life Science Researchers*, John Wiley & Sons Publications, USA, 2010

Rao P. S. S. Sundar, *Introduction To Biostatistics And Research Methods*, Prentice Hall, India, 2009.

Veer Bala Rastogi, *Fundamentals of Biostatistics*, Ane Books Pvt Ltd, New Delhi, 2010.

Basu, A.K., (2003), Introduction to Stochastic Process, Narosa Publishing House, New Delhi, India

Gurumani, N., (2004), *An Introduction to Biostatistics*, M.J. P. Publishers, Chennai,India.

Lipschutz S. and Lipson, M.L. *Discrete Mathematics*, New York: McGraw Hill Book Company, 2001.

Narayanan S. and Manicavachagam Pillay, T. K., *Ancillary Mathematics- Book II*, India**:** S. Viswanathan Printers and Publishers, 2002.

Negi, K.S., *Biostatistics*, AITBS Publishers and Distributors, New Delhi, India. 2002

BOOKS FOR REFERENCE

Vittal, P.R. *Allied Mathematics***,** India: Margham Publishers, 2001.

Papoulis, Athanasios and S. Unnikrishnan Pillai, *Probability, Random Variables and Stochastic Processes,* (4th Ed.) Tata McGraw Hill Pub. Co. India. 2002

J. Richard, Sundar P. S. S. Rao, *An Introduction To Biostatistics: A Manual For Students In Health Sciences*, 3rd Edn, Prentice Hall, India. 2004

Bernard Rosner, *Fundamentals of Biostatistics*, Duxbury Press, USA. 2010

B. Antonisamy, Solomon Christopher, P. Prasanna Samuel. *Biostatistics: principles and practice*, Tata McGraw Hill Pub. Co. India. 2010

JOURNALS
The Journal of Mathematical Behavior
Mathematical Journals
The College Mathematics Journal
International Journal of Mathematics and Statistics Studies

WEBSITES
http://mathworld.wolfram.com/Integral.html
http://www-math.mit.edu/~djk/calculus_beginners/
http://mathworld.wolfram.com/Probability.html
https://www.math.hmc.edu/calculus/tutorials/matrixalgebra/

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**   **Duration: 90 mins.**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B – 2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C – 1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Assignment/Class Test

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered)
Section B – 4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 4 to be answered)

SYLLABUS
(Effective from the academic year 2019 -2020)

DATA MINING

CODE: 19BI/PE/DM15   **CREDITS : 5**
                                                           L T P : 4 1 0
                                               TOTAL TEACHING HOURS : 65

OBJECTIVES OF THE COURSE
- To provide an insight to Data mining
- To introduce the techniques used in data mining
- To understand these techniques in collecting and sorting of data

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to
- Gain insight into the field of Bioinformatics from theoretical models to finished software
- Understand how software design and methods can be integrated with existing tools to create productive information environment for bioinformatics practice
- Understand how open source can be powerful in creating web-based applications in Bioinformatics
- Understand important roles of programming languages and databases in Bioinformatics software development and service

Unit   1   **(10 Hours)**
Data mining
1.1 Introduction: Classification of data, Relational databases. Data warehouses Transactional databases .Advanced database systems and advanced database applications.
1.2 Data mining functionalities. Concept /class description.
1.3 Characterization and discrimination. Association analysis

Unit   2   **(10 Hours)**
2.1 Classification and prediction -Clustering analysis. Evolution and deviation analysis
2.2 Classification of data mining systems. Major issues in data mining
2.3 Multimedia data mining. Spatial data mining. Text mining

Unit   3   **(15 Hours)**
Data Processing
3.1 Data Preprocessing. Data integration and transformation, Data reduction. Association rule mining.
3.2 The Apriori algorithm: Finding frequent item sets From association mining to correlation analysis
3.3 Classification and Prediction Classification by back propagation association-based classification and other classification methods

Unit 4   **(15 Hours)**

Clustering

4.1 Clustering – cluster analysis – Types of clustering methods- Types of data in clustering analysis

4.2 A categorization of major clustering methods. Hierarchical methods. Density Based clustering methods. Grid based methods. Outlier analysis.

4.3 Data Mining applications and trends in data mining – Data mining applications in biotechnology and bioinformatics

Unit 5   **(15 Hours)**

Neural networks and machine learning

5.1 Introduction to Neural networks, learning rules

5.2 Classification Analysis, learning algorithm and model evaluation

5.3 SOM and SVM techniques in data mining

BOOKS FOR STUDY

Jiawei Han and Micheline Kamber. *Data Mining: Concepts and Techniques*, USA: Morgan Kaufmann Publishers, 2011.

BOOKS FOR REFERENCE

Oliviero carugo and Frank Eisenhaber. *Data Ming techniques for life sciences.* Singapore: Humana Press, 2009.

JOURNALS

Data Mining in Bioinformatics
International Journal of Data Mining and Bioinformatics

WEB RESOURCES

http://www.bioinformaticszen.com/post/an-introduction-to-data-mining-in-bioinformatics/
http://biit.cs.ut.ee/

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**   **Duration: 90 minutes.**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B – 2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C – 1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks:50**
Assignment/Case study/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered)
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SYLLABUS
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IMMUNOINFORMATICS

CODE: 19BI/PE/IM15   **CREDITS : 5**
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand the immune system, its components and their functions
- To impart knowledge of immune responses to various pathogens by integrating genomics and proteomics with bioinformatics strategies
- To provide information about the methods used in immunological bioinformatics

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Understand the application of information technology to immunology
- Study informatics-based approaches for prediction of epitopes and immuno-diagnostic tools
- Gain knowledge about computer aided vaccine design

Unit   1
Immune System   **(10 Hours)**
1.1 Introduction to Immune System - Adaptive and Innate Immunity
1.2 Cells of the Immune System, Soluble Mediators of Immunity, Cell and Antibody mediated immunity
1.3 Immune Responses - Inflammation, Immunopathology, Auto immune diseases, Vaccines

Unit   2
Antigens and Antibodies   **(15 Hours)**
2.1 Immunoglobulin classes and subclasses, Major Histocompatibility Complex (MHC) its Polymorphism, Causes for Polymorphism, MHC Supertypes
2.2 Antigen types – Epitope, Affinity Maturation, Epitope mapping
2.3 B-cell and T-cell Epitope Prediction, Recognition of Antigen by B cells. Neutralizing Antibody

Unit   3
Computational Immunology   **(10 Hours)**

3.1 Computational Immunology **-** Databases in Immunology, dbMHC-MHC database at NCBI

3.2 T-cell epitope databases, B-cell epitope databases, SYFPEITHI MHC-presented epitopes

3.3 IMGT Immunoinformatics, IMGT International ImMunoGeneTics Information System. HLA Nomenclature and the IMGT/HLA Sequence Database

Unit 4 **(15 Hours)**

Vaccine Design

4.1 From immunome to Vaccine – Prediction of immunogenicity, Vaccine design tools

4.2 Reverse Vaccinology and Immunoinformatics, Peptides with Antimicrobial Activity or Antibiotic Peptides

4.3 Functional Prospecting of Genes and Transcripts, Future of Computational Modelling and Prediction Systems in Clinical Immunology

Unit 5

Viral Bioinformatics **(15 Hours)**

5.1 Viral Bioinformatics - Computational Views of Hosts and Pathogens using VIDA

5.2 Drug Discovery - Introduction, Conventional Drug Design Approaches, Lipinski rule, Pharmacophore Kinetics and Dynamics, ADME Properties

5.3 Applications of Computer Based Drug Discovery

BOOKS FOR STUDY

Darren R. Flower. *Bioinformatics forImmunomics (Immunomics Reviews).* New York: Springer-Verlag, 2010.

Abul K. Abbas, Andrew H. H. Lichtman, and Shiv Pillai. *Cellular and Molecular Immunology* USA: Elsevier, 2017.

Christian Schönbach, ShobaRanganathan, and Vladimir Brusic. *Immunoinformatics (Immunomics Reviews)* USA: Humana Press, 2010.

BOOKS FOR REFERENCE

Kenneth Murphy. *Janeway's Immunobiology*, UK: Garland Science, 2014.

Robert A. Meyer. *Immunology - from cell biology to disease***.**Germany: Wiley VCH, 2007.

Richard A. Goldsby, Thomas .J Kindt, Barbara A. Osborne & Janis Kuby. *Immunology.* USA: WH Freeman Company, 2013.

JOURNALS

Immunology

Immunoinformatics

Journal of Computational Biology

WEB RESOURCES

http://www.imgt.org/Immunoinformatics.html

http://rsob.royalsocietypublishing.org/content/3/1/120139

http://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.0020071
http://omicsonline.com/immunoinformatics.php

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B – 2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C – 1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks:50**
Assignment/Tests/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

SYLLABUS
(Effective from the academic year 2019-2020)

BASICS OF CLINICAL RESEARCH MANAGEMENT

CODE:19BI/PE/CR15   **CREDITS : 5**
                                                             L T P : 4 1 0
                                        TOTAL PRACTICAL HOURS : 65

OBJECTIVES OF THE COURSE
- To give a basic understanding about clinical research
- To understand the various aspects of clinical research management
- To be conversant with the regulations in clinical management

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Evaluate critical global regulatory and health care issues that challenge and influence biopharmaceutical product development
- Understand the basic statistical principles, concepts, and methods for clinical data analysis and reporting
- Forecast the resources necessary for developing and managing clinical trials
- Demonstrate advanced critical thinking skills necessary to enhance employment opportunities or advance within the biopharmaceutical industry

Unit   1   **(10 Hours)**
Clinical Research
1.1 History of drug development - Pharmaco-epidemiology
1.2 Issues in Clinical Trials. Nuremberg Code, Declaration of Helsinki, International Conference of Harmonization and Good Clinical Practice
1.3 Clinical trials – History of clinical trials. Stages of Clinical trials

Unit   2   **(10 Hours)**
Pharmacology and Drug Development
2.1 Introduction to Drug Discovery and Development, Approaches, Sources of Drugs, Databases for drug search
2.2 Pharmacokinetics and pharmacodynamics, Toxicological requirements
2.3 Emerging technologies in Drug Discovery, Preclinical Testing, Clinical Trials

Unit   3   **(15 Hours)**
Regulations in Clinical Research
3.1 Evolution and History of Regulations in Clinical Research, US FDA Regulations, IND, NDA, ANDA, FDA Audits and Inspections
3.2 European Regulatory Affairs, Organization and Functions
3.3 INDIAN Regulatory system, Schedule Y- Rules and Regulations, Post Drug Approval Activities, PMS

Unit 4 (15 Hours)

Clinical Trial Management

4.1 Role of Ethics Committees and Institutional Review Boards. Special populations; women elderly and children

4.2 Designing of Protocol, SOP, ICF, Pharmacovigilance

4.3 Project management Documentation, Monitoring, Audits, Inspections, Fraud and Misconduct, Roles and Responsibilities of Clinical Research Professionals

Unit 5 (15 Hours)

Clinical Data Management

5.1 Importance of CDM in clinical research, Clinical Data Entry, CRF, e-CRF

5.2 Statistical considerations at the design, analysis and reporting stage.

5.3 Data validation, SAE reconciliation, Quality Assurance

BOOKS FOR STUDY

Lori A. Nesbitt. *Clinical Research What It Is and How It Works*. UK: Jones Barlett Publishers, 2006.

Richard K. Rondel, Sheila A. Varley, Colin F. Webb. *Clinical Data Management*. UK: John Wiley, 2013.

Steven Piantadosi. *Clinical Trails A Methodologic Perspective*. UK: John Wiley, 2005.

BOOKS FOR REFERENCE

Russ B. Altman, David Flockhart, David B. *Goldstein Principles of Pharmacogenetics and Pharmacogenomics.* UK: John Wiley, 2012.

Martin M. Zdanowicz. *Concepts in Pharmacogenomics*. UK: Mc Graw Hill, 2010.

JOURNALS

Journal of Clinical Research & Bioethics

Perspectives in Clinical Research

Asian Journal of Pharmaceutical and Clinical Research

WEB RESOURCES

http://hub.ucsf.edu/clinical-study-management

http://icmr.nic.in/ethical_guidelines

http://www.niaaa.nih.gov/research/guidelines-and-resources/clinical-trial-regulations-policies-and-guidance

http://www.fda.gov/ScienceResearch/SpecialTopics/RunningClinicalTrials/ucm155713.html

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50** **Duration: 90 mins**.

Section A − 10 x 1 = 10 Marks (All questions to be answered)

Section B − 2 x 10 = 20 Marks (2 out of 4 to be answered)

Section C − 1 x 20 = 20 Marks (1out of 2 to be answered)

Other Components: **Total Marks: 50**

Seminars/Quiz/Group discussion//Assignments/Case studies, etc.

End Semester Examination   **Total Marks: 100**   **Duration: 3 Hours**

Section A – 20 x 1 = 20 Marks (All questions to be answered)

Section B – 4 x 10 = 40 Marks (4 out of 7 to be answered)

Section C – 2 x 20 = 40 Marks (2 out of 4 to be answered)

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SYLLABUS
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CHEMINFORMATICS

CODE: 19BI/PE/CI15   **CREDITS : 5**
                                                                    L T P: 4 1 0
                                                                    TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To introduce the basic concepts of using chemical structure databases
- To apply the concepts and learn the use of Cheminformatics tools
- To understand the applications of Cheminformatics in drug design

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Gain skills to analyse the properties of small molecules
- Design the biological targets and properties of the small molecule under investigation
- Better understanding of the drug discovery and development process
- Apply the concepts to create novel leads

Unit   1   **(15 Hours)**
  Introduction
  1.1 Introduction to Cheminformatics, History and Evolution of Cheminformatics, Use of Cheminformatics, Prospects of Cheminformatics
  1.2 Databases: Chemical Structure Databases (PubChem, Drug bank)
  1.3 Modelling of small molecules and Structure Elucidation

Unit   2   **(10 Hours)**
  Representation of Molecules
  2.1 Representation of Molecules and Chemical Reactions
  2.2 Different Types of Notations, SMILES Coding, Structure of Mol files and Sdf files (Molecular converter, SMILES Translator)
  2.3 Similarity Search of the Molecule

Unit   3   **(15 Hours)**
  Cheminformatics databases
   3.1 Structure databases; Reaction Databases; Literature Databases; Medline; GenBank
   3.2 PIR; CAS Registry; National Cancer Institute (NCI) Database
   3.3 Databases of Small Molecules (ZINC)

Unit   4   **(10 Hours)**
  Searching Chemical Structure
   4.1 Searching Chemical Structure: Full Structure Search; Sub Structure Search; Similarity Search
   4.2 Three dimensional Search Methods. Structure Visualization

4.3 Drawing the Chemical Structure: 2D and 3D Drawing Tools (ACD Chemsketch) Structure Optimization

Unit 5   **(15 Hours)**
Applications of Cheminformatics tools
5.1 Definition of drugs, Structure-Based Drug Design, QSAR
5.2 Pharmacophore Design, Ligand-Based Design, De Novo Drug Design Virtual Screening / Docking of Ligands
5.3 Protein structure-Fragment-Based Drug Design, ADMET Prediction

BOOKS FOR STUDY

Johann Gasteiger and Thomas Engel. *Chemoinformatics -A Textbook*. Germany: Wiley-VCH, 2003.

Johann Gasteiger. *Handbook of Chemoinformatics-From Data to Knowledge,* Germany: Wiley-VCH, 2003.

BOOKS FOR REFERENCE

Andrew R. Leach, Valerie J. Gillet. *An Introduction to Chemoinformatics*.UK: Springer, 2007.

Bunin, Barry A. Dordrecht. *Chemoinformatics: Theory, Practice, and Products*.UK: Springer, 2010.

Bajorath, Juergen,Totowa, N.J. *Chemoinformatics: Concepts, Methods, and Tools for Drug Discovery.* USA: Humana Press, 2004.

Ekins, Sean, Hoboken, N.J. Computer *Applications in Pharmaceutical Research and Development.* Germany: Wiley, 2006.

JOURNALS

Journal of Cheminformatics
Chemoinformatics: Concepts, Methods, and Tools for Drug Discovery
International Journal of Cheminformatics and Chemical Engineering
BMR Bioinformatics & Cheminformatics
The Journal of Chemical Information and Modeling

WEB RESOURCES
http://cheminformatics.org/
http://www.emolecules.com/info/molecular-informatics
http://accelrys.com/products/informatics/cheminformatics/
http://www.rasalsi.com/services_drugdis.html

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**   **Duration: 90 mins.**

Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B – 2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C – 1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**

Assignment/Case study/Seminars

End Semester Examination: **Total Marks:100**   **Duration: 3 Hours**

Section A – 20 x   1 = 20 Marks (All questions to be answered)
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SYLLABUS
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BIOPHYSICS

CODE: 19BI/PE/BP15   **CREDITS: 5**
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To give a basic understanding about the forces that determines the structure of biological macromolecules
- To provide knowledge about the techniques used in studying biological structure and function
- To understand the behaviour and properties of biological macromolecules

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Understand the importance of structural studies in bioinformatics
- Gain an insight about the forces that determines the structure of biological macromolecules
- Apply the knowledge gained to interpret the properties of biological macromolecules
- Apply the recent advances in Biophysical techniques in Life science Research

Unit 1
Introduction (10 Hours)
1.1 Atoms, Molecules and Chemical Bonds
1.2 Bohr Model of the Atom, Atomic Spectra, De Broglie Theory of Matter Waves, Schrödinger Wave Equation, Atomic and Molecular Orbitals, Hybrid Orbitals
1.3 Thermodynamics Systems – Laws of Thermodynamics – Statement and Applications – Concepts of Entropy and Enthalpy

Unit 2
Spectroscopy (15 Hours)
2.1 Visible, UV And IR Spectroscopy
2.2 Raman Spectroscopy –'Fingerprinting' Using Raman Spectra – Complementarity of Raman and IR Spectroscopy
2.3 Fluorescence Spectroscopy – Principles and Applications only for all

Unit 3
Nuclear Magnetic Resonance (15 Hours)
3.1 The Phenomenon, Spin-Spin Interaction
3.2 Relaxation and Nuclear Overhauser Effect, Chemical Shift, Measuring the Spectrum
3.3 One Dimensional and Two Dimensional NMR, NMR Application to Macromolecules

Unit 4

    Mass Spectrometry   **(15 Hours)**

    4.1 Mass Spectrometry for Protein and Peptide Analysis

    4.2 MALDI-TOF Analyzer, Tandem Mass Analyzer, The Ion Trap Mass Analyzer, Q-TOF Instrument

    4.3 Protein identification by Peptide Mass Fingerprinting, Peptide Sequence Analysis by TMS

Unit 5

    Crystallography and Microscopy   **(10 Hours)**

    5.1 Elementary Description of Crystallography – Crystal Growth, Data Collection, Structure Solution, Refinement and Interpretation – Concept of Resolution

    5.2 AFM: Atomic Force Microscopy Basic Principle and Application

    5.3 CFM: Chemical Force Microscopy Basic Principles and Applications

BOOKS FOR STUDY

Igor, Serdyuk, Nathan R. Zaccai and Joseph Zaccai. *Methods in Molecular Physics.* UK: Cambridge University Press, 2007.

Narayanan P. *Introductory Biophysics* Mumbai, India: New Age Publishing Co., 2005

Kensal E. vanHolde, Johnson Curtis W. and Ho Shing P. *Principles of Physical Biochemistry*, USA: Prentice Hall International Inc., 2005.

BOOKS FOR REFERENCE

Bengt Nolting. *Methods in Modern Biophysics,* Germany: Springer, 2004.

D. Freifelder. *Physical Biochemistry.* New York, USA: W.H. Freeman and Company, 1982.

Banwell C.N. *Fundamentals of Molecular Spectroscopy.* New Delhi India: Tata McGraw-Hill Publishing Company Lt., 1994.

D. Sherwood, *Crystals, X-rays and Proteins.* London, UK: Longman Group Lts., 1976.

C.R. Cantor and P. Schimmel. *Biophysical Chemistry, Vol. I, II and III.* New York, USA: W.H. Freeman and Company, 1985.

Sears F. W, Zemansky M.W and Young H.D. *College Physics*, Massachusetts, USA: Addison Wesley Publishing Company, 1985.

Leach A.R, *Molecular Dynamics Simulation.* New York, USA: John Wiley and Sons, 2001.

A.P. Gunning, A. R. Kirby, V. J. Morris. *Atomic Force Microscopy.* London: Imperial College Press, 2009.

JOURNALS
Biophysical Journal
European Biophysics Journal
Journal of Biophysics

WEBSITES
http://www.biophysics.org/Education/Careers/CareersinBiophysics/tabid/112/Default.aspx
http://www.rcsb.org/pdb/101/static101.do?p=education_discussion/Looking-at-Structures/methods.html

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B – 2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C – 1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Seminars
Assignment
Interpretation of results

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

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SYLLABUS
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INTRODUCTION TO BIOINFORMATICS

CODE: 19BI/PE/IB23   **CREDITS : 3**
                                                        L T P : 3 0 0
                                       TOTAL TEACHING HOURS : 39

OBJECTIVES OF THE COURSE
- To become familiar with bioinformatics and how it's changing complex biological research
- To enable textual mining of biological literature and bioinformatics tools that are required to query biological data
- To understand the application of information technology in biological research

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Better understanding of the bioinformatics concepts
- Emphasis the application of bioinformatics and biological databases to problem solving in real research problems
- Perform a complete analysis of the genes and protein
- Understand the evolutionary concepts related to biological query

Unit   1   **(8 Hours)**
   Introduction to Bioinformatics
   1.1 Introduction to Bioinformatics, Classification of biological databases, Biological data formats, Application of bioinformatics in various fields
   1.2 Introduction to single letter code of amino acids, symbols used in nucleotides
   1.3 Data retrieval systems- Entrez and SRS

Unit   2   **(8 Hours)**
   Sequence and Structure analysis
   2.1 Introduction to Sequence alignment. BLAST, Multiple sequence alignment
   2.2 Structural Databases – PDB and other online tools
   2.3 Visualizing tools – Rasmol, Pymol

Unit   3   **(7 Hours)**
   Phylogenetic analysis
   3.1 Evolutionary analysis: distances, Cladistic and Phenetic methods
   3.2 Clustering Methods. Rooted and unrooted tree representation
   3.3 Bootstrapping strategies, Tools for Phylogenetic tree construction

Unit   4   **(8 Hours)**
        Genomics
        4.1 Genome - Gene finding methods,
        4.2 Gene prediction tools
        4.3 Repeat Sequence finder

Unit   5   **(8 Hours)**
        Proteomics
        5.1 Proteomics - Protein structure – levels of organisation
        5.2 Protein separation techniques – SDS-PAGE
        5.3 Restriction Enzymes and Mapping

BOOKS FOR STUDY

Pevsner and Jonathan.*Bioinformatics and Genomics Functional.* USA: John Wiley,2003.

Baxevanis, Andreas D. and Francis B.F. Ouellette. *Bioinformatics- A Practical Guide to the Analysis of Genes and Proteins*. USA: John Wiley, 2001.

David W. Mount. *Bioinformatics Sequence and Genome Analysis*. INDIA: CBS Publishers, 2003.

BOOKS FOR REFERENCE

Baldi P. and Brunak S. *Bioinformatics: Machine Learning Approach*. USA: MIT Press, 2003.

Chen, Yi-Ping Phoebe. *Bioinformatics Technologies*. Germany: Springer, 2005.

Durbin R, S. Eddy, A. Krogh and G. Mitchison.*Biological Sequence Analysis: Probabilistic Models of Proteins and Nucleic Acids.* USA: Cambridge University Press, 2005.

Higgins, Des and Willie Taylor. *Bioinformatics – Sequence, Structure and Databanks – Practical Approach***.** UK: Oxford University Press, 2001.

Lesk, Arthur M. *Introduction to Bioinformatics.* UK: Oxford University Press, 2014.

JOURNALS
BMC Bioinformatics
Bioinformatics
Journal of Bioinformatics and Computational Biology
Journal of Biomedical Informatics
Journal of Integrative Bioinformatics
PLoS Computational Biology

WEB RESOURCES
http://bioinformaticsweb.net/tools.html
https://www.bits.vib.be/index.php/training/122-basic-bioinformatics
http://bioinformaticssoftwareandtools.co.in/
http://www.genscript.com/tools.html

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B – 2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C – 1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks:50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B – 4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 4 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

APPLICATIONS OF BIOINFORMATICS

CODE: 19BI/PE/AP23   **CREDITS : 3**
                                          L T P : 3 0 0
                                          TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE
- To be familiar with the use of a wide variety of internet applications and biological database
- To understand the basics of pharmacogenomics in the context of variability in drug response
- To introduce the basic concepts of using chemical structure databases
- To understand the application of information technology to immunology

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Examine factors that affect drug response and the application of pharmacogenetics to drug development and drug treatment
- Apply the immunological data and to the sophisticated computational solutions available for immunological research
- Emphasis the application of bioinformatics and biological databases to problem solving in real research problems

Unit   1   **(7 Hours)**
Introduction to Bioinformatics
1.1 Classification of biological data, and different data formats
1.2 Introduction to single letter codes of amino acids, symbols used in nucleotides
1.3 Bioinformatics Perspectives on Human Diseases

Unit   2   **(8 Hours)**
Bioinformatics databases
2.1 Overview of Biological Sequence Databases - NCBI, EMBI, DDBJ
2.2 Sequence Retrieval Systems (Entrez & SRS), Sequence Submission Methods and Tools (Sequin, Sakura, Bankit)
2.3 Finding Scientific Articles Using PubMed, Identification of disease genes, OMIM database

Unit   3   **(8 Hours)**
Pharmacogenomics
3.1 Introduction to Basic Concept of Pharmacogenomics, Application and Challenges in Pharmacogenomics, Personalized Medicine
3.2 Genetic Variation, Types of Variants, SNPs, Insertion/Deletions

3.3 Databases - Pharmacogenomics Knowledge Base (PharmGKB)

Unit 4   **(8 Hours)**
Computational Immunology
4.1 Introduction to Immune System - Adaptive and Innate Immunity, Cells of the Immune System
4.2 Major Histocompatibility Complex (MHC) its Polymorphism, Principles of B-cell and T-cell Epitope Prediction
4.3 Databases in Immunology, IMGT immunoinformatics

Unit 5   **(8 Hours)**
Applications of Cheminformatics Tools in Drug Design
5.1Definition of drugs - 2D and 3D Molecular Structures
5.2 Searching for Chemicals on the Internet (PubChem, eMolecules)
5.3 Chemical structure drawing tools

BOOKS FOR STUDY

Darren R. Flower. *Bioinformatics forImmunomics (Immunomics Reviews).* New York: Springer-Verlag, 2010.

Abul K. Abbas, Andrew H. H. Lichtman, and Shiv Pillai. *Cellular and Molecular Immunology* USA: Elsevier, 2017.

Andrew R. Leach, Valerie J. Gillet. *An Introduction to Chemoinformatics.*UK: Springer, 2007.

Russ B. Altman, David Flockhart, David B. Goldstein. *Principles of Pharmacogenetics and Pharmacogenomic.*UK:Cambridge University Press, 2012.

BOOKS FOR REFERENCE
Christian Schönbach, ShobaRanganathan, and Vladimir Brusic. *Immunoinformatics (Immunomics Reviews)* USA: Humana Press, 2010.

Kenneth Murphy. *Janeway's Immunobiology*, UK: Garland Science, 2014.

Bunin, Barry A. Dordrecht. *Chemoinformatics: Theory, Practice, and Products.*UK: Springer, 2010.

JOURNALS
The Pharmacogenomics Journal
Pharmacogenomics and Personalized Medicine
Pharmacogenetics and Genomics
Immunoinformatics
BMC Genomics
Journal of Computational Biology
Chemoinformatics: Concepts, Methods, and Tools for Drug Discovery
International Journal of Chemoinformatics and Chemical Engineering
BMR Bioinformatics & Cheminformatics

WEB RESOURCES

http://www.imgt.org/Immunoinformatics.html
http://rsob.royalsocietypublishing.org/content/3/1/120139
http://ghr.nlm.nih.gov/handbook/genomicresearch/pharmacogenomics
https://www.pharmgkb.org/
http://cheminformatics.org/
http://www.emolecules.com/info/molecular-informatics

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 mins.**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B –   2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C –   1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks:50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
Section A – 20 x   1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

COMPUTER AIDED DRUG DESIGN

CODE: 19BI/PE/CD23   **CREDITS : 3**
                                                                    L T P : 3 0 0
                                                    TOTAL TEACHING HOURS : 39

OBJECTIVES OF THE COURSE
- To understand the general pathway for drug discovery and development
- To define new methodologies for analysis of ligands with their bound protein target
- To gain an in-depth overview of methods and techniques applied in computer assisted drug design (CADD)
- To learn about computer-aided drug design, safety evaluation, bioavailability and clinical trials

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Identify the key elements in drug and explain new methodologies for drug design
- Describe the role and importance of the various disciplines involved in the different phases of drug discovery and development
- Review and evaluate preclinical and clinical pharmaceutical studies
- Follow new ideas in utilizing main approaches of ligand screening methods

Unit   1   **(7 Hours)**
      Drug Discovery and Development
      1.1 Drug Development Process Overview - The Changing Landscape of drugs development
      1.2 Drug Discovery Phases
      1.3 Preclinical Phase studies

Unit   2   **(8 Hours)**
      Regulations in Drug Discovery
      2.1 FDA regulations on Drug Development
      2.2 Indian Regulatory Systems
      2.3 Ethical Considerations and Special Populations

Unit   3   **(8 Hours)**
      Drug Target Identification
      3.1 Computational inferences used to identify and validate small molecule drug targets
      3.2 Databases for Drug targets, Retrieving protein structure and visualisation
      3.3 Target Discovery and Validation, Active Site Prediction

Unit 4   **(8 Hours)**

    Ligand Based Drug Design
        4.1 Screening of lead molecules - Natural products and their analogues
        4.2 Chemical Databases – PubChem, Drug Bank
        4.3 Chemical file formats, Retrieving drug molecules

Unit 5   **(8 Hours)**

    Pharmacokinetics and Molecular Docking
        5.1 Pharmacokinetics - ADME Prediction
        5.2 Pharmacodynamics
        5.3 Molecular Docking - Scoring and evaluation

BOOKS FOR STUDY

Claudio N. Cavasotto. *In Silico Drug Discovery and Design: Theory, Methods, Challenges, and Applications*. USA: Taylor & Francis Group, 2017

Charifson P S. *Practical Application of Computer Aided Drug Design*. New York: Dekker, 1997

BOOKS FOR REFERENCE

Andrew R. Leach. *Molecular Modeling: Principles and Applications*. USA: Prentice Hall, 2007.

Daan Frenkel and Berend Smit. *Understanding Molecular Simulation: From Algorithms to applications*. USA: Academic Press, 2002.

Alan Hinchliffe. *Molecular Modelling for Beginners*. USA: John Wiley & Sons, 2008

Luca Monticelli, Emppu Salonen. *Biomolecular Simulations: Methods and Protocols*. USA: Humana Press, 2016.

JOURNALS
Journal of Molecular Graphics and Modelling
Journal of Computer-Aided Molecular Design
Current Computer Aided-Drug Design

WEB SOURCES

http://accessengineeringlibrary.com/browse/computer-aided-drug-design-and-delivery systems
http://www.southernresearch.org/life-sciences/lead-discovery-and-optimization/medicinal-chemistry/computational-chemistry
http://www.ch.ic.ac.uk/local/organic/mod/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B – 2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C – 1x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Assignment/Test/Seminars

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered)
Section B – 4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 4 to be answered)

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SYLLABUS
(Effective from the academic year 2019 -2020)

PHARMACOGENOMICS

CODE:19BI/PI/PG24   **CREDITS : 4**

OBJECTIVES OF THE COURSE
- To understand the basics of pharmacogenomics in the context of variability in drug response
- To examine factors that affect drug response and the application of pharmacogenetics to drug development and drug treatment
- To analyse the tools and databases related to pharmacogenomics

COURSE LEARNING OUTCOMES
On Successful completion of the course, the student will be able to

- Gain an insight on pharmacology linked to genomics
- Assess genetic polymorphisms and their importance in drug designing
- Understand structural influence in the Drug response
- Analyse different tools for pharmacogenomic analysis including ADME prediction

Unit   1
   Pharmacogenomics
   1.1 Pharmacogenomics- Introduction, basic concepts about genetic diseases
   1.2 Personalized medicine- introduction and importance, The genetics of therapeutic targets and gene-based targets
   1.3 Pharmacogenomics necessity in drug designing

Unit   2
   Genetic Variation
   2.1 Introduction to genetic variation, types of variants, SNPs, coding and cis/trans regulatory variants, insertion/deletions, Satellite DNA
   2.2 Databases, National pharmacogenetics resources/efforts (PGRN), Pharmacogenomics Knowledge Base (PharmGKB)
   2.3 Prediction of structural changes among sequences by the influence of polymorphisms.

Unit   3
   Pharmacokinetics & Metabolism
   3.1 Pharmacokinetics (PK), Pharmacodynamics (PD)
   3.2 Tools for pharmacogenomics analysis
   3.3 Definition of Toxicogenomics, Detoxification and poisoning. Preclinical Toxicology

Unit 4

Pharmacogenomics in Drug Discovery and Development

4.1 An Introduction to Drug Discovery and Development

4.2 Process in Structural Pharmacogenomics - Target Structure optimization, Validation, lead identification, ADME prediction, synthesis, assays and Clinical trials

4.3 Drug response to patients, Structural influence in the Drug response. Efficacy and metabolism of drugs, Drug metabolism pathways and adverse drug reactions

Unit 5

Micro array Analysis

5.1 DNA Microarray: Importance and definition, Designing a MicroArray Experiment: The Basic steps

5.2 Types of Microarray, NCBI and Microarray Data Management, GEO (Gene Expression Omnibus), MAML

5.3 The Promise of Microarray Technology in Treating Disease. Microarray Data, Expression Pattern, Visualizing Microarray Data

BOOKS FOR STUDY

Russ B. Altman, David Flockhart, David B. Goldstein. *Principles of Pharmacogenetics and Pharmacogenomic*.UK:Cambridge University Press, 2012.

Rapley R and Harbron S.*Molecular analysis and Genome discovery*. John Willey, 2004.

BOOKS FOR REFERENCE

Lori A. Nesbitt.*Clinical Research What It Is and How It Works.*UK*:* Jones Barlett Publishers, 2004.

Steven Piantadosi.*Clinical Trials A Methodologic Perspective*.UK:John Wiley, 2005.

Martin M. Zdanowicz. *Concepts in Pharmacogenomics*.NewYork: McGraw Hill, 2010.

JOURNALS

The Pharmacogenomics Journal

American Journal of Pharmacogenomics

Pharmacogenomics and Personalized Medicine

Pharmacogenetics and Genomics

WEB RESOURCES

http://ghr.nlm.nih.gov/handbook/genomicresearch/pharmacogenomics

https://www.pharmgkb.org/

http://www.fda.gov/drugs/scienceresearch/researchareas/pharmacogenetics/ucm083378.htm

PATTERN OF ASSESSMENT

End Semester Examination: Total Marks: 100   Duration: 3 hours

Section A – 20 x   1 = 20 Marks (All questions to be answered)

Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)

Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOINFORMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

SYSTEMS BIOLOGY

CODE: 19BI/PI/SB24   **CREDITS : 4**

OBJECTIVE OF THE COURSE
- To introduce the basic concepts of Systems biology
- To train the students in designing a new organism through modelling network concept and manipulating them for biological applications

Unit   1
Introduction
1.1 Introduction – Systems Biology is a Living Science
1.2 Properties of Models-Model Behaviour- Model Development
1.3 Systems Biology is Data Integration

Unit   2
Standard Models and Approaches in Systems Biology
2.1 Standard Models and Approaches in Systems Biology
2.2 Enzyme Kinetics and Thermodynamics-Metabolic Networks
2.3 Structure of Intra- and Intercellular Communication-Receptor-Ligand Interactions

Unit   3
Modeling of Gene Expression
3.1 Modeling of Gene Expression-Modules of Gene Expression – Promoter
3.2 Identification - General Promoter Structure- Sequence-Based Prediction of Promoter Representation of Gene Network as Directed and Undirected Graphs
3.3 Bayesian Networks-Boolean Networks- Gene Expression Modeling With Stochastic Equations

Unit   4
Analysis of Gene Expression Data
4.1 Analysis of Gene Expression Data- Introduction-DataCapture-DNA Array Platforms
4.2 Image Analysis and Data Quality Control-Grid Finding- Quantification of Signal Intensities- Signal Validity- Pre-processing-Global Measures
4.3 Linear Model Approaches- Nonlinear. Fold-change Analysis

Unit   5
Clustering Algorithms
5.1 Clustering Algorithms-Hierarchical Clustering- Self-organizing Maps

(SOMs).K-means- Validation of Gene Expression
5.2 Publication in the Era of Systems Biology- Systems Biology and Text Mining. Systems Biology in Medicine and Drug Development
5.3 Guiding the Design of New Organisms -Computational Limitations- Potential Dangers

BOOKS FOR STUDY

E. Klipp, R. Herwig, A. Kowald C. Wierling, H. Lehrach. *Systems Biology In Practice- Concepts, Implementation And Application*. Germany: Wiley-Vch Verlag Gmbh & Co.Kgaa, 2005.

Andres Kriete And Roland Eils. *Computational Systems Biology*. Uk: Elsevier, 2005.

BOOKS FOR REFERENCE

Uri Alon. *An Introduction To Systems Biology: Design Principles Of Biological Circuits*. London: Chapman & Hall/Crc, Taylor And Francis Group, 2006.

Choi And Sangdun. *Introduction To Systems Biology*. Usa: Humana Press, 2007. Edda Klipp, Wolfram Liebermeister, Christoph Wierling, Axel Kowald, Hans Lehrach,

Ralf Herwig. *Systems Biology: A Textbook*. Uk: Wiley- Vch.Edinburgh, 2009.

Zoltan Szallasi, Joerg Stelling, Vipul Periwal. *Systems Modeling In Cellular Biology*. Usa: Mit Press, 2006.

JOURNALS
Current Synthetic and Systems Biology
Journal of Computer Science & Systems Biology
Eurasip Journal on Bioinformatics And Systems Biology
Bmc Systems Biology

WEB RESOURCES
http://Sysbio.Med.Harvard.Edu/
www.Systemsbiology.Org
www.Systemsbiology.Ucsd.Edu/
www.Sysbio.Org/

PATTERN OF EVALUATION

End Semester Examination
Total Marks: 100   Duration: 3 Hours
Section A – 20 X 1 = 20 Marks (All Questions to be answered)
Section B – 4 X 10 = 40 Marks (4 Out Of 7 to be answered)
Section C – 2 X 20 = 40 Marks (2 Out Of 4 to be answered)

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 86

DEPARTMENT OF BIOTECHNOLOGY

PROGRAMME DESCRIPTION

The Master's programme in Biotechnology combines biology with technology which encompasses various branches of applied sciences. The programme lays emphasis on the advanced area of biotechnology involving controlled and deliberate manipulation of biological systems for the development of a new technology for industrial products. It is an interdisciplinary science, it focusing on subjects such as molecular biology, microbiology, stem cell and tissue engineering, marine biotechnology and environmental biotechnology. The programme will acquaint the student on basic and applied sciences, research skills and interpretation of the biological data on an experimental approach.

PROGRAMME SPECIFIC LEARNING OUTCOMES

On successful completion of the programme, the students will be able to

- Comprehend the basic principles of biotechnology
- Explain the concept and application of current applications of biotechnology and advances in the different areas including microbial, animal, plant, environmental, food, pharmaceutical and medical sciences
- Propose, design and deliver an experiment to address a research hypothesis
- Analyze data and interpret the results
- Provide technological solutions in the fields of modern biotechnological applications
- Develop useful intellectual bio-based products to the society
- Identify and debate the ethical, legal, professional and social issues in the field of biotechnology

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Sc. DEGREE : BIOTECHNOLOGY

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks									
Subject Code	**Title of Course**	**C**	**L**	**T**	**P**	**Ex**	**CA**	**ES**	**M**
SEMESTER-I									
19BY/PC/BC14	Biochemistry	4	4	1	0	3	50	50	100
19BY/PC/MI14	Microbiology	4	4	1	0	3	50	50	100
19BY/PC/MR14	Molecular Biology and Recombinant DNA Technology	4	4	1	0	3	50	50	100
19BY/PC/P112	Biochemistry and Microbiology Practical	2	0	0	3	6	50	50	100
19BY/PC/P213	Molecular Biology and Recombinant DNA Technology Practical	3	0	0	5	6	50	50	100
	Department Elective I								
	SAP / SL	2	2	0	0	-	50	-	100
SEMESTER-II									
19BY/PC/AP24	Animal and Plant Biotechnology	4	4	2	0	3	50	50	100
19BY/PC/RM24	Research Methodology	4	4	1	0	3	50	50	100
19BY/PC/P324	Animal and Plant Biotechnology Practical	4	0	0	6	6	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19BY/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
	Department Elective II								
	Common Elective I								
SEMESTER-III									
19BY/PC/IM34	Immunotechnology	4	4	1	0	3	50	50	100
19BY/PC/BF34	Bioprocess and Fermentation Technology	4	4	1	0	3	50	50	100
19BY/PC/ET34	Environmental Biotechnology	4	4	1	0	3	50	50	100
19BY/PC/P432	Immunotechnology Practical	2	0	0	3	6	50	50	100
19BY/PC/P533	Bioprocess and Fermentation Technology and Environmental Biotechnology Practical	3	0	0	5	6	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19BY/PN/SI32	Summer Internship	2	2	0	0	-	50	-	100
	Common Elective II								
SEMESTER-IV									
19BY/PC/ST44	Applications of Stem Cell and Tissue Engineering	4	4	2	0	3	50	50	100
19BY/PC/BN44	Bio-Nanotechnology	4	4	1	0	3	50	50	100
19BY/PC/DS49	Dissertation	9	0	0	11	0	50	50	100
	Department Elective III								

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M.Sc. DEGREE : BIOTECHNOLOGY

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, **L-**Lecture Hours, **T-**Tutorial Hours, **P-** Practical Hours, **Ex-**Exam Hours, **CA-** Continous Assessment Marks, **ES-**End Semester Marks, **M-**Maximum Marks									
Postgraduate Elective Courses Offered to Parent Department									
19BY/PE/FB15	Food Biotechnology	5	5	0	0	3	50	50	100
19BY/PE/BI15	Bioinstrumentation	5	5	0	0	3	50	50	100
19BY/PE/PB15	Pharmaceutical Biotechnology	5	5	0	0	3	50	50	100
19BY/PE/IB15	IPR, Biosafety, Bioethics and Entrepreneurship	5	5	0	0	3	50	50	100
19BY/PE/EZ15	Enzyme Technology	5	5	0	0	3	50	50	100
19BY/PE/VR15	Virology	5	5	0	0	3	50	50	100
19BY/PE/MT15	Marine Biotechnology	5	5	0	0	3	50	50	100
Postgraduate Elective Courses Offered to Other Departments									
19BY/PE/AB23	Applications of Biotechnology	3	3	0	0	3	50	50	100
19BY/PE/HG23	Human Genetics	3	3	0	0	3	50	50	100
19BY/PE/HD23	Human Diseases and Management	3	3	0	0	3	50	50	100
Independent Elective Course									
19BY/PI/MO24	Molecular Oncology	4	0	0	0	3	-	100	100

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M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

BIOCHEMISTRY

CODE:19BY/PC/BC14   **CREDITS:4**
                                                      L T P:4 1 0
                                          TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To gain knowledge on the core principles and topics of Biochemistry
- To have a biochemical insight of various components of cells and their functions
- To enumerate the biochemical functions of water, buffer, enzymes and hormones and its role in metabolism of living matters
- To demonstrate an understanding of the principles, and practical experience of, a wide range of biochemical techniques
- To understand the scope of biochemistry for further education, research and employment

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- demonstrate structured knowledge of fundamental biochemical principles, such as the structure/function of biomolecules, metabolic pathways, and the regulation of biological/biochemical processes
- explain biological mechanisms and underlying relationship in view of biochemical reactions
- design effective biochemical experiments and be able to apply the scientific method to the processes of experimentation
- critically analyze data, trouble-shoot and effectively communicate scientific reasoning and data analysis in both written and oral forums
- practice the ethics surrounding biochemical scientific research

Unit   1
Introduction to Biochemistry   **(10 Hours)**
1.1 The Importance of Biochemistry in Understanding the Processes of the Body
1.2 Components of the Cell and Cell Fractionation techniques
1.3 Markers for Each Organelle
1.4 Relationship Between Cell Biology and Biochemistry

Unit   2
Chemical and Biological Foundation   **(12 Hours)**
2.1 Water- Properties, Role of water
2.2 Maintenance of Body Fluids in Various Body Compartments and Related Disorders

2.3 pH- Acid Base Balance, Buffers

2.4 Maintenance of pH – Role of Hemoglobin, Respiratory Control, Role of Kidney, Acidosis, Alkalosis

Unit 3

Biomolecules (15 Hours)

3.1 Carbohydrates - Classification, Monosaccharides, Fischer Projection Formula, Hemiketal and Hemiacetal Formation, Furanoses, Pyranoses, Anomers, Epimers; Disaccharides-Sucrose, Lactose, Maltose; Polysaccharides - Cellulose, Chitin, Starch, Glycogen, Glycosaminoglycans, Proteoglycans

3.2 Proteins – Classification of Aminoacids, Peptide Bonds, Structural Hierarchy of Proteins

3.3 Lipids - Classification, Fatty Acids, Simple Lipids, Complex Lipids, Derived Lipids

3.4 Nucleic Acids - Purine and Pyrimidines, Nucleosides and Nucleotides, Structure of Nucleic Acids, Classification of DNA (A, B And ZDNA), Types of RNAs and their Biological Significance

Unit 4

Enzymes (13 Hours)

4.1 Enzyme Nomenclature, Classification, Cofactor, Active Site, Specificity and Factors Affecting Enzyme Action

4.2 Enzyme Regulation- Enzyme Inhibition (Competitive Inhibition, Uncompetitive Inhibition), Control of Enzyme Quantity, Altering the Catalytic Efficiency of the Enzyme

4.3 Enzymes in Clinical Diagnosis and Pharmaceutical Industries

Unit 5

Cellular Metabolism (15 Hours)

5.1 Concepts of Metabolism- Respiratory Chain and Oxidative Phosphorylation

5.2 Glycolysis, Gluconeogenesis, Pentose Phosphate Pathway, Metabolism of Glycogen, Citric Acid Cycle

5.3 Oxidation of Fatty Acids, Biosynthesis Fatty Acids and Triglycerides, Degradation of Amino Acids – Transamination, Oxidative Deamination and Urea Cycle

5.4 Synthesis and Catabolism – Purines and Pyrimidines

BOOKS FOR STUDY

Albert, L. Lehninger et al**.** *Biochemistry.* U.K: Worth, 2007.

Brown. T. A. *Biochemistry.* Scion Publishing Ltd, 2016.

Rodwell et al. *Harper's Illustrated Biochemistry*. McGraw-Hill Education, 2018.

Thomas. E. Creighton. *Proteins.* New Work: W. H. Freeman, 2005.

BOOKS FOR REFERENCE

Champe, Pamela C, Richard A. Harvey and Denise R. Ferrier. *Lippincott's Illustrated Reviews: Biochemistry.* India: J.P. Brothers, 2005.

Garrett, H. Reginald and Grisham, M. Charles. *Biochemistry.* U.S.A.: Thomson – Brooks/Cole, 2005.

Gerald Litwack. *Human Biochemistry*. First Edition. U.S.A. Academic Press, 2017.

Jeremy, M. Berg. *Biochemistry.* New York: W.H. Freeman, 2001.

J L Jain et al. *Fundamentals of Biochemistry*. Seventh Edition, S Chand, 2016.

Lubert, Stryer. *Biochemistry*. New York: W.H. Freeman, 2005.

Namrata Chhabra, Sahil Chhabra. *A Case Oriented Approach Towards Biochemistry*. First edition. India: J.P. Brothers, 2013

Voet, D. and Voet, G. *Biochemistry.* New York: John Wiley, 2000.

JOURNALS
Journal of Biochemistry
Indian Journal of Clinical Biochemistry
Biochemistry

WEB RESOURCES
www.themedicalbiochemistrypage.org
www.biochemistry.org

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks   (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

Other Components: **Total Marks: 50**
Assignment/open book test/seminar/group discussion

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A—10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
Section B—5 x 8 = 40 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C— 2 x 20 = 40 Marks (2 out of 4 to be answered; Questions to be taken from all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

MICROBIOLOGY

CODE: 19BY/PC/MI14   **CREDITS: 4**
                                                                   L T P: 4 1 0
                                                      TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand growth and morphology of microbes
- To create an awareness on applied aspects of microbiology
- To provide insight on different aseptic culture techniques for practical knowledge
- To establish an overview of the recent advances in the field of microbiology

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- establish knowledge on morphology of different microbes
- demonstrate the understanding on Microbial Diseases, their growth and control
- comprehend the current scenario of microbiology in industrial applications
- explicit learning on microscopy and culturing methods
- appreciate various applications of microbiology in various fields

Unit 1   **(15 Hour)**
   Introduction to Microbiology
   1.1 History of Microbiology- Scope, Evolution
   1.2 Criteria for Classification - Taxometrics, Serological, Numerical Taxonomy;
       Chemotaxonomy; Phylogenetic Relationships - Cladogram,   Dendrogram,
       Universal Phylogenetic Trees
    1.3 Microscopy – Principles and Applications of Simple, Compound, Bright Field,
       Dark Field, Phase Contrast, Fluorescent and Electron Microscopy

Unit 2   **(12 Hour)**
   Microbial Classification
   2.1 Classification of Bacteria – Whittaker's Five Kingdom System, Characterization
       of Bacteria according to Bergey's Manual of Systematic Bacteriology
   2.2 Classification of Fungi – General Properties – Reproduction
   2.3 Classification of Viruses - General Properties – Multiplication - Reproduction
   2.4 Classification of Algae – Micro and Macro Algae, Protozoa – Characteristics and
       Life cycle

Unit 3   **(12 Hours)**
   Microbial Physiology
   3.1 Microbial Nutrition, Types of Culture Media, Pure Culture Techniques,
       Preservation of Culture
   3.2 Microbial Growth-Growth Curve, Measurement of Growth, Continuous and Batch

Culture Factors Influencing the Growth of Microorganisms - Temperature, pH, Osmotic pressure, Moisture, Radiations and Different Chemicals

3.3 Physical and Chemical Methods of Microbial Control

Unit 4 (14 Hours)

Microbial Diseases

4.1 Medical Microbiology-Disease Transmission, Patterns and Spread of Infection

4.2 Respiratory Tract Infection-Tuberculosis, Viral Influenza, Fungal Pneumonia and Aspergillosis

4.3 Gastrointestinal Infection-Dysentery, Gastroenteritis

4.4 Urinary Tract Infection – Leptospirosis, Adenovirus Type 2, Fungal Candidiasis

4.5 Sexually Transmitted Diseases – HIV, Syphilis, Herpes Simplex Virus

Unit 5 (12 Hours)

Food and Industrial Microbiology

5.1 Food Microbiology –Dairy Products – Fermented Foods – Baker's Yeast, Sauerkraut- Microbial Flora of Fresh Foods, Prebiotics and Probiotics

5.2 Industrial Microbiology – Industrially Important Microorganisms-in Fuel-Ethanol, Biofertilisers, Biopesticides, Pharmaceuticals- Production of Antibiotics – Streptomycin

5.3 Production of Organic Acids – Citric acid, Production of Enzymes - Amylase, Production of Amino acids–Glutamic Acid, Production of Vitamins–VitaminB12
.

BOOKS FOR STUDY

Ananthanarayan, R and Jayaram Paniker C.K. *Textbook of Microbiology*. Chennai: Orient Longman, 1997.

Joanne Willey and Linda Sherwood and Christopher J. Woolverton Prescott's Microbiology 10th Edition 2017.

Krasner, R.I. *The Microbial challenge.* Canada: Jones and Bartlett, 2010.

Patel, A.H. *Industrial Microbiology*. India: MacMillan, 1999.

Vasanthakumari. R. *Textbook of Microbiology*. New Delhi: BI, 2007.

BOOKS FOR REFERENCE

Demain, Arnold L. and Davies, Julian E. *Manual of Industrial Microbiology and Biotechnology.* U.S.A.: ASM, 2010.

Dimmock, N.J., Easton, A.J.and Leppard. *Introduction to Modern Virology.* U.S.A.: Blackwell, 2007.

Glazer,A.N.,and Nikaido,H. *Microbial Biotechnology*. U.K.: Cambridge, 2007.

Inglis, T. J. *Microbiology and Infection: A Clinical Core Text for Integrated Curricula with Self-Assessment.* U.S.A.: Elsevier Health Sciences, 2007.

Jawetz, Melnick, & Adelberg's Medical Microbiology, 27th Edition 2016

Michael T. Madigan, Kelly S. Bender, Daniel H. Buckley, W. Matthew Sattley, David A. Stahl Published by Pearson Brock *Biology of Microorganisms*, 15th Edition, 2018.

Pelczar, Michael, J (Jr.),Reid, Roger,D.Chan E.C.S.and H.Kreig**.** *Microbiology***.** New Delhi: Tata McGraw-Hill, 2001.

Tortora,G.G.J.,Funke,B.R.and Case,C.L. *Microbiology-An Introduction***.** U.S.A.: Benjamin-Cummings, 2009.

JOURNALS
Journal of Applied Microbiology
Journal of Industrial Microbiology

WEB RESOURCES
www.asm.org
www.ncbi.nlm.nih.gov/
www.sgm.org

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A - 3 x 2 = 6 Marks   (All questions to be answered)
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Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

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Assignment/Open book test/Seminar/Group Discussion

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

MOLECULAR BIOLOGY AND RECOMBINANT DNA TECHNOLOGY

CODE: 19BY/PC/MR14   **CREDITS: 4**
                                                         L T P: 4 1 0
                                   TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To provide knowledge in the areas of molecular biology, including genomics, transcriptional and post-transcriptional regulatory networks
- To gain knowledge of medicinal processes through the investigation of the underlying molecular mechanisms
- To prepare for further education and/or employment in teaching, basic research, or the health professions
- To provide a scientific and technical understanding on plasmids and vectors and its applications in recombinant DNA technology
- To conceive knowledge on gene cloning and molecular sequencing

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- exhibit a knowledge base in molecular biology and able to discuss biological process significantly on the aspects of molecular science
- demonstrate the understanding of common and advanced laboratory practices in molecular biology
- formulate and execute independently/collaboratively research projects using the techniques in molecular biology with the appropriate analysis of the results obtained
- perceived a detailed description of different types of Vectors and their cloning techniques
- scientific learning on different application of recombinant DNA Technology

Unit   1
  Cell Structure, Function and Genetic Material   **(10 Hours)**
  1.1 Structure, Organization and Function of Cells – Prokaryotes and Eukaryotes, Plasma Membrane – Passive and Active transport
  1.2 Cytoskeleton – Microfilaments, Intermediate Filaments and Microtubules
  1.3 Mechanisms of Cell Communication
  1.4 DNA, RNA-Types, Organisation of Prokaryotic and Eukaryotic Genomes

Unit   2
  Replication, Repair and Protein Synthesis   **(12 Hours)**
  2.1 DNA Replication - Prokaryotes and Eukaryotes
  2.2 DNA Damage and Repair - Direct, Mismatch, Base- Excision, Nucleotide Excision

2.3 Protein Synthesis - Transcription and Translation – Prokaryotes and Eukaryotes

Unit 3
Gene Regulation **(15 Hours)**
3.1 Transcriptional Regulation in Prokaryotes – Regulation by Repressors and by Activators, Regulation by Attenuation, Translational Regulation in Bacteria
3.2 Transcriptional Regulation in Eukaryotes – Steroid Hormone Receptors, Homeotic Genes
3.3 Post Transcriptional Regulation-DNA Methylation and Histone Modification, Protein Processing, Folding, Sorting and Transport, Post Transcriptional Regulation
3.4 Genes Regulating Cell Cycle, Apoptosis- Regulators- Intrinsic and Extrinsic Pathways

Unit 4
Vectors and Gene Cloning **(15 Hours)**
4.1 Restriction Modification Systems - Types and Nomenclature and Restriction Enzymes TYPE I, II, III, Enzymes Used in Recombinant DNA Technology.
4.2 Plasmid Vectors and their Properties, Copy Number, Vectors- pBR 322, pUC, Bacteriophage Lambda (λ), M13 Vectors– its Construction and Derivatives,
4.3 Vector Construction Cosmids, Phasmids, Fosmids, Phagemids, Shuttle Vectors, Shotgun Cloning - Genomic Library and cDNA Library Construction- Marker Genes Recombinant Selection and Screening

Unit 5 **(13 Hours)**
Sequencing and Applications of rDNA Technology
5.1 DNA Sequencing and Polymerase Chain Reaction- its Principle, Types and Applications, Site Directed Mutagenesis, Blotting Techniques.
5.2 Molecular Markers and its Applications - RFLP, RAPD, AFLP, VNTR, STS, SSCP, SSR, CAPS, SCAR.
5.3 Applications of recombinant DNA Technology in Monoclonal Antibodies, Insulin, Growth Hormones, Vaccines , Gene Therapy

BOOKS FOR STUDY

Glick Bernard R. and Pasternak Jack J. *Molecular Biotechnology: Principles and Applications of Recombinant DNA*. U.S.A.: ASM Press, 2009.

Primrose, S. B. *Principles of Gene Manipulation: An Introduction to Genetic Engineering.* U.S.A.: Blackwell, 2009.

Weaver. *Molecular Biology*. India: Tata McGraw Hill. 2007.

Wolfe, Stephen L. *Molecular and Cellular Biology*. U.S.A.: Wadsworth, 1999.
Brown, Terence, A. *Gene Cloning and DNA Analysis: An Introduction.* U.S.A.: Blackwell, 2010.

BOOKS FOR REFERENCE

Albert, Bruce, et al. *Molecular Biology of the Cell*.U.S.A.: Garland, 2015

Cooper, G.M. and Hausman, R.E. *The Cell – A Molecular Approach*. U.S.A.: Sinauer Associates. 2018.

Dale, Jeremy W., Schantz Malcolm. *From Genes to Genomes: Concepts and Applications of DNA Technology.* U.S.A.: Wiley, 2007.

Green, Michael and Sambrook, Joseph. *Molecular Cloning: A Laboratory Manual.* U.S.A.: CSHL, 2012.

Lewin, Benjamin. *Genes XII.* U.S.A.: Jones and Bartlett, 2017.

Lodish et al. *Molecular and Cell Biology*. U.S.A.: Scientific American. 2016

JOURNALS
Journal of Molecular Cell Biology
Molecular Biology International
Journal of Cloning and Transgenesis

WEB RESOURCES
www.molbiolcell.org
www.biomedcentral.com/bmcmolbiol.
www.rpi.edu/dept/chem-emg/biotech-environ/.../rdna.html
www.web.mit.edu/hst.160/www/quiz/recombinant DNA andcloning.html

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A - 3 x 2 = 6 Marks   (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

Other Components: **Total Marks: 50**

Assignment/Open book test/Seminar/Quiz/Group Discussion

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Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
Section B - 5 x 8 = 40 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 2 x 20 = 40 Marks (2 out of 4 to be answered; Questions to be taken from all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019 - 2020)

BIOCHEMISTRY AND MICROBIOLOGY - PRACTICAL

CODE:19BY/PC/P112   **CREDITS: 2**
                                                          L T P: 0 0 3
                                                          TOTAL HOURS: 39

BIOCHEMISTRY

  1. Preparation of Buffers   (3 Hours)

  2. Estimation of DNA by Diphenyl Amine Method   (3 Hours)

  3. Estimation of RNA by Orcinol Method   (3 Hours)

  4. Estimation of Carbohydrates – DNS Method   (3 Hours)

  5. Isolation and Estimation of Protein by Lowry and Bradford's Method   (3 Hours)

  6. Separation and Visualization of Proteins by SDS – PAGE   (3 Hours)

MICROBIOLOGY

  1. Pure Culture Techniques- Streak plate method, spread plate method   (3 Hours)

  2. Culturing of Bacteria and Bacterial Growth Curve   (3 Hours)

  3. Culturing of Fungi   (3 Hours)

  4. Staining -   (3 Hours)

    Simple Staining, Fungal Staining, Differential Staining, Spore Staining

  5. Biochemical Tests-   (3 Hours)

    Carbohydrate Fermentation, TSI Agar Test, IMViC Test, Urease, Catalase

    Oxidase, Phenylalanine Deaminase Test, Amylase, Casein Hydrolysis,

    Gelatin Liquefaction, Coagulase test

  6. Kirby- Bauer Antibiotic Sensitivity Test   (3 Hours)

  7. Motility by Hanging Drop Method   (3 Hours)

PATTERN OF ASSESSMENT

Continuous Assessment Test:
Total Marks: 50   **Duration: 6 Hours**

BIOCHEMISTRY
1. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

2. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

MICROBIOLOGY
3. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result.

4. Minor experiment   (5Marks)
   Marks allotted for principle and procedure

5. Five spotters each carrying 2 marks   (10 Marks)

6. Record   (5 Marks)

7. Viva voce   (5 Marks)

End Semester Examination: **Total Marks:50**   **Duration: 6 Hours**

BIOCHEMISTRY
1. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

2. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

MICROBIOLOGY
3. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

4. Minor experiment   (5Marks)
   Marks allotted for principle and procedure

5. Five Spotters each carrying 2 marks   (10 Marks)

6. Record   (5 Marks)

7. Viva voce   (5 Marks)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

MOLECULAR BIOLOGY AND RECOMBINANT DNA TECHNOLOGY - PRACTICAL

CODE: 19BY/PC/P213   **CREDITS: 3**
                                                            L T P: 0 0 5
                                                            TOTAL HOURS: 65

MOLECULAR BIOLOGY

1. Isolation of Bacterial DNA   (5 Hours)

2. PCR Amplification   (5 Hours)

3. RFLP and RAPD Analysis   (7 Hours)

4. Southern Hybridization   (8 Hours)

5. Isolation of Total RNA   (5 Hours)

6. Northern Blotting   (5 Hours)

RECOMBINANT DNA TECHNOLOGY

1. Isolation of Plasmid DNA   (5 Hours)

2. Restriction and Ligation   (5 Hours)

3. Preparation of Competent cell   (5 Hours)

4. Bacterial Transformation   (10 Hours)

5. Identification of Recombinants – Antibiotic markers,

   Blue-White Screening   (5 Hours)

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 6 hours**

MOLECULAR BIOLOGY
1. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

2. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

RECOMBINANT DNA TECHNOLOGY

3. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result.

4. Minor experiment   (5Marks)
   Marks allotted for principle and procedure

5. 5 Spotters each carrying 2 marks   (10 Marks)

6. Record   (5 Marks)

7. Viva voce   (5 Marks)

End-Semester Examination: Total Marks: 50   Duration: 6 hours

MOLECULAR BIOLOGY
1. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

2. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

RECOMBINANT DNA TECHNOLOGY

3. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

4. Minor experiment   (5Marks)
   Marks allotted for principle and procedure

5. 5 Spotters each carrying 2 marks   (10 Marks)

6. Record   (5 Marks)

7. Viva voce   (5 Marks)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019 - 2020)

ANIMAL AND PLANT BIOTECHNOLOGY

CODE: 19BY/PC/AP24   **CREDITS: 4**
                                                              L T P: 4 2 0
                                        TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To understand the principles of animal cell culture and its application
- To understand the basics of transgenic animals, techniques, associated protocols and their applications
- To provide an insight into the techniques and applications of plant cell culture
- To understand concepts of transgenic plant technology
- To evaluate the risks and benefits of plant biotechnology

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- explain how the principles of biotechnology are being applied to address animal health issues
- describe the basics of maintenance of mammalian cell and generation of cell line using proper sterile techniques and optimum conditions for growth
- demonstrate the understanding of plant tissue culture and genetic engineering techniques and their identification using molecular marker assisted selections
- comprehensive training in the plant biotechnology and its application for increasing agricultural production, environment improvement, nutrition and health
- describe the current issues in transgenic plants
- execute research projects using the techniques in plant biotechnology with the appropriate analysis of the results obtained

Unit   1   **(15 Hours)**
Animal Cell Culture
1.1 Historical Background, Cell Culture Technology - Setting up a New Cell Culture Laboratory
1.2 Culture Vessels and Substrates, Media and Supplements- Serum Free Media
1.3 Primary Cell Culture and Passaging, Culturing of Animal Cells in Fluidized Bed Reactor (FBR)
1.4 Quantitation, Cytotoxicity Testing, Cryopreservation
1.5 Cell Bank Preparation and Characterization

Unit 2   **(20 Hours)**

Applications of Animal Biotechnology

2.1 Transgenic Animal Production-Retroviral Transfer, DNA Microinjection, Embryonic Stem Cell Mediated Gene Transfer, Gene Knock Down and RNA Interface

2.2 Transgenic Animal as Disease Models-Onco-Mouse, AIDS Mouse, Alzheimer's Mouse, Parkinson's Fly, Transgenic Animals as Biological Models-ANDi (Monkey), Doogie (Smart Mouse), Super Mouse, Youth Mouse, Influenza Resistance Mouse, Transgenic Animal as Xenotransplanters, Food Source (Super Fish, Super Pig)

2.3 Manipulation of Reproduction: Embryo Transfer Technology, *In vitro* Fertilization in Farm Animals

2.4 Biotechnology in Animal Production –Feed Additives, Probiotic, Prebiotics, Synbiotics

2.5 Common diseases in Cattle and Poultry-Anthrax, Foot and Mouth Disease, Mastitis, Avian Influenza, New Castle Disease, Common Zoonotic Diseases

Unit 3

Plant Tissue Culture   **(15 Hours)**

3.1 Plant Tissue Culture - Principles and Methodology, Protoplast Technology and Somatic Embryogenesis

3.2 Somaclonal Variation, Synthetic Seeds, Screening of Secondary Metabolites

3.3 Production of Haploid Plants, Applications of Tissue Culture in Agriculture and Horticulture, Germplasm Conservation

Unit 4

Plant Genetic Transformation Techniques   **(15 Hours)**

4.1 Selectable and Scoreable Markers, Reporter Genes and Promoters Used in Plant Vectors

4.2 Techniques for Plant Transformation – *Agrobacterium tumefaciens* – Mediated Gene Transfer, Direct Gene Transfer Methods

4.3 Chloroplast Transformation

Unit 5   **(13 Hours)**

Applications of Plant Genetic Engineering

5.1 GM Strategies for Insect Resistance – Environmental Impact of BT Crops; Herbicide Tolerance, Delay of Fruit Ripening

5.2 Transgenics for Abiotic Stress Tolerance – Drought, Cold and Salinity, Cytoplasmic Male Sterility

5.3 Plantibodies and Edible Vaccines

BOOKS FOR STUDY

Chawla, H.S. *Introduction to Plant Biotechnology*. India: Oxford, 2009.

Freshney, Ian R. *Culture of Animal Cells: A Manual of Basic Technique*. U.S.A.: Wiley-Liss, 2010.

Purohit, S.S. *Agricultural Biotechnology*. India: Agrobios, 2007.

Singh B, Gautam S.K, Chauhan M.S. *Text Book of Animal Biotechnology*. India.: Teri Press, 2015.

Slater, A., Scott, N and Fowler M. *Plant biotechnology.* U.S.A.: Oxford, 2003.

BOOKS FOR REFERENCE

Adrian Slater et al. *An Introduction to Genetic Engineering.* U.S.A.: Oxford, 2008.

Biswas. *Agricultural Biotechnology***.** New Delhi: Dominant, 2005.

Hammond, J. McGarvey, P and Yusibov V. *Plant Biotechnology***,** U.S.A.: Springer, 2000

Heiner Niemann, Christine Wrenzycki. Animal Biotechnology 1: Reproductive Biotechnologies. Springer, Switzerland, 2018.

Kishna, *G.K* et al. *Plant Biotechnology***.** India:New Vishal, 2016

Neal Stewart C. *Plant Biotechnology and Genetics.* U.S.A.: Wiley, 2008.

Pawan Kaur. *Advances in Animal Biotechnology and its Applications*. Springer, Singapore, 2018

Hammond, J. McGarvey, P and Yusibov V. *Plant Biotechnology***,** U.S.A.: Springer, 2000.

Singh**,** B.D. *Plant Biotechnology***.** India:Kalyani, 2015

JOURNALS
Journal of Animal Biotechnology
Journal of Animal science and Biotechnology
International Journal of animal Biotechnology
Journal of Plant Molecular Biology and Biotechnology
Plant Biotechnology Reports

WEB RESOURCES
www.jasbsci.com/
www.niab.org.in/
www.pb.ethz.ch/
www.nrcpb.org/
https://animalbiotech.ucdavis.edu/
https://www.nap.edu/read/10418/chapter/3
https://comparativegenomics.illinois.edu/.../Advances%20in%20animal%20biotechnol

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks   (All questions to be answered)
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

RESEARCH METHODOLOGY

CODE: 19BY/PC/RM24   CREDITS: 4
                                                             L T P: 4 1 0
                                          TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To develop a research orientation among the students and to acquaint them with fundamentals of research methods
- To identify the overall process of designing a research study
- To develop the technical art of writing research report and presentations
- To provide an understanding for quantitative reasoning using logical and statistical methods
- To acquire knowledge on applications of statistics in research

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- describe the concepts and research design
- demonstrate the ability to choose methods appropriate to research aims and objectives
- develop advanced critical thinking and skills in qualitative and quantitative data analysis
- demonstrate enhanced writing skills in preparing research grant proposals, scientific research/report and manuscript
- independently set hypothesis, analyze and interpret statistically

Unit   1   **(12 Hours)**
   Principles of Research
   1.1 Research Definition - Motivation and Objectives - Types of Research -
       Descriptive, Analytical, Applied, Fundamental, Quantitative, Qualitative,
       Conceptual and Empirical - Significance of Research - Methods *vs* Methodology
   1.2 Research Formulation - Defining and Formulating the Research Problem -
       Selecting the Problem - Basic Principles of Research Design - Essential Steps in
       the Research Processes - Criteria for Good Research
   1.3 Data Collection – Classification of Data- Primary Data, Secondary Data -
       Sampling   - Sampling Methods

Unit   2   **(12 Hours)**
   Research Communication and Proposal
   2.1 Essentials of the Scientific Report- Abstract, Introduction, Review of Literature,
       Materials and Methods, Results, Discussion, Reference, Cross-Referencing, Proof
       Reading

2.2 Preparing Manuscripts, Oral and Poster Presentation - Writing a Thesis

2.3 Project Proposal Writing, Grant Application, Funding Agencies for Project, Plagiarism

Unit 3 (15 Hours)

Biostatistics

3.1 Introduction – Definition, Statistical Terms, Application of Biostatistics

3.2 Measures of Central Tendency - Mean (Weighted, Harmonic, Geometric Mean), Median, Mode

3.3 Measures of Dispersion - Range, Quartile Deviation, Mean Deviation, Standard Deviation

3.4 Co-Efficient of Variation, Co-Efficient of Quartile Deviation, Co-Efficient of Mean Deviation

Unit 4 (13 Hours)

Statistical Methods

4.1 Skewness, Kurtosis, Moments

4.2 Correlation - Simple, Rank and Karl Pearson's Correlation; Regression Analysis

4.3 Probability - Addition and Multiplication Theorem

4.4 Theoretical Distributions - Binomial, Poisson and Normal Distribution

Unit 5 (13 Hours)

Parametric and Nonparametric Statistics

5.1 Hypothesis Testing –Null Hypothesis, Alternate Hypothesis, Type I and II Errors

5.2 Chi-Square Test, Students T- Test- Paired and Unpaired

5.3 ANOVA- One Way Classification and Two Way Classification

5.4 Software Packages (SPSS) for Data Analysis

- Unit 3,4,5-Concepts and Simple Problems Only
  50% theory and 50% problems

BOOKS FOR STUDY

Gurumani, N. *Scientific thesis writing and Paper Presentation*, Chennai: MJP, 2010.

Gurumani, N. *Research Methodology for Biological Sciences*. Chennai: MJP, 2006.

Mariappan, P. *Biostatistics- An Introduction*. Chennai: Pearson, 2013.

Pranab Kumar Banerjee. *Introduction to Biostatistics.* India: S Chand, 2014.

BOOKS FOR REFERENCE

Antonismy. B, Prasanna S. Pemkumr, Solomon Christopher. *Principles and practice of Biostststistics*. Elsevier publication, 2017.

Gurumani, N. *An Introduction to Biostatistics*. Chennai: MJP, 2005.

Kothari C.R, 2nd edition *Research methodology, Methods and techniques*. New Age International (P) Ltd, Publishers, New Delhi, (2004).

Raman, A. *A Handbook on Research Processes*. Chennai: S. Viswanathan, 2003.

Sharma AK. *Text book of Biostatistics I*. Discovery Publishing house, India, 2005

Veera Bala Rastogi. *Biostatistics.* India: MedTech, 2015

JOURNALS
Journal of Mixed Methods Research
International Journal of Qualitative Methods
American Journal of Biostatistics
International Journal of Biostatistics
JP Journal of Biostatistics

WEB RESOURCES
www.nngroup./articles/which-ux-research-methods/
www.processresearchmethods.org.
www.statsoft.com/textbook/
biosun1.harvard.edu/
www.bettycjung.net/Statsites.htm
www.ucl.ac.uk/statistics/biostatistics

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks   (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

Other Components: **Total Marks: 50**
Assignment/Open book test/Seminar/Group Discussion

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
Section B - 5 x 8 = 40 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 2 x 20 = 40 Marks (2 out of 4 to be answered; Questions to be taken from all units)

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

ANIMAL AND PLANT BIOTECHNOLOGY – PRACTICAL

CODE:19BY/PC/P324   **CREDITS:4**
                                                                L T P:0 0 6
                                                                TOTAL HOURS:78

ANIMAL BIOTECHNOLOGY

1.	Preparation of Media and Development of Monolayer	(10 Hours)
2.	Subculturing / Passaging	(5 Hours)
3.	Quantitation and Cell Viability Test of Animals Cells by Hemocytometer	(10 Hours)
4.	MTT Assay	(5 Hours)
5.	Isolation of Genomic DNA from Animal Cells	(6 Hours)

PLANT BIOTECHNOLOGY

1 Basic techniques in plant tissue culture   (15 Hours)
   - Preparation of Medium, Surface Sterilization
   - Callus Induction, Organogenesis
   - Embryo Culture
   - Hardening

2	Protoplast Isolation by Enzymatic Method and Protoplast Fusion	(6 Hours)
3	Production of Synthetic Seeds	(5 Hours)
4	*Agrobacterium* culture, Reporter Gene (GUS) Assay	(5 Hours)
5	Isolation of Plant Genomic DNA	(6 Hours)
6	Isolation of Chloroplast	(5 Hours)

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 6 Hours**

Animal Biotechnology
1. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

2. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

Plant Biotechnology

3. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

4. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

5. 5 Spotters each carrying 2 marks   (10 Marks)

6. Record   (5 Marks)

7. Viva voce   (5 Marks)

End-Semester Examination: **Total Marks: 50**   **Duration: 6 hours**

Animal Biotechnology

1. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

2. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

Plant Biotechnology

3. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

4. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

5. 5 Spotters each carrying 2 marks   (10 Marks)

6. Record   (5 Marks)

7. Viva voce   (5 Marks)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19BY/PK/SS22   **CREDITS: 2**
                                                                       L T P: 2 0 0
                                                       TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development.
- To instill confidence in students to face challenges.
- To manage emotions and resolve conflicts.
- Top organize activities and manage time.
- To set goals and plan ahead.

COURSE LEARNING OUTCOMES

- Communicate with confidence and poise.
- Accept themselves and improve on their weaknesses.
- Strengthen their relationships through confronting and solving problems.
- Work more effectively and complete activities on time.
- Plan their future with clarity and focus.

Unit   1
Behavioural Traits   **(6 Hours)**
1.1   Self Awareness
1.2   Communication Skills –Verbal and Non Verbal
1.3   Leadership Qualities
1.4   Etiquette and Good Manners
1.5   Experiential Learning –Based on activities

Unit   2
Team Work   **(5 Hours)**
2.1.   Interpersonal Skills
2.2.   People Management
2.3.   Creative Thinking
2.4.   Critical Thinking
2.5.   Experiential Learning – Based on activities

Unit   3
Time Management   **(5 Hours)**
3.1.   Importance of time management
3.2.   Planning and Prioritizing

3.3. Organizing skills
3.4. Action Plan
3.5. Experiential Learning – Based on activities

Unit 4
Conflict Resolution (5 Hours)
4.1. Reasons for conflict
4.2. Consequences of conflict
4.3. Managing emotions
4.4. Methods of resolving conflicts
4.5. Experiential Learning – Based on activities

Unit 5
Career Mapping (5 Hours)
5.1. Goal Setting and Decision Making
5.2. Career Planning
5.3. Resume Writing
5.4. Handling Interviews
5.5. Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment:
Quiz / Group Presentation /Assignment

No End Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

IMMUNOTECHNOLOGY

CODE:19BY/PC/IM34   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE

- To provide an understanding of the immune system and its components
- To gain knowledge on classical and clinical immunology
- To familiarize diagnostic immunology and immunotherapy

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- conceptualize how the innate and adaptive immune responses coordinate to fight invading pathogens
- describe the immune system in maintaining health and contributing to disease
- determine what immunomodulatory strategies can be used to enhance/ suppress immune responses such as might be required in hypersensitivity reactions, transplantations or autoimmune diseases
- apply the roles of immunology in protection against disease and autoimmune disorders to choices in their daily live
- identify diagnostic tools available in the field of Medical Science to combat diseases

Unit   1   **(13 Hours)**
Fundamental Concepts of Immune system
1.1 Immune Response - Humoral and Cell Mediated Immunity; Concepts of Innate and Adaptive Immunity
1.2 Hematopoiesis, Cells of the Immune System, Programmed Cell Death
1.3 Organs of the Immune System
1.4 B and T Cell- Maturation-Activation- Differentiation and Receptors

Unit   2   **(12 Hours)**
Mechanism of Immune Responses
2.1 Antigens- Structure, Properties and Types- Haptens, Adjuvants, Epitopes, Pattern Recognition Receptors, Receptors of Innate and Adaptive Immunity
2.2 Immunoglobulin - Structure, Properties and Types, Biological Activities, Monoclonal and Polyclonal Antibodies
2.3 Antibody Mediated Effector Function-Opsonization, ADCC, Antigenic determinants of Immunoglobulins, Immunoglobulin Super Family
2.4 Cytokines, Properties – Receptors - Antagonists - Cytokine Related Diseases

Unit 3   **(12 Hours)**

Immunogenetics

3.1 Major Histocompatibility Complex/HLA Complex - General Organization

3.2 MHC Molecules, MHC Interactions- Peptide, Antigen Processing and Presenting Pathway

3.3 Complement System- Components- Activation, Function

3.4 Complement System - Biological Consequences, Regulation, Deficiencies

Unit 4   **(16 Hours)**

Immunopathology

4.1 Hypersensitivity Reactions - Type I, II, III, IV

4.2 Autoimmunity- Organ Specific - Systemic-Treatments of Autoimmune Diseases

4.3 Transplantation Immunology- Basis of Graft Rejection -Immunosuppressive Therapy

4.4 Tumor Immunology and Cancer Therapy, AIDS and Secondary Immunodeficiencies

4.5 Immune Response to Viral, Bacterial, Fungal and Parasitic Infection

Unit 5   **(12 Hours)**

Immuno Diagnosis and Therapy

5.1 Immuno Diagnosis: Cross Reactivity; Precipitation Reactions: SRID, ODD, Counter Current Immunoelectrophoresis and Rocket Immunoelectrophoresis

5.2 Agglutination Reactions; RIA, ELISA, Western Blotting, Immunoprecipitation, Immunofluroscence, Flow Cytometry, ANA (Antinuclear Antibody), FANA

5.3 CMI Technology-Lymphoproliferation Assay, Mixed Lymphocyte Reaction (MLR), Cell-Mediated Lympholysis (CML)

5.4 Vaccines and Immunization Procedure

BOOKS FOR STUDY

Fahim Halim Khan. *The Elements of Immunology*. India.: Pearson Education, 2009

Jean Punt, Sharon Stranford, Patricis Jones and Judith A. Owen. *Kuby Immunology*. 8th Edition, W. H. Freeman, 2018.

BOOKS FOR REFERENCE

Abbas, A.K., A.H.L. Lichtman and S.Pillai. *Cellular and Molecular Immunology*. 6th Edition. Philadelphia.: Saunders Elsevier Publications, 2010.

Abul K. Abbas & Andrew H. H. Lichtman & Shiv Pillai. *Basic Immunology*. 5th Edition, Elsevier, 2015

David Male, Jonathan Brostoff, David B. Roth, Ivan M. *Roitt. Immunology*. 8th edition, Elsevier, 2018.

Peter J. Delves, Seamus J. Martin, Dennis R. Burton, Ivan M. Roitt. *Roitt's Essential Immunology*. U.S.A.: Wiley-Blackwell, 2011.

Richard, C and S. Geoffrey. *Immunology-A Short Course*. USA, John, Wiley & Sons Ltd, 2015.

Seemi Garhat Bashir. *Text Book of Immunology*. New Delhi.: PHI Learning Pvt. Ltd, 2009.

Sunil K.M and Sai L. K. Textbook of Immunology Course. India, Jaypee Brothers Medical Publishes (P) Ltd, 2014.

JOURNALS
Infection and Immunity
European Journal of Immunology
Molecular Immunology

WEB RESOURCES

https://www.immunology.org/
https://www.immunology.org/public.../immunology.../immunology-resources-links
www.library.csusm.edu/course guides/biology
www.immunologylink.com
http://www.wiley.com/college/bio/karp12791/weblinks.html

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90minutes**

Section A - 3 x 2 = 6 Marks   (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

Other Components: **Total Marks: 50**
    Assignment/Open book test/Seminar/Group Discussion

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

BIOPROCESS AND FERMENTATION TECHNOLOGY

CODE:19BY/PC/BF34   **CREDITS:4**
                                                         L T P:4 1 0
                                                         TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide the basics of bioreactors and its applications
- To develop bioengineering skills for the production of biochemical product using integrated biochemical processes
- To create an awareness on important industrial bio-products and the applications of enzymes in various fields

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- comprehensive understanding of design and types of bioreactors
- apprehend the concepts of downstream processing to retrieve the product
- demonstrate a wide range of scientific thinking fermentation technology and to produce economically important products
- perceive new methods and applications of microorganism and its product

Unit   1   **(13 Hours)**
Fundamentals of Bioprocess
1.1 Isolation, Screening, Strain Improvement and Maintenance of Industrially Important Microbes. Media Design and Inoculum Development, Media Optimization
1.2 Sterilization Methods – Medium Sterilization, Batch Sterilization, Continuous Sterilization, Filter Sterilization
1.3 Basic Configuration of Fermenter and Ancillaries, Control Systems in a Fermenter
1.4 Types of Fermentation - Solid State, Submerged, Batch, Fed-Batch and Continuous, FeedBack Mechanism

Unit   2   **(15 Hours)**
Bioreactors
2.1 Types of Bioreactors – Stirred tank, Air lift, Packed Bed, Fluidized Bed, Photobioreactor, Membrane Bioreactor, Immobilized Cell Bioreactors
2.2 Extraction and Purification of Microbial Enzymes, Importance of Enzyme Purification, Extracellular and Intracellular Enzymes
2.3 Enzyme Fractionation by Precipitation (Using Temperature, Salt, Solvent, pH), Affinity Chromatography and Other Special Purification Methods, Enzyme Crystallization Techniques, Criteria of Purity of Enzymes
2.4 Enzyme Immobilization Methods- Immobilization of Microbial Enzymes – Principles and Applications

Unit 3
Downstream Processing   **(15 Hours)**
3.1 Techniques Used in Bioproduct Analysis, Cell Distribution Methods for
    Intracellular Products, Removal of Insolubles, Biomass
3.2 Separation Techniques, Flocculation, Sedimentation, Centrifugation and
    Filtration- Solvent Extraction- Aqueous Two-Phase Separation
3.3 Precipitation- Product Isolation and Purification Techniques -
    Chromatography (Ion-Exchange, Affinity, Gel Permeation Chromatography and
    Molecular Sieving)
3.4 Membrane Separation – Microfiltration - Ultrafiltration - Reverse Osmosis -
    Product Formulation and Finishing, Crystallization, Precipitation (Ammonium
    Sulfate, Solvent); Electrophoresis (Capillary); Dialysis, Drying and Lyophilization,
    Trouble Shooting in Product Recovery

Unit 4   **(12 Hours)**
Mass Transfer
4.1 Mass Transfer-Molecular Diffusion – Diffusion Theory – Film Theory
4.2 Types of Mass transfer-Liquid-solid- Liquid-Liquid, Gas – Liquid Mass Transfer
    Oxygen Transfer Rate and Coefficient
4.3 Microbial Growth Kinetics – Modes of Operation – Batch, Fed-Batch and
    Continuous

Unit 5   **(10 Hours)**
Microbial Products in Pharmaceutical, Food and Agricultural Industries
5.1 Production, Harvest, Recovery and Uses – Enzymes, Antibiotics, Vitamins,
    Aminoacids, Organic Solvents
5.2 Use of Microbes in Mineral Beneficiation and Oil Recovery. Production, Harvest,
    Recovery and Uses– Baker's Yeast, Milk Products, Edible Mushrooms
5.3 Single Cell Protein (Algae/Fungi), Beverages (Beer, Wine and Brandy).
    Formulation of Biofertilizer (*Rhizobium, Pseudomonas*) and Biopesticides
    (*Bacillus thruingiensis*).

BOOKS FOR STUDY
Doran, Pauline M. *Bioprocess Engineering Principles*. London: Academic, 1995.

Palmer, Trevor. *Enzymes : Biochemistry, Biotechnology and Clinical Chemistry*. U.S.A.:
Horwood, 2004.

Stanbury and Whitaker. *Principles of Fermentation Technology*. U.S.A.: Pergamon, 1984.

BOOKS FOR REFERENCE
Asenjo, Juan A. *Bioreactor Systems Design*. India: CRC, 1995.

Bailey, J.E. and Ollis, D. *Biochemical Engineering Fundamentals*. New York: McGraw –
Hill, 2002.

Bryce and Mansi. *Fermentation Microbiology & Biotechnology*. India: Kluwer Academic,
2011.

Bryce, A.L. Demain, A.R. Allman. *Fermentation microbiology and Biotechnology*. Second edition, edited by El-.Mansi, C.F.A. Taylor and Francis, 2007.

Butterworth. *Technological Applications of Biocatalysts*. U.S.A.: BIOTOL, 1995. Coulson. *Chemical Engineering*. U.S.A.: Pergamon, 1984.

Schuler, Michael L. *Bioprocess Engineering*. U.S.A.: Prentice, 1992.

Shijie Liu. *Bioprocess Engineering*, *Kinetics, Sustainability, and Reactor Design.*U.K: Elsevier, 2016

Sivasubramanian V._*Bioprocess Engineering for a Green Environment*. India : CRC, 2018

Straathof, A.J. *Applied Biocatalysis*. New York: Tailor and Francis, 2000.

Wanng, D.I.C. and Cooney, C.L. *Fermentation and Enzyme Technology*. U.S.A.: John Wiley, 1994.

JOURNALS
Biotechnology and Bioprocess Engineering
Bioresources and Bioprocessing
Enzyme and Microbial technology
Enzyme Technology and Molecular Biology

WEB RESOURCES
www.bioprocessintl.com/
www.ibclifesciences.com/BPI/overview.xml
www.techenzyme.com/
www.abenzymes.com/
www.wildfermentation.com/
John Schollar and Benedikte Watmore, Practical Fermentation-a technical guide
web.mit.edu/professional/short.../fermentation_technology.html

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks   (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)
Other Components: **Total Marks: 50**
Assignment /Open book test/Seminar/Group Discussion
End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

ENVIRONMENTAL BIOTECHNOLOGY

CODE:19BY/PC/ET34   **CREDITS:4**
                                                                   L T P:4 1 0
                                              TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To gain understanding of environment, about the ecosystem, bioremediation and its crisis
- To create an awareness of current technology employed in environmental sustainability
- To apprehend waste management technologies for different industries

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to
- conceive the fundamental issues of the environment and ecology
- comprehend on industrial pollution management and applications of recombinant DNA technology in environmental management
- explain different treatment methods for wastewater generated from municipal and industrial waste

Unit 1
Introduction to Environment   **(13 Hours)**
  1.1 The Environment- Physical Environment; Biotic Environment; Biotic and Abiotic Interactions. Habitat and Niche - Concept of Habitat and Niche; Niche Width and Overlap; Fundamental and Realized Niche; Resource Partitioning; Character Displacement
  1.2 Community Ecology- Nature of Communities; Community Structure and Attributes; Levels of Species Diversity and Its Measurement; Edges and Ecotones
  1.3 Population Ecology- Characteristics of a Population; Population Growth Curves; Population Regulation; Life History Strategies (R and K Selection)
  1.4 Concept of Meta Population – Demes and Dispersal, Interdemic Extinctions, Age Structured Populations

Unit 2   **(14 Hours)**
Environmental Pollution and Management
  2.1 Types of Pollution, Methods for the Measurement of Pollution, Air Pollution and its Control, Global Environmental Problems: Ozone Depletion, Greenhouse Effect and Acid Rain
  2.2 Principles of Conservation and Application of Biotechnology, Remote Sensing and GIS (Principal and Applications in Ecological Mapping and Environmental Hazard Predictions), Ecological Modeling, Bioindicators and Biosensors for

Detection of Pollution

2.3 Sewage and Waste Water Treatments Systems: Primary, Secondary and Tertiary Treatments; Biological Treatments – Aerobic-Activated Sludge, Oxidation Ditches, Trickling Filter, Rotating Discs, Rotating Drums, Oxidation Ponds Anaerobic Digestion, Anaerobic Filters, Up Flow Anaerobic Sludge Blanket Reactors

Unit   3   (13 Hours)
Industrial Waste Management
3.1 Industrial Waste Management- Dairy, Paper and Pulp, Textile, Leather, Hospital and Pharmaceutical-Biomedical Wastes
3.2 E-waste- Radioactive and Nuclear Power Waste Management
3.3 Solid Waste: Sources and Management (Composting, Vermiculture and Methane Production)

Unit   4   (13 Hours)
Recombinant DNA Technology Application in Environment
4.1 Molecular Biology Tools for Environmental Management, rDNA Technology in Waste Treatment
4.2 Genetically Modified Organisms in Waste Management
4.3 Genetic Sensors, Metagenomics, Bioprospecting, Nanoscience in Environmental Management, Biosensors Development to Monitor Pollution

Unit   5   (12 Hours)
Biotechnological Applications in Environment
5.1 Bioremediation of Petroleum Hydrocarbons
5.2 Biodegradation of Xenobiotics - Types and Fate of Pesticides, Reasons for Persistence, Microbial Adaptation of Pesticides and Biodegradation of Pesticides
5.3 Microbes in Bioleaching Process- Metal Recovery by Leaching Process, Recovery of Petroleum, Bioelectricity through Microbial Fuel Cell
5.4 Phytoremediation **-** Rhizofiltration, Phytoextraction, Phytostimulation, Phytostabilization and Phytotransformation

BOOKS FOR STUDY
Bailey, J. E. and Ollis, D. F. *Biochemical Engineering Fundamentals*. New York: Mac Graw, 1986.

Chakrabarty K.D. Omen G.S. *Biotechnology And Biodegradation, Advances In Applied Biotechnology***.** London: Gulf, 1989.

Forster, C. F and Waste, D.A. J. *Environmental Biotechnology*. U.S.A.: Ellis Horwood, 1987.

Ismail, S.A.,   *The Earthworm Book.* India: Other India, 2005.

Lutgarde Raskin. *In-situ Bioremediation.* U.S.A.: Nayes, 1991.

Metcalf and Eddy. *Waste water Engineering Treatment, Disposal and Reuse***.** U.S.A.: Mc Graw, 1991.
Mohapatra P.K. *Textbook of Environmental Biotechnology***.** New Delhi: I.K. International, 2007.

Rana,S.V.S. *Environmental Biotechnology*. New Delhi: Rastogi, 2010.

Thankur, I.S. *Environmental biotechnology – Basic concepts and applications*. New Delhi: IK International, 2006.

BOOKS FOR REFERENCE
APHA. *Standard Method for Examination of Water and Waste water*. American Public Health, 1985.

Bhatia S.C. *Handbook of Environmental Biotechnology.*, India: Atlantic, 2008.

Daniel Vallero. *Environmental Biotechnology, A Biosystems Approach* Academic Press 2015.

Eugene Odum. *Fundamentals of Ecology*. India: Thomson, 2017.

Ismail S.A. *Vermitech (vermicompost and vermiwash).* India: Ajju's wormery, 1996.

Kaushik, Anubha and Kaushik, C.P. *Perspectives in Environmental Studies*. New Delhi: New Age, 2007.

Martin A.M. *Biological Degradation of Wastes*. New York: Elsevier, 1991.

Ram Chandra Advances in Biodegradation and Bioremediation of Industrial Waste
CRC Press, 2015

Ritmann E .B. and Perry L. *Environmental Biotechnology: Principles and Applications.* U.S.A.: McGraw, 2001.

Sayler, Gray S. Robert Fox and James W. Blackburn. *Environmental Biotechnology for Waste Treatment*. New York: Plenum Press, 1991.

Sharma P.D. *Ecology and Environment.* India: Rastogi, 2017.

Smith. *Elements of Ecology*. India:Pearson, 2017

Stanier R.Y. Ingraham J.L. Wheelis M.L.Painter R.R. *General Microbiology*. U.S.A.: Mc Millan 1989.

Young Murray Moo. *Comprehensive Biotechnology*. U.S.A.: Elsever Sciences, 1985.

JOURNALS
Journal of petroleum and environmental Biotechnology
Microbial ecology and environmental Biotechnology

WEB RESOURCES
www.environmentalbiotech.com/
www.waterlooenvironmentalbiotechnology.com/
www.neeri.res.in/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A - 3 x 2 = 6 Marks   (All questions to be answered)

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

IMMUNOTECHNOLOGY - PRACTICAL

CODE:19BY/PC/P432   **CREDITS: 2**
                                                        L T P:0 0 3
                                                        TOTAL HOURS:39

1. Differential Counting   (4 Hours)

2. Isolation of Lymphocytes   (4 Hours)

3. Agglutination Reactions: ABO Blood Grouping, Complement Fixation,
   Widal Test, ASO, Latex Agglutination Test (CRP), Haemagglutination,
   Rheumatoid Arthritis, Rapid Plasma Reagin, VDRL,
   Amboreceptor   (24 Hours)

4. Precipitation Reactions- SRID, ODD (pattern), IEP, cIEP,
   Rocket Electrophoresis, Immuno Precipitation   (12 Hours)

5. Antibody capture ELISA   (4 Hours)

6. Western Blotting   (4 Hours)

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 6 hours**

1. Major experiment to be conducted   (20 Marks)
   12 Marks for principle, procedure and conduct. 8 Marks for result

2. Minor experiment to be conducted   (10 Marks)
   5 Marks for principle and procedure, 5 marks for conduct and result

3. 5 Spotters each carrying 2 marks   (10 Marks)

4. Viva voce   (5 Marks)

5. Record   (5 Marks)

End-Semester Examination: **Total Marks: 50**   **Duration: 6 hours**

1. Major experiment to be conducted   (20 Marks)
   12 Marks for principle, procedure and conduct. 8 Marks for result

2. Minor experiment to be conducted   (10 Marks)
   5 Marks for principle and procedure, 5 marks for conduct and result

3. 5 Spotters each carrying 2 marks   (10 Marks)

4. Viva voce   (5 Marks)

5. Record   (5 Marks)

M.Sc. DEGREE : BIOTECHNOLOGY

SYLLABUS

(Effective from the academic year 2019-2020)

BIOPROCESS AND FERMENTATION TECHNOCLOGY AND ENVIRONMENTAL BIOTECHNOLOGY - PRACTICAL

CODE: 19BY/PC/P533   **CREDITS:3**
                                                          L T P:0 0 5
                                                          TOTAL HOURS:65

BIOPROCESS AND FERMENTATION TECHNOCLOGY

1. Effect of pH, Temperature on Enzyme Activity   (10 Hours)
2. Enzyme Immobilization using Sodium Alginate   (5 Hours)
3. Determination of Thermal Death Point of Bacterial Culture   (5 Hours)
4. Production of Ethanol using *Saccharomyces cerevisiae*   (5 Hours)
5. Sauerkraut Production   (5 Hours)
6. Production of Wine   (5 Hours)
7. Demonstration of Fermentor   (5 Hours)

ENVIRONMENTAL BIOTECHNOLOGY

1. Estimation of Chlorides and Organic Carbon in Soil.   (5 Hours)
2. Determination of Hardness, Acidity and Alkalinity of Water Sample (5 Hours)
3. Estimation of Phosphate and Nitrate in Water Sample   (5 Hours)
4. Determination of Dissolved Oxygen and Biological Oxygen Demand of
   Water Sample   (5 Hours)
5. Detection of Coliforms for Determination of the Purity of Potable Water (5 Hours)

PATTERN OF ASSESSMENT

Continuous Assessment Test: Total Marks:50   Duration: 6 Hours

BIOPROCESS AND FERMENTATION TECHNOLOGY
1. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

2. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

ENVIRONMENTAL BIOTECHNOLOGY

1. Major experiment to be conducted   (10 Marks)

5 Marks for procedure and 5 Marks for conduct and result.

2. Minor experiment   (5Marks)
   Marks allotted for principle and procedure

3. Five spotters each carrying 2 marks   (10 Marks)

4. Record   (5 Marks)

5. Viva voce   (5 Marks)

End Semester Examination: **Total Marks:50**   **Duration: 6 Hours**

BIOPROCESS AND FERMENTATION TECHNOLOGY

1. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

2. Minor experiment   (5 Marks)
   Marks allotted for principle and procedure

ENVIRONMENTAL BIOTECHNOLOGY

1. Major experiment to be conducted   (10 Marks)
   5 Marks for procedure and 5 Marks for conduct and result

2. Minor experiment   (5Marks)
   Marks allotted for principle and procedure

3. Five Spotters each carrying 2 marks   (10 Marks)

4. Record   (5 Marks)

5. Viva voce   (5 Marks)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019 - 2020)

SUMMER INTERNSHIP

CODE:19BY/PN/SI32   **CREDITS:2**

OBJECTIVES OF THE COURSE

- To enable students to gain experiential learning in the field in Biotechnology
- The acquire hands – on training in Biotechnological techniques

The Summer Internship program is for a minimum period of three weeks. The students are expected to have regular attendance in their respective Institute and submit an assignment to the Department reporting the experiments they have observed/conducted. The students are expected to give a seminar presentation in the third semester of the work they have observed/conducted.

Guidelines for Evaluation

The maximum marks for the Summer Internship is 50 and is divided into the following:

a) Assignment   (20 Marks)
b) Seminar presentation   (15 Marks)
c) Attendance   (15 Marks)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

APPLICATIONS OF STEM CELL AND TISSUE ENGINEERING

CODE: 19BY/PC/ST44   **CREDITS:4**
                                                                                       L T P:4 2 0
                                                        TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To learn the concept of Stem cells & and their application in Engineering organs for replacement and Transplantation
- To offers updated fundamental knowledge, technological advancements and potential applications of stem cells and tissue engineering
- To provide an overview of fundamental concepts in Tissue Engineering
- To review the current scenario of tissue engineering applications in bioartificial organs development and transplantation

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- comprehend the basics of Stem cell biology, various sources of stem cells and their applications
- demonstrate how stem cells can be used to treat various disorders such as the neurodegenerative disorders, cardiovascular disorders and diabetes
- elucidate the fundamentals of Tissue Engineering including cells and scaffolds, various techniques associated and limitations
- apply Tissue Engineering principles to the solution of medical problems requiring the regeneration of tissues and the method for the fabrication of tissue engineered products

Unit   1   **(20 Hours)**
   Introduction to Stem Cells
   1.1 Stem Cells – History, Definition, Types
   1.2 Stem Cell Banking
   1.3 Stem Cell Niches
   1.4 Role of International Society for Stem Cell Research (ISSCR)
   1.5 Stem Cell Research Techniques - Demonstration

Unit   2   **(13Hours)**
   Application of Stem Cells - I
   2.1 Multiple Sclerosis, Muscular Degeneration
   2.2 Diabetes
   2.3 Heart disease
   2.4 Parkinson's disease

Unit 3
Applications of Stem Cells - II   **(14 Hours)**
3.1 Cancer Stem Cells
3.2 Spinal Cord Injury
3.3 Burns and Skin Ulcers
3.4 Orthopedic Applications

Unit 4   **(13 Hours)**
Tissue Engineering
4.1 Introduction, Time Line
4.2 Biodegradable Polymers
4.3 Growth Factors
4.3 Bioreactors

Unit 5   **(13 Hours)**
Applications of Tissue Engineering
5.1 Bioartificial Organs - Bioartificial Pancreas, Hepat Assist Liver Support System
5.2 Heamatopoietic System - Red Blood Cell Substitutes-Renal Replacement Devices
5.3 Artificial Womb
5.4 Breast Reconstruction

BOOKS FOR STUDY

Robert Lanza. *Essentials of Stem Cell Biology*. U.S.A.: Academic Press, 3d Edition, 2014.

Robert P. Lanaza, Robert Langer and Joseph Vacanti. *Principles of Tissue Engineering*. U.S.A.: Academic, 4th Edition, Elsevier Publications, 2013.

BOOKS FOR REFERENCE

Atala, Anthony, Robert Lanza, Tony Mikon, Robert Nerem. *Principles of Regenerative Medicine*. 3rd Edition, U.S.A. Elsevier publications, 2018.

Eliot Lander MD, Mark Berman MD. *The stem cell Revolution*. US.: Author House, 2015

Fong, Calvin A. *Stem Cell Research Developments*. U.S.A.: Nova, 2007.

Greer, Erik V. *Neural Stem Cell Research*. U.S.A.: Nova, 2006.

Lanza, Robert and Klimankaya, Irina. *Essential Stem cell Methods*. U.S.A.: Academic, 2009.

JOURNALS
International Journal of Stem Cell
Journal of Tissue Engineering and Regenerative Medicine
Journal of Biomaterials and Tissue Engineering

WEB RESOURCES
stemcells.nih.gov/
www.nature.com/nature/stemcells/
www.cell.com/cell-stem-cell/

PATTERN OF ASSESSMENT

Continuous Assessment Test:　　　　**Total Marks: 50**　　　　**Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks　　(All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

Other Components:　　　　　　　　**Total Marks: 50**
Assignment/Open book test/Seminar/Group Discussion/Research articles and review paper presentation

End-Semester Examination:　　　　**Total Marks: 100**　　　　**Duration: 3 hours**
Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
Section B - 5 x 8 = 40 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 2 x 20 = 40 Marks (2 out of 4 to be answered; Questions to be taken from all units)

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

BIO-NANOTECHNOLOGY

CODE :19BY/PC/BN44   **CREDITS:4**
                                                        L T P:4 1 0
                                        TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce the fundamentals of multidisciplinary nature of Bionanotechnology
- To have a better understanding of key design factors at the synthesis/fabrication methods of nanostructures
- To discuss on the possibility of current and future applications of nanostructured materials
- To acquire a discipline-based knowledge to create an impact in commercial products and technologies

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- review an overview of the state-of-the-art nanosynthesing processes and application of nano materials
- critically discuss various characterization methods of bionanotechnology
- elucidate emerging needs of bionanotechnology in different fields of life sciences
- assess the research directions in nanoscience and nanotechnology
- identify interdisciplinary research approaches in the field of bionanotechnology projects
- evaluate regulatory, ethical and economical problems of nanoscale domain

Unit   1   **(12 Hours)**
Introduction to Nanotechnology
1.1 Concept and Definitions of Nano-biotechnology & Historical Background
1.2 Fundamental Sciences and Broad Areas of Nano-biotechnology
1.3 Raw materials of Nanotechnology; Properties of Nanomaterials

Unit   2   **(12 Hours)**
Classes of Nanomaterials
2.1 Classification Based on Dimensionality - Quantum Dots, Wells and Wires
2.2 Carbon Based Nano Materials – Bucky Balls, Nanotubes, Graphene
2.3 Metal Based Nanomaterials - Nanogold, Nano Silver and Metal Oxides
2.4 Nanocomposites, Nanopolymers, Nanoglasses, Nano ceramics, Biological Nanomaterials

Unit 3   (15 Hours)
Fabrication of Nanomaterials
3.1 Nanoparticle Synthesis – Solvent Evaporation, Spontaneous Emulsification, Double Emulsion and Evaporation, Polymerization, Salting Out, Emulsions-Diffusion, Solvent Displacement, Production of Nanoparticles Using Supercritical Fluid Technology

3.2 Solid State Synthesis, Vapour Phase Synthesis; Solution Processing of Nanoparticles – Sol Gel, Solution Precipitation, Reverse Micelle Method

3.3 Molecular Self Assembly, Biosynthesis – Bacteria, Fungi, Yeast and Plant

3.4. Biogenic and Green Synthesis of Nanoparticles - Demonstration

Unit 4   (15 Hours)
Application of Nanotechnology
4.1 Food and Cosmetics Applications

4.2 Textiles, Paints and Catalysis

4.3 Bioremediation, Biochips – Analytical Devices, Biosensors

Unit 5   (11 Hours)
Nanotechnology in Diagnosis and Therapy
5.1 Nanomaterials in Bone Substitutes and Dentistry

5.2 Nanoparticles for Cancer Therapy

5.3 Nanopharmaceuticals – Nanosuspensions, Nano-encapsulation, Nanogels for Drug Therapy

BOOKS FOR STUDY

Arunava Goswami and Samrat Roy Choudhury. *Nanobiotechnology, Basic and Applied Aspects* Anthem Press, Delhi, India, 2017.

Pradeep T . *A Textbook of Nanoscience and Nanotechnology*. New Delhi.: Tata McGraw Hill Education.2012.

Siddhartha Shrivastava. *Introductory Nanobiotechnology*. Pune.: New Central Book Agency. 2013

BOOKS FOR REFERENCE

Bhupinder Singh, Rodney JY Ho, JagatR. Kanwar. *Emerging Trends in Nanobiomedicine*. US.: CRC Press. 2018.

Cato Laurencin T, Lakshmi S. Nair. *Nanotechnology and Tissue Engineering*: The Scaffold. U S. CRC press. 2012.

Chad A. Mirkin and Christof M. Niemeyer. *Nanobiotechnology II: More Concepts and Applications*, Wiley-VCH. 2007.

Deepak Chitkara, Anupama Mittal, Ram I. Mahato *Molecular Medicines for Cancer: Concepts and Applications of Nanotechnology.* US.: CRC Press. 2018.

Kurt E. Geckeler, Hiroyuki Nishide. *Nanotechnology- Advanced Nanomaterials.* Wiley VCH. 2010.

Murthy, B.S., Shankar, P., Baldev, R., Rath, B.B., and Murday, J. *Textbook of Nanoscience and Nanotechnology*. India.: IIM, Universities Press, 2012.

Pradeep T. *A Textbook of Nanoscience and Nanotechnology.* New Delhi.: Tata McGrawHill Education Pvt. Ltd, 2012.

Ravishankar Rai. V and Jamuna A. Bai. *Nanotechnology Applications in the Food Industry*. US.: CRC Press. 2018.

Shah M.A and Tokeer Ahmad. *Principles of Nanoscience and Nanotechnology*. UK.: Alpha Science International Ltd. 2010

Singh, Shubra, M.S., and Rao, Ramachandra. *Nanoscience and Nanotechnology: Fundamentals to Frontiers*. India.: Wiley Publishers, 2013.

Tuan Vo-Dinh. *Nanotechnology in Biology and Medicine: Methods, Devices and Applications*. London: Taylor and Francis, 2007.

JOURNALS
Journal of Nanotechnology
International Journal of Nanotechnology

WEB RESOURCES
http://www.zyvex.com/nano
www.fda.gov/nanotechnology/
www.nature.com/nnano/

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)
Other Components: **Total Marks: 50**
Assignment/Open book test/Seminar/Group Discussion
End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
Section B - 5 x 8 = 40 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 2 x 20 = 40 Marks (2 out of 4 to be answered; Questions to be taken from all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

DISSERTATION

CODE:19BY/PC/DS49   **CREDITS:9**

GUIDELINES FOR DISSERTATION

Project should be done individually. Each student will choose a topic of her interest and the student will be assigned to a supervisor.

The project will require practical work with the submission of a project report. It should include wet lab work. The duration of the project work is between 3 and 6 months.

The project report should be submitted in the prescribed format containing a minimum of 50 pages. References should not be counted with the main pages. The report should be enhanced with photographs.

Each candidate has to give 3 periodical reviews to the internal guide on the scheduled dates prescribed by the department.

Each candidate can prepare 3 hard copies of the thesis. 1 copy for her and 2 copies must be submitted to the department. The project should be submitted on the scheduled date prescribed by the Department. The student should appear for Viva-voce before a panel comprising the External Examiner, the supervisor and the Head of the Department.

PATTERN OF ASSESSMENT

Continuous Assessment :   **Total Marks: 50**

Periodic review   25 marks
Presentation   25 marks

End Semester Examination: **Total Marks: 100**

a) Style format and neatness in presentation   (10 Marks)

b) Logic and reasoning   (25 Marks)

c) Methodology – analysis and interpretation   (50 Marks)

d) Viva   (15 Marks)

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

FOOD BIOTECHNOLOGY

CODE: 19BY/PE/FB15   **CREDITS : 5**
                                                  L T P : 5 0 0
                                       TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

- To elaborate the biotechnological applications related to food
- To understand the techniques involved in the food processing and food preservation
- To comprehensive understanding of food additives, biotechnological food diagnosis and regulations

COURSE LEARNING OUTCOME
   On successful completion of the course, students will be able to

- discuss the biotechnological aspects of food industries
- demonstrate the knowledge of the fundamentals of food processing
- explain about the constituents, food additives and enzymes in food industry
- discuss about the microorganisms associated with food and food borne toxins`
- to gain employment in the food industry and food product development

Unit   1
   Food Microbiology   **(15 Hours)**
   1.1. Importance and Significance of Microbes in Food Science
   1.2. Sources of Microorganisms in Foods and Their Effective Control
   1.3. Factors Affecting Growth and Survival of Microorganisms in Foods - Intrinsic Factors and Extrinsic
   1.4. Shelf Life - Calculation of Shelf Life, Shelf Life Requirements and Simulation
   1.5. Microbial Toxins - Bacterial Toxins, Fungal Toxins, Food Borne Intoxications and Infections
Unit   2
   Food Chemistry   **(10 Hours)**
   2.1. Flavour - Flavourmatics/Flavouring Compounds, Sensory Assessment of Flavour, Technology for Flavour Retention
   2.2. Pigments - Technology for Retention of Natural Colours of Food Stuffs, Food Colorants - Popular Colors Used in Food
   2.3. Vitamins - Requirements, Allowances and Retention of Vitamins
   2.4. Minerals - Requirements, Allowances and Retention of Minerals

Unit 3
Processing of Food   (13 Hours)
3.1. Cereals, Pulses and Oilseed Products - Milling and Processing
3.2. Dairy Technology - Stages of processing and Other Products
3.3. Fruits and Vegetables - Processing and Preservation
3.4. Membrane Technology in Food Processing

Unit 4
Food Preservation   (12 Hours)
4.1. Low Temperature - Cool Storage and Freezing Definition, Types of Freezing –
     Slow Freezing, Quick Freezing, Thawing
4.2. High Temperature - Commercial Heat Preservation Methods
4.3. Moisture Control - Drying and Dehydration, Evaporation
4.4. Irradiation - Uses of Radiation Processing in Food Industry, Concept of Cold
     Sterilization, Preservation by chemicals and Non-thermal preservation process

Unit 5
Food Packaging and Safety   (15 Hours)
5.1. Introduction - Packaging Functions and Requirements - Printing, Barcodes and Other
     Marking - Labelling Laws
5.2. Food Packaging Materials - Paper and Paper-Based Materials, Corrugated Fibre
     Board (CFB), Plastics, Biodegradable Plastics, Edible Packaging, Metal Packaging,
     Glass
5.3. Packaging of Foods - Packaging Of Fresh Produce and Processed Foods, Aseptic
     Packaging, Advances in Food Packaging
5.4. Quality Assurance - Microbiological Quality Standards of Food, GMP, FSSAI, FDA,
     EPA, HACCP, ISI, ISO, E-number, GMO Food

BOOKS FOR STUDY

Adams, M. R. Moss, M. O. *Food Microbiology*, U.S.A.: Royal Society of Chemistry, 2000.

Bhatia. S.C. *Food Biotechnology*, WPI Publishing India, 2017.

Doyle, M. P., Buchanan, R. L. *Food Microbiology: Fundamentals and Frontiers*. U.S.A. ASM, 2012.

Sinosh Skariyachan and Abhilash M. *Introduction to Food Biotechnology*, CBS, India 2012

BOOKS FOR REFERENCE

Garbutt, J. *Essentials of Food Microbiology*, U.S.A.: Hodder, 1997.

George, B. J. *Basic Food Microbiology.* U.S.A.: Springer, 1989.

Foster W M Food Microbiology, CBS, 2005**.**

Joshi,V. K., Pandey. *A Biotechnology: Food Fermentation Microbiology, Biochemistry and Technology.* India: Educational, 1999.

Ravishankar Rai V. Advances in Food Biotechnology. Wiley-Blackwell, U.S.A. 2015.

JOURNALS
Journal of Food Microbiology
Journal of Food Science and Technology

WEB RESOURCES
www. nottingham.ac.uk
www.kemin.com/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks   (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

Other Components: **Total Marks: 50**
Assignment/Open book test/Seminar/Quiz/Group Discussion

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
 Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
Section B - 5 x 8 = 40 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 2 x 20 = 40 Marks (2 out of 4 to be answered; Questions to be taken from all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

BIOINSTRUMENTATION

CODE:19BY/PE/BI15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To build the strong foundation in the field of Instrumentation
- To introduce components of instruments for biological applications
- To familiarize physical principles governing the design and operation of instrumentation systems
- To discuss on ethical and regulatory issues related to the analytical techniques and instruments used in life sciences

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- explore an overview of instrumentation systems used in biotechnological research.
- describe the classification, construction, working principle and application of various biochemical and molecular instruments
- identify the basic concept of qualitative and quantitative analysis of a given sample.
- discuss on the principle and working of various Radiation detectors.
- identify and use instruments required for specialized courses and project work

Unit   1
   Microscopy and Spectroscopy   **(15 Hours)**
  1.1 Microscopy-Basics-Dark Field and Phase Contrast Microscopy
  1.2 Transmission and Scanning Electron Microscopy, Cryomicroscopy and Confocal Microscopy
  1.3 UV, IR, Fluorescence, NMR, LASER, Raman Spectroscopy
  1.4 Differential Colorimetry, FTIR, Mass Spectroscopy - ESI, MALDI-TOF

Unit   2
   Molecular and Analytical Techniques   **(10 Hours)**
  2.1 PCR, Real Time PCR, Sequencer, Cytophotometry
  2.2 FACS, MACS, Microarray, Circular Dichroism and Optical Rotatory Dispersion
  2.3 Biosensors, Types of Biosensors, Applications

Unit 3   **(15 Hours)**

Separation Techniques

3.1 Centrifugation - Basic Principles of Sedimentation, Types of Rotors, Preparative and Analytical Ultracentrifugation

3.2 Chromatography - Definitions and General Principles, TLC, Paper Chromatography, Gel Filtration, Affinity Chromatography

3.3 HPLC and FPLC, Ion-Exchange Chromatography, Supercritical Chromatography

Unit 4   **(15 Hours)**

Electrophoresis

4.1 Electrophoresis - Basic Principles, Capillary Electrophoresis, PAGE – Native and SDS-PAGE, Agarose Gel Electrophoresis

4.2 Isoelectric Focusing and 2 Dimensional Gels, DGGE, TGGE

4.3 Pulse-Field Gel Electrophoresis, Mobility Shift Electrophoresis, Microchip Electrophoresis

Unit 5   **(10 Hours)**

Radiation Techniques

5.1 Stable and Radio-isotopes, Measurement of Radioactivity in Biological Sample- Gas Ionization (GM counter), Scintillation Counter, Ionization Chamber, TLD, Autoradiography

5.2 Safety Aspects in Handling Radioactive Isotope

5.3 Application of Radioactive Isotopes in Biological Studies

BOOKS FOR STUDY

Skoog, D. A, Holler, J. F and Nieman, T. A. *Principles of Instrumental Analysis*. U.S.A.: Thomson, 2006.

Willard, H. H and Merrit, L. L. *Instrumental Methods of Analysis*. U.S.A.: Prentice Hall, 2005.

BOOKS FOR REFERENCE

Arumugam , N. and Kumaresan V. *Biophysics and Bioinstrumentation* Saras Publication 2015

Bozzola, John J. and Russel Lonnie D. *Electron Microscopy – Principles and Techniques for Biologist*. U.S.A.: Jones and Bartlett, 1992.

Herrit, Willard, Dean and Settle. *Instrumental Methods of Analysis*. U.S.A.: CBS, 1986.

Morris and Morris. *Separation Methods in Biochemistry*. London: Pitman, 1960.

Plummer, D.T. *An Introduction to Practical Biochemistry*. New Delhi: Tata McGraw – Hill, 1985.

Sambrook, J and Russell, D.W. *Molecular Cloning – A Laboratory Manual.* New York: ColdSpringHarbor, 2001.

Wilson, K and Walker, J. *Practical Biochemistry – Principles and Techniques*. U.S.A.: Cambridge, 2002.

JOURNALS
Journal of Biophysics
International Journal of Biophysics
International Journal of Instrumentation

WEB RESOURCES
www.biophysics.org/
www.medbio.uttornto.ca/
www.wiley.com.
www.surface51.com

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks   (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

Other Components: **Total Marks: 50**
Assignment/Open book test/Seminar/Group Discussion

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
Section B - 5 x 8 = 40 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 2 x 20 = 40 Marks (2 out of 4 to be answered; Questions to be taken from all units)

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M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

PHARMACEUTICAL BIOTECHNOLOGY

CODE:19BY/PE/PB15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide brief knowledge on parameters to be considered for ideal drug
- To familiarize the preparation, stability and formulation of drugs
- To highlight the drug action and various drug delivery systems
- To explain production of biotechnological products in pharmaceutical market

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- understand the drug discovery process and its requirements
- demonstrate different pharmaceutical parameters of current biotechnology products
- discuss novel formulation methods for better delivery of biotechnology derived drugs
- pursue career in pharmaceutical research and industries

Unit   1   **(15 Hours)**
General Pharmacology
1.1. Introduction of Pharmacology
1.2. Sources of Drugs, Route of Administration
1.3. Pharmacokinetics - Absorption, Distribution, Metabolism, Excretion and
     Toxicology
1.4. Pharmacodynamics – Drug action, Efficacy vs Potency, Therapeutic Window and
     Dosage Calculation

Unit 2
Drug Discovery and Delivery   **(12 Hours)**
2.1. Drug Discovery Process - Purpose, Main Steps Involved, Timelines, Advantages
2.2. Various Dosage forms - Advantages and Disadvantages
2.3. Drug Delivery - Controlled and Sustained Drug Delivery Mechanism, Role of
     Biopolymers
2.4. Futuristic Perspective on Bio-watches for Serological Analysis, Titration of Dose
     and Release of the Medication

Unit 3
Formulation   **(12 Hours)**
3.1. Capsules – Requirements, Method of Capsule Filling, Importance of Base
     Absorption
3.2. Micro-encapsulation - Types of microcapsules, Importance of Micro-
     encapsulation in Pharmacy

3.3. Tablets – Types, Granulation, Technology on large-scale, Coating on Tablets
3.4. Parenteral Products, Oral Liquids, Injections, Transdermal

Unit 4

Therapeutics   **(15 Hours)**
4.1. Antibiotics - Structure, Mechanism of Action
4.2 Production of Antibiotics – Penicillin and Cephalosporins (Beta Lactam Antibiotics), Streptomycin, Amphotericin B and Mitomycin C
4.3. Biotechnology Derived Therapeutic Product Production - Interferon, Interleukins (Regulatory Proteins), Erythropoietin (Blood Product), Insulin Hormone, Somatotropin, Human Growth Hormone, Somatostatin, Vaccines, Monoclonal Antibody Based Pharmaceuticals
4.4. Recombinant Products - Anticoagulants, Hirudin, Antithrombin, Thrombolytic agents, Tissue plasminogen activator, Streptokinase, Human Deoxyribonuclease, Enzymes - α-Galactosidase, Superoxide dismutase, Debriding agents, Digestive aids

Unit 5

Clinical Research and Toxicology   **(11 Hours)**
5.1. Terminologies and Definition used in Clinical Research - Types of Clinical Research, Phases of Clinical Research
5.2. Clinical Trials in India –The National Perspective, Post Marketing Surveillance
5.3. Pharmaceutical Industry – Global and Indian Perspective
5.4. Toxicology - General Principles, Systemic Toxicology (Single Dose and Repeat Dose Toxicity Studies), Carcinogenicity, Mutagenicity, Teratogenicity, Reproductive Toxicity

BOOKS FOR STUDY
Ashish Dixit Pawan Tiwari Vivekanand Kishan Chatap, *Textbook of Pharmaceutical Biotechnology*, Studium Press (India) Pvt. Ltd, 2015

Gary Walsh, *Pharmaceutical Biotechnology: Concepts and Applications*, Wiley India Pvt Ltd, 2011

Kayser, O., Muller H. *Pharmaceutical Biotechnology- Drug Discovery and Clinical Applications*. U.S.A.: Wiley, 2004

BOOKS FOR REFERENCE
Crommelin, Daan J. A., Sindelar, Robert, Meibohm, Bernd. *Pharmaceutical Biotechnology*. U.S.A.: Springer, 2018.

Katzung**,** B. G. Masters, S. B., Trevor, A. J. *Basic and Clinical Pharmacology*. U.S.A.: McGraw, 2012.

Saurabh Bhatia and Divakar Goli, *Introduction to Pharmaceutical Biotechnology*.U.K: IOP, 2018

Satoskar, R. S., Bhandarkar, S.D., Rege, N. *Pharmacology and Pharmacotherapeutics*. India: Popular Prakashan, 1973.

Tripathi K D. *Essentials of Medical Pharmacology*. India: Jaypee. 2013.

JOURNALS
Journal of Pharmaceutical Science and Research
Journal of Applied Pharmaceutical Science

WEB RESOURCES
www. nottingham.ac.uk
www.kemin.com/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks   (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

Other Components: **Total Marks: 50**
Assignment/Open book test/Seminar/Quiz/Group Discussion

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
 Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS

(Effective from the academic year 2019-2020)

IPR, BIOSAFETY, BIOETHICS AND ENTREPRENEURSHIP

CODE:19BY/PE/IB15   **CREDITS:5**
                                                              L T P:5 0 0
                                          TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To create consciousness on intellectual property rights and their implications in bio product development
- To acquire knowledge on drafting and applying a patent
- To learn biosafety, risk assessment and regulations of products derived from biotechnology
- To familiar with ethical issues in biological research
- To know the importance of innovation and Bio-entrepreneurship
- To explain marketing and management in entrepreneurial activity

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- interpret IPR at an early stage of their education and to take ownership of creative innovations
- familiarize with India's IPR policy and on the implications in national/international trade
- aware of their rights for the protection of their invention done in their project work
- appreciate the ethical use of knowledge for the betterment of society and economic development
- explain entrepreneurship *viz.,* identifying an opportunity, gathering funding and launching a business
- work as a team and have the opportunity to develop their new venture and management skills

Unit   1
  Intellectual Property Rights   **(15Hours)**
   1.1 Introduction to IPRs - Patents, Trademarks, Copyrights, Industrial Design, Geographical Indications, Traditional Knowledge, Plant Breeders Rights, Patentability of Living Organisms
   1.2 IPRs – Implications for India, WTO, WIPO, GATT, TRIPS
   1.3 Types of Patent Applications: Provisional and Complete Specifications, PCT and Conventional Patent Applications
   1.4 Methods of Application of Patents - Patent Search, Drafting, Procedures Involved in the Applications for Patents, Granting of Patent and Infringement, Compulsory Licenses

Unit 2   **(15 Hours)**
     Biosafety
     2.1 Good Lab Practices, Good Manufacturing Practices (GMP), Introduction to
         Biological Safety Cabinets - Containments-Types, Basic Laboratory and
         Maximum Containment Laboratory
     2.2 Biosafety - Biosafety Levels for Infectious Agents and Infected Animals,
         Guidelines for rDNA Research Activities, Biosafety Guidelines - Government of
         India
     2.3 Definition of LMOs, Cartagena Protocol

Unit 3   **(10 Hours)**
     Bioethics
     3.1 Principles of Research Ethics; Ethical Issues in Clinical Trials
     3.2 Introduction to Ethical Codes and Conduct; Introduction to Animal Ethics;
         Biopiracy
     3.3 Ethical Implications - Prenatal Diagnosis, Research- GMOs; Cloning, Gene
         Therapy, Human Genome Project

Unit 4   **(15 Hours)**
     Entrepreneurship
     4.1 Introduction, Types of Entrepreneurs, Project Identification, Selection and
         Financing
     4.2 Project Report - Content and Significance, Planning Commission's Guidelines for
         Formulating Project Reports, Methods of Project Appraisals
     4.3 Business Road Map, Legal, Regulatory and Other Business Factors

Unit 5
     Entrepreneurship Strategies   **(10 Hours)**
     5.1 Structure of a Biotechnology Company, Start-up of Biotechnology Company,
         New Product Development, Market Research, Sales
     5.2 Funding of Biotech Business, MSME, DBT, BIRAC, Make in India; Technology
         Incubator
     5.3 Biotechnology Industries in India

BOOKS FOR STUDY

Butler Gerard M. and Harris Antony. *Bioethics guide to Pharmaceutical Manufacturers.*
U.K.: Medicines Control Agency, 2002.

Damien Hine and John Kapeleris. *Innovations and Entrepreneurship –An international
perspectives*. U.K.: Edward Elgar, 2006.

Verma and Agarwal. *Intellectual property Rights.* New Delhi: I. K. International, 1992.
Thomas Brenner and HolgerPatzelt. *Handbook of Bio-Entrepreneurship*. U.S.A.: Springer,
2008.

BOOKS FOR REFERENCE

Craig Shimasaki. *Biotechnology Entrepreneurship.* U.S.A.: Elsevier, 2014.

Kriti Sharma, Vedant Shukla, *Intellectual Property Rights-I*, Lexis Nexis, India, 2015.

Nandan H , *Fundamentals of Entrepreneurship*, Prentice Hall India Learning Private Limited, Delhi, India, 2013.

Narayanan P., *Intellectual Property Law*, Eastern Law House (ELH); India, 2017.

Robert M. Veatch, *The Basics of Bioethics*, Routledge, Taylor & Francis India, 2017

Sharma, P.D. and Agarwal P.K. *Patent Co-operation Treaty*, New Delhi: MJ, 2002.

JOURNALS

World Patent Information
Bio-Entrepreneur
Journal of Commercial Biotechnology
Journal of the Patent and Trademark Office Society

WEB RESOURCES

www.ita.ucsf.edu/
www.nature.com/bioent/
www.epo.org/
www.ipindia.nic.in

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
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Assignment/Open book test/Seminar/Group Discussion

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019 - 2020)

ENZYME TECHNOLOGY

CODE: 19BY/PE/EZ15   **CREDITS: 5**
                                                        L T P: 5 0 0
                                          TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To acquire fundamental knowledge of enzymes and its implications on industrial processes
- To create an awareness on important industrial bio-products and the applications of enzymes in various fields

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- to describe structure, functions and the mechanisms of action of enzymes
- to understand kinetics of enzyme catalyzed reactions and enzyme inhibitory and regulatory process
- to perform immobilization of enzymes
- to have an exposure of wide applications of enzymes and their future potential

Unit 1
  Introduction to Enzymes   **(15 Hours)**
   1.1 Bioenergetics-Concepts, Factors Affecting Rate of Chemical Reactions, Kinetics of Enzyme Catalysed and Uncatalysed Chemical Reactions
   1.2 Classification of Enzymes, Mechanisms of Enzyme action, Concept of Active Site and Energetics of Enzyme Substrate Complex Formation, Specificity of Enzyme Action,
   1.3 Principles of Catalysis – Collision Theory, Transition State Theory, Role of Entropy in Catalysis
   1.4 Zymogen, Ribozyme and Abzymes, Allosteric enzymes

Unit 2
  Enzyme Kinetics   **(15 Hours)**
   2.1 Kinetics of Single Substrate and Multi-Substrate Enzyme Catalysed Reaction- Estimation of Michaelis-Menten Parameters Briggs Haldane relationship
   2.2 Determination and Significance of Kinetic Constants, Limitations of Michaelis-Menten Kinetics, Line Weaver Burk plot, Hanes Wolf Equation, Eadie Hofstee Equation.
   2.3 Enzyme Inhibition – Reversible and Irreversible Inhibition and Kinetics

Unit   3
 Production and Purification of Enzymes   **(13 Hours)**
  3.1 Methods of Production of Enzymes -Proteases, Amylase, Lipase, Cellulase., Extraction of Enzyme - Soluble and Membrane bound
  3.2 Purification of Enzyme, Criteria of Purity, Determination of Molecular Weight of Enzyme
  3.3 Recovery and Scaling Up of Enzymes and Their Role in Food and Other Industries

Unit   4
 Immobilized Enzymes   **(12 Hours)**
  4.1 Enzyme Immobilization Methods- -Physical and Chemical Techniques, Properties and Characterization
  4.2. Applications of Immobilized Enzymes
  4.3 Immobilized enzyme in Bioreactors – Batch, Continuous and Fed-Batch Reactions

Unit   5
 Application of Enzymes   **(10 Hours)**
  5.1 Industrial Applications of Enzymes – Food Production, Brewing, Detergent, Textile, Leather
  5.2 Enzyme Based Biosensors
  5.3 Enzyme Engineering – Strategies, Artificial Enzymes

BOOKS FOR STUDY

Anusha Bhaskar and Vidhya. Enzyme Technology. India: MJP, 2009

Daniel L. Purich. *Enzyme Kinetics: Catalysis and Control: A Reference of Theory and Best-Practice Methods.* Elsevier,Netherlands. 2010

Palmer, Trevor. *Enzymes : Biochemistry, Biotechnology and Clinical Chemistry***.** U.S.A.: Horwood, 2004.

BOOKS FOR REFERENCE

Fundamental of Enzymology by Price and Stevens (2002): Oxford University Press

L. Stryer, J.M. Berge, J.L. Tymoezko-"Biochemistry" W.H. freeman & Co. 2002 4. Introduction to protein structure by B randen and Tooze(1998): Garland publishing group.

Straathof, A.J. *Applied Biocatalysis*. New York: Tailor and Francis, 2000.

Wanng, D.I.C. and Cooney, C.L. *Fermentation and Enzyme Technology*. U.S.A.: John Wiley, 1994.

JOURNALS
Enzyme and Microbial technology
Enzyme Technology and Molecular Biology

WEB RESOURCES
www.techenzyme.com/
www.abenzymes.com/
John Schollar and Benedikte Watmore, Practical Fermentation-a technical guide
web.mit.edu/professional/short.../fermentation_technology.html

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
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Other Components: **Total Marks: 50**
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End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

VIROLOGY

CODE:19BY/PE/VR15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide an understanding on viruses and its molecular biology concepts
- To understand the viral life cycle and pathogenesis
- To give an insight on human viral diseases

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- describe the interactions between viruses and the host immune system
- understand how viruses are organized, replicate and cause disease
- define the process of virus latency
- describe the molecular pattern of the virus
- familiarize with current issues in the field of virology
- coherently report outcomes of virological research

Unit   1   **(10 Hours)**
   Introduction to Viruses
   1.1 Definition of a Virus, Discovery, Virus Assay, Multiplication Cycle, Properties, Origin
   1.2 Identification of Viruses Using Antibodies- Detection, Identification, Cloning of Virus Genome by PCR
   1.3 Structure- Filamentous Viruses and Nucleoprotein, Structure of Isomeric, Enveloped, Tail- Head Morphology Viruses- Principles of Disassembly
   1.4 Classification- Based on Disease, Host Organism, Virus Particle Morphology, Viral Nucleic acid (The Baltimore Scheme) and Taxonomy
   1.5 Satellites, Viriods, Prions

Unit   2   **(10 Hours)**
   Virus Growth in Cells
   2.1 Virus Attachment and Entry into Cells- Nucleic Acid Synthesis-RNA Synthesis- Making Viral RNA
   2.2 DNA-Genome Replication in DNA Virus-Transcription-Reverse Transcription
   2.3 Transcription and RNA Processing-Processing Viral RNA-Translation, Virion Assembly

Unit 3   **(15 Hours)**

Virus Interaction with Host Organisms

   3.1 Virus Interaction- Viruses and Immune System

   3.2 Interaction Between Animal Viruses and Cells- Acutely Cytopathic Infection- Persistence, Latent, Transforming, Abortive, Null Infections

   3.3 Animal Virus-Host Interaction- Classification-Acute, Subclinical, Persistent, Chronic, Latent Infection, Plant Virus

   3.4 Mechanism of Virus Latency- Interaction-Gene Expression

   3.5 Transmission of Viruses- Horizontal, Vertical, Zoonosis

   3.6 Vaccines and Antivirals- Peptide, Genetically Engineered Vaccines-Prophylaxis and Therapy with Antiviral Drugs

Unit 4   **(15 Hours)**

Viruses and Diseases

   4.1 Viruses and Diseases- Human Viral Diseases-Human Viral Pathogens-Common Signs, Symptoms of Viral Infection-Gastrointestinal, Respiratory, Liver Infection, Systemic Spread

   4.2 HIV and AIDS -Biology and Transmission, Course of Infection, Immunological Abnormalities, Prevention and Control

   4.3 Carcinogenesis and Tumor Viruses- Polyoma viruses, Papilloma viruses, Adenoviruses, Retroviruses, Herpes viruses, Hepatitis viruses

   4.4 Prion Diseases- Spectrum of Disease, Etiology, Pathogenesis, Bovine Spongiform Encephalopathy, Creutzfeldt-Jakob Disease

Unit 5   **(15 Hours)**

New Emerging Viruses

   5.1 Evolution and Emergence- Viral Evolution

   5.2 Emerging Viruses- Viruses and the Tree Of Life, the Abundant and Diverse Viruses of the Seas

   5.3 Chikungunya- An Exotic Virus on the Move-Lujo Virus, A New Hemorrhagic Fever Virus From Southern Africa

   5.4 Error-Prone Ways of RNA Synthesis

   5.5 Quasispecies Concept-Viral Quasispecies and Bottlenecks-The Number of Possible Viral Variants

   5.6 Trajectory of Evolution. Virulence - A Positive or Negative Trait for Evolution

BOOKS FOR STUDY

Alan Cann. *Principles of Molecular Virology*, Academic Press, USA, 2015.
Se Luria. *General Virology*, Andesite Press, UK, 2017.

BOOKS FOR REFERENCE

Dimmock N.J, Easton A.J and Leppard K.N. *Introduction to Modern Virology*. U.S.A.: Blackwell, 2007.
Flint S.J, Enqusit L.W, Racaniello V.R and Skalka A.M. *Principles of Virology*. U.S.A.: ASM, 2014.
Teri Shors. *Understanding Viruses*. U.S.A.: Jones and Bartlett, 2009.
Vinod Singh. *Text Book of Virology*, Ibdc Publishers, 2010.

JOURNALS
Journal of Virology and Antiviral Research
American Journal of Virology
Journal of Virology

WEB RESOURCES
www.virology.net/
https://www.coursera.org/course/virology

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks   (All questions to be answered)
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Other Components: **Total Marks: 50**
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS

(Effective from the academic year 2019-2020)

MARINE BIOTECHNOLOGY

CODE: 19BY/PE/MT15   **CREDITS: 5**
                                                                                     L T P: 5 0 0
                                                                  TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand the essential facts and concepts related to marine biotechnology
- To get acquainted with the marine flora and fauna, their basic functions and role in the ecosystem
- To acquire the ability to determine marine pollutants and their interaction
- To gain insights into marine bio products
- To apply biotechnology methodologies to the marine environment betterment

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- explain the structure, function and importance of marine ecosystems
- describe the diversity of the marine environment
- explore the ecological impacts of pollution on marine water quality, habitats, biodiversity and food webs
- explain the accumulation of toxins in food chains and explore its impact on human food sources
- comprehend the values of marine ecosystem in relation to bio products and its application in biotechnology

Unit   1   **(15 Hours)**
Introduction to Marine Biotechnology
1.1 Classification of Marine Environment – Marine, Brackish, Estuarine, Mangroves, Lagoons, Coral Reefs
1.2 Marine Flora- Plankton and Nekton – Classification of Plankton, Methods of Collection, Preservation
1.3 Sea Weeds- Classification, Occurrence and Distribution, Ecological Role
1.4 Mangroves -Distribution, Adaptation, Conservation, Ecological Significance

Unit   2   **(10 Hours)**
Diversity of Marine Environment
2.1 Hydrothermal Vents
2.2 Hyperthermophilic and Barophilic Microorganisms and their Applications
2.3 Biotechnological Applications of Extremozymes from Extremophilic Organisms

Unit   3   **(15 Hours)**
Marine Pollution
 3.1 Effects of Pollutants to Marine Organisms - Bio Concentration Bioaccumulation and Bio Magnification - Role of (GESAMP)

3.2 Sewage Pollution- Impact of Industrial, Agricultural and Domestic Waste

3.3. Pesticide Pollution- Ecological Impacts - Oil Pollution, Thermal and Radioactive Pollution

3.4. Biofouling - Marine Fouling and Boring Organisms - Antifouling and Anti Boring Treatments

Unit   4   **(10 Hours)**
Marine Instrumentation

4.1. Water Sampling Devices - Knudsen Water Sampler, Light Measuring Devices - Secchi Disc – Luxmeter - Turbidity Meter, Bottom Sampling Devices – Peterson's Grab

4.2 Determination of Salinity - Total Alkalinity - Dissolved Oxygen

4.3 Estimation of Heavy Metals and Petroleum Carbons

Unit   5   **(15 Hours)**
Marine Bioactive Products

5.1 Pharmaceutical - Anti Tumor Compounds, Anti-inflammatory / Analgesic Compounds, Anti-viral Agents

5.2 Nutraceuticals - Low Calorie Sweetners, Flavour Modifiers, Nutritional Enrichment - Food Supplements, Food Colouring Agents and Water Binding Agents

5.3 Other Marine Products - Single Cell Protein, Hydrocolloids, Agarose, Carrageen Alginates, Chitosan and Chitin

BOOKS FOR STUDY

David H Atlway. *Marine biotechnology-Vol I. Pharmaceutical and bioactive natural products*. U.S.A.: Springer, 2000

Kim, Sen-kwon. *Hand book of marine biotechnology*. U.S.A.: Springer, 2015.

Werner E. G. Müller, Heinz C. *Blue Biotechnology: From Gene to Bioactive Product*. Switzerland.: Springer, 2017

BOOKS FOR REFERENCE

Bright Singh I. S. Somnath Pai S. Rosamma Philip and Mohan Das A. *Aquaculture Medicine*. Kochi: Paico, 2003.

David H. Attaway. Oskar R. and Zaborsky. *Marine Biotechnology volume 1: Pharmaceutical and Bioactive Natural Products*. U.S.A.: Springer, 1993.

Lee Y.K and Salminen S. *Handbook of probiotics and prebiotics*. U.S.A.: Wiley, 2009.

LeGal Y and Ulber R. *Advances in Biochemical Engineering/Biotechnology- Marine Biotechnology I & II*. U.S.A.: Springer, 2005.

Pabulo H. Rampelotto, Antonio. *Grand Challenges in Marine Biotechnology*. Switzerland.: Springer, 2018

Werner E. G. Müller, Heinz C. Schröder, Xiaohong Wang. *Blue Biotechnology: From Gene to Bioactive Product*. Germany.: Springer, 2017

JOURNALS
Journal of marine Biotechnology
Journal of Marine Science: Research and Development
Advances and New perspectives in Marine Biotechnology

WEB RESOURCES
www. marinebiotech.eu
www.ecmb.org/

PATTERN OF ASSESSMENT

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

APPLICATIONS OF BIOTECHNOLOGY

CODE:19BY/PE/AB23   **CREDITS:3**
                                                                          L T P:3 0 0
                                                                          TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To understand the basic of biotechnology
- To provide an insight on the trends of bio-techniques
- To familiarize the applications of Biotechnology in everyday life

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- understand the fundamentals of biotechnology
- discuss the use of by products
- demonstrate a knowledge of transgenic plants and animals
- explain the molecular diagnosis and treatment of diseases

Unit 1   **(10 Hours)**
   Introduction to Biotechnology
   1.1 Upstream and Downstream Fermentation Technology
   1.2 Applications of Enzymes in the Food Industry - Bread, Wine
   1.3 Antibiotic Production –Penicillin

Unit 2   **(5 Hours)**
   Bioproducts
   2.1 Biofertilizers and Vermicomposting
   2.2 Mushroom – Types and Cultivation

Unit 3   **(5 Hours)**
   Bioconversions
   3.1 Biofuels
   3.2 Ethanol Production and Biogas

Unit 4   **(10 Hours)**
   Genetic Engineering
   4.1 Introduction to Cloning, Production of Transgenic Animals (Mouse, Sheep,
       Cattle)
   4.2 Transgenic Plants (Bt cotton, Edible Vaccines)

Unit 5   **(9 Hours)**
   Applications
   5.1 DNA Fingerprinting in Forensic Science
   5.2 Cancer Therapy

BOOKS FOR STUDY

Chawla, H.S. *Introduction to Plant Biotechnology*. India: Oxford, 2009.

Freshney, Ian R. *Culture of Animal Cells: A Manual of Basic Technique*. U.S.A.: Wiley, 2010.

Ismail, S.A., *The Earthworm Book*. India: Other India, 2005

Ismail, S.A., Seshadri, C.V., Jeeji Bai, N., and Suriyakumar, C.R. *Composting through Earthworms*. India: M.C.R.C., 1994.

Palmer, Trevor. *Enzymes : Biochemistry, Biotechnology and Clinical Chemistry*. U.S.A. : Horwood, 2004.

Patel, A.H. *Industrial Microbiology*. India: MacMillan, 1999.

Prescott and Dunn. *Industrial Microbiology*. U.S.A.: AVI, 1987.

Purohit, S.S. *Agricultural Biotechnology*. India: Agrobios, 2007.
Slater, A. Scott, N and Fowler, M. *Plant Biotechnology*. U.S.A.: Oxford, 2003.

BOOKS FOR REFERENCE

Demain, Arnold L., and Davies, Julian E. *Manual of Industrial Microbiology and Biotechnology*. U.S.A.: ASM, 2010.

Glick, B.R., and Pasternak, J.J. *Molecular Biotechnology – Principles and Applications of Recombinant DNA*. New Delhi: Panima, 1994.

Kishna, *G.K. Plant Biotechnology*. India:New Vishal, 2016

Purohit, S.S and Mathur S.K. *Biotechnology – Fundamentals and Applications*. India: Agrobios, 2000.

Satyanarayana, U. *Biotechnology*. India: Allied, 2018

JOURNALS
Journal of Animal Science and Biotechnology
International Journal of Animal Biotechnology
Journal of Plant Molecular Biology and Biotechnology
Plant Biotechnology Reports

WEB RESOURCES
www.jasbsci.com/
www.niab.org.in/
www.pb.ethz.ch/
www.nrcpb.org/

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End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
Section B - 5 x 8 = 40 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 2 x 20 = 40 Marks (2 out of 4 to be answered; Questions to be taken from all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

HUMAN GENETICS

CODE:19BY/PE/HG23   **CREDITS: 3**
                                                          L T P: 3 0 0
                                          TOTAL   TEACHING   HOURS:39

OBJECTIVES OF THE COURSE
- To get the insight on the principles of inheritance as formulated by Mendel
- To describe normal chromosome number, structure, and behavior in human cells
- To understand genome sequencing project

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- explore the fundamentals of human genetics
- identify family history, construct and interpret a pedigree
- brief chromosomal basis of inheritance and its alterations
- recognise the relationship between phenotype and genotype
- approach genetic counselor
- explain the molecular and biochemical basis, diagnosis and treatment of genetic disease

Unit 1   **(10 Hours)**
Basic Principles of Human Genetics
1.1 Fundamentals of Genetics
1.2 Law of Segregation, Law of Dominance, Law of Independent Assortment
1.3 Complete Dominance, Incomplete Dominance, Co-dominance, Multiple Alleles

Unit 2   **(5 Hours)**
Pedigree
2.1 Pedigrees- Gathering Family History- Pedigree Symbols-Construction of
       Pedigrees
2.2 Presentation of Molecular Genetic Data in Pedigrees, Genetic Counseling

Unit 3   **(10 Hours)**
Genetic Inheritance

3.1 Patterns of Genetic Inheritance –Autosomal Recessive Inheritance, Autosomal
    Dominance Inheritance
3.2 Sex-Linked Inheritance, Multifactorial Inheritance-Blood Grouping

Unit   4   **(9 Hours)**
         Genetics in Medical Practice
         4.1 Gene Therapy - Hemophilia
         4.2 Stem Cells-Definition and Types- Cord Blood Banking
         4.3 Pregnancy and Prenatal Diagnosis – Chorionic Villi Sampling – Ultrascopy -
            Amniocentesis

Unit   5   **(5 Hours)**
         Genetics and Society
         5.1 Eugenics-Positive and Negative Impact
         5.2 Human Genome Project and its Significance

BOOKS FOR STUDY

Bruce R. Korf, Mira B. Irons. *Human Genetics and Genomics*. U.S.A.: Wiley-Blackwell, 2013.

Daniel L. Hartel and Elizabeth W. Johnes. *Essential Genetics - A Genomic Perspective*. U.S.A.: Jones and Bartleet, 2006.

Katira V. *Basics of Human Genetics*. India. Cbs Publishers and Distributors Pvt Ltd, 2017.

Michael R. Cumming. *Human Hereditary - Principles and Issues*. U.S.A.: Cengag learning. 2010.

Trivedi Dipali J. *Kapur & Suri'S Basic Human Genetics*. India. Jaypee Brothers Medical Publishers. 2016.

BOOKS FOR REFERENCE

Gangane S.D. *Human Genetics*. U.S.A.: Elsevier, 2012.

Hong Weng Deng, Hui Shen, Yong-Jun Liu, Hai Hu. *Current Topics in Human Genetics.* U.K.: World Scientific, 2007.

Nussbaum RL, McInnes RR, Willard HF. Thompson & Thompson, *Genetics in Medicine.* U.S.A.: WB Saunders, 2004.

Ricki Lewis. *Human Genetics: Concepts and Applications*. U.S.A.: Mc Graw, 2009.

Ricki Lewis. *Human Genetics: The Basics.* USA. Garland Science. 2016

Rimoin DL, Connor JM, Pyeritz RE, Korf, B. Emery and Rimoin's. *Principles and Practices of Medical Genetics.* U.S.A.: Churchill, 2002.

Russ Hodge. *Human Genetics: Race, Population and Disease*. U.S.A.: Infobase, 2010.
Turnpenny P and Ellard S. *Emery's Elements of Medical Genetics.* U.S.A.: Churchill, 2007.

JOURNALS
American Journal of Human Genetics

Indian Journal of Human Genetics
Annals of Human Genetics

WEB RESOURCES
https://www.genome.gov/
learn.genetics.utah.edu/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A - 3 x 2 = 6 Marks   (All questions to be answered)
Section B - 3 x 8 = 24 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 1 x 20 = 20 Marks (1 out of 2 to be answered; Questions to be taken from all units)

Other Components: **Total Marks: 50**
Assignment/Open book test/Seminar/Group Discussion

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
 Section A - 10 x 2 = 20 Marks (All questions to be answered, Questions to be of objective type: MCQ and Answer in few lines)
Section B - 5 x 8 = 40 Marks (All questions to be answered; Questions to be taken from all units and internal choices within the units to be given i.e. either/or)
Section C - 2 x 20 = 40 Marks (2 out of 4 to be answered; Questions to be taken from all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

HUMAN DISEASES AND MANAGEMENT

CODE:19BY/PE/HD23   **CREDITS:3**
                                                                   L T P:3 0 0
                                                        TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To understand of pathogenic spectrum of human.
- To gain knowledge on the underlying causes of human diseases
- To familiarize the disease prevention and diagnosis

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- demonstrate a basic understanding of the concepts and elements of disease
- elucidate the mechanisms, diagnosis and treatment of diseases
- describe the effects of drugs abuse on the human body
- discuss a balanced diet and the value of exercise to health
- evaluate scientific articles on health-related topics

Unit 1   **(5 Hours)**
Infectious Diseases of Bacteria and Viruses
1.1 Bacterial Diseases - Typhoid, Tuberculosis
1.2 Viral Diseases - Dengue, Chikungunya, AIDS

Unit 2   **(5 Hours)**
Infectious Diseases of Fungus and Parasites
2.1 Fungal Diseases – Dermatophytes, Candidiasis
2.2   Parasitic Diseases - Malaria, Amoebiasis

Unit 3   **(10 Hours)**
Pathology of Nerves, Heart and Lung
3.1 Nervous System -Alzheimer, Parkinson's
3.2 Cardiovascular System – Atherosclerosis
3.3 Respiratory Tract- Bronchial Asthma, Pneumonia

Unit 4   **(9 Hours)**
Pathology of Gastro-Intestinal, Urinary Tract and Reproductive Organ
4.1 Gastro-Intestinal Tract -Peptic Ulcer, Jaundice, Hepatitis, Cirrhosis
4.2 Urinary Tract Infection
4.3 Reproductive System – Cancer of Breast, Uterus, Ovary, Cervical, Prostrate

Unit 5   **(10 Hours)**
   Immunopathology
   5.1 Allergy
    5.2 Auto-immune disorders – Systemic Lupus Erythematosus, Type I Diabetes

BOOKS FOR STUDY

Carol D Tamparo. *Diseases of the Human Body.* 6th Edition, Philadelphia.: F A Davis Publishing. 2016.

Mark Zelman, Elaine Tompary, Jill Raymond, Paul Holdaway, Mary Lou E. Mulvihill. *Human Diseases: A Systemic Approach.* US.: Pearsons. 2015.

BOOKS FOR REFERENCE

Margaret Schell Frazier, RN, CMA, BS and Jeanette Drzymkowski, RN, BS. *Essentials of Human Diseases and Conditions*. 6th Edition. Philadelphia.: Saunders. 2016

Patton Kevin T. *The Human Body in Health & Disease*. Canada.: Elsevier. 2017

JOURNALS
Genes and Diseases
Journal of Infectious Diseases and Medicine
Infection, Disease & Health
Diseases

WEB RESOURCES
https://www.publichealth.org/resources/infectious-disease/
https://www.cdc.gov/diseasesconditions/index.html
https://healthfinder.gov/FindServices/SearchContext.aspx?topic=250&show=1
https://medicalsciences.med.unsw.edu.au/community/museum-human-disease/education

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
 Section A – 10 x 1 = 10 Marks (All questions to be answered)
Section B –   2 x 10 = 20 Marks (2 out of 4 to be answered)
Section C –   1 x 20 = 20 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Assignment/Open book test/Case study/Seminars/Group Discussion

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered)
Section B –   4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C –   2 x 20 = 40 Marks (2 out of 4 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BIOTECHNOLOGY

SYLLABUS
(Effective from the academic year 2019-2020)

MOLECULAR ONCOLOGY

CODE: 19BY/PI/MO24   **CREDITS: 4**

OBJECTIVES OF THE COURSE
- To understand basic aspects of cancer biology
- To familiar with genetic changes in tumors
- To learn the cell cycle, angiogenesis and apoptosis
- To familiar with basic facets of carcinogenesis and methods to study the process
- To understand how immunotherapy is used to treat human illness

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- discuss the major aspects of a tumor
- describe and discuss molecular characteristics of a tumor cell
- use methods to study tumor genesis and tumor progression
- understand the basic principles and applications of cell culture to study cancer
- read scientific articles and gain understanding of the scientific contents

Unit 1
   Introduction
   1.1 Cell proliferation, Cell Cycle- Check Points, Genes Regulating the Cell Cycle
   1.2 Differentiation, Apoptosis- Caspases, Senescence
   1.3 Types of Cancer, Causes of Cancer- The Influence of Environment, Obesity, Estrogen
   1.4 Oncogene and Tumour Suppressor Genes- Mutation, Genetic and Epigenetic Alteration, Multi –Step Carcinogenesis, Transformed Phenotype, Tumour Suppressor Genes

Unit 2
   Mechanisms
   2.1 Signal Transduction Pathway in Cancer- Receptor Tyrosine Kinase, RAS-MAP kinase, P13k-Akt Signaling, Classical and Alternative –NF-KB Pathway, JAK-STAT Pathway, FAK Src, Bax, Bcl-2
   2.2 Metastasis, Primary Tumour, Micro Environment, Angiogenesis,Invasion,Epithelial Mesenchymal Transition, Extra Vacation, Tumour Establishment, Apoptosis, Tumour Dormancy

Unit 3

Cancer Immunology

3.1 Inflammation-Immuno Editing, Immuno Tolerance, Escape, Immuno Suppression, T-Regulatory Cells, Dysfunctional Dentritic Cells, Tumour Antigen, Adoptive T-Cell Immunotherapy, Novel, Combinatorial Therapy

3.2 Molecular Diagnosis and Prognosis- Biomarkers, PCR-Antigen, Chromosomal Translocation, Immuno Histochemistry, Oncogenomics, Oncoproteomics

Unit 4

***In vitro* and *In vivo* Studies**

4.1 *In vitro* and *in vivo* Models for Cancer Research, Carcinogenesis

4.2 Cell Culture-Transgenic Mice, DNA Damage-Chemical Carcinogen, Metabolic Activation, Cytochrome 450, Solid Tumour, DNA Transfection, Gene Silencing, RNAi.

Unit 5

Cancer Treatment

5.1 Chemotherapy and Design of Antineoplastic Compounds - Medical Chemistry, Drug Design, Development, Bioinorganic Chemistry, Metal and Copper Compounds, Antineoplastics - Casiopeinas

5.2 Mechanism of Therapy- Multi – Drug Resistance, ABC Transporters, Tamoxifen, Antibody, EGFR Mutation

5.3 Future of Cancer Research- Epidemiological Studies, Pharmaco-Epidemiology, Cancer Prevention, Early Markers, Personalised Therapy,Clinical Trial, Mutation, Etiological Factors

BOOKS FOR REFERENCE

Bronchud M.H, Footy M.A., Giaccone G., Olopade O. and Workman P. *Principles of Molecular Oncology*. U.S.A.: Humana, 2004.

Javier Camacho. *Molecular oncology: Principle and Recent Advances*. U.S.A.: Bentham science, 2012.

Mirza Qaiser Baig and Shilpa Vahikar. *Concepts of Molecular Oncology*, Walnut Publication, India, 2018.

JOURNALS
Journal of clinical oncology.
Journal of oncology.

WEB RESOURCES
www. asco.org/
www.esno.org/

PATTERN OF ASSESSMENT
End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered)
Section B – 4 x 10 = 40 Marks (4 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 4 to be answered)

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

DEPARTMENT OF CHEMISTRY

PROGRAMME DESCRIPTION

The Master of Science degree in Chemistry at Stella Maris College covers courses in the core areas of Organic, Inorganic, Physical and Analytical Chemistry and emerging areas of Materials Science, Spectroscopy, Computational and Polymer Chemistry with training on research instrumentation in advanced, project-oriented laboratory courses. The structure of the programme and the course offerings enable the students to explore the areas of Chemistry that most interest them. Chemistry majors are exceptionally well prepared for careers in chemical research, teaching, industry and analytical service laboratories. The programme also prepares the students with the ability to plan, execute, evaluate and communicate original chemical research under the guidance of faculty research advisor. The students are trained to develop a scientific temper by providing them with interdisciplinary tools, research skills and ethical/service sensibilities needed to succeed in their careers. To keep abreast with current trends in Chemistry, the department brings distinguished professors specialized in specific areas of Chemistry to deliver lectures on their research and interact informally with the faculty and students. Classes are also conducted to prepare students for competitive exams.

PROGRAMME SPECIFIC LEARNING OUTCOMES

At the end of a Master of Science programme in Chemistry, students will be able to

- Describe the scientific principles in the major disciplines of Chemistry
- Develop an insight into a specialized subject area
- Analyze various experimental techniques and interpret results based on theoretical concepts
- Conduct independent research work and compare the results with current scientific literature
- Examine raw data, rationalize methods, properties and mechanisms and draw conclusions from them
- Design and synthesize various chemical systems and document the results using appropriate methods
- Assess and interpret qualitative and quantitative data
- Prepare concise scientific reports for presentation to a wide range of audience
- Critically evaluate their scientific work by referring to scientific literature and other sources

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Sc. DEGREE : BRANCH IV-CHEMISTRY

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, **L-**Lecture Hours, **T-**Tutorial Hours, **P-** Practical Hours, **Ex-**Exam Hours, **CA-** Continous Assessment Marks, **ES-**End Semester Marks, **M-**Maximum Marks									
SEMESTER-I									
19CH/PC/OC14	Organic Chemistry I	4	4	1	0	3	50	50	100
19CH/PC/PC14	Advanced Physical Chemistry	4	4	1	0	3	50	50	100
19CH/PC/SI14	Structural Inorganic Chemistry	4	4	1	0	3	50	50	100
19CH/PC/P114	Inorganic Qualitative and Quantitative Analysis Practical	4	0	0	6	6	50	50	100
	SAP / SL	2	2	0	0	-	50	-	100
	Department Elective I								
SEMESTER-II									
19CH/PC/OC24	Organic Chemistry II	4	4	1	0	3	50	50	100
19CH/PC/QG24	Quantum Chemistry and Group Theory	4	4	2	0	3	50	50	100
19CH/PC/P224	Organic Separation and Analysis Practical	4	0	0	6	6	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19CH/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
	Department Elective II								
	Common Elective I								
SEMESTER-III									
19CH/PC/RM34	Research Methodology	4	3	0	2	3	50	50	100
19CH/PC/MS34	Molecular Spectroscopy	4	4	2	0	3	50	50	100
19CH/PC/CO34	Coordination Chemistry	4	4	2	0	3	50	50	100
19CH/PC/P333	Physical Chemistry Practical	3	0	0	4	3	50	50	100
19CH/PC/P433	Analytical Instrumentation Practical	3	0	0	4	3	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19CH/PN/SI32	Summer Internship	2	0	0	0	-	50	-	100
	Common Elective II								
SEMESTER-IV									
19CH/PC/SO44	Synthetic Organic Chemistry and Natural Products	4	4	2	0	3	50	50	100
19CH/PC/P544	Organic Synthesis and Purification Practical	4	0	0	6	6	50	50	100
19CH/PC/DS49	Dissertation	9	0	0	11	-	50	50	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19CH/PE/AI15	Analytical Instrumentation	5	5	0	0	3	50	50	100
19CH/PE/IM15	Industrial Waste Management	5	5	0	0	3	50	50	100
19CH/PE/PM15	Polymer Materials and Applications	5	5	0	0	3	50	50	100
19CH/PE/BC15	Essentials of Biochemistry	5	5	0	0	3	50	50	100
19CH/PE/CP15	Corrosion and its Prevention	5	5	0	0	3	50	50	100
19CH/PE/PY15	Phytochemistry	5	5	0	0	3	50	50	100
19CH/PE/NC15	Nanochemistry	5	5	0	0	3	50	50	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Sc. DEGREE : BRANCH IV-CHEMISTRY

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks								
Subject Code	**Title of Course**	**C**	**L**	**T**	**P**	**Ex**	**CA**	**ES**	**M**
Postgraduate Elective Courses Offered to Other Departments									
19CH/PE/MH23	Medicines and Health Care	3	3	0	0	3	50	50	100
19CH/PE/CH23	Cosmetics and Herbal Products	3	3	0	0	3	50	50	100
19CH/PE/FN23	Food Chemistry and Nutrition	3	3	0	0	3	50	50	100
Independent Elective Courses									
19CH/PI/IF24	Introduction to Forensic Chemistry	4	0	0	0	3	-	100	100
19CH/PI/NP24	Chemistry of Natural Products	4	0	0	0	3	-	100	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

ORGANIC CHEMISTRY   I

CODE:19CH/PC/OC14   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
➢ To understand the importance of the nomenclature of different types of organic compounds and their usage in various reactions
➢ To enable students to gain knowledge on the various aspects of stereochemistry and to emphasize the importance of stereochemistry in different types of reaction mechanisms
➢ To understand the methods adopted in the study of reaction mechanisms

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Apply the rules of nomenclature and the concept of aromaticity to different organic compounds
➢ Analyze the concepts of symmetry and chirality and solve problems in stereochemistry
➢ Explain and predict the stereochemical outcome of organic reactions by considering the reaction mechanism.
➢ Discuss the relative stability of the conformational isomers of substituted cyclohexane and related compounds
➢ Illustrate the importance of the kinetic and thermodynamic requirements of a reaction and the methods used to determine reaction mechanisms
➢ Correlate structures of compounds with their reactivity and interpret them quantitatively

Unit   1   **(10 Hours)**
   Nomenclature of Organic Compounds and Aromaticity
   1.1 Modern Nomenclature – Cyclic, Acyclic, Aliphatic, Aromatic, Bridged and Heterocyclic Compounds
   1.2 Benzenoid and Non-Benzenoid Aromatic compounds
   1.3 Huckel's Rule of Aromaticity, Anti-aromaticity, Homo-aromaticity
   1.4 Aromaticity in Annulenes and Heteroannulenes. Diatropic and Paratropic behaviour (in NMR).

Unit   2   **(14 Hours)**
   Geometrical and Optical Isomerism
   2.1 Geometrical Isomerism- E-Z Nomenclature of olefins, cyclic systems and oximes.
   2.2 Concept of optical activity, Chirality, Asymmetry and Dissymmetry. Optical activity in molecules with C, N, S and P based chiral centers - Axial, planar and helical chirality – substituted adamantanes.

2.3 Absolute and Relative Configuration -D/L and R/S Nomenclature, Cahn-Ingold-Prelog rules. R/S Nomenclature of acyclic and cyclic compounds, biphenyls, allenes, spiranes, helicene, heteroatom chiral centres.

2.4 Erythro and Threo Nomenclature. Interconversion of Wedge, Zig-zag, Fischer, Sawhorse and Newmann Projection. Criteria for optical purity – Enantiomeric excess.

Unit 3 (14 Hours)

Stereochemistry II

3.1 Racemic Modifications - Racemisation by Thermal, Anion, Cation, Reversible formation; Epimerisation, Asymmetric Induction – Mutarotation.

3.2 Resolution of Racemic Mixtures - through the formation of Diastereomers.

3.3 Topicity and Prochirality - Identification of Homotopic, Enantiotopic, Diastereotopic Ligands and Faces. Prochirality – pro R, pro S, Re and Si faces.

3.4 Asymmetric Synthesis- Cram's and Prelog's Rules, Felkin-Ahn modification, Chiral Auxiliaries – Evan Aldol Reaction, Chiral Reagents - Epoxidation (Sharpless' Reaction)

3.5 Stereospecific and Stereoselective Reactions- Syn and Anti (Addition and Elimination)

Unit 4 (12 Hours)

Conformations and Conformational Analysis

4.1 Conformation and Reactivity in Cyclic Systems - Cyclobutane, Cyclopentane, Cyclohexane, Cycloheptane and Cyclooctane.

4.2 Conformational Analysis of Disubstituted Cyclohexanes and their stereochemical features. Conformation and Reactivity of Cyclohexanols (Oxidation and Acylation), Cyclohexanones (Reduction) and Cyclohexane Carboxylic Acid Derivatives (Hydrolysis)

4.3 Conformation and Stereochemistry of Fused Ring System-Decalins (9-methyl decalin)

Unit 5 (15 Hours)

Study of Reaction Mechanisms and Structural Effects

5.1 Thermodynamic and Kinetic Requirements of Reactions, Baldwin Rules for ring closure, Hammond Postulates. Curtin-Hammett Principle

5.2 Methods of Determining Reaction Mechanisms-Identification of Products and Intermediates, Cross-Over Experiments, Trapping of Intermediates, Isotopic Labeling, Stereochemical Studies. Kinetic Isotopic Effects, Salt Effects, Solvent Isotopic Effects

5.3 Quantitative Relationships between Molecular Structure and Chemical Reactivity-Linear Free Energy Relationship - Hammett Equation, Taft Equation

BOOKS FOR STUDY

Kalsi P.S. *Stereochemistry: Conformation and Mechanism*. New Delhi:New Age, 2019.

Ahuliwalia V.K. and R.K. Parashar. *Organic Reaction Mechanism*. New Delhi, Narosa, 2011.

BOOKS FOR REFERENCE

Eliel E.L. *Stereochemistry of Organic Compounds*. New York: John Wiley,2008.

Singh, Jagadamba and L.D.S. Yadav.*Advanced Organic Chemistry*.Meerut: Pragati Prakashan, 2010.

Jonathan Clayden, Nick Greeves and Stuart Warren, *Organic Chemistry*, NewYork :Oxford University Press, 2012.

Francis A. Carey and Richard J. Sundberg, *Advanced Organic Chemistry Part A: Structure and Mechanisms.* New York: Springer, 2007.

Norman,R.O.C. and J.M.Coxon, *Principles of Organic Synthesis*. New York: CRC Press 2012.

Buxton, S.R. and Roberts S.M. *Guide to Organic Stereochemistry*, London: Orient Longman, 1997.

Solomons,T.W Graham.and Craig B. Fryhle. *Organic Chemistry*.NewYork: John Wiley, 2000.

Nasipuri D. *Stereochemistry of Organic Compounds – Principles and Applications,* New Delhi: Wiley Eastern, 1992.

BansalRaj.K.*Organic Reaction Mechanism*.New Delhi:Tata McGraw-Hill,2006.

Page M.I. and Williams A, *Organic and Bio-organic Mechanisms*. New Delhi, Pearson Education, 2010.

Tewari N. *Advanced Organic Stereochemistry*. Kolkata: Books & Allied (P) Ltd, 2014.

JOURNALS
Tetrahedron letters
Journal of American Chemical Society
Journal of Chemical Education

WEB RESOURCES
www.oxfordBOOKS FOR STUDY.co.uk/orc/clayden2e
https://nptel.ac.in/courses/104101005/4
https://chem.libretexts.org

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 3 x 8 = 24 Marks
(3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks
(1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

ADVANCED PHYSICAL CHEMISTRY

CODE:19CH/PC/PC14   **CREDITS:4**
LT P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
➢ To learn to integrate thermodynamics with quantum statistics
➢ To appreciate and correlate theoretical concepts and experimental details
➢ To Understand the importance of kinetics of chemical transformations and reactions
➢ To gain in-depth knowledge of Electrochemistry

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Appreciate quantum statistics and its applications in chemistry
➢ Pursue theoretical research in this area
➢ Develop a problem solving approach
➢ Appreciate the principle of reaction mechanisms through Kinetics
➢ Develop knowledge in Catalysis and appreciate the processes of different types of adsorption

Unit   1   **(20 Hours)**
   Statistical Thermodynamics
   1.1 Introduction to Statistical Mechanics (Permutation, Probability), Microstates, Macrostates, Probability, Ensemble.
   1.2 Distributions and the most Probable Distribution, Evaluation of Boltzmann Parameters using Lagrange's Method of Undetermined Multipliers, Stirling Approximation
   1.3 Partition Function, Evaluation of Translational, Rotational, Vibrational and Electronic Partition Functions for Ideal Gases, n Particles (Distinguishable and Indistinguishable) Systems
   1.4 Applications: Calculation of Thermodynamic Properties in terms of Partition Function, Sackur-Tetrode Equation, Heat Capacities of Ideal Gases, Heat Capacity of Solids, Residual Entropies, Equilibrium Constant

Unit   2   **(8 Hours)**
   Quantum Statistics
   2.1 Bose-Einstein and Fermi-Dirac Statistics, Comparison between Bose-Einstein, Fermi-Dirac and Boltzmann Statistics, Application to Radiation and Electron Gas in Metals
   2.2 Introduction to Irreversible Processes - Phenomenological Equations and Onsager Reciprocity Relation

Unit 3   **(15 Hours)**

Molecules in Motion

3.1 Accounting for Rate Laws: Simple Reactions, Temperature Dependence on Reaction Rates, Consecutive Reactions(Rate determining Step Approximation and Steady State Approximation), Pre-Equilibria and Unimolecular Reactions-Lindemann-Hinshelwood Mechanism, Kinetics of Complex Reactions- Chain Reactions, Explosions and Photochemical Reactions

3.2 Molecular Reaction Dynamics: Collision Theory, Steric Factor, Diffusion controlled reactions, Activated Complex Theory, Eyring Equation, Reaction Coordinates and Transition State, Thermodynamic aspects, Reaction between Ions, Effect of Solvent on Reaction Rates, Effect of Ionic Strength on Reaction Rates (Salt Effects), Dynamics of Molecular Collisions (Molecular Beams), Potential Energy Surfaces

Unit 4   **(14 Hours)**

Theories of Electrochemistry

4.1 Electrodes and Electrochemical Cells-Evaluation of Thermodynamic Quantities

4.2 The Electrical Double Layer at the Electrode – Electrolyte Interface, Models:Helmholtz Perrin Model, Gouy-Chapmann Model and Stern Model, Potentials (Galvanic and Voltaic) – Theory of Multiple Layer Capacity – Electro- Capillarity – Lippmann Potential – Structure of Double Layers

4.3 Diffusion – Electro Kinetic Phenomena (Electroosmosis, Sedimentation Potential, Electrophoresis, Dorn Effect) – Membrane Potential. I – E Variation – Different Types of Overpotentials – Butler – Volmer Equation for One Electron Transfer, Tafel Plots, Exchange Current Density – Standard Rate Constants – Transfer Coefficient – Tafel and Nernst Equations – Polarisation. Rate Determining Step in Electrode Kinetics – The Hydrogen Overvoltage, Oxygen Overvoltage – Anodic and Cathodic Processes – Redox Reactions, Oxygen-Hydrogen Fuel Cells

Unit 5   **(8 Hours)**

Surface Chemistry

5.1 Adsorption Isotherms, Types of Adsorption Isotherms, Gibb's Adsorption Isotherm, BET Isotherm (Only Equation) - Determination of Surface Area

5.2 Heterogeneous Catalysis: Catalytic Activity at Surfaces, Adsorption and Catalysis-The Eley-Rideal Mechanism, Langmuir-Hinshelwood Mechanism, Examples of Catalysis- Hydrogenation, Oxidation, Cracking /Pyrolysis and Reforming

BOOKS FOR STUDY

Peter Atkins and Julio de Paula. *Atkins Physical Chemistry*. Oxford : Oxford Press, 2006
Keith J. Laidler, John H. Meiser. *Physical Chemistry*. Brooks Cole : CA. 2002.

BOOKS FOR REFERENCE

Rajaram J. and Kuriacose J.C. *Kinetics and Mechanism of Chemical Transformations*. New Delhi: Macmillan, 1993.
Barrow Gordon, M. *Physical Chemistry*, Orient Longman: New York, 1977.
Thomas Engel and Philip Reid. *Physical Chemistry*. Pearson: Pearson Education Limited, 2014.
Crow, D.R. *Principles and Applications of Electrochemistry*. New York: CRC Press, 1994.

Viswanathan B., Sundaram S., Venkataraman R., Rengarajan K., Raghavan P.S. *Electrochemistry–Principles and Applications*, Chennai :Viswanathan, 2007.
Gupta,M.C. *Statistical Thermodynamics*, New Delhi: New Age International, 2003.
Dole, M. *An Introduction of Statistical Thermodynamics*, New York: Dover, 1986.

JOURNALS
Journal of Electrochemistry
Journal of Surface science
Journal of Physical Chemistry (A, B and C)
Langmuir
Statistical Thermodynamics
Statistical Thermodynamics

WEB RESOURCES
http://www.acs.org/content/acs/en/careers/college-to-career/areas-of-chemistry/physical-chemistry.html
http://www.annualreviews.org/journal/physchem

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

ORGANIC CHEMISTRY   I

CODE:19CH/PC/OC14   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
  ➢ To understand the importance of the nomenclature of different types of organic compounds and their usage in various reactions
  ➢ To enable students to gain knowledge on the various aspects of stereochemistry and to emphasize the importance of stereochemistry in different types of reaction mechanisms
  ➢ To understand the methods adopted in the study of reaction mechanisms

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

  ➢ Apply the rules of nomenclature and the concept of aromaticity to different organic compounds
  ➢ Analyze the concepts of symmetry and chirality and solve problems in stereochemistry
  ➢ Explain and predict the stereochemical outcome of organic reactions by considering the reaction mechanism.
  ➢ Discuss the relative stability of the conformational isomers of substituted cyclohexane and related compounds
  ➢ Illustrate the importance of the kinetic and thermodynamic requirements of a reaction and the methods used to determine reaction mechanisms
  ➢ Correlate structures of compounds with their reactivity and interpret them quantitatively

Unit   1   **(10 Hours)**
  Nomenclature of Organic Compounds and Aromaticity
  1.1 Modern Nomenclature – Cyclic, Acyclic, Aliphatic, Aromatic, Bridged and Heterocyclic Compounds
  1.2 Benzenoid and Non-Benzenoid Aromatic compounds
  1.3 Huckel's Rule of Aromaticity, Anti-aromaticity, Homo-aromaticity
  1.4 Aromaticity in Annulenes and Heteroannulenes. Diatropic and Paratropic behaviour (in NMR).

Unit   2   **(14 Hours)**
  Geometrical and Optical Isomerism
  2.1 Geometrical Isomerism- E-Z Nomenclature of olefins, cyclic systems and oximes.
  2.2 Concept of optical activity, Chirality, Asymmetry and Dissymmetry. Optical activity in molecules with C, N, S and P based chiral centers - Axial, planar and helical chirality – substituted adamantanes.

2.3 Absolute and Relative Configuration -D/L and R/S Nomenclature, Cahn-Ingold-Prelog rules. R/S Nomenclature of acyclic and cyclic compounds, biphenyls, allenes, spiranes, helicene, heteroatom chiral centres.

2.4 Erythro and Threo Nomenclature. Interconversion of Wedge, Zig-zag, Fischer, Sawhorse and Newmann Projection. Criteria for optical purity – Enantiomeric excess.

Unit 3 (14 Hours)
Stereochemistry II

3.1 Racemic Modifications - Racemisation by Thermal, Anion, Cation, Reversible formation; Epimerisation, Asymmetric Induction – Mutarotation.

3.2 Resolution of Racemic Mixtures - through the formation of Diastereomers.

3.3 Topicity and Prochirality - Identification of Homotopic, Enantiotopic, Diastereotopic Ligands and Faces. Prochirality – pro R, pro S, Re and Si faces.

3.4 Asymmetric Synthesis- Cram's and Prelog's Rules, Felkin-Ahn modification, Chiral Auxiliaries – Evan Aldol Reaction, Chiral Reagents - Epoxidation (Sharpless' Reaction)

3.5 Stereospecific and Stereoselective Reactions- Syn and Anti (Addition and Elimination)

Unit 4 (12 Hours)
Conformations and Conformational Analysis

4.1 Conformation and Reactivity in Cyclic Systems - Cyclobutane, Cyclopentane, Cyclohexane, Cycloheptane and Cyclooctane.

4.2 Conformational Analysis of Disubstituted Cyclohexanes and their stereochemical features. Conformation and Reactivity of Cyclohexanols (Oxidation and Acylation), Cyclohexanones (Reduction) and Cyclohexane Carboxylic Acid Derivatives (Hydrolysis)

4.3 Conformation and Stereochemistry of Fused Ring System-Decalins (9-methyl decalin)

Unit 5 (15 Hours)
Study of Reaction Mechanisms and Structural Effects

5.1 Thermodynamic and Kinetic Requirements of Reactions, Baldwin Rules for ring closure, Hammond Postulates. Curtin-Hammett Principle

5.2 Methods of Determining Reaction Mechanisms-Identification of Products and Intermediates, Cross-Over Experiments, Trapping of Intermediates, Isotopic Labeling, Stereochemical Studies. Kinetic Isotopic Effects, Salt Effects, Solvent Isotopic Effects

5.3 Quantitative Relationships between Molecular Structure and Chemical Reactivity-Linear Free Energy Relationship - Hammett Equation, Taft Equation

BOOKS FOR STUDY
Kalsi P.S. *Stereochemistry: Conformation and Mechanism*. New Delhi:New Age, 2019.
Ahuliwalia V.K. and R.K. Parashar. *Organic Reaction Mechanism*. New Delhi, Narosa, 2011.

BOOKS FOR REFERENCE
Eliel E.L. *Stereochemistry of Organic Compounds*. New York: John Wiley,2008.
Singh, Jagadamba and L.D.S. Yadav.*Advanced Organic Chemistry*.Meerut: Pragati Prakashan, 2010.

Jonathan Clayden, Nick Greeves and Stuart Warren, *Organic Chemistry*, NewYork :Oxford University Press, 2012.

Francis A. Carey and Richard J. Sundberg, *Advanced Organic Chemistry Part A: Structure and Mechanisms.* New York: Springer, 2007.

Norman,R.O.C. and J.M.Coxon, *Principles of Organic Synthesis*. New York: CRC Press 2012.

Buxton, S.R. and Roberts S.M. *Guide to Organic Stereochemistry*, London: Orient Longman, 1997.

Solomons,T.W Graham.and Craig B. Fryhle. *Organic Chemistry.*NewYork: John Wiley, 2000.

Nasipuri D. *Stereochemistry of Organic Compounds – Principles and Applications,* New Delhi: Wiley Eastern, 1992.

BansalRaj.K.*Organic Reaction Mechanism*.New Delhi:Tata McGraw-Hill,2006.

Page M.I. and Williams A, *Organic and Bio-organic Mechanisms*. New Delhi, Pearson Education, 2010.

Tewari N. *Advanced Organic Stereochemistry*. Kolkata: Books & Allied (P) Ltd, 2014.

JOURNALS
Tetrahedron letters
Journal of American Chemical Society
Journal of Chemical Education

WEB RESOURCES
www.oxfordBOOKS FOR STUDY.co.uk/orc/clayden2e
https://nptel.ac.in/courses/104101005/4
https://chem.libretexts.org

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 11 x 1 = 11 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 3 x 8 = 24 Marks
(3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks
(1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS

(Effective from the academic year 2019–2020)

STRUCTURAL INORGANIC CHEMISTRY

CODE:19CH/PC/SI14   **CREDITS:4**

L T P:4 1 0

TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
➢ To provide knowledge required to appreciate and analyse the chemistry of structurally important compounds
➢ To give an overview and understanding of transition metal compounds and organometallic compounds
➢ To provide fundamental knowledge about industrially important non-transition metal compounds

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Distinguish between the structures of different types of inorganic solids
➢ Classify materials based on their electrical and magnetic properties
➢ Apply the principles of X-ray, Electron and Neutron diffraction techniques to characterise crystalline solids
➢ Analyze the structures of organometallic compounds using spectral techniques
➢ Explain the role of important organometallic reagents in catalysis

Unit 1   **(15 Hours)**
Structure and Properties of Solids
1.1 Crystal systems, Miller indices – indexing of crystal planes, packing of ions in crystals, Pauling's rules for ionic crystals.
1.2 Lattice Energy, Born Lande Equation – derivation, factors affecting lattice energy.
1.3 Structures of Simple Inorganic Solids of Type AX (CsCl, ZnS), AX_2 (Fluorite, Rutile$_)$, AX_3 (ReO$_3$), A_2X_3 (Al$_2$O$_3$), Perovskite, Spinel and Inverse Spinel.
1.4 Bonding in Metals: Band Theory and Metallic Properties. Interstitial Compounds, Insulators and Semiconductors. Super Conductivity - Principle, Meissner Effect, Type I and II, applications of superconductors.
1.5 Electrical Properties of Solids- Dielectric, Piezoelectric, Pyroelectric and Ferroelectric Properties and Relation between Piezo, Pyro and Ferroelectric Properties. Magnetic Properties of Solids-Curie-Weiss Law.

Unit 2   **(11 Hours)**
Techniques of Structure Determination in Solid State
2.1 X-Ray Diffraction Studies – Principle, Powder XRD technique – principle, instrumentation and applications, Debye-Scherrer method, selection rules for simple, bcc and fcc lattices, structural determination of NaCl using Powder Method.
2.2 Electron and Neutron Diffraction Studies- Principle and Applications

Unit 3   **(16 Hours)**

Structure and Chemistry of Organometallic Compounds

3.1 Classification of Organometallic Compounds

3.2 Preparation, Bonding and Structure of Metal Carbonyls, Carbonyl Hydride Complexes, Metal Nitrosyls (Application of EAN Rule and 18-Electron Rule). Metal Hydride Complexes, Alkyl Complexes, Carbenes, Carbynes, Carbides, Non Aromatic Alkene and Alkyne complexes, Allyl and Pentadienyl Complexes, Aryl Complexes.

3.3 Application of IR Spectroscopic Technique to the Study of the Structure of Metal Carbonyls and Nitrosyls.

Unit 4   **(10 Hours)**

Organometallic Compounds in Catalysis

4.1 Olefins-Wilkinson's Catalyst, Oxo Process, Ziegler- Natta Catalysis, Wacker Process, Cyclo-oligomerisation (Reppe's Catalyst).

4.2 Role of Catalyst in Monsanto Acetic Acid Process and in the Synthesis of Gasoline

Unit 5   **(13 Hours)**

Structure and Chemistry of Non- transition and Transition Metals

5.1 Preparation, Properties and Structures of Boranes (Wades Rules), Phophazenes, Carboranes, Metallocarboranes, Silicates and Silicones, Supramolecular Assembly - Zeolites.

5.2 Preparation, Properties and Structures of iso and heteropolyacids of Molybdenum and Tungsten.

BOOKS FOR STUDY

Cotton, F.A. and Wilkinson G. *Advanced Inorganic Chemistry*, New York: John Wiley, 2000.

Huheey, James E. and Keiter. Ellen A. *Inorganic Chemistry - Principles of Structure and Reactivity,* New York: Addison Wesley, 2004.

BOOKS FOR REFERENCE

Atkins, Peter, Fraser Armstrong, Jonathan Rourke, Mark Weller and Tina Overton, *Inorganic Chemistry*, Oxford: Oxford Press, 2010

Jolly, W.L. Modern *Inorganic Chemistry*, New York : McGraw Hill,1994.

Moeller, T. *Inorganic Chemistry*, New York: John Wiley, 1982.

Purcell Keith, F. and John C. Kotz, *An Introduction to Inorganic Chemistry,* Philadelphia: W.B.Saunders Company, 1982.

Wells, A.F. *Structural Inorganic Chemistry*, London: ELBS, 1981.

West, A.R. *Solid State Chemistry and its Applications*, New York: John Wiley, 2014.

Das, A.K. *Fundamental Concepts of Inorganic Chemistry*. New Delhi: CBS Publishers & Distributors, 2015.

Housecroft, C. *Inorganic Chemistry*. London: Pearson Education, 2012.

JOURNALS

Inorganic Chemistry

Organometallics

Inorganic Chemistry Frontiers

WEB RESOURCES

http://www.chem.iitb.ac.in/~rmv/ch102/ic6.pdf
https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/orgmetal.htm
http://www.tandfonline.com/toc/gcic20/current#.VQL8TnyUflg

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 11 x 1 = 11 Marks

(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)

Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)

Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**

Quiz/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 20 x 1 = 20 Marks

(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)

Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)

Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

INORGANIC QUALITATIVE AND QUANTITATIVE ANALYSIS PRACTICAL

CODE:19CH/PC/P114   **CREDITS:4**
L T P:0 0 6
TOTAL HOURS:78

Unit   1
Semi-micro Qualitative Analysis
Analysis of four cations- two rare cations and two common cations- in a salt mixture

Unit   2
Titrimetry
Complexometry: Estimation of Mg^{2+}, Zn^{2+}, Ca^{2+} and Ni^{2+}
Cerimetry: Estimation of Fe^{2+} / Oxalic acid
Iodometry: Determination of Chlorine in bleaching powder.

Unit   3
Preparation of Inorganic Complexes
Tetraammine nickel(II) chloride
Potassium tris(oxalate) iron(III) hydrate
Bis(acetylacetanato)copper (II) /Bis (acetylacetanato) nickel(II)
Trans dichlorobis(ethylenediamine)cobalt(III) chloride

A comprehensive viva will be conducted during the practical hours.

BOOKS FOR REFERENCE
Ramanujam, V.V. *Inorganic Semi-micro Qualitative Analysis*. Chennai: National, 1995.

Mendham J., Denny R.C., Barnes J.D and Thomas M. *Vogel's Text Book of Quantitative Chemical Analysis*, London: Pearson Education, 2002.

PATTERN OF ASSESSMENT

Continuous Assessment Test (Internal):   **Total Marks: 50**
Class Work = 30 (marks) – inclusive of *viva*
CA Test   = 20 (marks)

End-Semester Examination: **Total Marks: 100**   **Duration: 6 Hours**

Inorganic complex preparation   : **10 Marks**
Preparation – quantity & quality [10]

Semi micro qualitative analysis   : **40 Marks**
General Procedure- 10 Marks Rare radicals (2 X 10) -20 Marks
Common radicals – (2 X 5) - 10 Marks

Volumetric Analysis   : **40 Marks**
Error 1% = 40 Marks
2% = 35 Marks
3% = 25 Marks

Viva   : **10 Marks**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

ORGANIC CHEMISTRY II

CODE:19CH/PC/OC24   **CREDITS 4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
➢ To understand the importance of reaction intermediates
➢ To suggest mechanisms for a given reaction.
➢ To understand the application of photochemistry and concerted reactions

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Categorize the types of reactive intermediates and propose mechanisms of important name reactions
➢ Distinguish between different reaction types and predict the products of various organic reactions
➢ Appreciate the versatility of different oxidising and reducing agents
➢ Apply the concepts and laws of photochemistry to different photochemical reactions
➢ Analyze the concepts in FMO approach, Woodward-Hoffmann rules and correlation diagrams to explain the mechanism of pericyclic reactions

Unit   1   **(14 Hours)**
Reactive Intermediates
1.1   Formation, Stability, Reactions and Rearrangements
   - Carbocations (Wagner Meerwein Rearrangements)
   - Carbanions (Wittig, Favorski Rearrangement)
   - Carbene (Wolff Rearrangement, Skattebol rearrangement, Insertion of C-H and X-H bonds)
   - Nitrenes (Hofmann, Schmidt, Lossen, Curtius, Beckmann rearrangements)
   - Carbon Radicals (Acyloin Condensation, McMurry Reactions)
   - Arynes (Dimerisation Reactions)
1.2   Neighbouring Group Participation - Non-classical Carbonium ion

Unit   2   **(14 Hours)**
Condensation, Addition, Elimination and Substitution Type Name Reactions
2.1 Condensation- Aldol, Perkin, Stobbe, Dieckmann, Claisen, Mannich reactions
2.2 Addition-Grignard, Michael, Hydroboration, Robinson Annulation, Woodward and Prevost Hydroxylation, Reformatsky, Stork enamine reactions
2.3 Substitution- Chichibabin, Friedel-Crafts, Vilsmeier-Haack, Reimer-Tiemann, Gatterman-Koch, Houben-Hoesch, Bischler-Napieralski, Hunsdiecker, Fries, Sommelet-Hauser rearrangements
2.4 Elimination- Peterson synthesis, Shapiro

Unit 3   **(10 Hours)**

Oxidation and Reduction Reactions

3.1 Reduction- Birch, Wolff Kishner, Clemmensen, MPV reduction and selective reduction of 4-tert-butyl cyclohexanone using selective-hydride reduction

3.2 Oxidation- Oppenaeur, Swern, Baeyer-Villiger, SeO_2 (methylene to carbonyl), Allylic Oxidation of Olefins, Cr(VI) reagents - CrO_3, Collin's reagent, Jones reagent, PCC, Oxidation of Aryl Methanes

Unit 4   **(10 Hours)**

Photochemistry

4.1 Fundamentals of Photochemistry, Jablonski Diagram. Photosensitizers

4.2 Cis-trans Isomerisation, Paterno-Buchi Reaction, Norrish type-I and type-II reactions, di-pi methane rearrangement.

4.3 Photochemistry of α, β-unsaturated enones, cyclohexadienones

4.4 Photoreduction of ketones and Photooxidation of olefins.

4.5 Photosubstitution – Barton's reaction

Unit 5   **(17 Hours)**

Pericyclic Reactions

5.1 Classification, Orbital Symmetry, Woodward- Hofmann Rules (con & dis rotation).

5.2 Electrocyclic Reactions-Thermal and Photochemical cyclisation and ring openings. Stereochemistry, FMO and Correlation Diagrams for butadiene to cyclobutene and 1, 3, 5-hexatriene to 1, 3- cyclohexadiene systems

5.3 Cycloaddition Reactions- Thermal and Photochemical, Stereochemistry, FMO and Correlation Diagrams of (2+2 and 4+2) Reactions. Diels-Alder reaction.

5.4 Sigmatropic rearrangements – FMO method only – (1, 3), (1, 5), (1, 7) and (3, 3) sigmatropic rearrangements, Claisen, Cope and oxy-Cope rearrangements. Cope rearrangement of divinylcyclopropane

5.5 Cheletropic Reactions

5.6 Fluxional Molecules – Homotropylidene, barbaelone, bullvalene.

BOOKS FOR STUDY

Ahuliwalia, V.K. and R.K .Parashar. *Organic Reaction Mechanism*. New Delhi: Narosa, 2002.

Singh, Jagadamba, Jaya Singh.*Photochemistry and Pericyclic Reactions*.New Delhi: New Age, 2005.

BOOKS FOR REFERENCE

Bruckner,R. *Advanced Organic Chemistry: Reaction Mechanisms*.USA:Academic Press, 2003.

March, Jerry.*Advanced Organic Chemistry*.New York: Wiley,2007.

Jonathan Clayden, Nick Greeves, Stuart Warren,*Organic Chemistry*.New York:Oxford University Press, 2012.

Carey,A. Francis, Richard J. Sundberg, *Advanced Organic Chemistry Part A: Structure and Mechanisms*.New York: Springer, 2007.

Carruthers,W.and I. Coldham,*Modern Methods of Organic Synthesis*.UK:Cambridge University Press, 2005.

Turro,N.J.*Modern Molecular Photochemistry*. Sausalito: University Science Books, 1991.

Solomons, T.W Grahamand Craig B. Fryhle,*Organic Chemistry*. New York: John Wiley, 2000.

Moody, C.J.and Witham G.H. *Organic Reactive Intermediates*. New York:Oxford Chemistry, 1992.

Bansal, K. Raj, *Organic Reaction Mechanism*.New Delhi:Tata McGraw-Hill, 2006.

JOURNALS
Topics in Current Chemistry
AngewandteChemie
ActaChemicaScandinavica

WEB RESOURCES
http://www.grc.org/programs.aspx?id=11812
www.ijrpbsonline.com

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 3 x 8 = 24 Marks
(3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks
(1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

QUANTUM CHEMISTRY AND GROUP THEORY

CODE:19CH/PC/QG24   **CREDITS:4**
                                                    L T P:4 2 0
                                    TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
> ➢ To give an understanding of the basic principles of quantum mechanics and their applicability to the study of the internal structure of atoms and molecules
> ➢ To enable an understanding of the important concepts of group theory

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

> ➢ Identify, describe and explain the fundamental concepts in quantum chemistry and their applications to simple systems
> ➢ Explain the theoretical basis behind the variational and perturbation methods and their application to hydrogen and helium atoms in ground state
> ➢ Construct wave functions for multi-electron atoms and apply the MO approximation to simple molecules
> ➢ Predict the point groups of organic and inorganic molecules
> ➢ Apply the concepts of group theory in hybridization, electronic and vibrational spectra

Unit   1   **(13 Hours)**
   Matter Waves and Quantum Mechanical Formalism
   1.1 Wave Particle Duality, Uncertainty Principle, Particle Wave and Schrödinger Wave Equation, Wave Functions, Properties of Wave Functions. Conditions of Normalization and Orthogonality; Orthonormal functions, Complete orthonormal set of functions
   1.2 Operators and their Algebra, *Eigen* Values and *Eigen* Functions, Hermitian Properties of Operators, Postulates of Quantum Mechanics.
   1.3 Free Particle, Particle in One Dimensional Box with Infinite Potential Barriers, Quantization and Quantum Numbers, Use of Box Model, Particle in a Three Dimensional Box, Degeneracy, Particle in a Rectangular Well, Quantum Mechanical Tunneling, Problems

Unit   2   **(20 Hours)**
   Application to Simple Systems
   2.1 Harmonic Oscillator System: Classical treatment, Quantum Mechanical treatment - Schrodinger Wave Equation and its Solution, Hermite Polynomial, Complete Wave Function, Energy Eigen Values ,Vibrational Quantum Numbers, Physical Picture of Ψ and Ψ^2. Isotropic Oscillator (no derivation)
   2.2 Particle in a Sphere: using the Schrödinger Wave Equation in Spherical

Coordinates (no derivation), Legendre and Associated Legendre Functions, Rotational Quantum Numbers, Spherical Harmonics, Rotation of a Diatomic Molecule (Rigid Rotator), Problems

2.3 Application to Hydrogen/Hydrogen-like atoms: Schrodinger Wave Equation in Spherical Coordinates, Splitting Equation into R, Θ and Φ Equations, Solving R-Equation, Laguerre Polynomial and Associated Laguerre Polynomials, Radial Functions, Quantum Numbers n and l, Energy Eigenvalues in Atomic Units, Complete Wave Function of Hydrogen Like Atoms, Physical Representation of Orbitals, Radial Plots and Angular Plots, Probability Function and Plots, Average Distance of Electron, Problems

2.4 Approximation Methods: Variational Method (Linear Band Non-Linear Variation), Perturbation Theory (Non-Degenerate, First Order), Application of Variation and Perturbation methods to ground state Helium Atom. Application to hydrogen atom in a weak electric field (perturbation), Time dependent perturbation theory – two level system

Unit 3 (17 Hours)
Atomic Structure
3.1 Symmetric and Anti Symmetric Wave Functions, Electron Spin, Spin Orbitals, Pauli's Principle, concept of hybridization, Wave functions of sp^2 hybrid orbitals
3.2 Excited State of He Atom, Singlet and Triplet States.
3.3 Hartee-Fock Self Consistent Field Theory. Walsh Diagrams. Angular Momentum of many Electron Atoms, Ladder Operators
3.4 LCAO-MO for H_2^+, Molecular Orbital Approximation for Ethylene, Butadiene, Cyclobutadiene and Benzene. Plots and Nodes of Molecular Orbitals

Unit 4 (18 Hours)
Group theory: Fundamental Concepts
4.1 Symmetry Operation and Elements, Defining Coordinate System, Combining Symmetry Operations, Symmetry Point Groups, Point Groups of Molecules, Systematic Point Group Classification, Optical Activity and Symmetry
4.2 Irreducible Representation, Unit Vector Transformation, Reducible Representations, Systematic Reduction of Reducible Representation, Symmetry of Atomic orbitals and Molecular orbitals
4.3 Group Multiplication Tables(C_{2V}, C_{3V}), Sub Groups and Classes, the Great Orthogonality Theorem
4.4 Construction of Character Table for Point Groups. (C_{2V}, C_{3V}), Explanation for the Complete Character Table for the above Groups

Unit 5 (10 Hours)
Applications of Group Theory
5.1 Applications of Group Theory in Electronic Spectra–HCHO, Vibrational Spectra – H_2O, BF_3 and trans N_2F_2
5.2 Applications of Group Theory in Hybridization Schemes for Simple Molecules - CH_4, H_2O, NH_3

BOOKS FOR STUDY
Prasad, R.K. *Quantum Chemistry*. New Delhi: New Age International, 2010.
Cotton, F.A. *Chemical Applications of Group Theory*. New Delhi: Wiley Eastern, 2008.

BOOKS FOR REFERENCE

Atkins, P.W. *Molecular Quantum Mechanics*. Oxford: Clarendon Press, 2012.

Carter, R.L.*Molecular Symmetry and Group Theory*. New Delhi: John Wiley, 2005.

Levine, I.R.*Quantum Chemistry*. New Delhi: Prentice Hall of India, 1994.

Prasad, R.K. *Quantum Chemistry through Problems and Solutions*. New Delhi:New Age International, 2006.

Lowe, J.P.*Quantum Chemistry*. SanDiego: Academic Press, 1993.

McQuarrie,A.Donald, *Quantum Chemistry*. Oxford:Oxford University Press, 1982.

Cox,P.A. *Introduction to Quantum Theory and Atomic Structure,* Oxford: Oxford University Press, 1996.

Albright,T.A. and J.K.Burdett, *Problems in Molecular Orbital Theory*, Oxford: Oxford University Press, 1992.

Bishop,D.M.*Group Theory and Chemistry*. New York: Dover, 1993.

Harris, D.C., Bertolucci, M.C. *Symmetry and Spectroscopy*. Oxford University Press: New York, 1978

JOURNALS

International Journal of Quantum Chemistry

Langmuir

Journal of Group Theory

WEB RESOURCES

http://symmetry.otterbein.edu/gallery/

http://ctg.epfl.ch/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A − 11 x 1 = 11 Marks

(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)

Section B − 3 x 8 = 24 Marks

(3 out of 4 to be answered)

Section C − 1 x 15 = 15 Marks

(1 out of 2 to be answered)

Other Components: **Total Marks: 50**

Quiz/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A − 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)

Section B − 5 x 8 = 40 Marks (5 out of 7 to be answered)

Section C − 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

SOFT SKILLS

CODE:19CH/PK/SS22   **CREDITS:2**
                                                                   L T P:2 0 0
                                           TOTAL TEACHING HOURS:26

OBJECTIVES OF THE COURSE
➢ To empower and create opportunities for self-development
➢ To instill confidence and face challenges

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Demonstrate good leadership skills
➢ Organize their time and activities effectively
➢ Face an interview panel with self-confidence
➢ Chart out their career plans

Unit   1   **(6 Hours)**
   Behavioral Traits
   1.1 Self-Awareness
   1.2 Communication Skills – Verbal and Non Verbal
   1.3 Leadership Qualities
   1.4 Etiquette and Mannerisms
   1.5 Experiential Learning – Based on activities

Unit   2   **(5 Hours)**
   Team Work
   2.1 Interpersonal Skills
   2.2 People Management
   2.3 Creative Thinking
   2.4 Critical Thinking
   2.5 Experiential Learning – Based on activities

Unit   3   **(5 Hours)**
   Time Management
   3.1 Importance of Time Management
   3.2 Planning and Prioritizing
   3.3 Organizing Skills
   3.4 Action Plan
   3.5 Experiential Learning – Based on Activities

Unit 4 (5 Hours)
    Conflict Resolution
    4.1 Reasons for Conflict
    4.2 Consequences of Conflict
    4.3 Managing Emotions
    4.4 Methods of Resolving Conflicts
    4.5 Experiential Learning – Based on Activities

Unit 5 (5 Hours)
    Career Mapping
    5.1 Goal Setting and Decision Making
    5.2 Career Planning
    5.3 Resume Writing
    5.4 Handling Interviews
    5.5 Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE
Khera, Shiv, *You Can Win.* Delhi, Macmillan India Ltd., 2002.
Mishra, Rajiv K., *Personality Development : Transform Yourself*, New Delhi, Rupa and Co.
2004.
Newstrom, John W. and Scannell, Edward E., *Games Trainers Play: Experiential Learning*.
New Delhi, Tata McGraw Hill, 1980.

PATTERN OF ASSESSMENT (Internal)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

RESEARCH METHODOLOGY

CODE:19CH/PC/RM34   **CREDITS:4**
                                                             L T P:3 0 2
                                        TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
  ➢ To provide an awareness about the developing avenues in Chemistry
  ➢ To give training in seminars, group work, communication and thesis writing
  ➢ To equip the students in using computing techniques in solving problems, to visualize
    and draw molecules
  ➢ To enable the students to simulate spectral data for given molecules using online data

COURSE LEARNING OUTCOMES
   On successful completion of the course, students will be able to

  ➢ Read and interpret current chemical research
  ➢ Employ online tools to survey chemical literature
  ➢ Identify the accurate format of writing scientific report and thesis
  ➢ Apply software (MS-EXCEL, Origin, ChemDraw, ChemDraw 3D) to solve problems
    in chemistry, plot graphs, draw reaction mechanisms and determine simple molecular
    properties.

Unit   1   **(10 Hours)**
   Introduction to Scientific Research and Chemical Literature
   1.1 Scientific Research – Types of research- fundamental research vs applied
        research
   1.2 Chemistry literature survey –Sources of chemical literature – Primary (Research
        article, Review article, Short communications and Letters), secondary and tertiary
   1.3 Online Literature Search- SciFinder, Chem Port and Science Direct
   1.4 Citation Index, Impact Factor and h-index
   1.5 Steps to publish scientific articles in a journal, Indexing (Scopus and Web of
        Science)

Unit   2   **(8 Hours)**
   Research Reports and Thesis Writing
   2.1 The Art of Scientific Writing – Forms of Scientific Writing, Research
        Reports, Theses, Journal Articles and Books
   2.2 Format of Research Report - Abbreviations, symbols, SI units**,** Chemical
        Nomenclature, Figures, Tables, Footnotes / Notes, Heading, Pagination,
        Citations & Bibliography, ACS and RSC formats, Citation management
        Software (End note), Mendeley, Proof Reading
   2.3 Plagiarism, Plagiarism software, Copyright and Patent Laws

Unit 3   **(16 Hours)**
MS Excel and Mathematical Concepts in Chemistry
3.1 Components of MS Excel – Spreadsheets, Database, Chart and Building up Workbooks
3.2 Building Formulae User Mode and Statistical Functions, Formatting Cells
3.3 Managing and Organizing Data - Creating Link, Analyzing Data
3.4 Plotting Data - Evaluation of Analytical Functions, Transferring Data and Graph Interpretation
3.5 Solving Problems from Physical and Analytical Chemistry (Statistical Problems)
3.6 Simple Functions and Graphs, Plotting Exercises on Most Useful Functions in Chemistry-The Exponential, The Gaussian, Polynomial Functions used in Chemistry
3.7 Components of Origin- Plotting and Customizing Graphs, Batch Plotting graphs, Merging Graphs.

Unit 4   **(16 Hours)**
Computational Techniques in Chemistry
4.1 Chemdraw-Writing Chemical Equation Schemes using Software, Editing, Transporting Picture to Word Document
4.2 Building Molecules, Measurement of Bond Angles, Bond Energy and Bond Length
4.3 Energy Minimization Techniques- Basic Concepts and Simple Applications to Geometry and Molecular Properties such as Dipole Moments and Thermochemical Properties
4.4 Use of Internet in Chemical Research-Spectral, Data Simulated Results from Web Sources
4.5 Introduction to Cheminformatics in Drug Discovery – 2D database and database searching- chemical searching methods – exact searching, substructure search, property searching, similarity searching, reaction searching

Unit 5   **(15 Hours)**
Seminar Presentation (to be tested internally)
Topics on New Frontiers in Chemistry – Presentation of articles from peer-reviewed journals

BOOKS FOR STUDY
Kothari C.R. and Gaurav Garg. *Research Methodology: Methods and Techniques*. New Delhi: New Age International, 2019
Gopalan, R. *Thesis Writing*. Chennai: Vijay Nicole Imprints, 2005.
BOOKS FOR REFERENCE
Christopher J. Cramer. *Essentials of Computational Chemistry Theories and Models,*New York: Wiley,2004.
Johnson, K.J. *Numerical Methods in Chemistry***,** New York:Marcel Dekkar,1980.
Leach A. R. *Molecular Modeling Principles and Practice*,New York: Prentice-Hall, 2001.
Lewars, Errol. *Computational Chemistry-Introduction to the Theory and Applications of Molecular and Quantum Chemistr***y,** New York: First Education Springer, 2006.
Janet C. Dodds,*The ACS Style Guide – A Manual for Authors and Editors,* American Chemical Society,2006.
March, Jerry, *Advanced Organic Chemistry*, New York: WileyInterscience, 2007.

SOFTWARE
Drawing and Nomenclature-ChemDraw Net Plugin, ChemInnovation, MS Office

JOURNALS
Journal of American Chemical Society
Journal of Catalysis
Macromolecules
Nanoletters
Nature
Journal of Physical Chemistry (A,B& C)
Journal of Organic Chemistry
Journal of Material Science

WEB RESOURCES
https://www.researchgate.net/publication/2174858_Research_Methodology
http://www.sciencedirect.com/
http://ww42.scifinder.com/

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Theory – 45 minutes – 25 marks (Units 1 and 2)

Section A – 5 x 2 = 10 Marks (5 out of 7 to be answered)
Section B – 3 x 5 = 15 Marks (3 out of 4 to be answered)

Practical – 45 minutes – 25 marks (Unit 3 and 4)

Other Components: **Total Marks: 50**
Quiz/Problem Solving/Seminars/Assignments/Problem solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Theory – 1.5 hours – 50 marks (Units 1 and 2)

Section A – 10 x 2 = 20 Marks (10 out of 12 to be answered)
Section B – 5 x 6 = 30 Marks (5 out of 7 to be answered)

Practical – 1.5 hours – 50 marks (Unit 3 and 4)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

MOLECULAR SPECTROSCOPY

CODE:19CH/PC/MS34   **CREDITS:4**
L T P:4 2 0
TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
➢ To understand the principles of various spectroscopic techniques
➢ To interpret the spectra of molecules and predict the structures of compounds
➢ To understand the complementary nature of spectra in structural elucidation

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Explain the theoretical principles of various spectroscopic techniques
➢ Analyse and interpret spectroscopic data using the methods elucidated in the course
➢ Apply spectroscopic principles to solve composite problems and identify molecules
➢ Apply the theoretical concepts in NMR to solve problems
➢ Determine the structures of various organic compounds by analyzing their fragmentation pattern

Unit   1   **(20 Hours)**
Rotational, Vibrational, Rotational-vibrational Spectroscopy
1.1 Rotational Spectroscopy: Classification of Rotors Based on Moment of Inertia, Diatomic Molecules as Rigid Rotors and Non-Rigid Rotors - Rotational Energy Levels, Transitions, Selection Rules and Effect of Isotopic Substitution. Inversion Phenomena and Stark Effect. Rotational Spectra of Linear, Symmetric and Asymmetric Top Polyatomic Molecules
1.2 Vibrational Spectroscopy: Diatomic Molecules as Harmonic and Anharmonic Oscillators –   Energy Levels and Vibrational Transitions. Vibrations of Polyatomic Molecules – Fundamental Vibrations, Overtones, Combination Bands
1.3 Vibrational - Rotational Spectroscopy- Diatomic Vibrating Rotator- Energy Levels, Transitions and Selection Rules. Parallel and Perpendicular Vibrations of Linear Poly Atomic Molecules and Symmetric Top Molecules. Effect of Nuclear Spin.
1.4 Interpretation of IR Spectra: Group Frequencies of various Functional Groups. Factors affecting Group Frequencies
1.5 Raman Spectroscopy- Classical and Quantum theory of Raman effect, Rotational Raman Spectra: Linear, Symmetric and Spherical top molecules. Vibrational Raman spectra: symmetry and Raman active vibrations, Rule of Mutual Exclusion and Resonance Raman Effect.
1.6 Raman as Complementary to IR. Structure Determination of CO_2, N_2O, SO_2, NO_3^-, ClO_3^- and ClF_3

Unit 2   **(12 Hours)**

Electronic Absorption Spectroscopy

2.1 Principle of UV-Visible Spectroscopy, Electronic Spectra of Diatomic Molecules - Born –Oppenheimer Approximation, Franck Condon Principle, Dissociation and Predissociation Energy

2.2 Molecular Term Symbols (Diatomic Molecules)

2.3 Characterisation of Organic Compounds: Factors Affecting Absorption Spectra. Application of Woodward-Fieser Rules to Conjugated Dienes, α, β- Unsaturated Carbonyl Compounds, Benzene and its Substituted Derivatives and Polycyclic Aromatic Hydrocarbons. Fieser- Kuhn Equation – Study of Polyene Systems

Unit 3   **(20 Hours)**

Magnetic Resonance Spectroscopy

3.1 NMR Phenomena, Nuclear Spin, Bloch Equations and Types of Relaxation Processes

3.2 Parameters of ^{1}H-NMR: Chemical Shift, Shielding and Deshielding, Factors affecting δ. Chemical Structure Correlations of δ, Chemical and Magnetic Equivalence of Spins

3.3 ^{1}H NMR: Spin-Spin Splitting, Application of Spin-Spin Splitting to Structure Determination. Effect of Coupling Constants – Geminal Coupling, Vicinal Coupling and Long Range Coupling

3.4 ^{13}C NMR: Comparison of ^{13}C and ^{1}H NMR, Spin Decoupling, The Nuclear Overhauser Effect, Peak Intensity, Chemical Classes, Chemical Shifts, ^{13}C-^{1}H and ^{13}C-^{13}C Spin Coupling - DEPT. Structure Determination of simple Aliphatic and Aromatic Compounds

3.5 An Introduction to NMR in Solid State, FID, 2D and 3D NMR. ^{15}N, ^{31}P and ^{19}F NMR –   Spectra of Simple Inorganic Compounds

Unit 4   **(18 Hours)**

Mass Spectrometry

4.1 Basic Principles, Fragmentation Types and Rules. Interpretation of Mass Spectra- Molecular Ion Peak, Isotope Peaks, Base Peak, Metastable Peak, Nitrogen Rule. Calculation of Isotopic Distributions – Carbon and Halogen Isotopes using Binomial Expressions

4.2 Fragmentation Patterns: Cleavage of Sigma Bond- Even Electron Rule, α-Cleavage- Stevenson's Rule, Benzylic Bond Cleavage, Inductive Cleavage, Retro Diels-Alder Cleavage and McLafferty Rearrangement

4.3 Structure Determination of Organic Compounds and Inorganic Compounds - Metal Halide Salts and Coordination Complexes

Unit 5   **(8 Hours)**

Structural Elucidation using spectral data

Determination of structure of organic and inorganic compounds by comprehensive (UV, IR, NMR and Mass) spectral data

BOOKS FOR STUDY

Banwell, Colin and Mckash Elaine. *Fundamentals of Molecular Spectroscopy*. New Delhi: Tata McGraw Hill, 2013.

Kemp, William. *Organic Spectroscopy*.New Delhi: Macmillan,1991.

BOOKS FOR REFERENCE

Silverstein, M. Robert, Francis X. Webster and David Kiemle. *Spectrometric Identification of Organic Compounds*, New Delhi: Wiley, 2005.

Barrow,M.Gordon. *Introduction to Molecular Spectroscopy*. New York: McGraw Hill, 1976.

Dudley, H. Williams and Ian Fleming.*Spectroscopic Methods in Organic Chemistry*. New Delhi:Tata McGraw-Hill, 2005.

Harris,C. Daniel.*Symmetry and Spectroscopy: An Introduction to Vibrational and Electronic Spectroscopy*. New York: Oxford University, 1980.

Pavia,L. Donald.*Introduction to Spectroscopy- A Guide for students of Organic Chemistry*. Singapore : Harcourt Asia, 2001.

Sathyanarayana, D.N. *Vibrational spectroscopy.*New Delhi: New Age, 2007.

Scheimann.*An Introduction to Spectroscopic Methods for Identification of Organic Compounds.*London: Pergamon Press, 1970.

JOURNALS

Journal of Spectroscopy
Journal of Molecular Spectroscopy
Journal of Applied Spectroscopy

WEB RESOURCES

http://www.astbury.leeds.ac.uk/facil/MStut/mstutorial.htm
http://www-keeler.ch.cam.ac.uk/lectures/Irvine/
http://www.nmr-relax.com/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

COORDINATION CHEMISTRY

CODE:19CH/PC/CO34   **CREDITS:4**
L T P:4 2 0
TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- ➢ To enable the students to gain an understanding of the principles of bonding in coordination complexes
- ➢ To enable the students to appreciate the importance of electronic spectra and magnetic properties of complexes
- ➢ To provide an insight into the biological role of metal ions in everyday life

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- ➢ Apply the rules of nomenclature to all coordination compounds and distinguish between the theories of bonding in coordination compounds
- ➢ Solve problems relating to VBT, CFT and MOT
- ➢ Correlate the bonding and structure of coordination compounds from electronic spectra
- ➢ Recall the magnetic properties of coordination compounds
- ➢ Identify the mechanisms involved in the reactions of coordination compounds
- ➢ Illustrate the importance of metals in biological systems

Unit   1   **(18 Hours)**
   Introduction to Coordination Complexes
   1.1 Nomenclature, Stereochemistry and Isomerism of Complexes With Coordination Number 2 to 6, Stability of Complexes, Thermodynamic factors, Successive and Overall Formation Constants –Factors affecting Stability of Complexes -Chelate Effect - Importance of Chelates and Determination of Stability Constants
   1.2 Theories of Bonding in Complexes: Valence Bond Theory, Crystal Field Theory-Crystal Field Splitting in Oh, Td and Square planar Complexes. Tetragonal distortion in Oh complexes. Factors Influencing Magnitude of Δ_O – Spectrochemical Series, Crystal Field Stabilization Energy and Applications of Crystal Field Theory. Distortion in Oh Complexes - Jahn Teller Effect
   1.3 Ligand Field Theory and Molecular Orbital Theory – Qualitative Treatment of LCAO Method, MO Energy Diagrams of Sigma and Pi Bonding in Oh Complexes. MO Treatment of Ferrocene.

Unit   2   **(22 Hours)**
   Spectral Characteristics of Metal Complexes
   2.1 Types of Absorption Spectra, Spectral Terms – Russell-Saunders States, Electronic States – Terms Resulting From d^n Configuration, Selection Rules

2.2 Correlation Diagrams – Orgel and Tanabe-Sugano Diagrams, Racah Parameters and Nephelauxetic Series, Electronic Spectra of d^{1-9} Metal Complexes. Charge Transfer Spectra

2.3 Electronic Spectra of Lanthanide & Actinide Complexes

2.4 Mössbauer Spectra of Iron and Tin Complexes

2.5 ESR Spectra of Copper complexes – $[Cu(en)_3]^{2+}$, bis(salicylaldimine)copper(II), diethyldithiophosphinato copper(II), and Cobalt Complexes - $[(NH_3)_5Co-O_2-Co(NH_3)_5]^{5+}$, Co(II)-phthalocyanin complexes.

Unit 3 (8 Hours)

Magnetic Characteristics of Complexes

3.1 Types of Magnetic Properties, Magnetic Properties of Complex Ions – Lanthanides & Actinides

3.2 Orbital Contribution to Magnetic Moment, Quenching of Orbital Angular Moment, Spin-Orbit Coupling

Unit 4 (16 Hours)

Reaction Mechanisms in Complexes

4.1 Kinetics and Mechanisms of Reactions of Complexes: Substitution Reactions of Oh complexes - Mechanism of Water Replacement - Acid Hydrolysis and Base hydrolysis S_N1cB Mechanism

4.2 General Mechanism of Square Planar Substitution Reactions: Two Parallel Pathways - Factors Affecting the Reactivity of Square Planar Complexes of d^8 metal ions - Trans Effect - Theories of Trans Effect

4.3 Mechanism of Electron Transfer Reactions: Outer Sphere Electron Transfer Reactions - Marcus Theory and Inner Sphere Electron Transfer Reactions- Formation and Rearrangement, Nature of the Bridge Ligand in Inner Sphere Electron Transfer Reactions. Non-Complementary Reactions

4.4 Photochemical Reactions of Transition Metal Complexes: Photosubstitution and Photoisomerisation of Cobalt and Chromium Complexes

Unit 5 (14 Hours)

Bio-Inorganic Chemistry

5.1 Biological Importance of Trace Elements

5.2 Structure and Functions of Metalloporphyrins:
   -Transport and Storage of Oxygen (Haemoglobin and Myoglobin)
   - Electron transport chain - Cytochromes
   - Vitamin B_{12} (Cyanocobalamin)
   - Photosynthesis (Chlorophyll) – Photosystems I and II.

5.3 Iron storage and transport in biological systems - Ferritin and Transferrin

5.4 Biological Redox Systems- Rubredoxins and Ferredoxins, Plastocyanin.

BOOKS FOR STUDY

Cotton, F.A. and G.Wilkinson, *Advanced Inorganic Chemistry*. New York: John Wiley, 2000.

Huheey, E. James and Ellen A. Keiter, *Inorganic Chemistry - Principles of Structure and Reactivity*. New York: Addison Wesley 2004.

BOOKS FOR REFERENCE
Jolly, W.L. *Modern Inorganic Chemistry*. New York: McGraw – Hill, 1991.
Moeller, T. *Inorganic Chemistry*. New York: John Wiley, 1990.
Purcell, Keith.F. and John C.Kotz. *An Introduction to Inorganic Chemistry***,** Philadelphia: W.B.Saunders, 1982.
Wells, A.F. *Structural Inorganic Chemistry*. London: ELBS,1981.

JOURNALS
Journal of Inorganic Chemistry
Journal of Coordination Chemistry

WEB RESOURCES
http://www.chemistry.wustl.edu/~edudev/LabTutorials/naming_coord_comp.html
http://chemed.chem.purdue.edu/genchem/topicreview/bp/ch12/names.php

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

PHYSICAL CHEMISTRY PRACTICAL

CODE: 19CH/PC/P333   **CREDITS:3**
L T P: 0 0 4
TOTAL HOURS: 52

Unit   1
   Phase Rule
   Two component system (diphenylamine–naphthalene)
   Three Component system (Water-Toluene-Acetic Acid)

Unit   2
   Solubility Product
   Variation of the Solubility of Calcium Sulphate with Ionic Strength
   Determination of Thermodynamic Solubility Product (Complexometric Titration with EDTA)

Unit   3
   Chemical Kinetics
   Effect of Ionic Strength on the Reaction Rate: Persulphate and Potassium Iodide Reaction

Unit   4
   Viscometry
   Determination of Relative Molecular Mass / Intrinsic Viscosity of Polystyrene from Viscosity Measurements

Unit   5
   Partial Molal Quantities
   Determination of Partial Molal Volume of Methanol in Dilute Aqueous Solutions (by Method of Intercepts)

Unit   6
   Conductometry
   Determination of Critical Micelle Concentration Conductometrically
   Titration of formic acid-acetic acid
   Titration of Mixture of Three Acids (Trichloroacetic Acid, Monochloroacetic Acid and Acetic Acid) conductometrically

Unit   7
   pH metry
   Determination of pK_a Values of Glycine /Malonic Acid / Phosphoric Acid potentiometrically using Glass Electrode

BOOKS FOR REFERENCE

Athawale, V.D., Mathur, Paul. *Experimental Physical Chemistry*. New Delhi: New Age International Publishers, 2008.

Venkateswaran, V. Veerasamy, R. Kulandaivelu, A. R. *Principles of Practical Chemistry*. New Delhi: Sultan Chand, 1997.

Findlay, Alexander, *Practical Physical Chemistry*. London: Longman Green, 1973.

PATTERN OF ASSESSMENT

Continuous Assessment Test (Internal):   **Total Marks: 50**
Class Work = 30 (marks) – inclusive of *viva*
CA Test   = 20 (marks)

End-Semester Examination: **Total Marks: 50**   **Duration: 3 hours**
Procedure   = 10 (marks)
Viva voce   = 10 (marks)
Reported value   = 30 (marks)

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019 – 2020)

ANALYTICAL INSTRUMENTATION PRACTICAL

CODE: 19CH/PC/P433 CREDITS: 3
L T P: 0 0 4
TOTAL HOURS: 52

Unit 1
Colorimetry
Estimation of Vitamin- A / Cholesterol
Determination of stability constants of complexes – Job's method

Unit 2
Spectrophotometry
Estimation of DNA / RNA
Determination of aspirin from commercial samples
Estimation of Phosphorous

Unit 3
Fluorimetry
Estimation of Riboflavin/Thiamine/ Fluorescein

Unit 4
Flame Photometry
Estimation of Sodium/Potassium

Unit 5
Chromatography (To be tested internally)
R_f determination and separation of a mixture of amino acids by thin layer chromatography
Separation of caffeine and aspartame by HPLC
Separation of $KMnO_4$ and $K_2Cr_2O_7$ by column chromatography

Unit 6
Spectral Analysis [Demonstration]
Identification of functional groups using IR spectra
Determination of Band gap for ZnO using Diffusive UV technique.

BOOKS FOR REFERENCE

National Institute of Nutrition, ICMR. *A Manual of Laboratory Techniques*. Hyderabad: National Institute of Nutrition, 1983.
Plummer, David.T. *An Introduction to Practical Biochemistry*.New Delhi :Tata McGraw Hill, 2000.

Sadasivam, S. and Manickam A. *Biochemical Methods.*New Delhi: New Age International, 1996.

Venkateswaran, V.,Veerasamy, R. Kulandaivelu A. R. *Principles of Practical Chemistry*. New Delhi : Sultan Chand, 1997.

PATTERN OF ASSESSMENT

Continuous Assessment Test (Internal):   Total Marks: 50
Class Work   = 30 (marks) – inclusive of *viva*
CA Test   = 20 (marks)

End-Semester Examination: **Total Marks: 50**   **Duration: 3 hours**
Procedure   = 10 (marks)
Viva voce   = 10 (marks)
Reported value   = 30 (marks)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

SUMMER INTERNSHIP

CODE : 19CH/PN/SI32   **CREDIT : 2**

OBJECTIVE OF THE COURSE

➢ To enhance the experiential learning of the students by observing and hands on training at research institutes / chemical industries.
➢ To expose them to various experimental and analytical techniques employed in quality research.
➢ Enhance their skills in application - oriented courses.
➢ To familiarize the students to research ambience.

COURSE LEARNING OUTCOME
On successful completion of the course, students will be able to

- gain hands on experience and practical training in various aspects of their research work
- understand various experimental and analytical techniques used in quality research
- employ their skills in diverse fields

FIELD WORK : (4 Weeks)

Summer Internship: a minimum period of three weeks during the summer holidays between the second and third semesters

EVALUATION:

SUMMER INTERSHIP : 50 Marks

(Presentation: 20 + Report: 20 + Attendance: 10)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS

(Effective from the academic year 2019–2020)

SYNTHETIC ORGANIC CHEMISTRY AND NATURAL PRODUCTS

CODE:19CH/PC/SO44   **CREDITS:4**
L T P:4 2 0
TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To perform retrosynthetic analysis and identify the target molecule
- To design synthesis of a given compound
- To appreciate the role of reagents in the synthesis of organic compounds
- To impart knowledge on the extraction and synthesis of natural products

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Construct a retrosynthetic pathway for simple organic compounds
- Perform functional group transformations in organic synthesis using important organic and organometallic reagents
- Classify different natural products and deduce their structure through structural elucidation.
- Compare heterocyclic compounds containing more than one heteroatom based on their chemical properties
- Distinguish between important types of natural pigments based on their colour, absorption and chemical properties

Unit   1   **(18 Hours)**
Strategies for Synthesis
1.1 Definitions, Synthons and Synthetic Equivalents, Guidelines, Functional Group Interconversion and Planning for Synthesis of Organic Compounds
1.2 Disconnection Approach – One Group C-X, Two Group C-X, One Group C-C and Two Group C-C Disconnections
1.3 Chemoselectivity, Reversal Polarity (Umpolung) and Ammine Synthesis
1.4 Protection and Deprotection – Alcohols, Carbonyls, Carboxylic Acids and Amino Functional Groups
1.5 Retrosynthetic Analysis- Alternate Synthetic Routes. Synthesis of Organic Mono and Bifunctional Compounds Via Disconnection Approach
1.6 Stereochemical Control of Products-Selective Aldol and Michael Reactions

Unit   2   **(14 Hours)**
Novel Reagents in Organic Synthesis
2.1 Organic Reagents for functional group transformations – chiral diboranes (asymmetric synthesis), 9-BBN, Osmium tetroxide, Lead Tetraacetate, 2,3-Dichloro-5,6-dicyano-1,4-benzoquinone (DDQ), Iodoxy Benzoic acid (IDX), Perbenzoic Acid, N-bromosuccinamide (NBS), Phenylisothiocyanate, N,N'-Dicyclohexylcarbodiimide (DCC)
2.2 Baker's Yeast

Unit 3   **(14 Hours)**

Organometallic Reagents in Organic Synthesis

3.1 Lithium: n-Butyl Lithium, Lithium diisopropylamide (LDA), Aluminium: Hydroalumnation, carboalumnation, Zinc: Cyclopropanation, Lomordo reagent, Copper: Gilman reagent, Ullman reaction, Silicon: Alkyl and Vinyl silanes, Tin: tri-n-Butyl Tin Hydride, Palladium: Suzuki coupling, Heck reaction, Sonagashira coupling

3.2 Crown Ether Complexes

Unit 4   **(14 Hours)**

Alkaloids, Terpenoids and Steroids

4.1 Classification - General Methods of Structure Determination of Alkaloids, Terpenoids and Steroids

4.2 Structural Elucidation of Papaverine and Reserpine (Alkaloids), Zingiberine and Longifolene (Terpenoids)

4.3 Constitution of Cholesterol – Structure of the Nucleus, Position of the Hydroxyl Group and Double Bond, nature and position of the side-chain, position of the angular methyl Group

Unit 5   **(18 Hours)**

Heterocyclic Compounds and Natural Pigments

5.1 Nomenclature, synthesis and reactions of imidazole, oxazole, thiazole and syndones.

5.2 Natural Pigments – Classification based on source and structure.

5.3 Anthocyanins– Introduction, Isolation, Determination of Structure of Anthocyanins and general methods for the synthesis of Anthocyanidins. Structural elucidation of Cyanin (Anthocyanin).

5.4 Flavones and Flavonols: Introduction, Classification, Isolation, General Properties, Basic Structure of Flavones and Flavonols, General Methods for Determination of the Structure of Flavones.

5.5 Structural Elucidation of Apigenin (Flavones), Quercetin (Flavonols) and Daidzein (Isoflavones)

5.6 Distinction of Flavonoids by Characteristic Colour Reactions and Absorption Spectra (UV- Visible)

BOOKS FOR STUDY

Warren, Stuart. S. *Organic Synthesis- the Disconnection Approach.* New York: Wiley, 2013.
Finar, I.L. *Organic Chemistry*. Volume 2: Stereochemistry and the Chemistry of Natural Products, 5th Edition, London: ELBS, 2000.

BOOKS FOR REFERENCE

Sanyal, S.N. *Reactions, Rearrangements and Reagents*. New Delhi: Bharathi Bhawan, 2013.
Singh,J, S.M.Ali and Jaya Singh. *Natural Products Chemistry.*Meerut: PragatiPrakashan, 2010.
Singh, Jagadamba and L.D.S .Yadav. *Advanced Organic Chemistry*.Meerut: Pragati Prakashan, 2010.
Jonathan,Clayden, Nick Greeves, Stuart Warren.*Organic Chemistry*.New York: Oxford University Press, 2012.
Carey, A. Francis and Richard J.Sundburg. *Advanced Organic Chemistry Part B: Reactions and Synthesis*. New York :Springer, 2007.

Harmata, Michael, *Strategies and Tactics in Organic Synthesis*. London:Academic Press, 2008.

Norman, R.O.C and J.M.Coxon.*Principles of Organic Synthesis*.New York: CRC Press, 2012.

Bhat,V. Sujata ,Bhimsa A. Nagasampagi, Meenakshi SivaKumar. *Chemistry of Natural Products* ,India : Narosa, 2005.

Agarwal,O.P. *Chemistry of Organic Natural Products.*Meerut: Krishnan Prakasan, 2010.

JOURNALS
Journal of the American Chemical Society
The Journal of Organic Chemistry
Tetrahedron Letters
Journal of Natural Products

WEB RESOURCES
www.oxfordBOOKS FOR STUDY.co.uk/orc/clayden2e/
http://pubs.acs.org/doi/abs/10.1021/jm500941m

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

ORGANIC SYNTHESIS AND PURIFICATION PRACTICAL

CODE:19CH/PC/P544   **CREDITS:4**
L T P:0 0 6
TOTAL HOURS:78

OBJECTIVES OF THE COURSE
➢ To learn how to purify simple organic mixtures using chromatographic technique
➢ To prepare simple organic compounds through single and double stage preparations
➢ To adopt green synthesis by preparing compounds through microwave method

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Utilize paper and thin layer chromatography to purify simple organic mixtures
➢ Develop and formulate reaction mechanisms for various single and double stage preparations
➢ Purify and crystallize the products obtained using different solvents
➢ Employ green methods to synthesize organic compounds

Unit   1
Purification of Organic compounds- Paper Chromatography/TLC / Column Chromatography (to be tested internally)

Unit   2
Organic Preparation
2.1 Single Stage Preparations
    2.1.1 Preparation of methyl orange (Diazotisation)
    2.1.2 Preparation of Benzpinacol (Photoreduction)
    2.1.3 Preparation of Benzoic acid and benzyl alcohol (Cannizzaro Reaction)
    2.1.4 Preparation of Benzil (Oxidation)
2.2 Double Stage Preparations
     2.2.1 Preparation of p-bromo acetanilde from aniline (Acetylation, Bromination)
     2.2.2 Preparation of s-tribromo benzene from aniline (Bromination, Reduction)
     2.2.3 Preparation of m-nitroaniline from nitrobenzene (Nitration, Reduction)
2.3 Microwave assisted Preparations
    2.3.1.Preparation of acetyl salicylic acid
    2.3.2.Preparation of Fluorescein (Xanthene dye)
    2.3.3.Preparation of Benzalacetophenone (Claisen Schmidt condensation)
    2.3.4.Preparation of ethyl-2-cyano-3-(4-methoxy phenyl) propenoate (Knovenagel reaction)

Note: Spectroscopic identification / purification by chromatographic methods wherever applicable.

BOOKS FOR REFERENCE

Mohan, J. *Organic Analytical Chemistry – Theory and Practice.* New Delhi: Narosa, 2003.
Bansal, K. Raj. *Laboratory Manual of Organic Chemistry*. New Delhi: Wiley Eastern, 2003.
Vogel, A.I. *Elementary Practical Organic Chemistry Part I, Small Scale Preparation.* New Delhi: CBS, 1998.

PATTERN OF ASSESSMENT

Continuous Assessment Test (Internal):   **Total Marks: 50**
Class Work = 30 (marks) – inclusive of *viva*
CA Test   = 20 (marks)

End-Semester Examination: **Total Marks: 50**   **Duration: 6 Hours**
Viva Voce   : 10 marks
Procedure for the Preparation   : 5 marks
Preparation   : 35 marks

    (i) Double Stage Preparation   **: (35 marks)**

        Quantity of Product 1   - 13 marks
        Quantity of Product 2   - 13 marks
        Quality of Final Product
        a) Recrystallisation   - 5 marks
        b) Melting point   - 4 marks
            OR

    (ii) Two Single Stage Preparations: (35 marks)

        Quantity of Product   - 7.5 marks (each)
        Quality of Final Product
        a) Recrystallisation   - 5 marks (each)
        b) Melting point   - 5 marks (each)
            TOTAL   **: 50 marks**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

DISSERTATION

CODE:19CH/PC/DS49   **CREDITS:9**

GUIDELINES FOR DISSERTATION

Project should be done individually. Each student will choose a topic of her interest and the student will be assigned to a supervisor.
The project will require practical work with the submission of a project report. It should include experimental lab work. The duration of the project work is between 3 and 6 months.

The project report should be submitted in the prescribed format containing a minimum of 50 pages. References should not be counted with the main pages. The report should be enhanced with graphs, spectra, tables and/or photographs.

Each candidate has to give three periodical reviews to the internal guide on the scheduled dates prescribed by the department.
Each candidate must prepare 4 hard copies of the thesis - 1 copy for the candidate and 3 copies for the department. The project should be submitted on the scheduled date prescribed by the Department. The student should appear for viva voce before a panel comprising the External Examiner, the supervisor and the Head of the Department.

PATTERN OF ASSESSMENT

Continuous Assessment :   **Total Marks: 100**

Periodic review   50 marks

Experimental Work   50 marks

End Semester Examination: **Total Marks: 100**

i.	Presentation	25
ii	Dissertation	50
iii	Viva	25

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS

(Effective from the academic year 2019–2020)

ANALYTICAL INSTRUMENTATION

CODE:19CH/PE/AI15   **CREDITS:5**
                                                            L T P:5 0 0
                                            TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- ➢ To equip the students with knowledge about different analytical techniques with a focus on their applications in industries and research laboratories
- ➢ To give an insight on the fundamental principles of analytical instrumentation techniques in order to pursue research

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- ➢ Relate the theoretical principles of various spectroscopic techniques to their applications
- ➢ Illustrate the importance of various surface characterisation techniques
- ➢ Recall the principles, instrumentation and applications of important electrochemical techniques
- ➢ Apply the principles of thermoanalytical techniques to study organic and inorganic compounds
- ➢ Separate simple organic mixtures using different chromatographic techniques

Unit   1   **(15 Hours)**
   Spectroscopic Techniques
   1.1 UV-Visible Spectroscopy- Principle and Instrumentation of Double Beam Spectrophotometer, Spectropolarimeter (Optical Rotatory Dispersion) and Spectrophotometer (Circular Dichroism)
   1.2 Atomic Absorption and Emission Spectroscopy- Introduction, Principle and Instrumentation
   1.3 Inductively Coupled Plasma Atomic Emission Spectroscopy (ICPAES) - Principle, Instrumentation and Applications
   1.4 Infrared Spectroscopy- Dispersive and Fourier Transform- Principle and Instrumentation
   1.5 Raman Spectroscopy- Principle and Instrumentation, Theory of Resonance Raman and Surface enhanced Raman Techniques

Unit   2   **(15 Hours)**
   Surface Characterisation Techniques
   Principle, Instrumentation and Applications of -
   2.1 Photoelectron Spectroscopy – Ultraviolet and X-Ray Photoelectron Spectroscopy (UPS and XPS), Auger Electron Spectroscopy (AES).
   2.2 Electron Microscopy: Scanning Electron Microscopy (SEM), Transmission Electron Microscopy (TEM)

2.3 Probing Microscopy: Scanning Tunnelling Microscopy (STM), Atomic Force Microscopy (AFM)

2.4 Low Energy Electron Diffraction

Unit 3 (15 Hours)

Electrochemical Techniques

Principle, Instrumentation and Applications of -

3.1 Polarography (DC, AC and Pulse), Anodic and Cathodic Stripping Voltammetry.

3.2 Coulometry: Current- Voltage Relationship during Electrolysis, Coulometric Methods of Analysis, Potentiostatic Coulometry, Coulometric Titrations (Amperostatic Coulometry)

3.3 Amperometry, Amperometric Titrations, Biamperometry

3.4 Chronomethods: Chronoamperometry, Chronopotentiometry and Chronocoulometry

3.5 Cyclic Voltammetry

Unit 4 (14 Hours)

Thermoanalytical and Radiochemical Techniques

4.1 Thermogravimetry (TG), Differential Thermal Analysis. Differential Scanning Calorimetry - Principle, Instrumentation, Factors affecting Thermogram and Applications, Evolved Gas Analysis

4.2 Thermometric Titrations – Principle, Working and Applications

4.3 Radiochemical Methods: Hot Atom Chemistry – the Szilard - Chalmers Process, Neutron Activation Analysis - Principle, Instrumentation and Applications

Unit 5 (6 Hours)

Chromatography

5.1 Chromatography - Liquid Chromatography – Principles of Thin Layer and Column Chromatography.

5.2 High Performance Liquid Chromatography (HPLC) - Principle, Instrumentation, Advantages and Applications.

5.3 Gas Chromatography (GC) – Principle and Instrumentation, GC-Mass Spectrometry – Applications

BOOKS FOR STUDY

Douglas, A. Skoog, James F.Holler and Niemen. *Principles of Instrumental Analysis*. Singapore: Haracourt Asia, 2001.

Sharma, B.K. *Instrumental Methods of Chemical Analysis*.Meerut: Goel, 2004.

BOOKS FOR REFERENCE

Anjaneyulu, Y., Chandrasekhar.K and Valli Manickam. *A Text Book of Analytical Chemistry*. India: Pharma Book Syndicate, 2006.

Brown, R.D. *Introduction to Instrumental Analysis*. Singapore: McGraw Hill, 1987.

Eland, J.H.D. *Photoelectron Spectra*. London :Butterworths, 1984.

Douglas A.Skoog, Donald M West and James F Holler, Stanley R. Crouch. *Fundamentals of Analytical Chemistry*. New York :Saunders, 2004.

Ewing, W.Galen. *Instrumental Methods of Chemical Analysis*. New York: McGraw Hill,1985.

Bard, A.J and L.R.Faulkner. *Electrochemical Methods- Fundamentals and Applications.* New York:Wiley, 2006.

Fifield, F.W. and Kealy D. *Principles and Practice of Analytical Chemistry*. USA: Blackwell Science, 2004.
Gary D.Christian and James E. O'Reilly. *Analytical Chemistry.* New York :John Wiley, 2004.

JOURNALS
Journal of Analytical Chemistry
Journal of Spectroscopy
Journal of Electrochemistry

WEB RESOURCES
www.annualreviews.org/doi/abs/10.1146/annurev.pc.06.100155.001041

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks
(All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

INDUSTRIAL WASTE MANAGEMENT
CODE:19CH/PE/IM15   **CREDITS:5**
                                                   L T P:5 0 0
                                    TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
➢ To provide students with an understanding of the present environmental scenario and educate them on the causes and consequences of environmental degradation
➢ To create an understanding of the nature of industrial wastes
➢ To work towards effective and efficient management of industrial wastes
➢ To give an overview of Environmental Management, Environmental Impact Assessment and Pollution Control measures for working towards Green Earth

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Explain the causes of pollution and characteristics of pollutants
➢ Outline the methods of pollution control and waste management
➢ Discuss the steps towards sustainable development
➢ Describe the salient features of regulatory acts in India and efforts taken at national and global levels pertaining to environmental protection

Unit   1   **(12 Hours)**
Air Pollution Control
1.1 Air Quality Standards (for varied industries), Industrial safety, Classification of Air Pollutants, Sources of Air Pollution, Ozone Depletion, Green House Effect – Causes and Consequences
1.2 Pollution Control of Particulates – Gravity Settling Chamber, Cyclone Collector, Filters, Wet Scrubbers, Electrostatic Filters, Electrostatic Precipitator
1.3 Control of CO, Oxides of Nitrogen, Oxides of Sulphur, Hydrocarbons, Photochemical Pollutants, Green House Gases

Unit   2   **(15 Hours)**
Treatment and Disposal of Industrial Effluents
2.1 Water Quality Standards, Sources of Water Pollution, Characterisation of Waste Water by Physical and Chemical methods
2.2 Primary Treatment: Sedimentation, Neutralization, Coagulation, Equalization, Grid Removal. Secondary Treatment: Aerobic Treatment, Oxidation Ponds, Oxidation Ditches, Trickling Filters, Activated Sludge Process, Aerated Lagoons, Anaerobic Treatment. Tertiary Treatment: Reverse Osmosis, Electrodialysis, Desalination
2.3 Industrial Effluents: Characteristics and Treatment Options for Effluents from various Industries: Textiles and Dyes, Paper and Pulp, Leather, Food and Dairy, Fertilizers, Electroplating Industries, Distilleries

2.4 Sewage Treatment

2.5 Water Conservation, Recycling of Waste Water and Rain Water Harvesting

Unit   3   **(12 Hours)**
    Solid Waste Management
    3.1 Solid Wastes- Types, Characteristics
    3.2 Solid Waste Disposal – Sanitary Landfills, Vermi Composting, Incineration
    3.3 Waste Minimization and Recycling

Unit   4   **(10 Hours)**
    Environmental Toxicology
    4.1 Toxicity, Threshold Limiting Value of Pollutants, LD_{50}
    4.2 Toxic Effects of Pb, As, Cd, Hg, PCBs, Pesticides, Heavy Metals, Nanoparticles
    4.3 Case Studies: Bhopal Gas Tragedy, Chernobyl Accident, Love Canal Episode, Minamata Disease, Itai-Itai Disease

Unit   5   **(16 Hours)**
    Environmental Management
    5.1 Sustainable Development: Definition, Sustainability Cycle, Biodiversity, Problems of Urbanization and Steps towards Sustainable Development
    5.2 Environmental Impact Assessment: Concept, Environmental Risk Assessment, Legal and Regulatory Aspects in India- Environmental (Protection) Act 1986, Air (Prevention and Control of Pollution) Act 1981, Water (Prevention and Control of Pollution) Act 1981, ISO 14000, Tsunami Disaster
    5.3 Industrial Safety and Health: EPA, OSHA – Regulations, Polluter Pays Principle
    5.4 Global and National Efforts: Steps taken towards Green Future at the National and Global Level
    5.5 Coastal Management (National Standards)

BOOKS FOR STUDY
Sharma B.K. and Kaur H. *Environmental Chemistry*, Meerut: Goel, 2014.
Gaur G. *Soil and Solid Waste Pollution and its Management*, New Delhi: Sarup, 2000.

BOOKS FOR REFERENCE
Dara, S.S. *A Text Book of Environment Chemistry and Pollution Control*, New Delhi: S.Chand, 2004.
Leelakrishnan, *Environmental laws in India*, New Delhi: Butterworths, 2002.
Mohan I. *Environmental Pollution and Management*, New Delhi: Ashish,1990.
NIIR Board, *Modern Technology of Waste Management- Pollution Control, Recycling, Treatment and Utilization*.New Delhi: Asia Pacific Business, 2003.
Paul L. Bishop, *Pollution Prevention - Fundamentals and Practices*.NewYork : McGraw Hill, 2000.
Trivedy R.K. and Raman N.S. *Industrial Pollution and Environmental Management*. Jodhpur :Scientific, 2003.
Willen Rudolf, *Industrial Wastes Their Disposal and Treatment*. Bikaneer: Allied Sci entific, 1997.

JOURNALS
Energy and Environmental Science
Environmental Toxicology & Chemistry
Environmental Science: An Indian Journal
Journal of Pollution Research
Journal of Environmental Chemistry

WEB RESOURCES
http://environmentalchemistry.com/
http://www.niehs.nih.gov/health/topics/agents/

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective
type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective
type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BRANCH IV – CHEMISTRY

SYLLABUS
(Effective from the academic year 2019-2020)

POLYMER MATERIALS AND APPLICATIONS

CODE:19CH/PE/PM15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
  ➢ To introduce the students to polymer science
  ➢ To bring about an understanding of the science underlying the synthesis and processing of polymers
  ➢ To provide awareness of modern instrumental techniques that can be used to analyse the structure and behaviour of polymeric materials.

COURSE LEARNING OUTCOMES
  On successful completion of the course, students will be able to

  ➢ Classify polymers based their properties
  ➢ Characterise polymers based on various analytical techniques
  ➢ Recall the different types of polymerisation techniques and fabrication
  ➢ Pursue research in this area or prepare for a career in polymer based industries

Unit   1   **(18 Hours)**
  Introduction to Polymer Materials
  1.1 Polymer Chain Structure and Configuration: Nomenclature, Functionality, Method of Linking
  1.2 Classification of polymers (based on source, thermal properties and applications)
  1.3 Structure, properties and applications of-Natural Polymers (starch and cellulose). Synthetic Polymers (Polyurethane, Polymethylmethacrylate, Silicone Polymers), Rubbers-Natural rubber, Synthetic rubber- (StyreneButadieneRubber and Neoprene)
  1.4 Specialty Polymers-Conducting, IPN, Thermally Stable, Hydrogels, Biodegradable polymers (poly lactic acid and sodium alginate), Functional dendrimers, hyperbranched and star polymers. Structure, Properties and Applications
  1.5 Types of Degradation (Thermal, Mechanical, Ultrasound, Photo, Biodegradation and Non-Biodegradation)

Unit   2   **(13 Hours)**
  Mechanism, Kinetics of Polymerisation and Fabrication of Polymers
  2.1 Types of Polymerisation – Addition, Condensation and Co Polymerisation
  2.2 Mechanism - Free Radical and Ionic Polymerisation
  2.3 Coordination Polymerisation with special reference to Ziegler-Natta
  2.4 Kinetics of Free Radical Polymerisation

2.5 Polymerisation Techniques (Bulk, Emulsion, Solution and Suspension)

2.6 Basic Processing Operations (Extrusion, Mastication, Molding and Calendaring)

2.7 Polymer Additives - Fillers, Plasticizers, Antioxidants, Heat Stabilizers, Ultraviolet Stabilizers, Flame Retardants and Colorants

Unit   3   **(12 Hours)**

Molecular Weight Distribution of Polymers

3.1 Significance of Degree of Polymerisation and Molecular Weight of Polymers

3.2 Number Average and Weight Average Molecular Weight

3.3 Methods of Determination of Absolute Molecular Weight - Vapour Phase Osmometry, Ultracentrifugation, Light Scattering Method, GPC, Viscometry and End Group Analysis

Unit   4   **(12 Hours)**

Physical Chemistry of Polymers

4.1 Amorphous and Crystalline Polymers, Conformation of the Polymer Chain, Single Crystal Spherulites, Liquid Crystal Polymers- Terminology, Properties of Mesogens

4.2 Glass Transition Temperature- Factors Influencing Heat Distortion and Crystallisability

4.3 Thermodynamics of Polymer Solution, Flory Higgins Theory (no derivation) Phase Equilibrium, Solubility Parameter

4.4 Melt Rheology of Polymers (Polyvinylchloride, Polystyrene), Stress-Strain Properties and Visco Elastic Behaviour of Polymers, Newtonian and Non-Newtonian Behaviour of Polymers, Flow Properties of Polymer Melts and Solutions

Unit   5   **(10 Hours)**

Characterisation and Testing of Polymers

5.1 Spectroscopic Characterisation of Polymers (FTIR, NMR) (special reference to Polypropylene and Polymethylmethacrylate)

5.2 Thermal Properties, Thermal Conductivity, Thermal Expansion, TGA, DTA, DSC and DMA (special reference to Polyethyleneterephthalate and Polymethylmethacrylate)

5.3 Mechanical Properties and tests of Polymers - Hardness, Impact Strength, Stress, Relaxation, Elasticity Mechanical tests : tensile testing, flexural testing, Impact testing

BOOKS FOR STUDY

Gowariker, V.R., N.V Viswanathan, Jaydev Sreedhar.*Polymer Science*, New Delhi: New Age International, 2004.

Billmeyer, F.W.*Text Book of Polymer Science*.New York :Wiley Interscience,2006.

BOOKS FOR REFERENCE

Bhatnagar, M.S.*Text book of Polymers*.New Delhi: S.Chand, 2004.

Brandolini, J. Anita and Deborah D. Hills.*NMR Spectra of Polymers and Polymer Additives*. New York : Marcel Decker, 2000.

Flory, P.J .*Principles of Polymer Chemistry*. Ithaca: Cornell University Press,1953.

Gupta, B.R. *Applied Rheology in Polymer Processing*. New Delhi: Asian Books, 2005.

Joel ,Fried.*Polymer Science and Technology*. New Delhi: Prentice Hall, 2005.

Misra, G.S. *Introduction to Polymers*. New Delhi: New Age International, 2001.
Munk, P. *Introduction to Macro Molecular Science*. New York: John Wiley, 2002.
Stuart ,H. Barbara. *Polymer Analysis*. New Delhi: Narosa, 2002.
Young R.P., Lovell. *Introduction to Polymers*. London: Chapman & Hall, 2011.

JOURNALS
Langmuir
Macromolecules
Journal of Polymer Science

WEB RESOURCES
http://www.mpikg.mpg.de/886863/Liquid_Crystals.pdf
http://www.perkinelmer.com/CMSResources/Images/44-4546GDE_IntroductionToDMA.pdf

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

ESSENTIALS OF BIOCHEMISTRY

CODE:19CH/PE/BC15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
  ➢ To enable the understanding of the structure-function relationship of biomolecules
  ➢ To give an insight into the metabolic pathways and the consequences of deviation from normal
  ➢ To instill interest in research in Biochemistry

COURSE LEARNING OUTCOMES
  On successful completion of the course, students will be able to

  ➢ Understand the importance of biochemical processes and the role of water as a biological solvent
  ➢ Apply bioenergetics to biological systems
  ➢ Distinguish between the structure of biomolecules like proteins and nucleic acids
  ➢ Determine the role of biomolecules and catalysts in biological processes

Unit   1   **(12 Hours)**
  Introduction to Biochemistry
  1.1 Scope of Biochemistry, Relationship between Biochemistry and Medicine; Normal Biochemical Process – Basis of Health
  1.2 Water as a Biological Solvent and its Importance in Maintaining the Structure of Biomolecules
  1.3 Acid Base Balance, Biological Buffers - Bicarbonate, Phosphate, Protein and Haemoglobin - Acidosis and Alkalosis

Unit   2   **(12 Hours)**
  Bioenergetics
  2.1 Bioenergetics: Conventions in Biochemical Energetics
  2.2 ATP as the Universal Currency for Free Energy in Biological Systems
  2.3 Free Energy of Hydrolysis of ATP and other Organophosphates
  2.4 Structural Basis for the High Group Transfer Potential of ATP
  2.5 Standard Free Energy Changes for Representative Chemical Reactions
  2.6 Inter-Conversion of Adenine Nucleotides

Unit   3   **(16 Hours)**
  Biomolecules
  3.1 Biomolecules: Elementary Structure of Proteins, Nucleic Acids and Membrane Bilipids (Fluid Mosaic Structure)
  3.2 Relationship between the Structure and Function of Proteins and the Consequences of Deviation from Normal

Unit 4 (12 Hours)

Biocatalysts – Enzymes

4.1 Enzymes, Definition, Co-Factor, Apoenzyme
4.2 General Properties, Active Site, Factors affecting Enzyme Action
4.3 Enzyme Regulation; Allosteric, Feedback Regulation, Product Inhibition
4.4 Immobilization of Enzymes, Methods and Applications

Unit 5 (13 Hours)

Metabolism

5.1 Definition, Terminology and Functions of Metabolism
5.2 Metabolism of Carbohydrates – Glycolysis, Gluconeogenesis, Glycogen Metabolism, and TCA Cycle
5.3 Proteins – Oxidative Deamination, Transamination and Urea Cycle
5.4 Lipids – Beta Oxidation of Fatty Acids and Biosynthesis of Fatty Acids, Triglycerides and Cholesterol
5.5 Xenobiotics - General Methods of Detoxification

BOOKS FOR STUDY

Albert, Lehninger. *Biochemistry.*New York :Worth , 2008.
Jain, J.L. *Fundamentals of Biochemistry.*New Delhi: S.Chand, 2008.

BOOKS FOR REFERENCE

Brandon and Tooze. *Introduction to Protein Structure*. New York: Garland, 2000.
Conn, E.E. and Stumpf. *Biochemistry*. New York :Wiley Eastern,1976.
Glick, R. Bernard and Pasternak J. Jack. *Molecular Biotechnology-Principles and Applications of Recombinant DNA*. Washington: ASM Press, 2005.
Lubert, Stryer. *Biochemistry*. New York: W.H. Freeman, 2009.
Jain, J.L. *Fundamentals of Biochemistry*. New Delhi : S.Chand , 2008.
Jeremy, M. Berg. *Biochemistry.*New York : W.H. Freeman, 2001.
Voet, D. and Voet. G. *Biochemistry*. New York: John Wiley, 2007.

JOURNALS

Journal of Biochemistry
Journal of Clinical Biochemistry
Nature

WEB RESOURCES

http://www.csun.edu/~hcchm001/biosites.htm
http://themedicalbiochemistrypage.org/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**

Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)

Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)

Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019 – 2020)

CORROSION AND ITS PREVENTION

CODE: 19CH/PE/CP15   **CREDITS: 5**
L T P: 5 0 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
 ➢ To enable understanding of the basic principles of Electrochemistry
 ➢ To describe the various types of corrosion and the theories involved
 ➢ To facilitate understanding of electrode kinetics and polarisation studies as applied to corrosion
 ➢ To give an overview of the various methods of corrosion control and testing

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

 ➢ Demonstrate understanding of the principles of Electrochemistry
 ➢ Describe the different types of corrosion and their consequences
 ➢ Identify the phenomena of polarisation and electrode kinetics and apply them to corrosion studies
 ➢ Compare the different methods of corrosion control based on the factors influencing them
 ➢ Identify the different testing methods that are relevant for corrosion studies

Unit   1   **(16 Hours)**
   Principles of Electrochemistry
   1.1 Electrochemistry – Basic principles – Electrode potential, Helmholtz electrical double layer, Electrochemical cell – Half reactions, Galvanic cell, calculation of the EMF of a cell
   1.2 Electrochemical cell representation- EMF Series and its significance. Relation between EMF and Free energy – Determination of EMF of a half cell - Nernst equation and its derivation.
   1.3 Calculation of half-cell and cell potential – calculation of equilibrium constant for the cell reaction
   1.4 Reference electrodes – Saturated calomel electrode, Glass electrode, standard hydrogen electrode.
   1.5 Overvoltage or overpotential – Concentration cell and EMF of concentration cell

Unit   2   **(12 Hours)**
   Principles and Types of Corrosion
   2.1 Introduction – Corrosion Rate Expression – Types of Corrosion – Chemical Corrosion, Electrochemical Corrosion.
   2.2 Types of Electrochemical Corrosion – Galvanic Corrosion, Concentration Cell Corrosion, Pitting Corrosion, Stress Corrosion, Inter-granular Corrosion.

2.3 Passivity, Factors influencing corrosion, EMF and Galvanic series.
2.4 Microbially influenced corrosion (MIC) – Electrochemical aspects and general mechanisms.

Unit 3 (15 Hours)
Electrode Kinetics and Polarisation Phenomena
3.1 Electrode – Solution Interface – definition and types of Polarisation. Exchange current density – Polarisation relationships
3.2 Polarisation Techniques – Corrosion Rate Determination. Mixed potentials – concepts and basics.
3.3 Mixed Potential Theory – bimetallic couples, activation and diffusion controlled processes

Unit 4 (12 Hours)
Methods of Corrosion Control
4.1 Protection against corrosion – Material selection and Proper Designing Principles, inhibitors and surface engineering
4.2 Cathodic Protection – Principles and Classification – Sacrificial Anodic Protection and Impressed Current Cathodic Protection. Stray Current Corrosion. Anodic Protection
4.3 Passivity – Definition and parameters influencing passivity, design of Corrosion Resistant Alloys
4.4 Coatings – Metallic Coatings – Organic and Polymer Coatings – Phosphating

Unit 5 (10 Hours)
Corrosion Testing
5.1 NACE test methods – Open-circuit Potential – Time measurements – Cyclic polarization – Tafel plot for aluminium alloys
5.2 Linear polarisation – Potentiostatic steady state experiments – Small Amplitude Cyclic Voltammetry (SACV)
5.3 AC impedance methods – Slow strain rate test.

BOOKS FOR STUDY
J. O. M.Bockris and A.K. N Reddy, *Modern Electrochemistry. Vol. I and II*, New York: Plenum Press, 1970.
Jain P.C. and Monika Jain, *Engineering Chemistry*, New Delhi, Dhanpat Rai Publishing Company Pvt. Ltd. 2011.

BOOKS FOR REFERENCE
Denny A Jones, *Principles and Prevention of Corrosion,* New Jersey, Prentice Hall, 1996.
H. H. Uhlig and R. W. Revie, *Corrosion and Corrosion Control*, New York, Wiley, 1985.
M. G. Fontana, *Corrosion Engineering,* New York, McGraw-Hill Book Company, 1987.
B. J. Little, *Microbiologically Influenced corrosion*, New York, Wiley-Interscience, 2007.

JOURNALS
Corrosion Science
Materials and Corrosion
Corrosion Reviews

PATTERN OF ASSESSMENT

Continuous Assessment Test:　　**Total Marks: 50**　　　　**Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components:　　　　**Total Marks: 50**
Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination:　　**Total Marks: 100**　　　　**Duration: 3 Hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

PHYTOCHEMISTRY

CODE:19CH/PE/PY15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
  ➢ To introduce the concepts of Phytochemistry
  ➢ To enable the students to gain knowledge about the various methods involved in the extraction and isolation of plant products

COURSE LEARNING OUTCOMES
  On successful completion of the course, students will be able to

  ➢ Apply various analytical techniques for natural product isolation and extraction
  ➢ Employ important extraction methods to analyze natural products
  ➢ Utilize physical methods to determine the structure of important natural products
  ➢ Identify the various standards available for herbal drugs

Unit   1   **(14 Hours)**
Overview of Natural Product Isolation
  1.1 Extraction Techniques-Counter Current Extraction, Supercritical Fluid Extraction, Solid Phase Extraction, Microwave Assisted Extraction, Ultrasound Extraction (Sonication), Phytonics Process, Parameters for Selecting Appropriate Extraction Method, Steps in Extraction Process (Size Reduction, Extraction, Filtration, Concentration and Drying)
  1.2 Essential Oil Extraction: Distillation (Mechanism and Types), Expression Methods, Enfleurage and Defleurage. Modern Methods of Essential Oil Extraction, SCF
  1.3 Non-Chromatographic Separation Techniques: Fractional Distillation, Fractional Liberation, Sublimation, Chemical Derivatisation, Fractional Crystallisation, Centrifugation, Froth Flotation Techniques
  1.4 Chromatographic Techniques: Use of HPLC and Column in Isolation of Natural Products

Unit   2   **(15 Hours)**
Phytochemical Screening of Crude Drugs
  2.1 Solvent Extraction: Extraction, Isolation, Purification of Alkaloids: Piperine, Ergometrine, Glycosides: Rhein, Flavonoids: Green Tea Flavonoids, Terpenoids: Taxol, Saponins: Diosgenin
  2.2 Supercritical Fluid Extraction: Capsaicinoids, Flavonoids, Resveratrol (Vitis Vinifera), Astaxanthin (Red Yeast) and Mycotoxins

Unit 3   **(12 Hours)**

Structural Elucidation of Phyto Constituents

3.1 Glycerrhizinic Acid, Morphine, Pilocarpine, Ergometrine- Structural Elucidation by Physical, Chromatographic and Spectroscopic Methods of Characterisation

Unit 4   **(12 Hours)**

Standardization of Herbal Drugs

4.1 Sources of Variation in Chemical Make-Up of Plant Derived Drugs: Genotypic, Ecotypic and Biotypic Variations and variations resulting during Processing and Storage

4.2 Conventional Methods used in Herbal Drug Standardization and their Limitations. WHO Parameters used in Herbal Drug Standardization

4.3 Overview of New Approaches (System Biology Approach; Phytometabolomics, DNA Micro-Array)

Unit 5   **(12 Hours)**

Pharmacological Screening Methods

Brief Introduction to Pharmacological Screening Methods with Examples of the following category of Medicinal Herbs: Hepatoprotectives, Anti-diabetics, Anti-asthmatic, Hypolipidemics, Anti-oxidants, Anti-inflammatory, Analgesics and Anti-cancer

BOOKS FOR STUDY

Chatwal, G.R. *Organic Chemistry of Natural Products -Vol. I and II*. New Delhi: Himalaya, 2010.
Finar, I.L.*Organic Chemistry: Stereochemistry and the Chemistry of Natural Products*, London: Pearson, 2005.

BOOKS FOR REFERENCE

Evans, W. C., G. E.Trease.*Trease and Evan's Pharmacognosy*. USA: W.B. Saunders, 2002.
Rangari,V.D. *Pharmacognosy & Phytochemistry (Vol I)*. Nashik: Career Publications, 2009.
Rangari, V.D.*Pharmacognosy & Phytochemistry (Vol II)*. Nashik: Career Publications, 2009.
Satyajit, D. Sarker, Zahid Latif, Alexander I. Gray. *Natural Products Isolation*. New Jersey: Humana Press, 2006.

JOURNALS

Biological and Pharmaceutical Bulletin
Indian Drugs
Indian Journal of Pharmacology
Journal of Chromatography
Journal of Ethno pharmacology

WEB RESOURCES

http://www.ga-online.org/links_en.html
http://www.britannica.com/EBchecked/topic/458909/phytochemistry

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH IV- CHEMISTRY

SYLLABUS
(Effective from the academic year 2019–2020)

NANOCHEMISTRY

CODE:19CH/PE/NC15   **CREDITS:5**
                                                              L T P:5 0 0
                                                              TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
➢ To study the top-down and bottom-up approaches to Nanochemistry
➢ To describe methods by which nanoscale manufacturing can be enabled
➢ To discuss the concept and context of nanotechnology within society

COURSE LEARNING OUTCOMES
   On successful completion of the course, students will be able to

➢ Explain the fundamental principles of nanoscience
➢ Describe the methods used to synthesize and fabricate nanomaterials
➢ Identify   accurate characterisation techniques for different kinds of nanomaterials
➢ Discuss current applications of nanophase materials

Unit   1   **(12 Hours)**
   Introduction to Nanoscience
   1.1 Concepts of Nanoscience and Nanotechnology, Nanosized effects, Surface to Volume ratio, Quantum structures, Quantum confinement effects
   1.2 Classification of Nanosystems based on origin (natural and artificial), dimensionality and structural configuration (Carbon based, Metal based, Dendrimers, Composites)
   1.3 Special nanomaterials: Carbon Nanotubes, Fullerenes, Graphene and Self Assembled monolayers (SAMs), Nanoclusters
   1.4 Applications of Nanomaterials in electronics, Nanomechanics and nanobots, catalysis (gold nanoparticles), Quantum dot devices, Medicine and Drug delivery
   1.5 Nanowires and Nanomachines

Unit   2   **(15 Hours)**
   Fabrication of Nanomaterials
   2.1 Techniques for Synthesis of Nanophase Materials – Top-down vs Bottom-up approach
   2.2 Physical Methods of Synthesis-High energy Ball milling, Arc discharge, Plasma synthesis, Aerosol synthesis, Physical and Chemical Vapour deposition, Electrodeposition
   2.3 Chemical Methods of Synthesis–Chemical reduction , Solvothermal, Hydrothermal, Microemulsion, Sol gel method
   2.4 Synthesis and applications of Pure Metal nanoparticles (Gold and Silver) and metal oxide nanoparticles (ZnO, TiO_2)
   2.5 Nanomaterial fabrication techniques- Lithography, Electrospinning

Unit 3   **(15 Hours)**

Nanocomposites

3.1 Definition of composite materials: Classification based on matrix and reinforcements, Properties and Processing of nanocomposites

3.2 Types of nanocomposites: polymer-clay nanocomposites, conducting nanocomposites, types of nanofiller- metal oxides, layered silicates, nanowires, nanotubes and quantum dots.

3.3 Characterisation of nanocomposites: thermal, mechanical, surface, physical properties-density, viscosity, spectral analysis

3.4 Application of nanocomposites

Unit 4   **(18 Hours)**

Properties and Characterisation Techniques of Nanophase Materials

4.1 Size Dependent properties of Nanomaterials: Optical properties (Surface Plasmon resonance), mechanical, electrical, magnetic and thermal properties. Kinetic and Thermodynamic Features of Nano materials

4.2 Characterisation techniques* (with reference to nanomaterials): UV-Visible Spectroscopy-Band Gap calculation, X ray diffraction, Wide angle extended X-ray absorption technique, Electron Microscopy – SEM/TEM, DLS, Defects in Nanomaterials, Co-relation of XRD and TEM

4.3 Electron Spectroscopy – XPS/UPS, AES, Scanning Probe Microscopes - AFM, STM.

*No instrumentation required

Unit 5   **(5 Hours)**

Impacts of Nanomaterials

5.1 Nanomaterials and the Environment – Exposure, Fate, Transport and Transformation

5.2 Nanomaterials and Biological systems – Toxicity, Exposure and Absorption, Metabolism

BOOKS FOR STUDY

Guozhong C. *Nanostructures & Nanomaterials: Synthesis, Properties & Applications*, London: Imperial College Press,2004

Ramachandra R., Singh S, *Nanoscience and Nanotechnology-Fundamentals and Frontiers*. New Delhi , Wiley,2013

BOOKS FOR REFERENCE

Atkins, Peter, T.Overton, J.Rourke, M.Weller and F.Armstrong, *Shriver and Atkins' Inorganic Chemistry*.Chennai: Oxford University Press, 2006.

Brechigneae,C.,P.Houdy, M.Lahmai.*Nanomaterials and Nanochemistry*.Berlin: Springer, 2007.

Kenneth, J.Klabunde. *Nanoscale Materials in Chemistry*.New York: John Wiley, 2001.

Poole,C.P.and F.J.Owens.*Introduction to Nanotechnology*.Hoboken:Wiley-Interscience, 2003.

Ratner, M. and D.Ratner.*Nanotechnology- The Next Big Idea*. New York: Prentice Hall, 2003.

Steed,J. W., D. R.Turner, K.Wallace.*Core Concepts in Supramolecular Chemistry and Nanochemistry*. New York:Wiley, 2007.

Thomas S, Thomas S, Zachariah A. K (edited by) *Thermal and Rheological Measurement*

Techniques for Nanomaterials Characterisation . Cambridge: Elsevier,2017

Grassian V.H., *Nanoscience and Nanotechnology-Environmental and Health Impacts*, New York :Wiley, 2008

Pradeep,T.*Nano: The Essentials - Understanding Nanoscience and Nanotechnology*.NewDelhi:Tata McGraw Hill, 2007.

JOURNALS
Nanoletters
Journal of composite Materials
Surface science
ACS Nano
Nature Nanotechnology
Advanced Materials
Nanoscale
Nanotechnology

WEB RESOURCES
http://sphinxsai.com/vol3.no2/chem/chempdf/CT=03(534-538)AJ11.pdf
http://www.ijsce.org/attachments/File/Vol-1_Issue-6/F0342121611.pdf

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

**Post Graduate Elective Course Offered by the Department of Chemistry for
M.A. / M.Sc. / M.Com Degree Programme**

SYLLABUS
(Effective from the academic year 2019-2020)

MEDICINES AND HEALTH CARE

CODE:19CH/PE/MH23   **CREDITS: 3**
L T P:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
 ➤ To give an overview of medicines in day to day life - a field of interest to humanity
 ➤ To enlighten students on the different types of drugs used for the treatment of various diseases

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

 ➤ Identify the various terms involved in Pharmacy and Pharmacology
 ➤ Distinguish between various diseases and their treatment methods
 ➤ Demonstrate the importance of everyday essential drugs
 ➤ List the drugs of importance and their role in the treatment of various diseases

Unit 1   **(5 Hours)**
 General Introduction to Drugs
 1.1 Terminology- Pharmacy, Pharmacology, Pharmacodynamics, Pharmacokinetics, Antimetabolites, Mutation, Pharmacognosy, Toxicology, Pharmacotherapeutics, Chemotherapy, therapeutic index
 1.2 Chemical Classification of Drugs
 1.3 Diseases – Communicable and Non Communicable, Pathogens – Bacteria, Virus, Fungi, Protozoans

Unit 2   **(8 Hours)**
 Common Diseases and their Treatment by Drugs
 2.1 Common Diseases: Insect borne -Malaria, Air Borne - Whooping Cough, measles, common cold and TB. Waterborne - Cholera, Typhoid, Dysentery- Etiology, Symptoms, Prevention and Remedy
 2.2 Common Disorders of the Digestive System – Hepatitis A and B; Respiratory system- Asthma; Nervous system- Epilepsy. Prevention and Treatment.
 2.3 AIDS, HIV1, HIV2 – Awareness, Prevention and Treatment

Unit 3   **(8 Hours)**
 Blood and Hematological Agents
 3.1 Blood Pressure, Hypertension-Cause, Diet, Prevention. Antihypertensive Agents - Aldomet, Reserpine
 3.2 Clotting of Blood- Mechanism, Haematological Agents, Anaemia –Causes and Control- Antianaemic Drugs

Unit 4 (8 Hours)

Drugs in Daily Life

4.1 Anaesthetics- Types-General, Local, Intravenous – (Ether, CHCl$_3$, Halothane, Nitrous Oxide, Cocaine), - Advantages and Disadvantages

4.2 Antiseptics and Disinfectants- (Phenols, Chloramines, Bleaching Powder, Dyes-Crystal Violet)

4.3 Analgesics, Antipyretic and Anti-Inflammatory Agents- Narcotic and Non-Narcotic Drugs-Morphine, Source, Activity and uses – Aspirin, Paracetamol

Unit 5 (10 Hours)

Drugs of Importance

5.1 Antibiotics-Classification - Therapeutic uses of Chloramphenicol, Penicillin-Potency of the Drug, (Streptomycin, Tetracyclines, Erythromycin)

5.2 Antipsychotic Drugs- Tranquiliser (Piperazine, Benzamides), Adverse effects; Antidepressants-Sedatives and Hypnotics - Barbiturates

5.3 Diabetes – Types – Hypoglycemic Agents, Sugar Substitutes. Cancer -Causes - Types – Treatments - Antineoplastic Drugs - Antimetabolites and Plant Products

BOOKS FOR STUDY

Craig, R., Robert. E., Stitzel. *Modern Pharmacology*.USA: Little Brown, 2004.

Ghosh , Jayashree. *A Text book of Pharmaceutical Chemistry*. New Delhi: S.Chand ,1997.

BOOKS FOR REFERENCE

Sundari, K. Bagavathi. *Applied Chemistry*. Chennai: MJP, 2006.

David, A. Williams, Thomas L. Lemke. *Foye's Principles of Medicinal Chemistry*.USA: Lippincott Williams & Wilkins, 2005.

Graham, Patrick. *An Introduction to Medicinal Chemistry*. Oxford : Oxford University Press, 2001.

John, H. Block, John M. Beale, Jr. *Organic Medicinal and Pharmaceutical Chemistry*. USA: Lippincott Williams & Wilkins, 2004.

Sujatha, V. Bhat. *Biomaterials*.Chennai :Narosa, 2005.

JOURNALS

Journal of Drug Issues

Journal of Medicinal Chemistry

Journal of Medicinal Chemistry Research

WEB RESOURCES

http://chem2.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective
type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective
type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI-600086.

Post Graduate Elective Course Offered by the Department of Chemistry for
M.A. / M.Sc. / M.Com Degree Programme

SYLLABUS
(Effective from the academic year 2019- 2020)

COSMETICS AND HERBAL PRODUCTS

CODE: 19CH/PE/CH23

CREDITS: 3
L T P: 3 0 0
TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE
➢ To expose the students to the concept of cosmetology and human anatomy
➢ To instill a keen interest in students towards personal care
➢ To enlighten students on the importance of natural herbal products and remedies for beauty care

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Classify cosmetics and identify the various ingredients present in cosmetics
➢ Appreciate the importance of skin care in the maintenance of good health
➢ Choose the proper beauty product for both skin and hair maintenance
➢ Identify the different types of beauty treatments available for different skin types
➢ Appreciate the importance of natural herbal products for beauty care

Unit 1 (6 Hours)
Cosmetology
1.1 Cosmetics- Definition, purpose, classification, significance.
1.2 History of Cosmetics – Cosmetology, cosmeceuticals, therapeutics
1.3 Ingredients present in cosmetics – Water, emulsifier, preservative, thickener, emollient, colour, fragrance and pH stabilizer
1.4 Quality characteristics – Regulation and Safety

Unit 2 (8 Hours)
Skin care
2.1 Skin- structure and functions- pH and moisture balance, maintenance of skin
2.2 Types of skin: dry skin, oily skin, wrinkled skin
2.3 Cleansing of the skin, creams and lotions, astringent and skin tonics, skin lighteners, depilatories, food habits related to skin care.

Unit 3 (8 Hours)
Scalp and Hair Treatments
3.1 Structure of hair, growth and type of hair,
3.2 Shampoos and conditioners, hair styling products, hair ironing and methods of colouring / dyeing - Precautionary measures
3.3 Personal care and cleanliness of hair.

Unit 4   **(8 Hours)**

Beauty Treatments

4.1 Facials-types-advantages and disadvantages,

4.2 Lipstick, eyeliner, mascara, eye shadow - chemical composition

4.3 AHA exfoliation, Facials: galvanic, high frequency, aroma therapy

4.4 Toxicology of cosmetics

Unit 5   **(9 Hours)**

Herbal Cosmetics

5.1 Nomenclature, characteristics and classification of herbs used for hair care.

5.2 Hair cleansing: Shikakai, Amla. Hair growth: Brahmi, Manjistha

5.3 Anti-dandruff: Tulsi, Neem, Wheat Gram Oil

5.4 Fruits and Vegetables as skin care - Carrot, Cucumber, honey, lemon, mint, tomato, yogurt and tea

5.5 Use of herbs and their incorporation in cosmetics formulation

BOOKS FOR STUDY

Gem Mathew, G.D., *Chemistry in Everyday Life*, Vishal Publishers, 2014

Wilkinson J B E and Moore R J, *Harry's Cosmetology*, London, Chemical Publishers, 2000

BOOKS FOR REFERENCE

T. Mitsui, *New Cosmetic Science*, Elsevier, 1997.

André O. Barel, Marc Paye, Howard I. Maibach, *Handbook of Cosmetic Science and Technology*, CRC Press, 2014.

NIIR Board, *Handbook on Herbal Products (Medicines, Cosmetics, Toiletries, Perfumes) Vol. 2*, National Institute of Industrial Research, 2002.

JOURNALS

International journal of cosmetic science

Cosmetics, Dermatological Sciences and Applications

WEB RESOURCES

https://cosmeticsinfo.org

https://www.encyclopedia.com/sports-and-everyday-life/fashion-and.../cosmetics

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)

Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)

Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**

Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**

Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)

Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)

Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

**Post Graduate Elective Course Offered by the Department of Chemistry for
M.A. / M.Sc. / M.Com Degree Programme**

SYLLABUS
(Effective from the academic year 2019-2020)

FOOD CHEMISTRY AND NUTRITION

CODE:19CH/PE/FN23   **CREDITS:3**
                                                        L T P:3 0 0
                                              TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
 ➢ To equip the students on the effective usage of the food guide
 ➢ To educate on the chemistry of different constituents of food like carbohydrates, proteins and vitamins
 ➢ To give an introduction about the various nutrients, their nutritional value, functions and storage

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

 ➢ Identify the five food groups and learn to create a personal food guide
 ➢ Illustrate the importance of the recommended dietary allowance in planning their daily meals
 ➢ Distinguish between the different types of fats and their functions
 ➢ Recall the importance of carbohydrates as an important energy giving food source
 ➢ Compare the functions and biological importance of vitamins and minerals
 ➢ Discuss the crucial role of protein in the daily diet and the consequences of protein malnutrition
 ➢ Recognize the role of national and international bodies involved in combating malnutrition

Unit   1   **(8 Hours)**
      Introduction to Food Chemistry and Nutrition
      1.1 Food Guide- Basic Five Food Groups, Usage of the Food Guide
      1.2 Introduction to Nutrition –Definition of Nutrition and Nutrients, Interrelationship between Nutrition and Health, Malnutrition. Basal Metabolism and Determination of BMR
      1.3 Recommended Dietary Allowances (RDA) - Factors affecting RDA, General Principles of Deriving RDA, Determination of RDA of Different Nutrients

Unit   2   **(8 Hours)**
      Carbohydrates and Lipids
      2.1 Sources, Classification, Functions and Recommended Dietary Allowance of Carbohydrates. Glycemic index. Artificial Sweetening Agents
      2.2 Effect of Cooking on Carbohydrates and Storage of Carbohydrates
      2.3 Lipids: Sources, Chemical Classification, Functions. Essential Fatty Acids.

Unit   3   **(8 Hours)**
      Minerals and Vitamins
      3.1 Sources, Functions, Deficiency and Recommended Dietary Allowance of following Minerals: Calcium, Iron, Iodine and Phosphorous
      3.2 Vitamins- Classification, Sources, Functions and Deficiency (Elementary Treatment) of the following Vitamins: Fat Soluble Vitamins- A, D, E and K , Water Soluble Vitamins- Ascorbic Acid, Thiamine, Riboflavin, Niacin, other members of B-Complex such as B_6, Folic Acid and B_{12}
      3.3 Effect of Cooking on Vitamins and Minerals

Unit   4   **(8 Hours)**
      Proteins
      4.1 Sources, Classification, Functions, Nutritional Classification and Recommended Dietary Allowance of Proteins
      4.2 Protein Energy Malnutrition (PEM) –Marasmus and Kwashiorkor. Steps that can be taken to aid in the Prevention of PEM

Unit   5   **(7 Hours)**
      Role of International and National Agencies in Combating Malnutrition
      5.1 International Agencies- World Health Organisation, Food and Agriculture Organization, United Nations Children's Fund
      5.2 National Agencies-Indian Council of Agricultural Research (ICAR), Indian Council of Medical Research (ICMR), National Institute of Nutrition, Food and Nutrition Board
      5.3 Nutrition Education- Methods used in Nutrition Education

BOOKS FOR STUDY
Fennema , R .Owen. *Food Chemistry*. New York: Marcel Decker, 2007.
Srilaksmi, B. *Nutrition Science*. New Delhi: New Age International, 2012.

BOOKS FOR REFERENCE
Potter, N. Norman. *Food Science*. New Delhi: CBS, 2007.
Mayer, William Hogoland. *Food Chemistry*. New Delhi: CBS, 2009.
Manay, Shankunthala N., Shadaksharswamy, M. *Food –Facts and Principles*. Chennai: New Age International, 2001.

JOURNALS
Journal of Nutrition
Journal of Food Science
Proceedings of Nutrition Society of India

WEB RESOURCES
www.wadsworth.com/nutrition/prod/allprod.html
www.ninindia.org
http:/www.nalusda.gov/fnic.html
www.who.org

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 11 x 1 = 11 Marks (All questions to be answered, questions to be of objective
type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 3 x 8 = 24 Marks (3 out of 4 to be answered)
Section C – 1 x 15 = 15 Marks (1 out of 2 to be answered)

Other Components: **Total Marks: 50**
Quiz/Problem Solving/Seminars/Assignments

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective
type: MCQ, fill in the blanks, T/F, Match and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

M.Sc. DEGREE: BRANCH IV - CHEMISTRY

SYLLABUS
(Effective from the academic year 2019-2020)

INTRODUCTION TO FORENSIC CHEMISTRY

CODE:19CH/PI/IF24   **CREDITS:4**

OBJECTIVES OF THE COURSE
  ➢ To equip the students with the knowledge of forensic science
  ➢ To give an insight into diagnostic testing and to encourage the students to work
     and pursue research in Forensic Science.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

  ➢ Recall the history and importance of Forensic science
  ➢ Compare the different types of physical evidence used in tracking
  ➢ Discuss the importance of toxicology and analytical techniques for detection
  ➢ Identify fire hazards and use of explosives in the affected area

Unit   1
    Forensic Science
    1.1 Brief History of Forensic Science, Function of Forensic Science in the Laboratory
    1.2 Processing the Scene of Crime and Forensic Photography

Unit   2
    Physical Evidence (Tracks and trails)
    2.1 Physical Evidence –Classification. Significance of fingerprints and palm
         prints, footprints, Shoe and Tyre Impression
    2.2 Trace Evidence-Soil, Glass, Paint
    2.3 Biological Material-Blood, Hair, Bones, Teeth-Application of DNA Profiling

Unit   3
    Toxicology and Analysis Techniques
    3.1 Radioactive Decay Reactions and Neutron Activation Analysis
    3.2 Atomic Absorption Spectroscopy and X-Ray Analysis to detect Samples
    3.3 Poisons-Classification. Symptoms and Antidotes for some common Poisons

Unit   4
    Tracking Forgery
    4.1 Disputed Documents-Types-Document Examination. Use of UV Rays in
         Detection of Counterfeit Currency and Stamp Paper
    4.2 Identification of Forgery in Hand Written and Typed Document
    4.3 Paper Chromatography of ink

Unit   5
   Fire-Arson and Explosives
   5.1 Characteristics of Accidental Fires
   5.2 Arson-Evidence from Fire affected area to detect the cause of the Fire
   5.3 Explosive-Classification-Evidence from the scene of explosion to detect the cause of explosion

BOOKS FOR STUDY

Vapuly, A .K. *Forensic Science its Approach in Crime Investigation.* Hyderabad: Paras, 2006.

Sharma, B.R. *Forensic Science in Criminal Investigation and Trials*. New Delhi: Universal, 2006.

BOOKS FOR REFERENCE

Russel, Max, M.Houck, Jay A Siegel.*Fundamentals of Forensic Science*. Amsterdam: Elsevier, 2006.

Henry, C. Lee,Timothy Palmbach, Marilyn C.Miller.*Henry Lee's Crime Scene Hand book*. Amsterdam: Elsevier, 2001.

JOURNALS

Journal of Forensic Science
Journal of Forensic Research
Forensic Science Communication
Journal of Forensic Psychology

WEB RESOURCES

http://www.all-about-forensic-science.com/
http://dci.sd.gov/ForensicLab/ForensicWebsites.aspx

PATTERN OF ASSESSMENT

End-Semester Examination: **Total Marks: 100   Duration: 3 Hours**
Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)
Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)
Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BRANCH IV - CHEMISTRY

SYLLABUS
(Effective from the academic year 2019-2020)

CHEMISTRY OF NATURAL PRODUCTS

CODE:19CH/PI/NP24   **CREDITS:4**

OBJECTIVES OF THE COURSE
  ➢ To understand the origin and classification of natural products
  ➢ To appreciate the chemical structure of physiological functions of natural
     products and their derivatives
  ➢ To think critically about the use of herbal remedies and the potential of drug
     development from natural products

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

  ➢ Demonstrate knowledge on the methods of preparation, properties and structures of
     amino acids, polypeptides and proteins
  ➢ Recognize the structures of steroids and their biological role
  ➢ Elucidate the structures of simple alkaloids and terpenoids
  ➢ Distinguish between important types of natural pigments based on their colour,
     absorption and chemical properties

Unit   1
    Amino Acids, Peptides and Proteins
    1.1 Introduction to Amino Acids
    1.2 General Methods of Preparation and Properties of Amino Acids
    1.3 Naturally Occurring Peptides and Nomenclature of Poly Peptides
    1.4 General Principle of Polypeptide Synthesis
    1.5 Representation of Polypeptides. Determination of Structure of Peptides
    1.6 Classification of Proteins. Primary , Secondary and Tertiary Structure of Proteins

Unit   2
    Steroids
    2.1 Nomenclature and Stereochemistry (Configuration of Substituent, Ring and
         Side Chain)
    2.2 Classification of Sterols and Related Colour Reactions
    2.3 Cholesterol- Occurrence, Isolation, Clinical Significance, Structure Elucidation
         and Total Synthesis
    2.4 Steroid Hormones- Synthesis of Estrogen and Progesterone

Unit   3
     Terpenoids
    Source and Extraction
    3.1 Classification and Isolation

3.2 General Methods of Structure Determination of Terpenoids

3.3 Structure Elucidation of Carvone-D, Longifolene, Abetic Acid and β-Carotene

Unit 4
Alkaloids
4.1 Occurrence and Functions

4.2 Classification and Nomenclature

4.3 General Methods of Structure Determination and Pharmaceutical Applications

4.4 Structure Elucidation of Conine, Nicotine and Caffeine

Unit 5
Plant Pigments
5.1 Representation of Flavonoids, Flavones, Flavonols and Isoflavones

5.2 Glycosides of Flavones and Flavonols

5.3 General Methods of Structure Determination of Flavonoids

5.4 Structure Elucidation of Apigenin and Quercetin

5.5 Anthocyanidins and Anthocyanins - General Methods of Structure Determination

5.6 Structure Elucidation of Cyanidin and Hirsutidin

5.7 Structural Relationship between Flavonols (Quercetin), Anthocyanidin (Cyanidin) and Catechins (Epicatechin)

BOOKS FOR STUDY

Bhat, S.V., B.A.Nagasampagi, M.Siva Kumar. *Chemistry of Natural Products.*New Delhi :Narosa, 2006.

Ahluwalia, V.K., Sanjiv Kumar, Lalita S. Kumar. *Chemistry of Natural Products.* New Delhi :CRC Press, 2007.

BOOKS FOR REFERENCE

Stanforth ,P.Stephen. *Natural Product Chemistry at a Glance*, Hoboken:Wiley Blackwell, 2006.

JOURNALS

Journal of Natural Products
Natural Product Research
Journal of Asian Natural Products
Indian Journal of Natural Products and Resources

WEB RESOURCES

https://www2.chemistry.msu.edu/faculty/reusch/virttxtjml/biomol.htm
http://dnp.chemnetbase.com/intro/

PATTERN OF ASSESSMENT

End-Semester Examination: **Total Marks: 100** **Duration: 3 Hours**

Section A – 20 x 1 = 20 Marks (All questions to be answered, questions to be of objective type: MCQ, fill in the blanks, T/F, Match the following and answer in a line or two)

Section B – 5 x 8 = 40 Marks (5 out of 7 to be answered)

Section C – 2 x 20 = 40 Marks (2 out of 3 to be answered)

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI
DEPARTMENT OF COMMERCE
MASTER OF COMMERCE
PROGRAMME DESCRIPTION

The two years Masters in Commerce is intended to develop teaching and research skills among students to create academic expertise to meet the contemporary needs of society. The programme imparts professional education and training in various aspects of business and its environment. It provides the students with opportunities to develop managerial and analytical skills in order to meet the challenges of business at the national and global level. The programme equips the students with necessary conceptual, business and analytical skills required for handling the business operations. The programme enables students to gain a comprehensive understanding of business practices through practical internships, real-time research projects and participation in seminars and case-study discussions.

PROGRAMME SPECIFIC LEARNING OUTCOMES

At the end of a Master of Commerce programme, students will be able to

- Develop a basic understanding of issues involved in business research
- Develop an understanding of the conceptual framework for security analysis and portfolio management along with their application to areas like wealth management and risk analysis
- Demonstrate the ability to analyse issues involved in managing global financial services
- Apply the analytical tools and techniques for financial decision making
- Demonstrate the need for a balance between financial and non-financial information in decision making and control
- Evaluate the advantages and importance of the contemporary accounting system
- Identify ethical and environmental issues affecting global trade
- Understand on the practical relevance and importance of the Indian financial system
- Understand the role of government policies and their interventions in business decisions
- Discuss and apply different research approaches and methodologies
- Identify and relate new trends in marketing which has an impact on consumers

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Com. DEGREE

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, L-Lecture Hours, T-Tutorial Hours, P- Practical Hours, Ex-Exam Hours, CA- Continous Assessment Marks, ES-End Semester Marks, M-Maximum Marks									
SEMESTER-I									
19CM/PC/AD14	Accounting for Decision Making	4	4	1	0	3	50	50	100
19CM/PC/GB14	Global Business Environment	4	4	1	0	3	50	50	100
19CM/PC/ME14	Managerial Economics	4	4	1	0	3	50	50	100
19CM/PC/OB14	Organisational Theory and Behaviour	4	4	1	0	3	50	50	100
	Department Elective I								
	SAP / SL	2	2	0	0	-	50	-	100
SEMESTER-II									
19CM/PC/BR24	Business Research	4	4	1	0	3	50	50	100
19CM/PC/MM24	Marketing Management	4	4	1	0	3	50	50	100
19CM/PC/PM24	Project Management	4	4	1	0	3	50	50	100
19CM/PC/FI24	Financial Markets and Institutions	4	4	1	0	3	50	50	100
19CM/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
	Common Elective I								
CD / ET	Value Education	2	2	0	0	-	50	-	100
SEMESTER-III									
19CM/PC/CT34	Corporate Taxation	4	4	1	0	3	50	50	100
19CM/PC/AC34	Advanced Corporate Accounting	4	4	1	0	3	50	50	100
19CM/PC/MT34	Management of Transformation	4	4	1	0	3	50	50	100
19CM/PN/SI32	Summer Internship	2	0	0	0	-	50	-	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
	Department Elective II								
	Common Elective II								
SEMESTER-IV									
19CM/PC/SF44	Strategic Financial Management	4	4	1	0	3	50	50	100
19CM/PC/FP44	Financial Planning	4	4	1	0	3	50	50	100
19CM/PC/RM44	Retail Marketing	4	4	1	0	3	50	50	100
19CM/PC/DS47	Dissertation	7	0	0	9	-	-	50	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19CM/PE/AM15	Advertising Management	5	5	0	0	3	50	50	100
19CM/PE/CR15	Customer Relationship Management	5	5	0	0	3	50	50	100
19CM/PE/BD15	Business Data Analysis	5	2	0	4	3	50	50	100
19CM/PE/PM15	Security Analysis and Portfolio Management	5	5	0	0	3	50	50	100
19CM/PE/TD15	Training and Development	5	5	0	0	3	50	50	100
19CM/PE/SM15	Service Marketing	5	5	0	0	3	50	50	100
19CM/PE/RB15	Regulatory Aspects of Business	5	5	0	0	3	50	50	100

M.Com. DEGREE

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks								
Postgraduate Elective Courses Offered to Other Departments									
19CM/PE/EF23	Entrepreneurship and Family Business	3	3	0	0	3	50	50	100
19CM/PE/HR23	Human Resource Management	3	3	0	0	3	50	50	100
Independent Elective Courses									
19CM/PI/RB24	Retail Banking	4	0	0	0	3	-	100	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.COM DEGREE

SYLLABUS

(Effective from the academic year 2019-2020)

ACCOUNTING FOR DECISION MAKING

CODE: 19CM/PC/AD14   **CREDITS: 4**
                                                                                   L T P: 4 1 0
                                                          TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

➢ To enable students to know the applications of accounting tools, techniques and concepts in managerial decision making process
➢ To develop the competence of the students in managerial decision making and control
➢ To educate students to apply the key concepts in short term and long term decision making

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

➢ Evaluate the advantages and importance of the contemporary accounting systems
➢ Explain key terminologies and methods and their relevance to business decisions
➢ Demonstrate the need for a balance between financial and non-financial information in decision making, control and performance evaluation applications of management accounting
➢ Apply tools of management accounting in decision-making scenarios

Unit   1   **(10 Hours)**
   Introduction
   1.1   Role of Accounting in Decision Making – Financial, Cost and Management Accounting
   1.2   Accounting Information for Decision Making
        1.2.1 Cost Statement
        1.2.2 Corporate Financial Statement – Contents and Formats as per Schedule 6 of Companies Act 2013
   1.3   Accounting Standard
        1.3.1 An Overview of Accounting Standards and Indian Accounting Standards

Unit   2   **(15 Hours)**
   Cost Analysis for Managerial Decision
   2.1   Cost-Volume-Profit (CVP) Analysis
   2.2   Application of CVP in Decision Making

       2.2.1 Pricing Decision for Domestic and Export Order

       2.2.2 Key Factor Utilisation Decision

       2.2.3 Shut Down Decision

       2.2.4 Input and Sales Mix Decision

       2.2.5 Make or Buy Decision

  2.3 Life Cycle Costing – Meaning, Features and Importance

  2.4 Other Costing Techniques for Cost Ascertainment and Decision Making – BackFlush Costing, Target Costing – Meaning, Features and Application

Unit 3 (15 Hours)

3.1 Performance Evaluation and Analysis

    3.1.1 Ratio Analysis

    3.1.2 Funds Flow Analysis

    3.1.3 Cash Flow Analysis

3.2 Performance Measurement

    3.2.1 Activity Based Costing

    3.2.2 Throughput Accounting

    3.2.3 Economic Value Added

    3.2.4 Balance Scorecards

Unit 4 (10 Hours)

Cost Analysis for Control

  4.1 Standard costing as a Management Tool.

  4.2 Determination of Standard Costs-Types of Standards

  4.3 Variance Analysis – Material, Labour and Overhead Variances

Unit 5 (15 Hours)

Cost Control and Profit Planning

  5.1 Budgetary Control and Profit Planning – Meaning, Role and Objectives

  5.2 Types of Budget - Production, Purchases, Sales, Cash, Flexible and Master Budget

  5.3 Zero Base Budget and Performance Budgeting- Requisites and Steps in Implementation

BOOKS FOR STUDY

R.L. Gupta, Radhaswamy, *Corporate Accounting,* Sultan Chand & Sons, New Delhi, 2016

Ravi.M. Kishore, *Cost and Management Accounting,* TaxMann Publishers, 2016

Sachin Gupta, *Cost and Management Accounting,* TaxMann Publishers, 2018

BOOKS FOR REFERENCE

B.Sarvana Prasath, *A Ready Reference on Advanced Management Accounting*, Wolters Kluwer India Pvt Ltd., 2018

Tulsian, *Introduction to Cost Accounting*, S.Chand, 2012

R.Palaniappan, N.Hariharan, *Cost Acounting Problems and Solutions,* I.K.International Publishing House Pvt Ltd.,, 2014

MN Arora, *Management Accounting,* Himalaya Publishers, 2010

Khan & Jain,*Management Accounting*, Tata McGraw Hill, 2013

Jain and Narang, *Cost Accounting* Kalyani Publishers, 2012

Maheswari, S.N. *Principles of Management Accounting.* New Delhi: Sultan Chand and Sons, 2012

JOURNALS

Journal of Management Accounting Research.

Management Accountant Journal

Journal of Cost Accounting Research.

WEB RESOURCES

www.icsi.org

www.elsevier.com

PATTERN OF ASSESSMENT

Continuous Assessment Test:　　**Total Marks: 50**　　　　　**Duration: 90 minutes**

Section A – 3 X 10 = 30(From a choice of 4 questions – Problems)

Section B – 1 X 20 = 20(From a choice of 2 questions –Problems)

Other Component　　　　　**Total Marks: 50**

Multiple choice questions/Actual Case study/Problem solving/Report writing/Interpretation of Financial statements

End Semester Examination　　**Total Marks: 100**　　　　　**Duration: 3 hours**

Section A – 6 X 10 = 60(From a choice of eight questions – 3 theory and 5 problems)

Section B – 2 X 20 = 40(From a choice of four questions – problems)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019 – 2020)

GLOBAL BUSINESS ENVIRONMENT

CODE: 19CM/PC/GB14   **CREDITS: 4**
                                                          L T P: 4 1 0
                                          TOTAL TEACHING HOURS: 65
OBJECTIVES OF THE COURSE

➢ To introduce students to the contemporary issues in global business that illustrates the unique challenges faced by managers in the global business environment
➢ To enable students to understand the trading strategies and trade protection methods
➢ To expose students to the role and significance of Regional Cooperation
➢ To enable students to analyse and appreciate the impact of international organizations on business

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Understand the concepts of business environment both in Indian and Global context
➢ Know the dynamics of technological development and social change
➢ Appreciate the role of International Organizations
➢ Identify various ethical and environment issues affecting global trade

Unit   1
Introduction   **(15 Hours)**
1.1   Objectives and Significance of Business Environment - Micro and Macro Environment
1.2   Nature and Scope of Global Business Environment
1.3   Social, Cultural, Economic, Political and Ecological Environment of Global Business
1.4   Ethics in International Business

Unit   2
Global Environment and Human Development Index   **(15 Hours)**
2.1   Global Business Environment - Strategic Decisions in Global Business
2.2   Concepts of Human Development Index - Significance and Components
2.3   Trends in Human Development Index, Human Development Indicators, Important Aspects of Human Development Index
2.4   Global Development Index- World Bank Human Development Index

Unit 3
International Trading Environment   **(10 Hours)**
3.1 Balance of Payments
3.2 Trading Strategies - Different types of Trading Strategies
3.3 Trade Protection Methods - Methods of Trade Protection Policy
3.4 International Commodity Agreements - International Coffee Agreement,
       International Timber Agreement

Unit 4   **(15 Hours)**
Economic Integration and Co-operation
4.1 Regional Grouping-European Union, SAARC, NAFTA, ASEAN
4.2 Role of WTO - GATT, TRIMS, TRIPS, World Economic Forum
4.3 Anti-Dumping Measures

Unit 5   **(10 Hours)**
Organizations impacting International Business Environment
5.1 Role and Functions of International Organizations in Promoting and Regulating
       Global Business
5.2 International Organizations - IMF, World Bank, IDA, IFC, UNCTAD, UNIDO
5.3 BRICS Development Bank

BOOKS FOR STUDY

Francis Cherunilam, *Business Environment*, Mumbai, 2017 Himalaya publishing House,

John D. Daniels, Lee H. Radebaugh, Daniel P. Sullivan *International Business Environments and Operations* Pearson Education

BOOKS FOR REFERENCE

Ghosh.P.K., and Kapoor, G.K., *Business Policy and Environment*, New Delhi, Sultan Chand & Sons, 2017

Mamoria and Mamoria, *Business Planning and Policy*, Mumbai, Himalaya Publishing House, 1999

Sankaran, S., *Business Environment*, Chennai, Margham Publications, 2017

Bhalla V.K S. Shiva Ramu *International Business Environments* Anmol Publications

New Delhi

JOURNAL
International Journal of Business and Globalisation
Global Business and Economics Review
International Journal of Business Environment

WEB RESOURCES

https://enterslice.com/learning/international-business-environment-ibe/

https://www.civilserviceindia.com/subject/.../international-business-environment.html

https://study.com/academy/.../what-is-business-environment-definition-factors-quiz.ht..

www.economicsdiscussion.net/business-environment/business-environment.../10095

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes.**
Section A – 3 x 10 = 30 Marks (from a choice of four questions – Max words 500)
Section B – 1 x 20 = 20 Marks (from a choice of two questions – Max words 1200)

Other Component: **Total Marks: 50**
Assignments /Seminar/Case study/Class presentation /Group discussion

End Semester Examination: **Total Marks:100**   **Duration: 3 hours**
Section A – 6 x 10 = 60 (from a choice of eight questions –Max words 500)
Section B – 2 x 20 = 40 (from a choice of four questions – Max words 1200)

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M.COM DEGREE

SYLLABUS

(Effective from the academic year 2019 – 2020)

MANAGERIAL ECONOMICS

CODE: 19CM/PC/ME14   **CREDITS : 4**
                                                                       L T P : 4 1 0
                                                                       TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

➢ To familiarise students with the concepts and techniques in Managerial Economics
➢ To make the students appreciate the applications of core concepts in managerial decision making
➢ To sensitise students to the economic environment that affects organizations

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

➢ Integrate the various functions with a economic and market understanding
➢ Understand pricing and profit management in different types of competition
➢ Comprehend the effect of macro aspects of planning in relation to business.
➢ Understand the role of government policies and their interventions in business decisions

Unit 1

Introduction to Managerial Economics   **(10 Hours)**

1.1 Managerial Economics – Definition – Nature and Scope
1.2 Fundamental concepts in Managerial economics for decision making: Incremental Principle, Opportunity Cost, Discounting Principle, Time Concept, Equi-Marginal Principle – Illustrations,
1.3 Decision Making – Process and Conditions – Difference between Risk Uncertainty

Unit 2

Demand Analysis and Forecasting   **(15 Hours)**

2.1 Meaning of Demand – Types of Demand – Law of Demand and its Exceptions, Elasticity of Demand – Price Elasticity, Income Elasticity, Cross Elasticity, Promotion Elasticity, Applications of the concepts of Elasticity
2.2 Demand Forecasting – Process – Statistical and Non-Statistical Techniques,
2.3 Utility Analysis and Consumer Behaviour – Equilibrium of the consumer using Cardinal and Ordinal Utility (Indifference Curve) Theories.

Unit   3

Supply and Production Theory   **(10 Hours)**

  3.1 Meaning of Production Function, Production Function with one Variable input –
      Law of Variable Proportions – Returns to Scale, Production Function with two
      Variable Inputs – Iso-quants – Producers' Equilibrium

  3.2 Economies of Scale – Types – Economies of Scope

  3.3 Theory of Costs – Classification of Costs - Short Run and Long Run Cost
      Curves, Revenue Curves

Unit   4

Market Structure   **(15 Hours)**

  4.1 Meaning and Elements, Classification of Markets – Markets based on
      Competition,   Theory of Firm – Profit Maximization Rules,

  4.2 Price and Output Determination under Perfect Competition,

  4.3 Price and Output Determination under Monopoly – Monopoly Price
      Discrimination,

  4.4 Price and Output Determination under Monopolistic Competition,

  4.5 Price and Output Determination under Oligopoly – Game Theory, Kinky
      Demand Curve Model

Unit   5

Macro Aspects of Economics   **(15 Hours)**

  5.1 Macro Economic Concepts National Income Concepts – Measurement of
      National Income, Economic Indicators

  5.2 Business cycles: Phases and Management

  5.3 An overview of Financial System in India, An overview of Fiscal and Monetary
      Policies in India,

  5.4 Need for Government Intervention – Role and Reforms that impact Business,
      Public-Private Participation (PPP) , Viability Gap Funding

BOOKS FOR STUDY

Mehta PL – *Managerial Economics* – Sultan Chand and Sons, 2016
K.K. Dewett, *Modern Economic Theory: Micro and Macro Analysis* – Orient Book
Distributors, New Delhi
Gaurav Dutt and Aswani Mahajan, Dutt andSundaram - *Indian Economy* – Sultan Chand and
Sons - 2016
Varshney and Maheshwari – *Managerial Economics,* Sultan Chand and Sons, New Delhi,
2014

BOOKS FOR REFERENCE

Adhikary, M., *'Business Economics'*. Excel Books,New Delhi, 2000.
Baumol, W.J. Economic Theory and Operations Analysis, 3rdEd., Prentice Hall Inc., New
Delhi, 2000
Chopra, O.P *'Managerial Economics'*, Prentice Hall Inc., New Delhi, 2001
Dwivedi D.N, Managerial Economics, Vikas Publications, 8 edition.
V.L. Mote, Managerial Economics – Tata McGraw Hill, New Delhi , 2017

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes.**

Section A - 3 x 10 = 30 (from a choice of four questions)

Section B - 1 x20= 20 (from choice of two questions)

Other Components   **Total Marks: 50**

Assignments/Application Oriented Objective Test

End Semester Examination   **Total Marks: 100**   **Duration: 3 hours**

Section A - 6 x 10 = 60 (from a choice of eight questions)

Section B - 2 x20= 40 (from choice of four questions)

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M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019-2020)

ORGANISATIONAL THEORY AND BEHAVIOUR

CODE: 19CM/PC/OB14   **CREDITS: 4**
                                                            LTP : 4 1 0
                                   TOTAL TEACHING HOURS :65

OBJECTIVES OF THE COURSE
➢ To enable students to understand the human interactions and behaviour in an organisation
➢ To acquaint students with the mechanisms governing employees interaction
➢ To develop an understanding of team dynamics
➢ To sensitise students to the significance of organisational culture

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
➢ Explain the factors influencing individual behavior
➢ Understand the relevance of group behavior in an organisation
➢ Compare and contrast theories of organisational behavior
➢ Assess the impact of culture on organisational behavior
➢ Examine the significance of organisational dynamics

Unit   1   **(10 Hours)**
   Introduction
   1.1   Meaning, Definition, Determinants, Nature and Concepts
   1.2   Organisational Theories- Classical, Neo-Classical and Contemporary
   1.3   Models of Organisational Behaviour
   1.4   Challenges and Opportunities for Organizational Behaviour
   1.5   International Dimensions of Organisational Behaviour

Unit   2   **(15 Hours)**
   Individual Behavior and Personality
   2.1   Factors Influencing Individual Behaviour - Environmental, Personal and Other Factors
   2.2   Personality – Determinants, Personality Traits, The Big Five Personality Traits
   2.3   Theories of Personality-Types, Major Personality Attributes Influencing Organisational Behaviour
   2.4   Attitudes-Formation of Attitude, Key Work related Attitude
   2.5   Perception- Factors influencing Perception

Unit   3   **(15 Hours)**
   Individual Dynamics
   3.1   Perception – Meaning and Definition, Factors influencing Perception, Perceptual Process
   3.2   Perceptual Biases/Errors – Honing Perceptual Skills

3.3   Learning – Theories of Learning, Principles of Learning
3.4   Motivation – Theories of Motivation – Maslow's, Herzberg's, Alderfer's and McClelland's Theory, Motivation and Organisational Effectiveness
3.5   Case Studies on Individual Dynamics

Unit   4   **(15 Hours)**
Group Dynamics
4.1   Group Dynamics – Meaning and Types, Stages of Group Development and Group Effectiveness
4.2   Team Building – Ingredients of Effective Team, Process and Skills in Team Building
4.3   Stress – Nature of Stress, Causes of Stress, Consequences of Stress, Managing Stress in the Work Place, Work Life Balance

Unit   5   **(10 Hours)**
Organisational Culture, Change and Development
5.1   Concept and Determinants of Organizational Culture
5.2   Creating, Sustaining and Impact of Culture on Organizational Effectiveness
5.3   Conflict in Organisation- Nature of Conflict, Functional and Dysfunctional Conflict, the Process of Conflict and Managing Conflict
5.4   Organisational Change – Significance and Types
5.5   Organisational Development – Concept, Process, Values and Intervention Techniques

BOOKS FOR STUDY
Robbins, P. Stephen. *Organisational Behaviour – Concepts, Controversies and Applications, New* Delhi: Prentice Hall, 2005.
Aswathappa, K. *Organizational Behaviour*. New Delhi: Himalaya, 2007.

BOOKS FOR REFERENCE
Davis, Keith and Weratom,JohnW.*Human behaviour at Work,Organisation behavior*.
Madras: Mc Graw Hill,
Luthans, Fred. *Organizational Behaviour*. Singapore: McGraw Hill International ed, 2010.
Mishra,M. N. *Organizational Behaviour*. New Delhi: Vikas, 2010.
Prasad, L.M. *Organisational Behaviour*. New Delhi: Sultan Chand, 2007.
Sekaran Uma, *Organizational Behaviour – Text and Cases*. New Delhi:Tata Mc Graw Hill, 2006.

JOURNALS
International Journal of Management Reviews
Journal of Leadership and Organisational Studies
Journal of Organisational Culture, Communication and Conflict
SSRN – E Journal

WEB RESOURCES
http://onlinelibrary.wiley.com/
www.exed.hbs.edu
www.hbr.org

PATTERN OF EVALUATION

Continuous Assessment Test: **Total Marks:50**   **Duration: 90 minutes**

Section A – 3 x 10=30 Marks (from a choice of four questions –Max words 500)

Section B - 1x20=20(from a choice of two questions – Max words 1200)

Other Components:

Seminars/Assignments/Case Studies

End Semester Examination: **Total Marks:100**   **Duration: 3 hours**

Section A – 6x10= 60(from a choice of eight questions –Max words 500)

Section B – 2x20= 40(from a choice of four questions – Max words 1200)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.COM DEGREE

SYLLABUS

(Effective from the academic year 2019-20)

BUSINESS RESEARCH

CODE:19CM/PC/BR24   **CREDITS:4**
                                                                      L T P:4 1 0
                                              TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE

➢ To acquaint students with the process and techniques of conducting research
➢ To train the students to identify and plan the research areas
➢ To acquaint students with identifying problems for research and develop research strategies
➢ To familiarise students with the techniques of data collection, analysis of data and interpretation

COURSE LEARNING OUTCOMES

On successful completion of the course, student will be able to

➢ Discuss and apply different research approaches and methodologies
➢ Analyse quantitative and qualitative data
➢ Frame research questions to meet the research objectives
➢ Construct and document an appropriate research design
➢ Discuss limitations and potential contribution to theory and practice of research

Unit   1   **(10 Hours)**
   Introduction to Research
   1.1 Meaning and Significance of Research
   1.2 Importance of Scientific Research in Business Decision Making
   1.3 Types of Research and Research Process
   1.4 Identification of Research Problem and Formulation of Hypothesis
   1.5 Research Designs.

Unit   2   **(15 Hours)**
   Measurement and Data Collection
   2.1 Primary Data - Secondary Data
   2.2 Design of Questionnaire
   2.3 Sampling Fundamentals and Sample Designs
   2.4 Measurement and Scaling Techniques

Unit 3 (15 Hours)

Data Analysis

3.1 Hypothesis Testing – Meaning and Significance

3.2 Z-Test, T-Test,F-Test, Chi-Square Test

3.3 Analysis of Variance

3.4 Non-Parametric Test – Sign Test, Run Test, Krushall – Wallis Test

Unit 4

Interpretation of Data and Presentation of Report (15 Hours)

4.1 Interpretation of Data

  4.1.1 Meaning and Significance

  4.1.2 Precautions in Data Interpretation

4.2 Presentation of Report

  4.2.1 Meaning and Importance of Research Report Writing

  4.2.2 Essentials of a Good Research Report

  4.2.3 Structure/ Layout of Research Report

  4.2.4 Types of Research Report

  4.2.5 Steps in Research Report Writing

  4.2.6 Footnotes and Bibliography

  4.2.7 References and Citation Methods - APA (American Psychological Association, MLA (Modern Language Association) and CMS (Chicago Manual Style)

Unit 5 (10 Hours)

Ethics and Modern Practices in Research

5.1 Ethical Norms in Research

5.2 Ethical Issues in Research – Plagiarism

BOOKS FOR STUDY

C.R Kothari Research Methodology, *Methods and Techniques*

T N Srivastava and Shailaja Rego, *Business Research Methodology*, Tata Mcgraw Hill Education Private Limited, New Delhi

BOOKS FOR REFERENCE

O.R. Krishnaswami, *Methodology of Research in Social Sciences*, Himalaya Publishing House

Vijay Upagude and Dr Arvind Shende, *Research Methodology*

S. K Khandelwal *Business Statistics,*, International Book House Pvt Ltd

Clover, Vernon T and Balsely, Howard L, Colombus O. Grid, *Business Research Methods*, Emary C.Willima, Richard D. Irwin In. Homewood *, Business Research Methods*

R. Gerber and P.J. Verdoom *Research Methods in Economics and Business* , The Macmillan Company, New York

WEB RESOURCES

http://www.socialresearchmethods.net

http://www.oup.com/uk/orc/bin/9780199202959

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A- 3x10 = 30 Marks Answer any Three (from a choice of Four)

Section B- 1x20 = 20 Marks Answer any One (from a choice of Two)

Other Components: **Total Marks: 50**

Project on application of statistical tools/Assignment/Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 6x10= 60 (From a choice of 8 questions- 5 theory and 3 problems)

Section B – 2x20= 40 (From a choice of 4 questions – 2 theory and 2 problems)

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M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019–2020)

MARKETING MANAGEMENT

CODE:19CM/PC/MM24   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- ➢ To familiarise students with the process of entering markets, establishing profitable positions and building loyal consumer relationship
- ➢ To give a clear understanding on the concepts of marketing
- ➢ To create an understanding of the theoretical and practical concepts of marketing

COURSE LEARNING OUTCOMES
On completion of this course, students will be able to

- ➢ Understand the role of the marketing function within a firm.
- ➢ Recommend and justify an appropriate mix of the 4P's to create a cohesive marketing strategy for a new product.
- ➢ Identify and relate new trends in marketing which has an impact on consumers.
- ➢ Understand and have clarity when they relate theory to practice.

Unit 1   **(10 Hours)**
Understanding Marketing Management
1.1 Marketing in the 21st Century- Core Concepts
1.2 Marketing Management Process-A Strategic Perspective
1.3 Customer Quality, Value and Satisfaction,Planning and Control.

Unit 2   **(15 Hours)**
Opportunities in the Market Place
2.1 Scanning the Marketing Environment
2.2 Market Information System to measure demand
2.3 Market Research

Unit 3   **(15 Hours)**
Market Oriented Strategies
3.1 Product Concept- Customer Driven Market Strategy
3.2 PLC- Marketing Strategy
3.3 New Product Development Decision Process
3.4 Promotional Mix- Elements of Promotional Mix and Benefits

Unit 4   **(12 Hours)**

Pricing and Channel Strategy

4.1 Pricing- Factors affecting Price Determination, Pricing Policies and Strategies, Discounts and Rebates.

4.2 Distribution Channels- Functions and Types of Distribution Channels, Intermediaries, Channel Management Decision, Wholesaler and Retailer

Unit 5   **(13 Hours)**

Recent Trends and Challenges in Marketing

5.1 Digital Marketing- Meaning and Types

5.2 Social Marketing, Green Marketing, Cyber Marketing

5.3 Social Media Marketing, Viral Marketing.

5.4 Legal, Ethical and Social Aspects of Marketing: Consumerism, Consumer protection measure in India

5.5 Recent Developments in Consumer Protection in India.

BOOKS FOR STUDY

Kotler Philip, *Marketing Management,* New Delhi, Prentice Hall of India, 2017

BOOKS FOR REFERENCE

John, Wilmshurst, *Fundamentals and Practice of Marketing,* New Delhi, Viva Books, 2011

Johansson J.K,*Global Marketing*, New Delhi, Tata McGraw Hill, 2010

Keegan W.J. *Global Marketing Management.* New Delhi, Prentice Hall of India, 2013

JOURNALS

International Journal of Research in Marketing

Indian Journal of Marketing

Journal of Marketing Education

WEB RESOURCES

www.managementstudiesguide.com/marketing

http://productlifecyclestages.com

www.marketing-schools.org

www.innovationcoach.com

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A- 3x10 = 30 Marks Answer any Three (from a choice of Four)

Section B- 1x20 = 20 Marks Answer any One (from a choice of Two)

Other Components: **Total Marks: 50**

Project on application of statistical tools/Assignment/Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 6x10= 60 (From a choice of 8 questions)

Section B – 2x20= 40 (From a choice of 4 questions)

SYLLABUS
(Effective from the academic year 2019-2020)

PROJECT MANAGEMENT

CODE: 19CM/PC/PM24   **CREDITS:4**
                                                                 LTP:4 1 0
                                          TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
  ➢ To enable the students to acquire an understanding of the concept and meaning of project, and project management techniques
  ➢ To enable the students to assess and understand project selection process
  ➢ To develop in students, a project management mindset and prepare them for careers in the areas of project management

COURSE LEARNING OUTCOMES
  On successful completion of the course, students will be able to
  ➢ Understand the basics of project management
  ➢ Carry out market and technical analysis of a project proposal
  ➢ Draft a project proposal
  ➢ Evaluate the value of a project

Unit   1   **(15 Hours)**
   Concepts of Project Management
   1.1   Project- Meaning. Need, Nature and Types
   1.2   Project Lifecycle- Phases
   1.3   Project Management Processes
   1.4   Project Management Principles

Unit   2   **(15 Hours)**
   Project Identification and Selection
   2.1   Project Environment - Identification of Investment Opportunities
   2.2 Idea Generation – Sources, SWOT Analysis
   2.3 Project Screening- Pre-Feasibility and Feasibility Study
   2.4 Stages in Project Formulation, Project Report Preparation
   2.5 Planning Commission's Guidelines for Project Formulation

Unit   3   **(10 Hours)**
   Project Appraisal
   3.1   Objectives, Essentials of a Project Methodology
   3.2   Market, Technical, Financial, Commercial and Managerial Appraisal
   3.3   Social Cost Benefit Analysis –L and M Approach and UNIDO Approach- SCBA in India
   3.4 Project Appraisal Techniques- NPV, IRR, ARR, BCC, Payback Period

Unit   4   **(15 Hours)**

      Project Planning and Scheduling
- 4.1 Project Planning- Objectives, Process and Components
- 4.2 Project Designing and Project Scheduling
- 4.3 Estimation of Cost of Project and Means of Financing
- 4.4 Tools for Planning and Scheduling – PERT, CPM, Decision Tree Analysis

Unit   5   **(10 Hours)**

      Project Execution and Administration
- 5.1 Project Contracting
- 5.2 Forms of Organisations
- 5.3 Project Direction, Communication and Co-ordination
- 5.4 Project Control – Control Techniques – PERT, CPM
- 5.5 Project Review and Audit

BOOKS FOR STUDY

Prasana Chandra – *Project Preparation, Appraisal and Implementaion* ,Tata Mcgraw Hill,New Delhi

Chaudhary.S – *Project Management*, Tata Mcgraw Hill, New Delhi

BOOKS FOR REFERENCE

Meredith.J.R and Mantel.S.J – *Project Management- A Managerial Approach,*John Wiley,New Delhi,2010

Grey.C.F and Larson E.W and Desai.G.V –*Project Management-the Managerial Process,* Tata Mcgraw Hill,New Delhi,2014

N.P.Agarwal, P.K.Mishra – *Project Management,* Ramesh Book Depo, Jaipur,2006

JOURNALS

International Journal of Managing Projects in Business

International Journal of Project Management

International Journal of Information Technology Project Management

WEB RESOURCES

www.projectmanager.com

www.ganttic.com

www.smartsheet.com

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 3 X 10 = 30 (from a choice of 4 – Max words 500)

Section B – 1 X 20 = 20 (from a choice of 2 –Max words 1200)

Other Components: **Total Marks: 50**

Assignment/ Class Presentation / Objective Test / Case Study

End-Semester Examination   **Total Marks: 100**   **Duration: 3 hours**

Section A – 6 X 10 = 60(From a choice of eight questions – Max words 500)

Section B – 2 X 20 = 40(From a choice of four questions – Max words 1200)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019-2020)

FINANCIAL MARKETS AND INSITUTIONS

CODE: **19CM/PC/FI24**   CREDITS: 4
                                                                                              L T P : 4 1 0
                                                                                    TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

 ➢ To give an overview on the functioning and importance of Financial Institutions and
   Financial Markets
 ➢ To give a clear understanding and knowledge of Financial system in the present
   scenario
 ➢ To provide the students with the basic knowledge about the markets and various
   services provided in those markets.
 ➢ To provide adequate information about the roles of intermediaries and its regulating
   bodies

COURSE LEARNING OUTCOME
On successful completion of the course, the students will be able to

 ➢ Gain an understanding on practical relevance and importance of the Indian Financial
   system
 ➢ Assess the importance and characteristics of the financial instruments
 ➢ Describe the role and functions of secondary market
 ➢ Comprehend the importance of regulatory bodies

Unit   1   **(10 Hours)**
  Introduction
   1.1 Indian Financial System- Meaning, Characteristics, Significance and
        Components, Challenges and Growth
   1.2 Financial Markets – Importance, Characteristics and Classification
   1.3 Financial Institutions – Functions and Structure
   1.4 Role of Financial Institutions in the Economic Development

Unit   2   **(15 Hours)**
  Financial Markets – 1
   2.1 Money Market – Functions, Types, Characteristics of Indian Money Market,
        Money Market Instruments – Segments of Money Market – Call/Notice Money
        Market – Commercial Bills Market – Treasury Bills Market – Certificates of
        Deposit - LAF, MSF, REPO and Reverse REPO (an overview)
   2. 2 Capital Market – Functions, Instruments, Organisation and Mechanism

       2.2.1 Primary Market – Concept, Features, Functions, Instruments, Organisation and Mechanism

       2.2.2 Initial Public Offer, Follow on Public Offer, Rights Issue, Private Placement, Preferential Issues, Bonus Issues, Book-Building, Global Depository Receipts

       2.2.3 Role and Importance of Primary Market in Economic Development

Unit 3 (10 Hours)

Financial Markets - 2

3.1 Secondary Market – Functions, Methods of Issue in the Secondary Market, Players, Management and Listing of Securities

3.2 Bond Market – Functions, Significance, Structure, Participants and Instruments of Indian Debt Market

3.3 Commodities Market – Meaning and Developments in the Commodities Market

Unit 4 (15 Hours)

Financial Institutions

4.1 Depository Institutions - Evolution, Management and Organizational setup - Commercial Banks and Industrial Finance – Bank Credit, Term Lending, Performance of Indian Banking System, Regulatory Aspects of Banking

4.2 Non-Depository Institutions – Mutual Fund, Chit Fund, Unit Trust of India – Insurance Companies (Both Life and Non-Life Insurance Companies)

4.3 Development Banks - Types, functions, growth, Structure

4.3 Non-Banking Financial Companies - Meaning, Scope, Characteristics and Functions, Types- Organized and unorganized, Differences between Banking and Non-Banking Financial Companies

Unit 5 (15 Hours)

Regulatory and Promotional Institutions

5.1 Stock Exchanges in India- Objectives, Functions, Significance and Working

5.2 National Securities Depository Limited (NSDL), Central Depository Services Limited (CDSL), The Stock Holding Corporation of India Limited (SHCIL)

5.3 Reserve Bank of India – Regulatory Functions

BOOKS FOR STUDY

M Y Khan, *Indian Financial System*, Tata McGraw Hill Education, 2017

Jeff Madhura, *Financial Institutions and Markets,* Cengage Learning India Private Limited, New Delhi, 2016

BOOKS FOR REFERENCE

Jayadeb Sarkhel, Seikh Salim, *Indian Financial System,* Tata McGraw Hill Education, 2018

Sujatra Bhattacharyya, *Indian Financial System,* Oxford University Press, 2017

Machiraju, *Indian Financial System* ,Vikas Publishing House, 2nd Edition, 2010.

Srivastava R M and Divya Nigam, *Dynamics of Financial Markets and Institutions in India,* Excel Books, New Delhi, 2010

Bharati V.Pathak, *Indian Financial System*, Pearson Education,2018.

JOURNALS

International Journal of Banking and Finance Research

IOSR Journals

WEB RESOURCES

www.sebi.gov.in

www.nism.ac.in

www.rbi.org.in

PATTERN OF ASSESSMENT

Continuous Assessment Test　　　　**Total Marks: 50**　　　　　　**Duration: 90 minutes**

Section A – 3 X 10 = 30 (From a choice of 4 – Max words 500)

Section B – 1 X 20 = 20 (From a choice of 2 –Max words 1200)

Other Components:　　　　　　**Total Marks: 50**

Research Manuscript Submission/Cryptic Crossword Puzzles/Open book test/Multiple choice questions/Actual Case study

End Semester Examination　　　　**Total Marks: 100**　　　　　　**Duration: 3 hours**

Section A – 6 X 10 = 60(From a choice of eight questions – Max words 500)

Section B – 2 X 20 = 40(From a choice of four questions – Max words 1200)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19CM/PK/SS22   **CREDITS: 2**
                                                         L T P: 2 0 0
                                    TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development.
- To instill confidence in students to face challenges.
- To manage emotions and resolve conflicts.
- To organize activities and manage time.
- To set goals and plan ahead.

COURSE LEARNING OUTCOMES

- Communicate with confidence and poise.
- Accept themselves and improve on their weaknesses.
- Strengthen their relationships through confronting and solving problems.
- Work more effectively and complete activities on time.
- Plan their future with clarity and focus.

Unit   1
   Behavioural Traits   **(6 Hours)**
   1.1   Self Awareness
   1.2   Communication Skills –Verbal and Non Verbal
   1.3   Leadership Qualities
   1.4   Etiquette and Good Manners
   1.5   Experiential Learning –Based on activities

Unit   2
   Team Work   **(5 Hours)**
   2.1.   Interpersonal Skills
   2.2.   People Management
   2.3.   Creative Thinking
   2.4.   Critical Thinking
   2.5.   Experiential Learning – Based on activities

Unit   3
   Time Management   **(5 Hours)**
   3.1.   Importance of time management
   3.2.   Planning and Prioritizing

    3.3.   Organizing skills
    3.4.   Action Plan
    3.5.   Experiential Learning – Based on activities

Unit 4
Conflict Resolution   **(5 Hours)**
    4.1.   Reasons for conflict
    4.2.   Consequences of conflict
    4.3.   Managing emotions
    4.4.   Methods of resolving conflicts
    4.5.   Experiential Learning – Based on activities

Unit 5
Career Mapping   **(5 Hours)**
    5.1.   Goal Setting and Decision Making
    5.2.   Career Planning
    5.3.   Resume Writing
    5.4.   Handling Interviews
    5.5.   Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment:
Quiz / Group Presentation /Assignment

No End Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019-2020)

CORPORATE TAXATION

CODE:19CM/PC/CT34   **CREDITS:4**
                                                                                  L T P:4 1 0
                                                                     TOTAL TEACHING HRS:65

OBJECTIVES OF THE COURSE:
➢ To provide a broad conceptual framework for determining the tax liability for a corporate assessee
➢ To familiarise the student with the latest provisions of the Indian tax laws
➢ To enable students to appreciate the administrative procedure relating to payment of corporate tax
➢ To develop skills required to assess and file GST returns

COURSE LEARNING OUTCOMES
On successful completion of the course, the students will be able to

➢ Compute corporate income
➢ Use their theoretical knowledge in Corporate tax planning
➢ Connect acquired knowledge and skills with practical problems in computing tax liability
➢ Understand the basic principles underlying the levy of GST

Unit   1   **(15 Hours)**
Assessment of Companies Income
1.1 Classification of Companies – Domestic and Foreign
1.2 Residential Status of a Company and Incidence of Tax
1.3 Provisions relating to Computation of Business Income -
      Allowed and Disallowed Expenses, Depreciation
1.3 Set off and Carry forward of Losses
1.4 Computation of Business Income

Unit   2   **(15 Hours)**
Computation of Corporate Tax Liability
2.1 Computation of taxable income – Deductions and Tax Liability
2.2 Corporate Tax Rates in India
2.3 Corporate Tax Planning
2.4 Dividend Distribution Tax
2.5 Minimum Alternate Tax, Corporate Tax Rebate
.

Unit   3   **(10 Hours)**
   Tax Planning and Procedure
   3.1   Nature and Scope of Tax Planning
   3.2   Schemes of Tax Planning
   3.3   Submission of Returns and Procedure of Assessment - Tax payments - E –
          TDS, TCS, Advance payment of Tax
   3.4   Double Taxation and Tax Avoidance
   3.5   Tax Returns – Procedure for e-filing, Tax Audit

Unit   4   **(10 Hours)**
   Tax Administration
   4.1   Tax Authorities – Powers and Duties
   4.2   Appeals and Revisions - Procedure
   4.3   Settlement Commission – Constitution, Powers and Duties
   4.4   Penalties and Procecution

Unit   5   **(15 Hours)**
   Goods and Services Tax
   5.1   Goods and Service Tax – Overview, Evolution of GST and Basic Concepts
          in GST
   5.2   Registration Procedures - Cancellation and Revocation
   5.3   Levy and Collection of GST
   5.4   Input Tax Credit- Computation, Distribution and Claim
   5.5   Customs Duty – Meaning, Classification of Goods, Methods of Valuing
          Imported Goods and Customs Duty Drawback

BOOKS FOR STUDY

Gaur, V.P. and Narang D.B., *Income Tax Law and Practice*, New Delhi: Kalyani Publishers,
Vinod K., Singhania, *Taxman's Students Guide to Income Tax*, New Delhi: Taxman's
Publications Pvt. Ltd.,.

BOOKS FOR REFERENCE
Girish Ahuja, *Simplified approach to Corporate tax planning and management*, Bharat
house private ltd,
Kushal Kumar Agarwal, *Corporate tax planning*, Atlantic Publishers ,
Mehrothra, H.C, Sahithya Bhavan Publications, 2014.
Sulphey & Basheer, *Laws for Business*, 4th ed. Delhi, PHI Learning Private Ltd
SULPHEY & BASHEER

NOTE: Latest edition of the readings may be used

JOURNALS
Journal of Taxation Management
National Tax Journal
Journal of Taxation Investment

WEB RESOURCES

www.taxmanagementindia.com

www.taxinstitute.com

www.incometaxmanagement.com

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A –   3x10=30 (From a choice of 4 questions)
Section B –   1x20=20 (From a choice of 2 questions)

Other Components: **Total Marks: 50**
Seminars/Assignments/Preparation of Returns

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 6x10= 60 (From a choice of 8 questions 5 theory 3 problems)
Section B – 2x20= 40(From a choice of 4 questions 2 theory 2 problem)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI -600086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019-2020)

ADVANCED CORPORATE ACCOUNTING

CODE: 19CM/PC/AC34   **CREDITS:4**
                                                                    L T P:4 1 0
                                                                    TOTAL TEACHING HRS:65

OBJECTIVES OF THE COURSE
 ➢ To equip students with the necessary knowledge to prepare final accounts of banking
    and insurance companies
 ➢ To acquaint students with the accounting procedures for mergers and acquisitions
 ➢ To equip students with the ability to prepare consolidated financial statements
 ➢ To provide an understanding of the provisions relating to liquidation of a company

COURSE LEARNING OUTCOMES
 On successful completion of the course, the students will be able to
 ➢ Prepare the consolidated financial statements of Holding Companies
 ➢ Identify the accounting procedure relating to amalgamation and acquisition
 ➢ Comprehend the preparation of accounts of banking and insurance companies
 ➢ Gain a practical insight into the current provisions relating to insolvency and
    bankruptcy code

Unit   1   **(15 Hours)**
   Mergers and Acquisitions
   1.1 Legal provisions relating to mergers and acquisitions
   1.2 Calculation of purchase consideration
   1.3 Accounting treatment in the books of the purchasing company and vendor
         company for merger and purchase excluding inter- company holdings

Unit   2   **(15 Hours)**
   Holding Company Accounts
   2.1 Preparation of Consolidated Balance Sheet – Calculation of minority interest,
         capital profit and goodwill or cost of control
   2.2 Intercompany Owings with one subsidiary company
   2.3 Dividend received and Bonus shares

Unit   3   **(10 Hours)**
   Insurance Company Accounts
   3.1 Accounts of General Insurance
   3.2 Accounts of Life Insurance Companies

Unit   4   **(15 Hours)**
   Bank Accounts
   4.1 Treatment of Rebate on bills discounted
   4.2 Computation of provision to be made for advances

4.3 Preparation of Profit and Loss account with schedules

4.4 Preparation of Balance Sheet with schedules

Unit 5 (10 Hours)

5.1 Liquidation

5.1.1 Legal Provisions of Companies Act and Insolvency and Bankruptcy Code

5.1.2 Statements relating to winding up

5.1.3 Statements relating to IBC

BOOKS FOR STUDY

Reddy, T.S. Murthy, A., *Corporate Accounting Vol II Revised*, Margham Publications, Chennai, Reprint 2016

Maheshwari, S.N., Maheshwari, Suneel K., and Maheshwari, Sharad K., *Corporate Accounting,* Vikas Publishing House, 2018

Gupta, R.L. and Radhaswamy, M., *Corporate Accounting Vol. I and II*, Sultan Chand & Sons, 2013

BOOKS FOR REFERENCE

Goyal , V.K. and Goyal, Ruchi, *Corporate Accounting*, Prentice Hall Learning, 2012

Shukla, S.M. and Gupta, K.L., *Corporate Accounting*, Sahitya Bhawan Publications, 2018

Jain, S.P. Narang, K.L, *Advanced Accountancy Corporate Accounting* (Part II), Kalyani Publishers, 2014

JOURNALS

Journal of Banking and Finance

Journal of Finance

Indian Journal of Commerce

WEB RESOURCES

www.icai.org

www.accaglobal.com

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A-Answer any Three (from a choice of Four) (3x10=30)

Section B-Answer any One (from a choice of Two) (1x20=20)

Other Components: **Total Marks: 50**

Open book test /Assignment/Problem solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 6x10= 60 (From a choice of 8 questions- Two theory and Six Problems)

Section B – 2x20= 40 (From a choice of 4 questions – Two Theory and Two Problems)

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SYLLABUS

(Effective from the academic year 2019-2020)

MANAGEMENT OF TRANSFORMATION

CODE: 19CM/PC/MT34   **CREDITS: 4**
                                                         L T P: 4 1 0
                                      TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
 ➢ To enable students to understand the dynamics and issues of transformation
 ➢ To provide an understanding the importance of Internal and External Management
 ➢ To enable students to understand the importance of benchmarking
 ➢ To facilitate students to appreciate the importance of practicing transformational leadership approach in organisations

COURSE LEARNING OUTCOMES
  On successful completion of the course, students will be able to

 ➢ Assimilate the importance of organizational change for effective working
 ➢ Comprehend the importance of Transformational leadership
 ➢ Explain the concept of Turnaround Management and Business Process Reengineering
 ➢ Understand the complexities of organisational change management

Unit 1   **(12 Hours)**
   Introduction
   1.1 Concept, Nature and Process of Planned Change and Resistance to Change
   1.2 Emerging Horizons of Management in Changing Environment
   1.3 Concepts of Transformation vs. Change - Transformational Leadership –
        Transactional Leadership, Charismatic vs. Non- Charismatic Leadership
   1.4 Simulating Change, Navigating Political Dimensions in Change

Unit 2   **(13 Hours)**
   Leadership
   2.1 Leadership from Within: Concept, Need and Importance of developing
         Leadership from within
   2.2 Distinction between Leadership from without and Leadership from within
   2.3 Steps for Developing Leadership from within
   2.4 Importance of Different Leadership Styles, Comparison between
        Transformational and Transactional Leadership Approaches

Unit 3 (13 Hours)

Turnaround Management

3.1 Turnaround Management - Definition of Sickness - Causes and Symptoms of Sickness - Prediction of Sickness – Quantitative and Qualitative Models

3.2 Behavioural, Economic and Technical Issues in Turnaround Management

3.3 Role of IBC, DRT, Financial Institutions

3.4 Case Studies in Turnaround Management

Unit 4 (15 Hours)

Business Process Reengineering

4.1 Introduction to Process Design, Process Redesign, Process Reengineering

4.2 BPR as a tool for managing transformation

4.3 Implementation of BPR

4.4 Case Studies in BPR

Unit 5 (12 Hours)

Organizational Change and Change Management

5.1 Concepts, Forces and Types of Organisational Change – External and Internal

5.2 Recognising the Need for Change – The Six Box Organisational Model

5.3 Organisational Change Framework

5.4 Managing Change – Planning and Creating the Support System, Managing Transition, Organisation Restructuring – Strategies

BOOKS FOR STUDY

Whittaker, D.H., *Managing Innovations,* Cambridge University Press, Cambridge, Reprint 2011

Bender, Peter Urs, *Leadership from Within,* Macmillan India Ltd., Delhi, Reprint 2011

BOOKS FOR REFERENCE

Sawhney, Mohan and Jeff Zabin, *The Seven Steps to NIRVANA: Strategic Insights into e-Business Transformation,* Tata McGraw Hill, New Delhi, 2001

Hammer, M. and J. Champy, *Reengineering the Corporation: A Manifesto for Business Revolution*, Nicholas Brealey Publishing., Reprint 2010

Khandwalla Pradip, *Turnaround excellence: In sights from 120 cases, Response Book* (A Division of Sage Publication, Newbook)

Noori, H. and Radford, *Readings and Cases in Management of New Technology,* Prentice Hall, New York.

JOURNALS

Indian Journal of Human Resource Management

South Asian Journal of Management

WEB RESOURCES

www.iosr.org

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 X 10 = 30 (From a choice of 4 – Max words 500)
Section B – 1 X 20 = 20 (From a choice of 2 –Max words 1200)

Other Components: **Total Marks: 50**
Research Manuscript Submission / Cryptic Crossword Puzzles / /Multiple choice questions / Case study

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 6 X 10 = 60 (From a choice of eight questions – Max words 500)
Section B – 2 X 20 = 40 (From a choice of four questions – Max words 1200)

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019-2020)

SUMMER INTERNSHIP

CODE:19CM/PC/SI32   **CREDITS:2**

OBJECTIVES OF THE COURSE

➢ To provide an opportunity to gain practical knowledge in different aspects of business
➢ To familiarise the student with the latest trends in business practices
➢ To enable students to appreciate the theatrical knowledge gained

COURSE LEARNING OUTCOMES
On successful completion of the internship, the students will be able to

➢ Communicate a practical understanding of business operations
➢ Demonstrate the ability to integrate and apply theoretical knowledge and skills developed in various courses to real-world situations
➢ Exhibit the ability to effectively work in a professional environment and demonstrate work ethic and commitment in a work-based environment
➢ Reflect on personal and professional development needs and set strategic goals for progressing towards an intended career.

The Students required to
➢ Undergo practical training in a reputed organisation for 100 hours
➢ Maintain a log book duly countersigned by the supervisor of the organisation
➢ The log book to contain the following details
   a. Hours worked
   b. Nature of work
➢ A final consolidated report with a minimum of 50 pages, to be submitted at the end of the Internships detailing the work assigned and performed in the Organisation.

Evaluation
Log book   - 20 marks
Project report   - 50 marks
VIVA   - 30 marks

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SYLLABUS

(Effective from the academic year 2019-2020)

STRATEGIC FINANCIAL MANAGEMENT

CODE: 19CM/PC/SF44   **CREDITS: 4**
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
 ➢ To enable students to understand the conceptual framework of financial management
 ➢ To familiarise students with approaches for better utilisation of financial resources
 ➢ To encourage students to apply financial theory to real life situations

COURSE LEARNING OUTCOME
On successful completion of the course, students will be able to
 ➢ Analyse a company's financial performance and make appropriate decisions
 ➢ Assess the factors affecting investment decisions and opportunities available for an organisation
 ➢ Explore the financial environment in which firms and financial managers must operate
 ➢ Understand the alternative sources of finance and investment opportunities, and their suitability in particular circumstances

Unit   1   **(10 Hours)**
  1.1 Nature and Scope of Financial Management
      1.1.1 Definition, Scope of Corporate Finance
      1.1.2. Functions of Financial Management
      1.1.3. Objectives of Firm- Profit Maximization, Wealth Maximization, Value Maximization
      1.1.4 Time Value of Money – Overview of the concept and its application in Financial Management
  1.2 Cost of Capital
      1.2.1 Meaning, Significance and Concepts of Cost of Capital
      1.2.2 Cost of Debt, Preference Shares, Equity Shares and Retained Earnings
      1.2.3 Determination of Cost of Capital - Weighted Average Cost of Capital
      1.2.4 CAPM

Unit   2   **(15 Hours)**
  Long Term Financing Decision
  2.1 Sources of Long Term Finance
  2.2 Methods of Raising Long Term Finance
  2.3 Capital Structure
      2.3.1 Designing Capital Structure – EBIT- EPS Approach, Valuation Approach,
            Cash Flow Approach
      2.3.2 Practical Consideration in Determining Capital Structure
      2.3.3 Optimal Capital Structure
      2.3.4 Valuation of Securities and Bonds

Unit   3   **(15 Hours)**
  Investment Decision
  3.1 Nature and Types of Investment Decisions
  3.2 Investment Evaluation Criteria
        3.2.1 Non-Discounted Cash Flow Techniques
        3.2.2 Discounted Cash Flow Techniques
  3.3 Capital Rationing and Mutually Exclusive Projects
  3.4 Risk Analysis in Capital Budgeting
        3.4.1 Probability Assignment
        3.4.2 Certainty Equivalent
        3.4.3 Sensitivity Analysis

Unit   4   **(15 Hours)**
  Working Capital Management
  4.1 Meaning, Significance and Kinds of Working Capital
  4.2 Management of Working Capital - Factors Determining Working Capital -
      Estimation of Working Capital Requirement
  4.3 Cash Management – Motive of Holding Cash - Cash Budgeting; Cash Collections
      and Disbursement - Options and Strategies for Investing and Managing Surplus
      cash
  4.4 Inventory Management – Benefits of Holding Inventory, Risk and Cost
      of Holding Inventories - Objectives of Inventory Management, Tools and
      Techniques of Inventory Management
  4.5 Credit Management – Cost of Maintenance of Accounts Receivables,
      Forecasting the Receivables, Terms of Payments - Credit Policy, Credit
      Evaluation, Credit Granting, Collection Policy - Controls of Accounts
      Receivables

Unit   5   **(10 Hours)**
  Dividend Policy
  5.1 Factors Determining the Dividend Policy of a Firm
  5.2 Types of Dividend
  5.3 Theories of dividend policy – Walter's model, Gordon's model, MM Hypothesis
  5.4 Legal Procedures and Tax Aspects of Dividend

BOOKS FOR STUDY

Khan, M.Y. and Jain P.K. *Theory and Problems in Financial Management*.New Delhi: TMH, 2012.

Ravi, M. Kishore. *Taxmann's Financial Management.* New Delhi: K. L., Taxmann Allied Services, 2012.

BOOKS FOR REFERENCE

James, C. Van Horne. *Financial Management and Policy.* Prentice Hall of India.

Maheshwari, S. N. *Financial Management.* New Delhi: Vikas, 2011.

Pandey, I. M. *Financial Management*. New Delhi: Vikas, 2012.

Thulsian, P.C. and Bharath Thulsian C.A. *Financial Management*. New Delhi:S.Chand, 2013

JOURNALS

Journal of Financial and Quantitative Analysis
Indian Journal of Finance
Journal on Risk and Financial Management

WEB RESOURCES

www.niptp.or.in
www.icmrindia.org

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 3 x 10=30 Marks (from a choice of four questions)

Section B - 1x20=20(from a choice of two questions)

Other Components: **Total Marks: 50**

Case Studies/ Open book test/ Assignment

End-Semester Examination: **Total Marks:100**   **Duration: 3 hours**

Section A – 6x10= 60 (from a choice of eight questions – 3 theory and 5 problems)

Section B – 2x20= 40 (from a choice of four questions – 2 theory and 2 Problems)

SYLLABUS
(Effective from the academic year 2019 – 2020)

FINANCIAL PLANNING

CODE: 19CM/PC/FP44   **CREDITS: 4**
                                                          LTP : 4 1 0
                                   TOTAL TEACHING HOURS : 65

OBJECTIVES OF THE COURSE
- To enable students to realise the relevance of financial planning
- To make them understand the key principles of personal finance
- To assist the students to develop skills for critically analysing and planning personal investments
- To orient students with various aspects of financial planning framework

COURSE LEARNING OUTCOME
On successful completion of the course, students will be able to

- Have a basic understanding of financial planning techniques
- Develop and identify analytical skills for effective financial decision-making.
- Take informed decisions regarding budgets, investment, insurance, retirement, and estate planning.
- Make appropriate personal financial decisions

Unit   1
Introduction to Financial Planning   **(11 Hours)**
1.1   Financial planning – Meaning, Importance and Process
1.2   General Principles of Cash Flow Planning and Budgeting
1.3   Legal Aspects of Financial Planning
1.4   Elements and Structure of Personal Financial Plan
1.5   Relevance of Risk Management in Financial Planning

Unit   2
Investment options and operational scenario   **(13 Hours)**
2.1   Needs and Benefits of Investing
2.2   Sources of Financial Information
2.3   Investment Options for Individual Investors - Bonds, Equity Shares, Mutual Funds, Fixed Deposits, PPF/NPS, Financial Derivatives, Commodity Derivatives, Gold and Bullion, Real Estate, Exchange Traded Funds (ETFs), Real Estate, Investment Trusts (REITs), Life Insurance and Health Insurance Plans and Operations
2.4   Operational Constraints while Investing (Tax Considerations, Unique Needs etc.) and Impact of Inflation and Indexation
2.5   Investing in Mutual Funds – Schemes, NAV Calculation, Load Structure, Systematic Investment Plan (SIP) and Systematic Withdrawal Plan (SWP)

Unit 3

Risk- Return Assessment   **(15 Hours)**

3.1 Return on Investment and Risk Profiling

3.2 Concepts, Types and Calculation of Returns

3.3 Power of Compounding, Time Value of Money and Rupee Cost Averaging

3.4 Concept of Portfolio and Diversification.

3.5 Basics of Portfolio Risk-Return, Tactical and Strategic Asset Allocation

Unit 4

Personal Financial Planning   **(11 Hours)**

4.1 Personal Financial Planning Process – Setting Personal Financial Goals, Life-Cycle Approach to Financial Planning

4.2 Asset Allocation Decision – Equity Portfolio Strategies, Management Strategies, Asset Allocation Strategies – Tactical, Fixed and Flexible Asset Allocation

4.3 Developing and Implementing Financial Plan

4.4 Monitoring and Review of Financial Plan

4.5 Case Studies on Personal Financial Plan

Unit 5

Managing Credit and Planning for Retirement   **(15 Hours)**

5.1 Types of Credit, Advantages and Disadvantages

5.2 Credit Bureaus – Individual Credit History, Credit Rating and Identity Security

5.3 Objectives and Features of Will and Power of Attorney

5.4 Retirement Planning and Pension Schemes

5.5 Impact of Taxes and Inflation on Retirement Planning

BOOKS FOR STUDY

Kapoor, J R, Dlabay and Hughes R. *Personal Finance*. Mcgraw Hill. 12th Edition.

Madura, Jeff. *Personal Finance*. Pearson.

BOOKS FOR REFERENCE

Thomas Gorman, E & Raymond E. Forgue. *Personal Finance*, Southwest-Western Cengage Learning.10th Edition.

Rachel, Siegela and Carol Yacht. *Personal Finance*. Saylor Foundation, Flat World Knowledge.

Bajtelsmit, Vickie L. & Rastelli Linda *Personal Finance*. G. Wiley Pathways

JOURNALS

Journal of Wealth Management

The Insurance and Investment Journal

Journal of Individual Financial Management

WEB RESOURCES

www.saylor.org

www.bogleheads.org

www.planningalt.com

PATTERN OF ASSESSMENT

Continuous Assessment Test:　　　**Total Marks: 50　Duration: 90 minutes**

Section A – 3 x 10 = 30 Marks (Answer any three questions from a choice of four)

Section B – 1 x 20 = 20 Marks (Answer any one question from a choice of two)

Other Components:　　　　　　**Total Marks: 50**

Evaluation Modes:

Seminar / Assignments / Case Study Analysis

End Semester Examination　　Total Marks: 100　　Duration: 3 Hours

Section A – 6 x 10 = 60 (Answer any six questions from a choice of eight)

Section B – 2 x 20 = 40 (Answer any two questions from a choice of four questions)

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SYLLABUS
(Effective from the academic year 2019 – 2020)

RETAIL MARKETING

CODE: 19CM/PC/RM44

CREDITS: 4
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

➢ To enable students to understand the conceptual and organizational aspects of retail customers
➢ To familiarise students with the key elements in planning the retail marketing mix
➢ To provide the students an insight into retail operations

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

➢ Appreciate the importance of marketing tools and techniques
➢ Comprehend the impact of technology in modern retailing
➢ Compare and contrast different retail locations and layout
➢ Outline the customer relationship process in retailing

Unit   1   **(10 Hours)**
Introduction
1.1 Retailing - Meaning, Economic Significance of Retailing,
1.2 Retailing Management Decision Process, Product Retailing vs. Service Retailing,
1.3 Types of Retailers, Retailing Environment, Indian vs. Global Scenario

Unit   2
Retail Marketing Environment   **(15 Hours)**
2.1 Understanding the Retail Customer Behavior – Factors Influencing Retail Shopper, Customer Decision Making Process
2.2   Market Research – Tools for Understanding Retail Market and Customer
2.3   Retail Strategy - Steps Involved in Designing Retail Strategy

Unit 3   **(15 Hours)**
       Stores Location, Layout and Retail Merchandising
       3.1 Types of Retail Location and Steps involved in Choosing the Retail Location
       3.2 Stores Lay out –Importance of Exterior and Interior Stores Design and Types of Lay out
       3.3 Evolution, Understanding Merchandising Management
       3.4 Retail Merchandising Management Process, Activities of a Merchandiser
       3.5 The Process of Merchandise Planning and Methods of Merchandise Procurement

Unit 4   **(15 Hours)**
       Retail Marketing and Communication
       4.1 Retail Marketing Mix – The STP Approach
       4.2 Retail Communication Mix
       4.3 Servicing the Retail Customer – Importance of Service and CRM in Retail
       4.3 Sales Promotion and Personal Selling
       4.4 Retail Selling Process

Unit 5   **(10 Hours)**
       E-Tailing
       5.1 Introduction, E-tailing, Role of Technology in Satisfying Market Demand,
       5.2 Technology in Retail Marketing Decisions
       5.3 Structure and Developments in E-tailing
       5.4 Factors Influencing the Growth of E-Tailing – Advantages, Disadvantages and Future of E-Tailing

BOOKS FOR STUDY

Swapna Pradhan, *Retailing Management – Text and Cases*, McGraw-Hill Companies 2017

Natarajan L Retail Marketing Margham

BOOKS FOR REFERENCE

Gawand M.K *Retail Business Management* Chandralok Prakasan, Kanpur 2012

Dhruv Grewal, retail Marketing Management – The 5Ecs of Retailing , Sage Publication .2018

Claudia Buhamra Abreu Romero, Retail Marketing Management: Concepts, Guidelines, and Practices, Author House 2013

H. M. Chandrashekar, C. Murthy, Retail Marketing Management, Lap Lambert Academic Publishing, 2012

JOURNALS
International Journal on Retail and Distribution management
Journal of Retailing – Elseiver
Journal of Direct Marketing

WEB RESOURCES
us.sagepub.com
www.tutorialspoint.com/retail_management/retail_management_marketinghttps://joe.org

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 x 10=30 (from a choice of four questions –Max words 500)
Section B – 1 x 20=20 (from a choice of two questions – Max words 1200)

Other Component: **Total Marks: 50**
Evaluation Modes:
Assignments/Seminar /Case study/Class presentation/Group discussion

End Semester Examination: **Total Marks:100**   **Duration: 3 hours**
Section A – 6x10= 60(from a choice of eight questions –Max words 500)
Section B – 2x20= 40(from a choice of four questions – Max words 1200

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.COM DEGREE

DISSERTATION

SYLLABUS
(Effective from the academic year 2019 -2020)

CODE: 19CM/PC/DS47   **CREDITS :7**

Project should be the independent work of the student. Each student will choose a topic of her interest and the student will be assigned to a supervisor.
The student can use Quantitative or Qualitative/Descriptive or both methods.

  ➢   **Page Limit :**
    The Dissertation report should be submitted in the prescribed format having a maximum of 100 pages, typed in font Times New Roman -size 12, with 1 ½ line spacing on A4 Size paper.
  ➢ **Contents of the Report:**
      • Contents Page
      • The report copy will include Certificate of the Supervisor, Declaration, and Acknowledgement
      • Four or five chapters
      • Presentation of the Report – format
          Chapter 1 - Introduction - to include background of the study, objectives , Methodology, limitation of the study and chapter scheme
          Chapter 2 – Review of literature
          Chapter 3 – Theoretical aspects of the study
          Chapter 4 – Data analysis
          Chapter 5 – Suggestion and conclusion
      • At the end of the project 'Bibliography' must be given in alphabetical/chronological order and necessary appendix may be added.
  ➢ **Submission:**
    Each student may prepare two soft bound copies of the report, one for her and one copy to be submitted to the Head of the Department duly signed by the supervisor, on the scheduled date.

  ➢ **Guidelines for Evaluation:**
    There will be double valuation for the Dissertation by the supervisor and an external examiner. The student will appear for viva -voce before a panel comprising External Examiner, Supervisor and Head of the Department.

PATTERN OF EXAMINATION

      Project Report -   75 Marks
      Viva Voce   -   25 Marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019-2020)

ADVERTISING MANAGEMENT

CODE: 19CM/PE/AM15   **CREDITS: 5**
                                                                         LTP: 5 0 0
                                              TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
➢ To offer an insight into the creative strategies of advertising
➢ To enable students to understand the changing perspective of advertising.
➢ To provide an understanding of the growing demand and challenges of the promotional aspects of advertising

COURSE LEARNING OUTCOMES
On successful completion of the course, the students will be able to
➢ Appreciate the role of advertising as an effective promotional tool
➢ Explain the elements of creative ad design
➢ Gain comprehensive knowledge on various medias of advertising
➢ Identify the unethical aspects of advertising

Unit   1   **(10 Hours)**
        Introduction
        1.1 Advertising – Meaning, Importance and Functions
        1.2 Advertising and Marketing – The Relationship and Differences
        1.3 Role of advertising – Marketing, Communicative, Economic, Social
        1.4 Advertising as a Promotional Tool – Pros and Criticism of Advertising
        1.5 Advertising as a Communication Process

Unit   2   **(15 Hours)**
        Creative Strategy
        2.1 **Ad Copy**
            2.1.1 Meaning – Preparation Process
            2.1.2 Types of Copy Form
            2.1.3 Elements of an Ad Copy
        2.2 **Ad Designing -** Elements of Creative Ad Design
        2.3 **Ad Layout**
            2.3.1 Structure of an Ad Layout
            2.3.2 Principles of Ad Layout

Unit   3   **(12 Hours)**
        Advertising Media
        3.1 Role of Media and Types of media - Indoor and outdoor, Electronic and online and Social media marketing – Advantages and Disadvantages
        3.2 Media Planning Selection and Scheduling Strategies - factors affecting choice of media

3. 3 Role of Agencies – Types and Functions of Ad Agencies – Client and Agency Relationship – Selection of Advertising Agency

3.4   Advertising Appeals

Unit   4

Planning and Executing Ad Campaign   **(13 Hours)**

4.1 Preparation of Campaign – Stages in the Campaign Process

4.2 Advertising Budgets– Importance, Factors influencing Budget Setting,

    4.2.1 Budgeting Methods- affordable rate method, Percentage of sales method

    4.2.2 Competitive parity method and objective and task method

    4.2.3 Decision Support System- Structure

Unit   5

Evaluation of Advertising   **(15 Hours)**

5.1 Valuation and Measurement of Advertising Effectiveness - Measures to Study Effectiveness – Direct and Indirect Measures

5.2 Ethics in advertising – Perceived Role of Advertising, The Advertising Standards Councils of India, (ASCI)

5.3 Forms of Ethical Violations – Misleading Advertising, Advertising to Children, Product Endorsements, Stereotyping, Cultural, Religious and Racial Sensitivity in Advertising, Obscenity in Adverting

BOOK FOR STUDY

Belch. *Advertising and Promotion*. New Delhi: Tata McGraw Hill, 2014

Wells. *Advertising Principles and Practice*. New Delhi: Prentice Hall of India, 2007

BOOKS FOR REFERENCE

Bovee, John. Courtland, L.George, Dovel, P. and Wood, Marian Burk. *Advertising Excellence*.

New Delhi: Tata McGraw Hill , 1999.

Christina Spurgeon. *Advertising & New Media*. USA : Taylor & Francis, 2008.

Jaishree Jethwaney, Shruti Jain, *Advertising Management,* New Delhi: Oxford University Press.

Kenneth, E. Clow & Donald E. Baack. *Integrated Advertising Promotion & Marketing Communication*. New Delhi: Prentice Hall, 2003.

Sabyasachi Chatterjee. *Media and Advertising Management : New Trends*. New Delhi: ICFAI, 2007

JOURNALS

Journal for advertising research and new insights on marketing issues

Journal of interactive advertising

International Journal of Internet marketing and Advertising

WEB RESOURCES

http://www.smallfuel.com/blog/entry/the-8-steps-of-an-advertising-campaign/

http://www.brickmarketing.com/define-ad-copy.htm

http://letsspeaktogether.blogspot.in/2013/02/elements-of-advertisement-copy.html

http://kalyan-city.blogspot.com/2013/08/eleven-major-functions-of-advertising.html

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 x 10=30 Marks (from a choice of four questions –Max words 500)
Section B - 1x20=20 (from a choice of two questions – Max words 1200)

Other Components: **Total Marks: 50**
Assignments/Seminar/Case study/Class presentation and group discussion

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 6x10= 60 (from a choice of eight questions –Max words 500)
Section B – 2x20= 40 (from a choice of four questions – Max words 1200)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019–2020)

CUSTOMER RELATIONSHIP MANAGEMENT

CODE: 19CM/PE/CR15   **CREDITS:5**
                                                                L T P:5 0 0
                                          TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
  ➢ To provide students an insight into the realm of relationship marketing concepts and applications
  ➢ To give a clear understanding on the concepts of retailing
  ➢ To create an understanding of the measures adopted in satisfying customers or retain them.

COURSE LEARNING OUTCOMES
  On successful completion of the course, students will be able to

  ➢ Utilise the concepts of relationship marketing in practice
  ➢ Understand and have clarity when they relate theory to practice
  ➢ Comprehend the techniques of customer relationship management
  ➢ Identify customer retention strategies

 Unit 1   **(10 Hours)**
    Fundamental concepts in Relationship Marketing
    1.1 Defining Relationship Marketing Concepts
    1.2 Relationship Marketing programmes- types
    1.3 Steps involved in building customer based brand equity

Unit 2   **(15 Hours)**
    Customer Acquisition
     2.1 Customer Life Cycle
     2.2 Acquisition Tactical Management (ACTMAN)
     2.3 Customer Profiling

Unit 3   **(15 Hours)**
    Customer Loyalty
    3.1 Loyalty Effect
    3.2 Building Loyalty through customer retention
    3.3 Devising a Loyalty based relationship building strategy

Unit 4 (15 Hours)

Customer Satisfaction and Retention

4.1 Significance of Customer Retention

4.2 Major Customer Retention Stages

4.3 Customer satisfaction- Factors and Levels

Unit 5 (10 Hours)

Integrated Marketing Strategies

5.1 Preparing for a Relationship Marketing Strategy

5.2 Strategy for improvement

5.3 Guidelines for implementation

BOOK FOR STUDY

Shahjahan.S , *Relationship Marketing- text and cases,* New Delhi, TMH, latest edition

Francis Buttle and Stan Maklan, *Customer Relationship Management: Concepts and Technologies,* Routledge, 2015

BOOKS FOR REFERENCE

Mark Godson, *Relationship Marketing*, Oxford University Press, 2009

Kristin Anderson and Carol Kerr, *Customer Relationship Management*, New Delhi, Tata Mc Graw Hill, New Delhi

V.Kumar and Werner Reinartz, *Customer Relationship Management: Concept, Strategy and Tools,* Springer Heidelberg, New York

Mukesh Chaturvedi, Abhinav Chaturvedi, *Customer Relationship Management – An Indian Perspective,* Excel Books, New Delhi, 2008

JOURNALS

Customer Relationship Management as a business process- Emerald Insight

International Journal of Electronic Customer Relationship Management

Indian Journal of Marketing

Journal of Marketing Education

WEB RESOURCES

www.managementstudyguide.com/customer relationship management

crmbook.powerobjects.com

www.marketing-schools.org

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**

Section A- 3x10 = 30 Marks (from a choice of four questions)

Section B- 1x20 =20 Marks (from a choice of two questions)

Other Components: **Total Marks: 50**

Seminars/Case Studies/Group Discussions/Assignments/Class Presentation

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**

Section A- 6x10 =60 Marks (from a choice of eight questions)

Section B- 2x20 =40Marks (from a choice of four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.COM DEGREE

SYLLABUS

(Effective from the academic year 2019-2020)

BUSINESS DATA ANALYSIS

CODE: 19CM/PE/BD15   **CREDITS:5**
                                                          L T P: 2 0 4
                                        TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
  ➢ To provide an insight into the application of analytical techniques
  ➢ To familiarise students with techniques for data retrieval using computer
  ➢ To enable the students to understand the techniques in business forecasting

COURSE LEARNING OUTCOMES
  On successful completion of the course, the students will be able to

  ➢ Demonstrate critical thinking and problem-based learning skills to understand,
    interpret, and evaluate computer information systems projects and problems
  ➢ Grasp various techniques and methods in analyzing business data, summarising and
    presenting it in a report format
  ➢ Demonstrate the ability to apply fundamental concepts in exploratory data analysis and
    hypothesis testing using computer software

Unit   1   **(12 Hours)**
   Introduction
   1.1 Data - Meaning, Types and Sources
   1.2 Data Processing – Meaning, Stages in data processing: Editing, Coding,
        Classification, Tabulation & Graphic Presentation

Unit   2   **(18 Hours)**
   Data Analysis
   2.1 Introduction – Meaning, Purpose, Types
   2.2 Techniques and Tools
   2.3 Data Analysis using Computers
   2.4 Application of Data Analysis in Business

Unit   3   **(18 Hours)**
   Management Reporting using Spreadsheets
   3.1 Business forecasting – Time series analysis – Charts – Ratio Analysis –
        Regression Analysis
   3.2 Financial Statement Analysis – Comparative Statements – Common size
        Statements – Cash flow and Fund flow analysis
   3.3 Budgeting – Preparation of Master budget

Unit 4   **(15 Hours)**
   Statistical Analysis using SPSS
   4.1 Measures of Central Tendency
   4.2 Correlation Analysis
   4.3 Regression Analysis
   4.4 Dispersion Analysis

Unit 5   **(15 Hours)**
   Hypothesis Testing using SPSS
   5.1 Testing of Hypothesis - Introduction
   5.2 Steps in Hypothesis Testing
   5.3 Procedure for Testing Hypothesis
   5.4 Types of Hypothesis Testing –
      5.4.1 Parametric – t, f, z test
      5.4.2 Non-Parametric - Chi square, ANOVA

BOOKS FOR STUDY
S.L. Gupta and Hitesh Gupta, *Research Methodology – Text and Cases with SPSS Applications*, International Book House Pvt Ltd
S.L Gupta and Hitesh Gupta, *SPSS 17.0 for Researchers*, 2nd edition, International Book House Pvt Ltd

BOOKS FOR REFERENCE
S.C. Srivastava, *Foundations of Social Research and Econometrics Techniques*, Himalaya Publishing House
Hold Rinehart & Wrintston, *Statistical Analysis with Business and Economics Applications,* 2nd Edition, New York
Frye, C. D. (n.d.). Step by Step Microsoft Excel 2010. New Delhi: PHI.
Sanjay, S. (n.d.). MS Office 2000. Delhi: Vikas Publishing.

JOURNALS
Journal of Management Information Systems and E-Commerce
Indian Journal of Computer Application

WEB RESOURCES
http://www.socialresearchmethods.net
http://www.oup.com/uk/orc/bin/9780199202959

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Theory 20 Marks – 30 mins (5 X 4 = 20 from a choice of 6)
Practical 30 Marks - 60 mins (10 x 3 = 30 from a choice of 4)
Other Components: **Total Marks: 50**
Project on application of statistical software/Assignment /Problem Solving
End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Theory 40 Marks – 60 mins (10 X 4 = 40 from a choice of 12)
Practical 60 Marks - 120 mins (10 x 6 = 60 from a choice of 7)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.COM DEGREE

SYLLABUS

(Effective from the academic year 2019–2020)

SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT

CODE:19CM/PE/PM15   **CREDITS: 5**
                                              L T P:5 0 0
                                              TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
➢ To provide students an in-depth knowledge of the theory and practice of portfolio management
➢ To give an overview of the various strategies followed by investment practitioners
➢ To enable students to make investment decisions

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Understand and critically evaluate investment advice from brokers and the financial press
➢ Value assets such as stocks and bonds
➢ Demonstrate critical thinking, analytical and problem solving skills in the context of portfolio construction and management
➢ Measure and manage risk exposure of a portfolio
➢ Evaluate the portfolio performance

Unit   1   **(10 Hours)**
Introduction
1.1   Definition and Meaning of Investment and Speculation, Comparison between Investment, Speculation and Gambling
1.2   Objectives of Investment, Investment alternatives – Real and Financial, Investment Process
1.3   Framework of Risk and Return
1.4   Meaning and Components of Return
1.5   Risk – Meaning and Causes
1.6   Types of Risk – Systematic and Unsystematic
1.7   Measurement of Risk and Return – Historical and Prospective.

Unit   2   **(15 Hours)**
Valuation of Securities
2.1   Equity Valuation
      2.1.1 Based on Accounting Information

2.1.2 Based on Dividends

2.1.3 Based on Earnings

2.2　Bond Valuation

2.2.1 Bond pricing

2.2.2 Yield to Maturity, Yield to Call

Unit　3　　　　　　　　　　　　　　　　　　　　　　　　　**(10 Hours)**

Security Analysis

3.1　Fundamental Analysis – Intrinsic value of shares – EIC (Economy-Industry-Company) Framework

3.2　Technical Analysis (only theory) –Basic tenets of Technical Analysis

3.2.1 Price and volume charts, Dow Theory, Pattern Analysis

Unit　4　　　　　　　　　　　　　　　　　　　　　　　　　**(15 Hours)**

Theories of Portfolio Management

4.1　Definition and Meaning of Portfolio Management

4.2　Steps involved in Portfolio Management, Principles of Portfolio Management

4.3　Harry Markowitz Theory

4.4　Sharpe's Single Index Model

4.5　CAPM (Capital Assets Pricing Model)

4.6　Arbitrage Pricing Theory

Unit　5　　　　　　　　　　　　　　　　　　　　　　　　　**(15 Hours)**

Techniques of Portfolio Management

5.1　Efficient Market Hypothesis

5.2　Asset Allocation Framework – Strategic and Tactical

5.3　Passive and Active Management Strategies

5.4　Portfolio Evaluation – Treynor measure, Sharpe measure, Jensen measure

BOOKS FOR STUDY

Prasanna Chandra - *Investment analysis and Portfolio management*– McGraw Hill Education(India) – 2017

Rustagi R.P – *Investment analysis and Portfolio management,* Sultan Chand & Sons, New Delhi, 2013

BOOKS FOR REFERENCE

Bhalla V.K**,** *Fundamentals of Investment Management* (Revised Edition), New Delhi: S. Chand & Co, 2013

Grinold, Richard and Kahn, Ronald, N., *Active Portfolio Management – Quantitative Theory and Applications,* New Delhi: S. Chand Publications

Gurusamy, S., *Security Analysis and Portfolio Management*, Chennai: Vijay Nicole Imprints, 2017

Singh, Preethi, *Investment Management Security Analysis and Portfolio Management***,** Mumbai: Himalaya Publishing House, 2017

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A - 3 x 10 = 30 (from a choice of four questions)

Section B - 1 x20= 20   (from choice of two questions)

Other Components: **Total Marks: 50**

Assignments/Application Oriented Objective Test

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A - 6 x 10 = 60 (from a choice of seven questions)

Section B - 2 x20= 40 (from choice of four questions)

STELLA MARIS COLLEGE (AUTONOMUS), CHENNAI-600080

M.COM   DEGREE

SYLLABUS
(Effective from the academic year 2019–2020)

TRAINING AND DEVELOPMENT

CODE:19CM/PE/TD15   **CREDITS:5**
                                                                  L T P:5 0 0
                                           TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
➢ To enlighten the students on the importance and need for training and development
➢ To familiarise students with the pedagogy for training and development
➢ To enhance the ability of students to positively contribute towards superior performance

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Know the facets of training and development or training needs
➢ Understand the different ways in which an individual reacts and interacts with others
➢ Apply the key tenets of training and development to a real-life situation in a work place
➢ Compare individual differences to identify and analyse the dominant values and training needs in the today's workplace

Unit   1   **(8 Hours)**
Introduction to Training and development
1.1 Definition, Meaning and Objectives of Training and Development
1.2 Need for Training and Development
1.3 Difference Between Training and Development

Unit   2   **(12 Hours)**
Pre-requisites to Effective Training
2.1 Creating a climate for Training
2.2 Learning Styles of the Trainees- Classification of Learned Capabilities Bloom's Taxonomy and Basic principles of Learning
2.3 Resistance to Training and Steps to overcome

Unit   3   **(15 Hours)**
Designing a Training Programme
3.1 Meaning and Significance of Need Analysis
3.2 Types of Need Analysis, Components of Need Analysis
3.3 Design and Development of a Training Program

Unit 4 (15 Hours)
Training Methods and Technique
4.1 On the Job Training -Type
4.2 Executive Development
4.3 Types of Training Aids

Unit 5 (15 Hours)
Training Implementations
5.1 Implementations -Meaning and Significance of Training Implementations
5.2 Approaches to Training Implementation
5.3 Training Evaluation- Need and significance,
5.4 Donald Kirk Patricks Evaluation Model

BOOK FOR STUDY
Pandu Naik.G, *Training and Development*, Exceel Book, 2010

BOOKS FOR REFERNCE
Udai Pareek, *Training and Development in HRD*, New Delhi, Tata McGraw Hill
Lynton P Rolf, *Training and Development*, New Delhi, Vistaar
Vasudeva, Training *and Development*, Common Wealth
Kumar KBS, *Training and Development*, ICFAI University Press

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**
Section A – 3 x 10=30 Marks (from a choice of four questions –Max words 500)
Section B - 1 x 20 =20 Marks (from a choice of two questions – Max words 1200)

Other Components:

Seminars/Assignments/Case Studies

End Semester Examination: **Total Marks: 100** **Duration: 3 hours**
Section A – 6x10= 60(from a choice of eight questions –Max words 500)
Section B – 2x20= 40(from a choice of four questions – Max words 1200)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600086

M.COM DEGREE

SYLLABUS

(Effective from the academic year 2019-2020)

SERVICE MARKETING

CODE: 19CM/PC/SM15   **CREDITS: 5**
                                                                    LTP: 5 0 0
                                                   TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
  ➢ To familiarise students with the service sector operations and its diversity.
  ➢ To create an awareness of how service sectors are becoming a primary source of wealth and trade.
  ➢ To increase the value of learning experience by becoming familiar with the challenging and dynamic environment of services.

COURSE LEARNING OUTCOMES

  ➢ Explain the expanding role of marketing mix in service industry
  ➢ Comprehend the importance of competitive positioning strategy and service gaps
  ➢ Assess the process of managing the service encounter
  ➢ Appreciate the Servaqual dimensions – the key drivers of quality

Unit 1
Introduction   **(10 Hours)**
1.1 Global Feature and Services
1.2 Marketing Management for Services – Expanding the Marketing Mix
1.3 An Integrated Approach to Services Marketing – Servuction Model

Unit 2
Managing Demand and Capacity   **(15 Hours)**
2.1 Nature of Demand and Patterns of Demand for Services
2.2 Using Marketing Mix to Manage Demand
2.3 Balancing Capacity to Demand

Unit 3
Positioning Service   **(15 Hours)**
3.1 Creating a Competitive Positioning
3.2 Steps in Developing a Positioning Strategy – Mission, Vision, Strategic Goals
3.3 The Service Gaps – Quality Gap, Performance Gap, Delivery Gap, Customer gap

Unit 4
Managing the Service Encounter   **(15 Hours)**
4.1 Designing the Interactive Process – Blue Printing
4.2 Designing the Physical Environment
4.3 Roles of People in the Process

Unit 5
Customer Satisfaction (10 Hourse)
5.1 Customer Expectation – Expectation Hierarchy, Satisfaction Process
5.2 Servaqual Dimensions – Key Drives of Quality
5.3 Principles of Complaint Management and Service Recovery

BOOKS FOR STUDY

Andrey, Gilmor E. *Service Marketing and Management.* New Delhi : Sage Publishing,2003.
Jha S.M. *Services Marketing*. Mumbai: Himalaya, 1998.

BOOKS FOR REFERENCE

Lovelock, Christopher. H. *Services Marketing.* USA: Prentice Hall, 2004.
Promod, Batra. *Simple Ways to Manage your Service Customers.* New Delhi: Think Inc, 1997.
Rampal, M.Kand Gupta S.L. *Services Marketing Concepts, Application and cases*.New Delhi:
Galgotia , 2003.
Roland, T. Rust, Anthony J, Zahovik, Timothy L. Keinigham. *Services Marketing.* USA: Addison – Wesley Longman Inc, 1999.
Shajahan S. *Services Marketing Concepts, Practices and cases*. Mumbai: Himalaya, 2001
Sinha, P.K Sahoo S.C. *Services Marketing – Text and Readings.* Mumbai: Himalaya, 1994.

JOURNALS
International Journal of Research in Marketing
Journal of Services Marketing
Journal of Professional Services Marketing

WEB RESOURCES

http://www.managementstudyguide.com/
http://blog.clientheartbeat.com/

PATTERN OF ASSESSMENT
Continuous Assessment: Total Marks:50   Duration: 90 minutes
Section A – 3 x 10=30 Marks (from a choice of four questions –Max words 500)
Section B - 1x20=20(from a choice of two questions – Max words 1200)

Other Component:
Seminars//Assignments/Case Studies

End Semester Examination: Total Marks:100   Duration: 3 hours
Section A – 6x10= 60(from a choice of eight questions –Max words 500)
Section B – 2x20= 40(from a choice of four questions – Max words 1200)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019 – 2020)

REGULATORY ASPECTS OF BUSINESS

CODE: 19CM/PE/RB15   **CREDITS: 5**
                                                          L T P: 5 0 0
                                   TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

- ➢ To acquaint the students with the basic laws which govern and regulate business entities
- ➢ To expose the students to the legal perspective and its practices.
- ➢ To provide knowledge and understanding to the provisions of commercial and economic laws

COURSE LEARNING OUTCOMES

On successful completion of this course students will be able to
- ➢ Understand the legal systems in India and its relevance
- ➢ Exhibit a strong conceptual knowledge about the legal provisions relating to business operations
- ➢ Comprehend the features and importance of LLP
- ➢ Apply the legal provisions relating to transfer of property

Unit   1   **(15 Hours)**
   Introduction
   1.1   Introduction to Legal Systems in India and its Administration
   1.2   Law relating to Money Laundering
          1.2.1   Important Definition and Objectives
          1.2.2   Offences and Punishment for Money Laundering
          1.2.3   Attachment, Adjudication and Confiscation
          1.2.4   Obligation of Banking and Non-Banking Institutions

Unit   2

   The Limited Liability Partnership Act 2008 (LLP)   **(15 Hours)**
   2.1   Salient Features of LLP
   2.2   Difference Between LLP, Partnership and a Company
   2.3   LLP Agreement - Nature of LLP- Partners and Designated Partners;
   2.4   Incorporation by Registration
   2.5   Extent and Limitation of Liability of LLP and Partners
   2.6   Financial Disclosures, Annual Return, Taxation of LLP
   2.7   Conversion to LLP - Winding up and Dissolution

.

Unit 3   **(10 Hours)**

Depositories Act 1996

3.1   Rights and Obligations of Depositories and Beneficial Owners

3.2   Enquiry and Inspection

3.3   Penalty

Unit 4   **(15 Hours)**

Law Relating to Information Act 2005

4.1   Right to Information, Obligations of Public Authorities, Request for obtaining information and disposal of request

4.2   Exemption from disclosure of information, grounds for rejection to access

4.3   Central information commission-Powers and Functions.

Unit 5   **(10 Hours)**

Other Related Laws

5.1 Law relating to Transfer of Property

    5.1.1   Types of properties- movable and immovable property

    5.1.2   Properties which cannot be transferred

    5.1.3   Provisions relating to sale, mortgage, charge, lease, gift and actionable claim

5.2   **Information Technology Act 2000**

    Provisions relating to E-contract, E-form, Electronic record, Digital signature and Data security

5.3   **Credit Information of Companies (Regulation) Act 2005**

    5.3.1   Objectives – Types of transactions

    5.3.2   Registration of Credit Information Companies

    5.3.3   Functions of Credit Information Companies

    5.3.4   Offences and Penalties

BOOKS FOR STUDY

Pillai, R.S.N Bagavathi. *Legal aspects of Business,* S.Chand company, New Delhi

R.K. Sinha, *The Transfer of Property Act,* Central Law Agency, 2018

BOOKS FOR REFERENCE

Bhandari, Munish Professional. *Approach to Corporate Laws and Practice*, New Delhi:Bharat Law House,

Sharma, J. P. and Sunaina Kanojia . *Business Laws,* New Delhi: Ane Books Pvt. Ltd,

Singh, Avtar. (2011) *The Principles of Mercantile Law,* Lucknow: Eastern Book.Co

Wadehra, B. L. (2000) *Law Relating to Patents, Trade Marks, Copyright, Designs & Geographical Indications*,India: Universal law

JOURNALS

Journal of Intellectual Property Rights 2007 and 2009
Indian journal of law and technology
Symbiosis contemporary law journal

WEB RESOURCES
www.u nesco.org/new/en/unesco/
www.lawctopus.com/
www.indialawworld.Co

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 X 10 = 30 Marks (Answer any three questions from a choice of three)
Section B – 1 x 20 = 20 Marks (Answer any one question from a choice of two)

Other Components: **Total Marks: 50**
Seminar / Assignments / Case Study Analysis

End Semester Examination   **Total Marks: 100**   **Duration: 3 Hours**
Section A – 6 X 10 = 60 (Answer any six questions from a choice of eight)
Section B – 2 X 20 = 40 (Answer any two questions from a choice of four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019–2020)

ENTREPRENEURSHIP AND FAMILY BUSINESS

CODE: 19CM/PE/EF23

CREDITS:3
L T P:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
  ➢ To enable students to understand the dynamics of a family business and the opportunities within business
  ➢ To expose students to the governance issues and conflict in family business
  ➢ To acquaint students with the growth and sustainability of family business

COURSE LEARNING OUTCOME
 On successful completion of the course students will be able to

  ➢ Outline the growth in business and relationship in family
  ➢ Prepare modes of succession planning in family business
  ➢ Comprehend the need for conflict resolution in family business
  ➢ Appreciate the parallel strategic planning for the family and business

Unit 1   **(5 Hours)**
  Introduction
  1.1 Overview of the Family Enterprise –Distinction between Family and Non- Family Business
  1.2 Entrepreneur - Functions and Characteristics
  1.3 Complexity of Family Business, Managing the Family Business
  1.4 Strength and Weakness of Family Firm

Unit 2   **(5 Hours)**
  Economic Contribution of Family Business
  2.1 Size of Family Firm
  2.2 Contribution to Employment and GDP
  2.3 Industry Affiliation of Family Firms

Unit 3   **(10 Hours)**
  Governance in Family Business
  3.1 Corporate Governance- Role and Involvement of Bard of Directors
  3.2 Family Governance- Family Involvement, Ownership, Management and Family Values and Goals
  3.3 Wealth Governance

Unit 4   **(10 Hours)**

Strategic Management in Family Business
4.1 Strategic Decision Making in Family Firms
4.2 Competitive Advantage of Family Firms
4.3 Family as Resource Provider
4.4 Succession Planning

Unit 5   **(9 Hours)**

Relationship and Conflict in Family Business
5.1 Social Structure of the Family Business
5.2 Interpersonal Dynamics in Family
5.3 Conflict and Lifecycle of the firm
5.4 Conflict Resolution, Case Studies

BOOKS FOR STUDY
Thomas Zellweger, *Managing the Family Business*, Edward Elgar Publication, 2017
Gersick, K.E., Davis, J.A., Hampton, M.M., & Lansberg, *Generation to Generation: Life Cycles of the Family Business*, Harvard Business School Press, 1997

BOOKS FOR REFERENCE
Collier, C.W, *Wealth in Families*. Harvard University, 2002.
Fleming, Q.J. *Keeping the Family Baggage Out of the Family Business*. New York: Simon & Shuster, 2002.
Hilburt-Davis J. and Dyer Jr. W.G, *Consulting to Family Business: Contracting, Assessment, and Implementation (organizational development)*. Pfeiffer Publishing, 2002.

WEB RESOURCES
us.sagepub.com
http://www.frcsa.org/
https://joe.org

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 x 10=30 (from a choice of four questions –Max words 500)
Section B – 1 x 20=20 (from a choice of two questions – Max words 1200)

Other Components: **Total Marks: 50**
Assignments/Seminar /Case study/Class presentation/Group discussion

End Semester Examination: **Total Marks:100**   **Duration: 3 hours**
Section A – 6x10= 60(from a choice of eight questions –Max words 500)
Section B – 2x20= 40(from a choice of four questions – Max words 1200

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.COM DEGREE

SYLLABUS

(Effective from the academic year 2019-2020)

HUMAN RESOURCE MANAGEMENT

CODE: 19CM/PE/HR23   **CREDITS:3**
                                                                                         L T P:3 0 0
                                                                       TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
➢ To enable students to understand the HRM concepts
➢ To acquaint students with the various training and performance appraisal methods
➢ To familiarise students with stress and conflict management

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ Identify the human resources requirement in an organisation
➢ Define the process of job analysis and discuss its importance
➢ Compare and contrast the methods used for selection and placement of human resources
➢ Explain the steps required to develop and evaluate an employee training programme

Unit   1   **(5 Hours)**
   Introduction
   1.1 Human Resource Planning – Importance, Objectives and Process
   1.2 Job Analysis and Design
   1.3 Meaning - Recruitment, Selection and Placement
        1.3.1 Sources of recruitment and recruitment process
        1.3.2 Process of Selection and Placement

Unit   2   **(5 Hours)**
   Training and Performance Appraisal
   2.1 Introduction to Training
        2.1.1 Techniques or Methods.
        2.1.2 Identification of the training needs
      2.2 Performance appraisal - Methods

Unit   3   **(10 Hours)**
   Stress and Conflict Management
   3.1 Conflict Management - Levels, Sources, Resolution strategies, Negotiation
   3.2 Stress -Nature, Causes, Measures to Manage Stress

Unit 4   **(10 Hours)**

        Controlling

        4.1 The System and Process of Controlling

        4.2 Control Techniques and Information Technology

        4.3 Global Controlling and Global Challenges

Unit 5   **(9 Hours)**

        Organisational Change and Culture

        5.1 Organisational Change – Meaning- Factors influencing Change –Approaches

        5.2 Organisational Culture and Development –Meaning of Organisational Culture

        5.3 Role and Types of Culture

BOOKS FOR STUDY

L.M.Prasad , *Human Resource Management*., Sultan chand &Sons, 2018

Ashwathappa , *Human Resource Management Text and Cases*, Mcgraw Hill Education, 2017

BOOKS FOR REFERENCE

Gary Dessler, Biju Varkkey, *Human Resource Management*, Pearson Education, 2017

Stephen P. Robbins, Timothy A Judge, Neharika Vohra*, Organisational Behaviour*, Pearson Education, 2016

Tripathi , *Human Resource Management*, Sultan Chand.

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 3 X 10 = 30 (From a choice of 4 – Max words 500)

Section B – 1 X 20 = 16   (From a choice of 2 –Max words 1200)

Other Components: **Total Marks: 50**

Research Manuscript Submission/Cryptic Crossword Puzzles/Open book test/Multiple choice questions/Actual Case study

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 6 X 10 = 60(From a choice of eight questions – Max words 500)

Section B – 2 X 20 = 40(From a choice of four questions – Max words 1200)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.COM DEGREE

SYLLABUS
(Effective from the academic year 2019 – 2020)

RETAIL BANKING

CODE: 19CM/PI/RB24   **CREDITS: 4**

OBJECTIVES OF THE COURSE

➢ To acquaint students with the role and importance of retail banking
➢ To expose the students to the retail banking products
➢ To provide knowledge and understanding of the current trends in retail banking

COURSE LEARNING OUTCOME
On successful completion of this course students will be able to

➢ Explain the functions of retail banking operations
➢ Appreciate the importance of effective customer relationship management in retail banking
➢ Comprehend the recent trends in retail banking
➢ Gain an understanding of effective marketing of the different retail products

Unit   1
   Introduction
   1.1 History, Definition, Role within the Bank Operations
   1.2 Applicability of Retailing Concepts - Distinction between Retail and Corporate / Wholesale Banking

Unit   2
   Retail Products
   2.1 Overview – Retail Products and Customer requirements
   2.2   Products development process
   2.3   Liabilities and Assets Products
   2.4   Home Loans, Auto / Vehicle Loans, Personal Loans, Educational Loans - Eligibility, Purpose, Amounts, Margin, Security, Disbursement, Moratorium, Prepayment issues, Repayments
   2.5 Credit Vs Debit Cards, Eligibility, Purpose, Amounts, Margin, Security, Process of using the cards, Billing Cycle, Credit Points

Unit   3
   Marketing of Retail Products
   3.1 MIS and Accounting
   3.2 Retail Strategies
   3.3 Tie-up with Institutions
   3.4   Delivery Channels

Unit 4

Customer Relationship Management

4.1 Role and Impact of Customer Relationship Management

4.2 Stages in Customer Relationship Management Process

4.3 Regulations and compliance

Unit 5

Trends in Retail Banking

5.1 Technology for Retail Banking

5.2 Issues related to Retail Banking

5.3 Securitisation, Mortgage Based Securities

5.4 Trends in Retailing - Insurance, Demat Services, Online and Phone Banking

BOOKS FOR REFERENCE

Ramamurthy Natarajan, *Retail Banking,* CreateSpace Independent Publishing Platform, 2016

Agarwal O P, *Retail Banking in India,* Skylark Publications

Keith Pond, *Retail Banking,* Gosbrook Professional Publishing, 2017

Indian Institute of Banking and Finance, Retail Banking, Macmillan Publication, 2015

JOURNALS

Journal of Intellectual Property Rights 2007 and 2009

Indian journal of law and technology

Symbiosis contemporary law journal

WEB RESOURCES

www.u nesco.org/new/en/unesco/

www.lawctopus.com/

www.indialawworld.Co

PATTERN OF ASSESSMENT

End Semester Examination   Total Marks: 100   Duration: 3 Hours

Section A – Answer any Six Questions from a choice of Eight (6 X 10 = 60)

Section B – Answer any Two Questions from a choice of Four Questions (2 X 20 = 40)

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

DEPARTMENT OF COMPUTER SCIENCE

PROGRAMME DESCRIPTION

Master of Science in Information Technology offers knowledge on the underlying concepts of computer technology, use of different programming languages as a tool for solving problems in different domains and the technology trends. This degree not only helps the students pursue career in IT industry or higher education in the discipline but also opens up avenues in different domains of their interest as computer technology plays a vital role in almost all disciplines.

The programme enables the students to master concepts , answers the questions on why, what and how of computer technology, introduces students to various programming tools and techniques and the design and development of solutions, enables students to understand the security issues involved, and apply the knowledge appropriately to solve different problems in business/research. It gives students understanding on discrete mathematics, formal languages and finite automata and helps them acqisition to analyse different problem solving techniques. The programme not only emphasises acquisition of knowledge in computer technology but also focusses on value education and ethics.

To give emphasis to research, a course on research methodology has been included. Students are also expected to do a summer internship which gives them a better understanding on the work environment and the technology.

PROGRAMME SPECIFIC LEARNING OUTCOMES

On successful completion of the programme, the students will be able to

- Understand theoretical background knowledge, scientific and technology principles underlying Information Technology
- Demonstrate the ability to apply mathematical foundations, algorithmic principles, and computer hardware in creation and maintenance of computer-based systems
- Understand, analyse and interpret data
- Understand and analyse the current research issues
- Demonstrate the ability to define and analyse a problem, identify different strategies and approaches to solve the problem and design, implement, and evaluate the solutions for business/research needs

- Show the ability to understand the professional, ethical, legal, and security issues and responsibilities, and the societal impact of computing
- Demonstrate the ability to analyse the local and global impact of computing on individuals, organisations and society
- Use current techniques, skills, and tools necessary for modern Information Computing Technology
- Communicate effectively in both oral and written individually and in team
- Show responsibility towards local and global issues
- Perceive themselves as agents of change
- Demonstrate intercultural and ethical competency
- Show self-awareness and emotional intelligence
- Demonstrate career and leadership readiness
- Show the ability to work in teams

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Sc. DEGREE : INFORMATION TECHNOLOGY

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours,
CA- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
SEMESTER-I									
19CS/PC/PP14	Programming with Python	4	2	0	4	3	50	50	100
19CS/PC/DM14	Discrete Mathematics for Computer Science	4	4	1	0	3	50	50	100
19CS/PC/SE14	Software Engineering	4	4	1	0	3	50	50	100
19CS/PC/OC14	Operating Systems : Concepts and Applications	4	2	0	4	3	50	50	100
	Department Elective I								
	SAP / SL	2	2	0	0	-	50	-	100
SEMESTER-II									
19CS/PC/DB25	Database Management Systems	5	3	0	3	3	50	50	100
19CS/PC/AA24	Design and Analysis of Algorithms	4	4	1	0	3	50	50	100
19CS/PC/OO24	Object Oriented Programming	4	3	0	2	3	50	50	100
	Department Elective II								
	Common Elective I								
CD / ET	Value Education	2	2	0	0	-	50	-	100
19CS/PK/SS22	Soft Skills	2	2	0	0	0	50	-	100
SEMESTER-III									
19CS/PC/NA34	Network Management and Administration	4	3	0	2	3	50	50	100
19CS/PC/RM34	Research Methodology	4	3	1	2	1.5	50	50	100
19CS/PC/DA34	Data Analytics	4	3	0	2	3	50	50	100
19CS/PC/AI35	Artificial Intelligence	5	3	0	3	3	50	50	100
	Common Elective II								
CD / ET	Value Education	2	2	0	0	-	50	-	100
19CS/PN/SI32	Summer Internship	2	0	0	0	-	50	0	100
SEMESTER-IV									
19CS/PC/FF44	Formal Languages and Finite Automata	4	4	1	0	3	50	50	100
19CS/PC/CT45	Cloud Computing : Theory and Practice	5	3	0	3	3	50	50	100
19CS/PC/DS48	Dissertation	8	0	0	10	-	50	50	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19CS/PE/XI15	UI, UX and Design Thinking	5	3	0	3	1.5	50	50	100
19CS/PE/CS15	Cyber Security	5	5	1	0	3	50	50	100
19CS/PE/ST15	Software Testing	5	3	0	3	3	50	50	100
19CS/PE/MC15	Mobile Computing	5	5	1	0	3	50	50	100
19CS/PE/AT15	Advanced Technologies	5	5	1	0	3	50	50	100
19CS/PE/VP15	Visual Programming	5	3	0	3	1.5	50	50	100
19CS/PE/AD15	Advanced Database Systems	5	5	1	0	3	50	50	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Sc. DEGREE : INFORMATION TECHNOLOGY

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks									
Postgraduate Elective Courses Offered to Other Departments									
19CS/PE/DP23	Documentation and Presentation	3	2	0	1	3	50	50	100
19CS/PE/ET23	Emerging Trends in Information Technology	3	3	0	0	3	50	50	100
19CS/PE/MM23	Multimedia	3	2	0	1	1.5	50	50	100
19CS/PE/EC23	E-Commerce and Content Management Systems	3	2	0	1	1.5	50	50	100
Independent Elective Courses									
19CS/PI/AC24	Advanced Computer Graphics	4	0	0	0	3	0	100	100
19CS/PI/IP24	Digital Image Processing	4	0	0	0	3	0	100	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 - 2020)

PROGRAMMING WITH PYTHON

CODE: 19CS/PC/PP14   **CREDITS : 4**
                                                            L T P : 2 0 4
                                      TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To understand the elements of a program
- To structure simple Python programs for solving problems
- To understand modular programming
- To represent compound data using Python lists, tuples and dictionaries
- To read and write data from/to files

COURSE LEARNING OBJECTIVES
On successful completion of the course, students will be able to

- Comprehend the elements of a program
- Understand the notion of data types, and higher order data structures such as lists, tuples, and dictionaries
- Understand how Python can be used for application development
- Identify and repair coding errors in a program
- Write programs to read and write data from/to files

Unit   1   (**15 Hours**)
1.1 Introduction to Python Programming
History of Python-Getting Started with Python-Programming Style and Documentation-Programming Errors
1.2 Elementary Programming
Writing A Simple Program-Reading Input from Console-Identifiers-Variables-Assignment Statements and Expressions- Simultaneous Assignments-Named Constants-Numeric Data Types and Operators-Evaluating Expressions and Operator Precedence-Augmented Assignment Operators-Type Conversions and Rounding- Case Study-Displaying Current Time-Computing Distances

Unit 2 (16 Hours)

2.1 Mathematical Functions, Strings, And Objects
Common Python Functions-String and Characters-Case Study-Introduction to Object and Methods- Formatting Numbers and Strings-Drawing Various Shapes-Drawing Various Shapes-Drawing with Colors and Fonts

2.2 Selections and Loops
Boolean Type, Values, Expressions-If Statements-Case Study-Two Way If Statements-Nested If-Common Errors in Selection Statement-Case Study-Logical Operators-Case Study-Conditional Expressions-Operator Precedence and Associativity -The While Loop-The For Loop-Nested Loops-Minimizing Numerical Errors-Case Study

Unit 3 (16 Hours)

3.1 Functions
Defining A Function- Calling A Function- Function with or Without Return Values-Positional and Keyword Arguments-Passing Argument by Reference- Modularizing The Code- Case Study-The Scope of the Variables-Default Arguments-Returning Multiple Values- Case Study-Function Abstraction-Recursion

3.2 Object and Classes
Defining Classes for Objects-Constructing Objects-Accessing The Member of the Objects-Self Parameters- Using Classes- Hiding Data Filed- Immutable Objects Vs Mutable Objects-Class Abstraction and Encapsulation-Case Study

3.3 Strings and Special Methods
The Str Class-Creating Strings-Functions of Strings- Functions for Strings-Index Operator []-The Slicing Operator-Concatenations Operators-In and Not in Operators-Comparing, Iterating and Strings-Searching, Converting and Formatting Strings

Unit 4 (15 Hours)

4.1 List Processing
GUI Programming Using Tkinter-List Basics-Case Study-Copying The Lists-Passing Lists to Function-Returning List from Function-Case Study-Searching Lists-Sorting Lists-Case Study-Multidimensional Lists-Processing Two Dimensional List- Processing Two Dimensional List to Function-Case Study-Multidimensional Lists

Unit 5 (16 hours)

5.1 Tuples, Sets and Dictionaries
Tuples- Sets-Comparing The Performances of Sets and Lists-Case Study-Dictionaries-Case Study

5.2 Files and Exceptional Handling
Text Input/Output- File Dialogs-Case Study-Retrieving Data from Web-Exception Handling-Raising Exceptions-Custom Exception Classes

BOOK FOR STUDY

Y. Daniel Liang, *Introduction to Programming Using Python* , Prentice Hall, 2013.

BOOKS FOR REFERENCE

Allen B. Downey. Think Python. *How to Think Like a Computer Scientist*, 2[nd]edition, O'Reilly Publishers, 2016.

David Beazley, Brian K. Jones. Python *Cookbook: Recipes for Mastering Python 3*, 3rd Edition, 2013

Harsh Bhasin. *Python for Beginners.* New Age International Publishers,2018.

Martin C. Brown. *Python: The Complete Reference.* McGraw Hill Education; Fourth edition, 2018.

WEB RESOURCES

http://en.wikibooks.org/wiki/Python_Programming
http://docs.python.org
http://diveintopython.org/
https://realpython.com/start-here/
https://www.geeksforgeeks.org/python-programming-examples/

PATTERN OF ASSESSMENT

Continuous Assessment   Total Marks: 50   Duration: 90 minutes
Theory – 25 marks
Practical – 25 marks

Section A
3 x 5 = 15 marks (3 out of 4)

Section B
1 x 10 = 10 marks (1 out of 2)

Other Components   Total Marks:50
Seminars/Group discussion/Assignments/Case studies/Mini Project

End Semester Examination   Total Marks: 100   Duration: 3 hours
Theory – 50 marks   Duration – 1 ½ hrs
Practical – 50 marks Duration – 1 ½ hrs

Theory Pattern

Section A
5 x 2 = 10 marks (Answer all the questions)
Section B
4 x 5 = 20 marks (4 out of 6)
Section C
2 x 10 = 20 marks (2 out of 3) (Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

DISCRETE MATHEMATICS FOR COMPUTER SCIENCE

CODE: 19CS/PC/DM14

CREDITS: 4
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

- To gain knowledge about computing and mathematics appropriate to the discipline
- To learn sets and its operations and represent using Venn diagram
- To represent the problem using propositional logic and convert it as gates and truth table
- To visualize the given problem as graphs and tree representation
- To apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Use logical notation to define and reason about fundamental mathematical concepts such as sets, relations, formal logic and predicates.
- Represent problems using logics and truth table
- Solve problems by using set concepts and visualize using Venn diagram
- Understand propositional logic, relations, functions and also differentiate one-to-one and "onto" functions.
- Incorporate graphs and trees for the given problem

Unit 1   **(12 Hours)**

1.1 Sets and Induction

Lattices and Boolean Algebras – Principles of Inclusion – Exclusion – Mathematical Induction

1.2 Program Correctness

Pseudocode Conventions - An Algorithm to Generate Perfect Squares - Two Algorithms for Computing Square Roots - Strong Form of Mathematical Induction **-** Application: Algorithm to Compute Powers - Application: Finding Factorizations - Application: Binary Search

Unit 2   (10 Hours)

2.1 Formal Logic

Truth and Logical Truth - Tautologies - Substitutions into Tautologies - Logically Valid Inferences - Combinatorial Networks - Substituting Equivalent Subformulas - Simplifying Negations

2.2 Normal Forms

Disjunctive Normal Form - Application: DNF and Combinatorial Networks - Conjunctive Normal Form - Application: CNF and Combinatorial Networks - Testing Satisfiability and Validity - The Famous $P \neq NP$ Conjecture - Resolution Proofs: Automating Logic

Unit 3   (14 Hours)

3.1 Predicates and Quantification

Predicates - Quantification - Restricted Quantification - Nested Quantifiers - Negation and Quantification - Quantification with Conjunction and Disjunction - Application: Loop Invariant Assertions

3.2 Relations

Binary Relations - n-ary Relations - Special Types of Relations - Reflexive and Irreflexive Relations - Symmetric and Antisymmetric Relations - Transitive Relations - Reflexive, Symmetric, and Transitive Closures - Application: Finding a Minimal Element

Unit 4   (15 Hours)

4.1 The Pigeon-Hole Principle

k to 1 Functions - Pigeon-Hole Principle - Application: Decimal Expansion of Rational Numbers - Problems with Divisors and Schedules - Two Combinatorial Results

4.2 Analysis of Algorithms

Unit 5   (14 Hours)

5.1 Graph Theory

Introduction to Graph Theory – Definitions - Subgraphs - Paths and Cycles - Hamiltonian Cycles - Graph Isomorphism - Representation of Graphs - Adjacency Matrix - Adjacency Lists - Connected Graphs - The Relation CONN - Finding Connected Components

5.2 Trees

Definition of Trees - Characterization of Trees - Application: Decision Trees - Directed Graphs - Basic Definitions - Directed Trails, Paths, Circuits, and Cycles - Directed Graph Isomorphism

BOOKS FOR STUDY

Haggard, Gary, John Schlipf, and Sue Whitesides. *Discrete mathematics for computer science*, Brooks/Cole-Thomson Learning.

BOOKS FOR REFERENCE

Epp, Susanna S. *Discrete mathematics with applications*, Cengage learning

Hunter, David J. *Essentials of discrete mathematics*, Jones & Bartlett Publishers

Liben-Nowell, David. *Discrete Mathematics for Computer Science*, Wiley Global Education, 2017

WEB RESOURCES

https://www.tutorialspoint.com/discrete_mathematics/discrete_mathematics_predicate_logic.htm

https://formal.iti.kit.edu/~beckert/teaching/Verification-SS06/02logic.pdf

https://people.cs.pitt.edu/~milos/courses/cs441/lectures/Class9.pdf

http://www.cs.yale.edu/homes/aspnes/classes/202/notes.pdf

PATTERN OF ASSESSMENT

Continuous Assessment Test   **Total Marks: 50**   **Duration: 90 minutes**

Section A - 5 × 2 = 10 marks (Answer all the questions)
Section B - 4 × 5 = 20 marks (4 out of 5)
Section C - 2 × 10 = 20 marks (2 out of 3)

Other Components   **Total Marks: 50**
Quiz/Seminar/Case Study/Assignment

End Semester Examination   **Total Marks: 100**   **Duration: 3 hours**

Section A - 10 x 2 = 20 marks (Answer all the questions)
                (2 questions to be set from each unit)
Section B - 6 x 5   = 30 marks (6 out of 8)
                (Atleast 1 question from each unit)
Section C - 5 x 10 = 50 marks (5 out of 7)
                (Atleast 1 question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)
SYLLABUS
(Effective from the academic year 2019 – 2020)

SOFTWARE ENGINEERING

CODE: 19CS/PC/SE14   **CREDITS: 4**
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand software engineering principles
- To introduce software development life cycle models
- To introduce software estimation techniques
- To understand the need for software quality and ways to ensure it
- To understand project management techniques such as Configuration management, Scheduling, Training plan and Risk management

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Know software engineering principles
- Apply software life cycle models for software development
- Apply estimation techniques
- Model a software application
- Implement project management techniques

Unit 1   **(14 Hours)**
1.1 Software and Software Engineering
Nature of Software - Defining Software Engineering - Software Process - Process, Activities, Work Product - Process Framework - Categories of Activities (Framework, Umbrella)
1.2 Process Models
SDLC - Waterfall Model - Prototyping - Agile Philosophy - Agility, Agility and Cost Change, Agile Process - Agility Principles - Scrum - Test driven development - continuous integration - Impact of Process on End Product - Process Assessment and Improvement
1.3 Software Engineering Principles
Planning - Separation of Concerns - Modularity - Modeling - Abstraction - Anticipation of change - Reusablity - Incrementality - Measurement – Tools

Unit 2   **(13 Hours)**
2.1 Requirements Gathering
Requirements Engineering Tasks - Software Requirements Specification - Types of Requirements (Normal, Expected) - Traceability Matrix
2.2 Modeling
Significance of requirement analysis - Arlow and Neustadt rules of thumb -

application domain analysis - Writing Use Cases - Use Case Diagram - Activity Diagram - Swimlane Diagram - Identifying classes – Attributes – Operations - associations and dependencies - Class diagram - - packaging classes - State Diagram - Sequence Diagram - Agile Requirements Elicitation (User Stories) - Agile Requirements Engineering

Unit 3 (12 Hours)

3.1 Software Designing
Design Concepts (Abstraction, Architecture, Patterns, Separation of Concerns, Modularity, Information Hiding, Functional Dependence, Refinement, Aspects, Refactoring)

3.2 Basic Design Principles
Open Closed - Liskov Substitution - Dependency Inversion - Interface Segregation - Release Reuse Equivalency- Common Closure - Common Reuse

3.3 Software Quality and Assurance
McCall's quality factors - ISO 9126 Quality factors -Cost of Quality - Defect - Defect Amplification and removal -
Reviews – Informal, Formal Technical Reviews - Inspection - Walkthroughs - Audits – Testing

Unit 4 (14 Hours)

4.1 Software Testing
Levels of Testing - Unit Testing, Integration Testing, Validation Testing, System Testing - Test Cases - Test Case Template -Types of Testing - White Box, Basis Path Testing , Control Structure Testing

4.2 Software Configuration Management
Need - Baselines - Software Configuration Items - SCM Repository - SCM Process

4.3 Metrics
Terms (Metrics, Measurement, Indicators) - Function Points - Deriving Function points - Metrics - CK Metrics - Defects per KLOC - FP per Person-Month - McCabe Cyclomatic Complexity - code coverage

Unit 5 (12 Hours)

5.1 Software Project Estimation
Software sizing- LOC Based Estimation - FP based estimation - COCOMO Model II - Estimation for WebApp Projects

5.2 Project Management and Scheduling
Training plan - Defect prevention meeting
Root causes for delays - Principles (Compartmentalization, Interdependence, Effort Validation, Time Allocation, Responsibilities, Outcomes, Milestones) - Relationship between People and Effort - Effort Distribution (40-20-40 rule) - Scheduling Tools and Techniques (Time- Line charts, Tracking the schedule)

5.3 Risk Management
Term - Proactive Vs Reactive Risk Strategies - Risk Identification - Risk Projection (Risk Table, Assessing Risk Impact) - Risk Mitigation, Monitoring, Management - RMMM Plan

BOOKS FOR STUDY

Ghezzi, Carlo, Mehdi Jazayeri, and Dino Mandrioli. *Fundamentals of software engineering*. Prentice Hall PTR, 2002.

Pressman, Roger S., and Bruce R. Maxim. *Software Engineering: A Practitioner's Approach*., 2015.

BOOKS FOR REFERENCE

Berenbach, Brian, et al. *Software & systems requirements engineering: in practice*. McGraw-Hill, Inc., 2009.

Brooks Jr, Frederick P. *The Mythical Man-Month: Essays on Software Engineering, Anniversary Edition*, 2/E. Pearson Education India, 1995

Cha, Sungdeok, Taylor, Richard N., Kang, Kyo C. *Handbook of Software Engineering*. Springer 2019

Galorath, Daniel D., and Michael W. Evans. *Software sizing, estimation, and risk management: when performance is measured performance improves*. Auerbach Publications, 2006

Martin, Robert C. *Agile software development: principles, patterns, and practices*. Prentice Hall, 2002.

Schach, Stephen R. *Object-oriented software engineering*. McGraw-Hill, 2008.

Sommerville, Ian. "Software engineering 9th Edition." *ISBN-10* 137035152 (2011).

WEB RESOURCES
https://www.d.umn.edu/~gshute/softeng/principles.html

PATTERN OF ASSESSMENT

Continuous Assessment   Total Marks: 50   Duration: 90 minutes
Section A - 5 ×2 = 10 marks (Answer all the questions)
Section B - 4 ×5 = 20 marks (4 out of 5)
Section C - 2 ×10 = 20 marks (2 out of 3)

Other Components   Total Marks:50
Seminars/Group discussion/Assignments/Case study

End Semester Examination   Total Marks: 100   Duration: 3 hours
Section A - 10 x 2 = 20 marks (Answer all the questions)
                             (2 questions to be set from each unit)
Section B - 6 × 5 = 30 marks (6 out of 8)
                             (Atleast 1 question from each unit)
Section C - 5 ×10 = 50 marks (5 out of 7)
                             (Atleast 1 question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS
(Effective from the academic year 2019 - 2020)

OPERATING SYSTEMS : CONCEPTS AND APPLICATIONS

CODE:19CS/PC/OC14   **CREDITS : 4**
                                                          L T P: 2 0 4
                                   TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To learn the fundamentals of Operating Systems
- To learn the mechanisms of OS to handle processes, scheduling algorithms
- To acquire the knowledge on the mechanisms involved in memory management
- To understand Mutual exclusion principles and deadlock detection algorithms
- To learn programmatically to implement simple OS mechanisms
- To learn on security and virtualization

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Describe the basic components of an operating system and its services
- Define the concepts of processes and competitive system resource allocation
- Outline standard scheduling algorithms for multi-tasking
- Describe process synchronization and understand process utilities
- Describe memory management and File management concepts

Unit   1   **(16 Hours)**
1.1 Introduction to Operating System
   Introduction to OS - Structure, Operations, Protection and Security, Kernel Data
   Structures, Computing Environments, Services, System Calls and its types,
   System Programs, OS Design and Implementation OS Debugging Operating,
   System Generation, System Boot
1.2 UNIX Operating System
   History of UNIX, Shell, UNIX File System Structure
1.3 Basic UNIX Commands
   Commands for files and directories cd, cp, mv, rm, mkdir, more, less, creating and
   viewing files, using cat, date, who, pwd - filter commands –head tail, cut, paste,
   grep – regular expression - sort

Unit   2   **(15 Hours)**
2.1 Process Management
   Process - Concept, Process Control Block, Process operations, Scheduling
   Algorithms - Short term and long term process scheduling policies - Scheduling
   Criteria - Multiple Processor Scheduling

2.2 CPU Scheduling

Scheduling Criteria – Scheduling Algorithms : FCFS, SJF, Priority and Round Robin Scheduling

2.3 Process Synchronization and Deadlocks

The Critical-section Problem – Petersons solution – Mutex locks - Semaphores – Monitors, Deadlock Prevention and Avoidance, Deadlock Detection and Deadlock Recovery

2.4 Process Utilities - sh process, Parents and children, Process status, System process, Mechanism of process creation, Internal and external commands, running jobs in background, KILL, NICE, Job control, at and batch, cron - Case Study on Processes in LINUX

Unit 3 (16 Hours)

3.1 File Organisation

File organisation and Access methods - Logical and Physical File structure - File Allocation methods, -Linked and Index Allocation - File Protection and Security - Directory structure - Single level, Two level, Tree structure - Free Space Management - Allocation Methods - Efficiency and Performance – Recovery – FAT32 and NTFS

3.2 File System

File Access Permission – chmod, chown, chgrp - File Comparisons - View Files – Listing files with attributes – Wildcards - Translating Characters - Links and its types - The File System – Partitions, File Systems, Kernel Accesses – Mounting – umask, ulimit - I/O redirection – Pipes - Case Study on LINUX File System

Unit 4 (16 Hours)

4.1 Memory Management

Memory Management Techniques, Single Partition Allocation, Multiple Partition Allocation – Swapping - Paging and Segmentation - Segmented-Paged Memory Management Techniques - Logical and Physical Address space – Address Mapping - Demand paging - Virtual memory, protection and address mapping hardware, Page fault, Page replacement and Page removal algorithms

4.2 Device Management

Classification of device according to speed, Disk structure - Disk scheduling – FCFS scheduling, SSTF scheduling - Access method and storage capacity

4.3 Disk Utilities

Disk usage, disk free, dd, Backups- cpio, tar, System calls for file management, directory management - Case Study on Memory Management in LINUX

Unit 5 (15 Hours)

5.1 Security

The Security Enviroment – Operating System Security – Controlling Access to resources – Formal models of Secure systems - Basics of cryptography – Authentication – Exploiting Software – Insider Attacks – Malware - Defenses

5.2 Virtualization and the Cloud

History – Requirements for virtualization – Type 1 and Type 2 Hypervisors – Techniques for efficient virtualization – Memory virtualization – I/O Virtualization –Virtual Appliances – Virtual machines on multicore CPUs – Clouds: Clouds as service – Virtual machine migration – checkpointing - Case Study on Security in LINUX

BOOKS FOR STUDY

Silberschatz, Abraham, Peter Baer Galvin and Greg Gagne. *Operating System Concepts*. 10th ed. Addison Wesley. (Units 1 to 4 - Chapters 1-4, 6-13)

Sumitabha Das. *UNIX – Concepts & Applications*. 3rd ed. New Delhi: TataMcGraw Hill, 2000. (Chapters 4-13,15,16)

Tanenbaum S., Andrew, Herbert Bos. *Modern Operating Systems*. 4th ed. Pearson (Unit 5 - Chapter 7, 9, Case Studies – Chapter 10)

Yukun Liu,Yong Yue,Liwei Guo *UNIX Operating System The Development Tutorial via UNIX Kernel Services*. Beijing: Higher Education Press (Chapters 1,2, 6-10)

BOOKS FOR REFERENCE

Kanetkar Yashwant. *UNIX Shell Programming*. BPB.

Rosen Kenneth, Douglas Host, Rachel Klee and Richard Rosinski.*UNIX: The Complete Reference*. 2nd ed. McGraw Hill/Osborne, 2007.

Sobell M. G. *A Practical Guide to Linux Commands, Editors, and Shell Programming*. USA: Pearson Education

WEB RESOURCES

www.tutorialspoint.com/unix
www.unixtutorial.org/
www.guru99.com/unix-linux-tutorial.html

PATTERN OF ASSESSMENT

Continuous Assessment: Total Marks: 50   **Duration: 90 minutes**
Theory – 25 marks
Practical – 25 marks
Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components: **Total Marks: 50**
Implementation of OS Concepts
Case Study / Seminar / Assignment

End Semester Examination: Total Marks: 100 marks   **Duration: 3 hours**
Theory – 50 marks   **Duration – 1 ½ hours**
Practical – 50 marks   **Duration – 1 ½ hours**
Section A- 5 x 2 = 10 marks (Answer all the questions)
                 (1 question to be set from each unit)
Section B - 4 × 5 = 20 marks (4 out of 6)
Section C - 2 ×10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

Only for Practicals

Unit   1   1.3
Unit   2   2.4
Unit   3   3.2
Unit   4   4.3

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 - 2020)

DATABASE MANAGEMENT SYSTEMS

CODE: 19CS/PC/DB25   **CREDITS: 5**
                                                         L T P: 3 0 3
                                          TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To learn the fundamentals of data models, database storage and Querying
- To convert from ER diagram into normalized table
- To study SQL and relational database design
- To learn SQL functions and PL/SQL Blocks
- To study cursors and triggers
- To know the fundamental concepts of transaction processing- concurrency control techniques and recovery procedure
- To study NOSQL and its applications

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Define the features and Queries of database systems
- Normalize database effectively from ER Diagrams
- Understand and discuss the importance of relational data modeling and conceptual modeling
- Apply knowledge to new situations
- Describe the transaction processing, concurrency control and recovery control
- Understand the use of NOSQL and its approach to the database

Unit   1   **(16 Hours)**
1.1 Database Basics
Introduction - Database-System Applications- Purpose of Database Systems- View of Data - Database Languages - Relational Databases - Database Design - Data Storage and Querying - Transaction Management - Database Architecture - Data Mining and Information Retrieval - Specialty Databases - Database Users and Administrators - Database Users and Administrators - History of Database Systems
1.2 Introduction to the Relational Model
Structure of Relational Databases - Database Schema – Keys - Schema Diagrams - Relational Query Languages - Relational Operations

Unit 2   **(16 Hours)**

2.1 Introduction to SQL

Overview of the SQL Query Language- SQL Data Definition- Basic Structure of SQL Queries - Additional Basic Operations - Set Operations - Null Values - Aggregate Functions- Nested Subqueries - Modification of the Database

2.2 Intermediate SQL

Join Expressions- Views- Transactions- Integrity Constraints - SQL Data Types and Schemas- Authorization

2.3 Advanced SQL

Accessing SQL from a Programming Language - Functions and Procedures – Triggers - Recursive Queries- Advanced Aggregation Features – OLAP

2.4 Formal Relational Query Languages

The Relational Algebra - Fundamental Operations - Formal Definition of the Relational Algebra - Additional Relational-Algebra Operations - Extended Relational-Algebra Operations

Unit 3   **(16 Hours)**

3.1 Database Design and the E-R Model

Overview of the Design Process - The Entity-Relationship Model – Constraints - Removing Redundant Attributes in Entity Sets - Entity-Relationship Diagrams - Reduction to Relational Schemas - Entity-Relationship Design Issues - Extended E-R Features - Alternative Notations for Modeling Data - Other Aspects of Database Design

3.2 Relational Database Design

Features of Good Relational Designs - Atomic Domains and First Normal Form - Decomposition Using Functional Dependencies - Functional-Dependency Theory - Algorithms for Decomposition - Decomposition Using Multivalued Dependencies - More Normal Forms - Database-Design Process - Modeling Temporal Data

Unit 4   **(15 Hours)**

4.1 PL/SQL Blocks

PL/SQL- Predefined Exceptions- User Defined Exceptions

4.2 Cursors and triggers

Cursors and Cursor Management- Implicit and Explicit Cursors- Advanced Cursors- Procedures and Functions- Database triggers- Parts of a Trigger- Types of Triggers

Unit 5

5.1 Transactions and Concurrency Control   **(15 Hours)**

Transaction Concept - A Simple Transaction Model - Storage Structure – Transaction Atomicity and Durability - Transaction Isolation – Serializability - Transaction Isolation and Atomicity - Transaction Isolation Levels - Implementation of Isolation Levels - Transactions as SQL Statements – Lock-Based Protocols- Deadlock Handling -Multiple Granularity-Timestamp-Based Protocols - Validation-Based Protocols

5.2 NoSQL

Definition and Introduction – Sorted Ordered Column – Oriented Stores –Key/Value Stores- Document Databases – Graph Databases – Working with Examples - Working with Language Bindings – Interfacing and Interacting with NOSQL: Storing and accessing Data – Querying Database - Language Bindings for NOSQL Data Stores

BOOKS FOR STUDY

Gupta,Das, Pranab Kumar, Krishna and P. Radha. *Database Management System Oracle SQL and PL/SQL.* 2nd ed. PHI, 2013.(Unit 4.1)

Silberschatz, A., Henry F.Korth and Sudarshan S. *Database System Concepts*. 6th ed. McGraw Hill, 2011.

Tiwari, Shashank. *Professional NoSQL.* John Wiley & Sons, 2011. (Unit 5.2)

BOOKS FOR REFERENCE

Date, C. J., *Introduction to Database Systems.* 8th ed. New Delhi: Pearson Education, 2009.

Elmasri, Navathe, *Fundamentals of Database Systems*, 7th edition, Pearson Education Ltd, 2017.

Michael Mclaughlin. Oracle Database 11g PL/SQL Programming.Oracle Press. McGraw Hill, 2008.

Ramakrishna,Raghu and Johannes Gerhke. *Database Management Systems.* New Delhi: Tata McGraw Hill, 2003.

WEB RESOURCES

www.w3schools.com

http://beginner-sql-tutorial.com/sql-group-functions.htm

http://www.tutorialspoint.com/mysql/index.htm

http://www.studytonight.com/dbms/database-normalization.php

http://www.oracle.com/technetwork/tutorials/index.html

https://www.thoughtworks.com/

PATTERN OF ASSESSMENT

Continuous Assessment   Total Marks: 50   Duration: 90 minutes
Theory – 25 marks
Practical – 25 marks
Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components   Total Marks:50
Seminar/Quiz/Group discussion//Assignment/Case Study - Normalizing tables and Extracting relevant data/Query analysis and optimization

End Semester Examination   **Total Marks:100**   **Duration: 3 hours**
Theory – 50 marks   **Duration – 1 ½ hours**
Practical – 50 marks   **Duration – 1 ½ hours**

Theory Pattern
Section A- 5 x 2 = 10 marks (Answer all the questions)
                                    (1 question to be set from each unit)
Section B - 4 × 5 = 20 marks (4 out of 6)
Section C - 2 ×10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

DESIGN AND ANALYSIS OF ALGORITHMS

CODE: 19CS/PC/AA24   **CREDITS: 4**
                                                L T P: 4 1 0
                                  TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To learn the basic notations and review mathematically
- To know the basic data structures and analyze the time complexity for each operation
- To understand and design various solutions for the given problem
- To critically analyze the time complexity of the designed solutions for the same problem
- To apply design techniques for the algorithm that best fits

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Apply mathematical concepts to analyse the algorithms
- Use basic data structures, its operations and the time complexity of each operation
- Understand various techniques available to solve a problem
- Find the time complexity of the problem by applying the techniques learnt and observe the optimal solution
- Distinguish the polynomial and non-polynomial algorithms and their challenges

Unit   1   **(12 Hours)**
1.1 Analysing Algorithms
Methodologies for analysis algorithms – Asymptotic Notations – Mathematical Review – Amortization – Experimental Setup – Data Visualization
1.2 Basic Data Structures
Stack – Queue – List – Trees – Graphs

Unit   2   **(12 Hours)**
2.1 Brute force and Exhaustive Search
Bubble sort – String matching – Closest- pair problem – Exhaustive Search : Knapsack problem – Assignment problem
2.2 Divide and Conquer
Binary Search – Merge sort – Quick sort – Depth-First Search – Breadth-First Search- Strassen's matrix multiplication

Unit   3   **(14 Hours)**
3.1 Dynamic Programming
Travelling Salesman Problem - Knapsack problem revised and memory function –
Optimal Binary Search tree – Warshall's Algorithms – Floyd's Algorithm for All-pair
Shortest path

Unit   4   **(13 Hours)**
4.1 Greedy Method
Prim's Algorithm - Kruskal's Algorithm – Dijkstra's Algorithm – Huffman Trees and
Codes

Unit   5   **(14 Hours)**
5.1 Backtracking and Branch and Bound Technique
n-queen's problem – Assignment problem – Knapsack problem – bin packing algorithm
5.2 Limitations of Algorithmic power
P and NP problems – NP-Complete problem – Challenges of Numerical Algorithms

BOOKS FOR STUDY

Anany Levitin *Introduction to the Design and Analysis of Algorithms" 3rd Edition,* Pearson
Publications, 2012. [Unit 2: Chapters 3.1 to 3.4, Chapters 4.4, 5.1, 5.2, 5.4, Unit 3: Chapter 8,
Unit 4: Chapter 9, Unit 5: Chapter 12.1, 12.2, 11.3,11.4]

Goodrich, T. Micheal, Roberto Tamassia *Algorithm Design Foundations, Analysis and Internet
Examples,* John Wiley & Sons Inc., 2014. [Unit 1: Chapters 1 & 2]

BOOKS FOR REFERENCE
Aho, Hopcraft, Ullman, *The Design and Analysis of Computer Algorithms,* Pearson Education,
2008.
E. Horowitz & S Sahni, *Fundamentals of Computer Algorithms,* Computer Science Press
Thomas H. Coreman, Charles E. Leiserson and Ronald L. Rivest, *Introduction to Algorithms*,

Prentice Hall of India.

WEB RESOURCES

https://www.geeksforgeeks.org/fundamentals-of-algorithms/#AnalysisofAlgorithms

https://www.javatpoint.com/daa-tutorial

PATTERN OF ASSESSMENT

Continuous Assessment Test   **Total Marks: 50**   **Duration: 90 minutes**
Section A - 5 × 2 = 10 marks (Answer all the questions)
Section B - 4 × 5 = 20 marks (4 out of 5)
Section C - 2 × 10 = 20 marks (2 out of 3)

Other Components   **Total Marks:50**
Quiz/Seminar/Case Study/ Assignment

End Semester Examination   **Total Marks: 100**   **Duration: 3 hours**
Section A - 10 x 2 = 20 marks (Answer all the questions)
        (2 questions to be set from each unit)
Section B - 6 x 5 = 30 marks (6 out of 8)
        (Atleast 1 question from each unit)
Section C - 5 x 10 = 50 marks (5 out of 7)
        (Atleast 1 question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS
(Effective from the academic year 2019 – 2020)

OBJECT ORIENTED PROGRAMMING

CODE: 19CS/PC/OO24   **CREDITS: 4**
                                                                                 L T P: 3 0 2
                                                                 TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand the significance of Object-Oriented Programming
- To introduce the basic concepts of Object-Oriented Programming
- To understand and demonstrate the concepts of object-oriented design, polymorphism, and inheritance
- To implement Object-Oriented Programming concepts
- To design interfaces and abstract classes

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Justify the use of Object-Oriented Programming
- Use the right access specifiers to protect the data
- Apply the different Object-Oriented features
- Develop applications using Object-Oriented concepts
- Create applications that are reusable

Unit   1   **(11 Hours)**
1.1 Introduction to Object-Oriented Concepts
Procedural Versus OO Programming- Moving from Procedural to Object-Oriented Development- What Exactly Is an Object? - What Exactly Is a Class? - Using UML to Model a Class Diagram- Encapsulation and Data Hiding- Interfaces- A Real-World Example of the Interface/Implementation Paradigm- Inheritance -Superclasses and Subclasses -Abstraction -Is-a Relationships -Polymorphism - Composition - Abstraction - Has-a Relationships

Unit 2   **(13 Hours)**
2.1 How to Think in Terms of Objects
Using Abstract Thinking When Designing Interfaces - Giving the User the Minimal Interface Possible - Determining the Users - Object Behavior - Environmental Constraints -Identifying the Public Interfaces - Identifying the Implementation
2.2 Advanced Object-Oriented Concepts
Constructors- Error Handling- The Concept of Scope- Operator Overloading- Multiple Inheritance - Object Operations

Unit 3   **(13 Hours)**
3.1 The Anatomy of a Class
The Name of the Class - Comments - Attributes - Constructors - Accessors - Public Interface Methods - Private Implementation Methods

3.2 Class Design Guidelines
Modeling Real World Systems - Identifying the Public Interfaces - The Minimum Public Interface -Hiding the Implementation -Designing Robust Constructors (and Perhaps Destructors) - Designing Error Handling into a Class - Documenting a Class and Using Comments

Unit 4 (15 Hours)
4.1 Designing with Objects
Design Guidelines - Performing the Proper Analysis - Developing a Statement of Work -Gathering the Requirements - Developing a Prototype of the User Interface - Identifying the Classes - Determining the Responsibilities of Each Class - Determining How the Classes Collaborate with Each Other - Creating a Class Model to Describe the System

4.2 Mastering Inheritance and Composition
Reusing Objects - Inheritance - Generalization and Specialization - Design Decisions -Composition - Types of Composition - Aggregations – Associations- Using Associations and Aggregations Together-Representing Composition with UML - Why Encapsulation Is Fundamental to OO - How Inheritance Weakens Encapsulation - A Detailed Example of Polymorphism - Object Responsibility

Unit 5 (13 Hours)
5.1 Frameworks and Reuse: Designing with Interfaces and Abstract Classes
Code: To Reuse or Not to Reuse? - What Is a Framework? -What Is a Contract? Abstract Classes - Interfaces -Tying It All Together - The Compiler Proof - Making a Contract -System Plug-in-Points - An E-Business Example - An E-Business Problem - The Non-Reuse Approach - An E-Business Solution - The UML Object Model

BOOKS FOR STUDY

Matt Weisfeld, *The Object-Oriented Thought Process.* 3rd Ed.,2009

BOOKS FOR REFERENCE

Schildt, Herbert. *Java: The Complete Reference*. McGraw-Hill Education Group, 2014

Liang, Y. Daniel. *Intro to Java Programming, Brief Version*. Pearson Higher Ed, 2015.

Eckel, Bruce. *Thinking in Java*. 4th ed. Pearson Education, 2006.

WEB RESOURCES

http://people.cs.aau.dk/~torp/Teaching/E03/OOP/handouts/introduction.pdf
https://www.cl.cam.ac.uk/teaching/0910/OOProg/OOP.pdf

PATTERN OF ASSESSMENT

Continuous Assessment   Total Marks: 50   Duration: 90 minutes
Theory – 25 marks
Practical – 25 marks

Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components   Total Marks: 50
Seminars/Group discussion/Assignments/Case studies/ Mini Project

End Semester Examination   Total Marks: 100   Duration: 3 hours
Theory – 50 marks   Duration – 1 ½ hours
Practical – 50 marks   Duration – 1 ½ hours

Theory Pattern
Section A - 5 x 2 = 10 marks (Answer all the questions)
                (1 question to be set from each unit)
Section B - 4 x 5 = 20 marks (4 out of 6)
Section C - 2 x 10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS
(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19CS/PK/SS22   CREDITS: 2
                                                       L T P: 2 0 0
                                                       TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development.
- To instill confidence in students to face challenges.
- To manage emotions and resolve conflicts.
- Top organize activities and manage time.
- To set goals and plan ahead.

COURSE LEARNING OUTCOMES

- Communicate with confidence and poise.
- Accept themselves and improve on their weaknesses.
- Strengthen their relationships through confronting and solving problems.
- Work more effectively and complete activities on time.
- Plan their future with clarity and focus.

Unit   1
   Behavioural Traits   **(6 Hours)**
   1.1   Self Awareness
   1.2   Communication Skills –Verbal and Non Verbal
   1.3   Leadership Qualities
   1.4   Etiquette and Good Manners
   1.5   Experiential Learning –Based on activities

Unit   2
   Team Work   **(5 Hours)**
   2.1.   Interpersonal Skills
   2.2.   People Management
   2.3.   Creative Thinking
   2.4.   Critical Thinking
   2.5.   Experiential Learning – Based on activities

Unit   3
   Time Management   **(5 Hours)**
   3.1.   Importance of time management

3.2.   Planning and Prioritizing
3.3.   Organizing skills
3.4.   Action Plan
3.5.   Experiential Learning – Based on activities

Unit 4
Conflict Resolution   (5 Hours)
4.1.   Reasons for conflict
4.2.   Consequences of conflict
4.3.   Managing emotions
4.4.   Methods of resolving conflicts
4.5.   Experiential Learning – Based on activities

Unit 5
Career Mapping   (5 Hours)
5.1.   Goal Setting and Decision Making
5.2.   Career Planning
5.3.   Resume Writing
5.4.   Handling Interviews
5.5.   Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment:
Quiz / Group Presentation /Assignment

No End Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 86

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

NETWORK MANAGEMENT AND ADMINISTRATION

CODE: 19CS/PC/NA34   **CREDITS: 4**
                                                              L T P: 3 0 2
                                                TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand the purpose of basic system administration
- To know how to install and administer a Linux machine
- To understand managing users and groups
- To understand how to provide remote access using FTP, SSH and Telnet
- To know how to set up a TCP/IP based local area network
- To understand how to setup a firewall

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Demonstrate the purpose of basic system administration
- Install and administer a Linux machine
- Manage users and groups
- Administer remote access using FTP, SSH and Telnet
- Setup a simple TCP/IP based local area network
- Setup a firewall

Unit 1   **(15 Hours)**

1.1 Basics of Networking
Computer Network – Workstation – Benefits of Networking –Sharing Information, Resources, Centralized Management – Classification of Networks by Geography– LAN, MAN, WAN – Classification of Networks by Component Roles – Peer-to-Peer networks, Server-Based networks – Client-Based networks – Addressing mechanisms – IP address, Ethernet address – Networking devices – Switch, Hub, Router, Gateway
Note: Student is expected to learn 1.1 during her semester holidays
1.2 Linux Installation
Installation Software Media - Methods of Installation - Keyboard type - Setting root password - Selecting Time Zone - Disk Partitioning - Choosing a file system - Host name and Network Configuration
1.3 Basic Administration
Setting system date - Editing text with nano - Searching for a file - man pages – directory structure
1.4 Managing Software
Red Hat Package Manager - Debian Package Management System - dpkg – Software Management in Ubuntu - Compile and Install GNU Software

Unit 2   **(15 Hours)**

    2.1 Managing Users and Groups
    Creating groups - /etc/group file - Creating Users - /etc/passwd and /etc/shadow files -
    Configuring a user - File access permissions - setuid and setgid programs - setting
    sticky bit
    2.2 Managing file systems
    File systems - ext3,ext4, Reiserfs,FAT32 - Mounting and unmounting file systems-
    /etc/fstab   file - fsck - noatime setting - Volume Management
    2.3 Core System Services
    The init Daemon - xinetd and inetd - The Logging Daemon - The cron Program

Unit 3   **(17 Hours)**

    3.1 Shell scripting
    echo - shell variables - comments - positional parameters - decision making -
    checking exit status code
    3.2 TCP/IP
    The Layers - Headers - TCP Connection - ARP - Hosts and Networks - Subnetting -
    Netmasks-   Static routing - Dynamic routing
    3.3 Network configuration
    /etc/hosts file - /etc/network/interfaces - /etc/resolv.conf - /etc/hostname - ifconfig -
    ping - route- netstat -Using dynamic IP address - Setting up a local area network

Unit 4   **(10 Hours)**

    4.1 Booting and shutting down
    Boot Loaders - The init Process - rc Scripts - Enabling and Disabling Service - Odds
    and Ends of Booting
    4.2 Remote Access
    FTP - Client/Server Interactions, vsftpd, configuring vstfpd, Starting and Testing FTP
    Server - Secure Shell - Public Key, Server start-up and Shutdown, Using OpenSSH -
    Telnet

Unit 5   **(8 Hours)**

    5.1 Linux Firewall
    How Netfilter Works- Configuring Netfilter
    5.2 Dynamic Host Configuration Protocol
    Mechanics of DHCP - DHCP Server - DHCP Client

Demonstration
1. Linux Installation over Virtual Box
2. Installing Software
3. User/Group management, File System Management
4. Network Configuration
5. Firewall Configuration
6. DHCP Configuration
7 Mounting and unmounting file systems
8. SSH configuration
9. FTP configuration
10. Setting up a LAN

BOOKS FOR STUDY

Basta, Alfred, et al. *Linux Operations and Administration*. Cengage Learning, 2013. (Unit 3 - 3.1 Chapter 5)

Helmke, Matthew et al.*The Official Ubuntu Book*. 9th Edition, Prentice Hall Press Upper Saddle River, NJ, USA, 2016 (Unit I - 1.1 – Chapter1)

Soynika, Wale. *Linux Administration A Beginner's Guide.* Seventh Edition, McGraw Hill, 2016 (Unit 1 - 1.4 , Unit 2, Unit 3- 3.2,3.3, Unit 4 & 5 – Chapters 4, 5, 6, 7, 8,11,12,13,17, 22, 29)

BOOKS FOR REFERENCE

Hunt, Craig. *TCP/IP network administration*. Vol. 2. " O'Reilly Media, Inc.", 2002.

Vazquez, Antonio. *Learn CentOS Linux Network Services*. Apress, 2017.

WEB RESOURCES

https://www.ibm.com/developerworks/library/l-lan/index.html
https://www.youtube.com/watch?v=PEa1xopeufQ
https://www.tecmint.com/linux-network-configuration-and-troubleshooting-commands/
http://linux-training.be/linuxnet.pdf
http://www.debianadmin.com/ubuntu-networking-for-basic-and-advanced-users.html

PATTERN OF ASSESSMENT

Continuous Assessment   **Total Marks: 50**   **Duration: 90 minutes**
Theory – 25 marks
Practical – 25 marks

Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components   **Total Marks:50**
Seminars/Group discussion/Assignments/Case studies

End Semester Examination   **Total Marks: 100**   **Duration: 3 hours**
Section A - 10 x 2 = 20 marks (Answer all the questions)
      (2 questions to be set from each unit)
Section B - 6 × 5 = 30 marks (6 out of 8)
      (At least 1 question from each unit)
Section C - 5 ×10 = 50 marks (5 out of 7)
      (At least 1 question from each unit)

SYLLABUS

(Effective from the academic year 2019 – 2020)

RESEARCH METHODOLOGY

CODE: 19CS/PC/RM34

CREDITS: 4

L T P: 3 1 2

TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE

- To develop an understanding of the research methods relevant to effectively address a research problem
- Understand research problem formulation
- Analyze research related information
- To understand about data and its analysis in research
- To learn and understand the importance of writing skills and the method of documentation

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Develop an understanding of research methods
- Formulate a research problem
- Collect and analyse data
- Effectively write a research paper
- Present the Paper more professionally.

Unit 1 (16 Hours)

1.1 Introduction to Research

Meaning, Objectives and Characteristics of research - Research Methods Vs. Methodology - Types of research- Research process - Criteria of good research

1.2 Research Project

Shaping a Research Project-Research Planning-Students and Advisors - Checklist

Unit 2 (15 Hours)

2.1 Literature Review

Reading and Reviewing - Hypotheses, Questions, and Evidence

Unit 3 (16 Hours)

3.1 Experiments for Computing

Experimentation-Statistical Principles

3.2 Writing a Paper

Organization-Good Style-Style Specifics-Punctuation-Mathematics-Algorithms-Graphs, Figures, and Tables -Other Professional Writing

Unit 4 (16 Hours)

4.1 Presentation

Editing- Presentations-Slides-Posters-Ethics

Unit 5 (15 Hours)

5.1 Report writing

Report writing using LATEX for a research problem

BOOKS FOR STUDY

Kothari C. R. *Research Methodology Methods and Techniques.* 2nd ed. New Delhi: New Age, 2004. (Unit 1.1)

Justin Zobel. *Writing for Computer Science.* 3rd ed. Springer-Verlag, 2014

BOOKS FOR REFERENCE

Ranjit Kumar. *Research Methodology* -a step-by-step guide for beginners. 3rd ed. SAGE Publications India Pvt Ltd, 2011.

Panneerselvam R. *Research Methodology.* 2nd ed. New Delhi: Prentice Hall, 2014.

WEB RESOURCES

https://www2.le.ac.uk/offices/red/rd/research-methods-and-methodologies
http://www.socscidiss.bham.ac.uk/methodologies.html

PATTERN OF ASSESSMENT

Continuous Assessment   **Total Marks:50**   **Duration: 90 minutes**

Section A - 6 ×5 = 30 marks (6 out of 8)
Section B - 2 ×10 = 20 marks (2 out of 3)

Other Components   **Total Marks:50**
Component 1: Literature Review and Problem Identification
Component 2: Writing a research Paper

End Semester Examination   **Total Marks: 100**   **Duration: 1.5 hours**
Theory:50 Marks
Section A - 6 × 5 = 30 marks (6 out of 8)
     (At least 1 question from each unit)
Section B - 2 ×10 = 20 marks (2 out of 3)

Practical :50 Marks
Paper Presentation with Poster or Prototype

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 - 2020)

DATA ANALYTICS

CODE : 19CS/PC/DA34   **CREDITS:4**
                                                                                       L T P:3 0 2
                                                                     TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To enable the students to understand the types of data
- To enable a comprehensive and detailed understanding of the data formats and data analysis
- To explore different machine learning techniques
- To explore advanced analytic tools
- To understand and practice Big Data Analytics and Machine Learning approaches

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Critically analyze and follow the mechanisms to manage and explore
- Understand uncertain and complex data
- Apply Machine Learning techniques to extract actionable value from data
- Assess the use of data from acquisition through cleansing, analytics, and visualization
- Critically evaluate challenges in data analytics
- Think critically in decision making by applying analytics

Unit   1   **(12 Hours)**
1.1 Fundamentals of Data Analysis
Introduction- The process of data analysis –Types of analytics- Descriptive Analytics - Predictive Analytics - Prescriptive Analytics - Applications- Quantitative messages- techniques for analyzing quantitative data-barriers to effective analysis-initial data analysis-main data analysis
1.2 Types of data
Different Types of Data- Quantitative and Qualitative Data-Numerical, Categorical- Data loading, storage and file formats – Reading and writing data in text Format- Binary data formats-interacting with web API-interacting with databases- Getting started with pandas

Unit   2   **(13 Hours)**
2.1 Data cleaning
Data cleaning and preparation -Handling missing data -Data transformation -String manipulation

2.2 Data wrangling

Join, combine and reshape -Hierarchical indexing –Combining and merging datasets - Reshaping and pivoting- Data aggregation and group functions-group by mechanics-data aggregation-general split-apply-combine-pivot tables and cross tabulation-numPy basics

Unit   3   **(13 Hours)**

3.1 Plotting and visualization

Matplotlib-figures – subplots-colors, markers and line styles-Ticks, labels and legends, annotations and drawing on subplot-Plotting with pandas and seaborn

3.2 Time series

Date and Time Data Types and Tools - Time Series Basics- Date Ranges, Frequencies, and Shifting- Time Zone Handling- Periods and Period Arithmetic-Resampling and Frequency Conversion

3.3 Data analysis examples

Unit   4   **(13 Hours)**

4.1 Machine Learning

Introduction to Machine learning- Why Machine Learning? – Supervised Learning – Unsupervised learning **-**Classifications and Regression-Generalization-overfitting-under fitting

4.2 Supervised machine leaning algorithms

k-nearest Neighbor-Linear Models-Naïve Bayes Classifiers-Decision Tree-Random forest- model evaluation

4.3 Unsupervised learning algorithms

Types-dimensionality reduction, feature extraction-clustering-k-means clustering-agglomerative clustering-dB scan clustering techniques-model evaluation and improvement

Unit   5   **(14 Hours)**

5.1 Big data Analytics

Introduction to big data Analytics-Big Data Overview-state of the practice in Analytics-Key roles for the new Big Data Eco System-Examples of Big Data Analytics- Advanced analytics –Technology and tools: MapReduce and Hadoop-Analytics for unstructured data– The Hadoop Eco system- NoSQL

5.2 Introduction to Streams Concepts

Mining Data Streams- Stream Data Model –Sampling Data in A Stream – Filtering Streams – Counting Distinct Elements in A Stream – Estimating Moments – Counting Oneness in A Window – Decaying Window – Real-time Analytics Platform(RTAP) Applications – Case Studies – Real Time Sentiment Analysis, Stock Market Predictions.

BOOKS FOR STUDY

Anand Raja Raman, Jeffrey David Ullman. *Mining of Massive Datasets*, Cambridge University Press, 2012. (Unit 5.2: Chapter 4)

Andreas C. Mueller, Sarah Guido. *Introduction to Machine Learning with Python*. O'Reilly Media, Inc., 2016. (Unit 4)

Data Science and Big Data Analytics, EMC Education Services (Unit 5: Chapter 1, 10) (E-book)

Wes McKinney. *Python for Data Analysis*. O'Reilly Media, Inc., 1005 Gravenstein Highway North, Sebastopol, second edition, 2018. (Unit 1: Chapter 5, 6,7, Unit 2: 7,8,10, Unit 3: 9,11)

BOOKS FOR REFERENCE

Aurélien Géron. Hands-On Machine Learning with Scikit-Learn and Tensor Flow: Concepts, Tools, and Techniques to Build Intelligent Systems. USA: O'Reilly Media, 2019.

Brian K. Jones. David Beazley. Python Cookbook. USA: O'Reilly Media, Incorporated, 2013.

WEB RESOURCES

https://en.wikipedia.org/wiki/Data_analysis#Exploratory_and_confirmatory_approaches

http://en.wikibooks.org/wiki/Statistics/Different_Types_of_Data)

https://searchdatamanagement.techtarget.com/definition/data-analytics

https://halobi.com/blog/descriptive-predictive-and-prescriptive-analytics-explained/

PATTERN OF ASSESSMENT

Continuous Assessment   **Total Marks: 50**   **Duration: 90 minutes**
Theory – 25 marks
Practical – 25 marks
Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components   **Total Marks:50**
Case Study /Seminar/Assignment/Mini Project

End Semester Examination   **Total Marks:100**   **Duration: 3 hours**
Theory – 50 marks   **Duration – 1 ½ hours**
Practical – 50 marks   **Duration – 1 ½ hours**

Theory Pattern
Section A- 5 x 2 = 10 marks (Answer all the questions)
        (1 question to be set from each unit)
Section B - 4 × 5 = 20 marks (4 out of 6)
Section C - 2 ×10 = 20 marks (2 out of 3)

(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 - 2020)

ARTIFICIAL INTELLIGENCE

CODE:19CS/PC/AI35   **CREDITS: 5**

L T P: 3 0 3

TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE

- To gain knowledge on AI related problems and techniques
- To understand and present AI as the study of the design of intelligent computational agents
- To learn how to represent knowledge
- To provide a coherent vision of the foundations of the field as it is today, in terms of a multidimensional design space
- To understand AI has a coherent, formal theory and a lively experimental wing with learning and planning concepts

COURSE LEARNING OUTCOMES

After completing the course, the student will be able to:

- Ability to identify problems that are amenable to solution by AI methods
- Ability to analyse appropriate AI methods to solve a given problem.
- Ability to formalize a given problem in the language/framework of different AI methods
- Ability to create basic and advanced plan generation systems and to understand the concepts learning methods.
- An ability to understand the concepts of Ontologies

Unit   1   **(13 Hours)**

1.1 What is AI

The AI Problems - The Underlying Assumptions – What is an AI Technique – The Level of the Model – Criteria for Success.

1.2 Problems, Problem Spaces & Search

Defining the problem as a State Space Search – Production systems – Problem Characteristics - Production Systems Characteristics – Issues in the Design of Search Programs.

1.3 Heuristic Search Techniques

Generate and Test – Hill Climbing – Best First Search – Problem Reduction - Constraint Satisfaction – Means ends Analysis.

Unit 2   **(20 Hours)**

2.1 Knowledge Representation Issues

Representations and Mappings – Approaches to KR – Issues in KR – The Frame Problem.

2.2 Using Predicate Logic

Representing Simple Facts in Logic - Representing Instances and ISA Relationships – Computable Functions and Predicates – Resolutions – Natural Deductions.

2.3 Representing Knowledge using Rules

Procedural versus Declarative Knowledge – Logic Programming – Forward Versus Backward Reasoning – Matching – Control Knowledge.

2.4 Statistical Reasoning

Probability and Bayes Theorem - Certainty Factors and Rule based Systems – Bayesian Networks – Dempsters Shafer Theory - Fuzzy Logic.

Unit 3   **(18 Hours)**

3.1 Game Playing

Overview – The Minimax Search Procedure – Adding Alpha Beta Cutoffs – Additional Refinements – Iterative Deepening.

3.2 Natural Language Processing

Introduction – Syntactic Processing - Semantic Analysis – Discourse and Pragmatic Processing – Statistical NLP – Spell Checking.

3.3 Parallel and Distributed AI

Psychological Modelling – Parallelism in Reasoning Systems – Distributed Reasoning Systems

Unit 4   **(17 Hours)**

4.1 Learning

What is Learning - Rote Learning – Learning by Taking Advice – Learning by Problem Solving – Learning from Examples: Induction – Explanation based Learning – Discovery – Analogy – Formal Learning Theory – Neural Net Learning and Genetic Learning

4.2 Connectionist Models

Introduction: Hopfield Networks – Learning in Neural Networks – Applications of Neural Networks – Recurrent Networks – Distributed Representations - Connectionist AI and Symbolic AI.

Unit 5   **(10 Hours)**

5.1 Expert Systems

Expert systems – Architecture of expert systems, Roles of expert systems – Knowledge Acquisition – Meta knowledge, Heuristics. Typical expert systems – MYCIN, DART, XOON, Expert systems shells.

BOOKS FOR STUDY

Kevin Night, Elaine Rich, Nair B., "Artificial Intelligence (SIE)", McGraw Hill2008. (Unit-1,2,3,4)

Peter Jackson, "Introduction to Expert Systems", 3rd Edition, Pearson Education, 2007. (Unit 5).

BOOKS FOR REFERENCE

Russell, Stuart J., and Peter Norvig. *Artificial intelligence: a modern approach*. Malaysia; Pearson Education Limited,, 2016.

Prolog Programming for Artificial Intelligence (International Computer Science Series), Addison-Wesley Educational Publishers Inc; 4th edition, 2011 By Ivan Bratko

WEB RESOURCES

http://www.aispace.org/index.shtml
https://www.britannica.com/technology/artificial-intelligence
https://www.sas.com/en_in/insights/analytics/what-is-artificial-intelligence.html
https://www.theverge.com/ai-artificial-intelligence

PATTERN OF ASSESSMENT

Continuous Assessment   Total Marks: 50   Duration: 90 minutes
Theory – 25 marks
Practical – 25 marks

Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components   Total Marks: 50
Seminars/Quiz/Group discussion/Assignments/Case Study/Mini Project

End Semester Examination   Total Marks: 100   Duration: 3 hours
Theory – 50 marks   Duration – 1 ½ hours
Practical – 50 marks   Duration – 1 ½ hours
Section A- 5 x 2 = 10 marks (Answer all the questions)
                              (1 question to be set from each unit)
Section B - 4 × 5 = 20 marks (4 out of 6)
Section C **-** 2 ×10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)
SYLLABUS
(Effective from the academic year 2019 - 2020)

SUMMER INTERNSHIP

CODE:19CS/PN/SI32   **CREDITS:2**

OBJECTIVES OF THE COURSE

- To enable students to gain experiential learning in the field of Computer Science

- To acquire work experience in IT / IT related domains

The Summer Internship program is for a minimum period of three weeks. The students are expected to work in a real time environment and gain professional experience. Further, the student is expected to submit a report and present their work in the third semester.

Guidelines for Evaluation

The maximum marks for the Summer Internship is 50 and is divided into the following:

a) Report   (20 Marks)
b) Presentation   (15 Marks)
c) Viva-Voce   (15 Marks)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 - 2020)

FORMAL LANGUAGES AND FINITE AUTOMATA

CODE: 19CS/PC/FF44   **CREDITS : 4**
                                                                    L T P: 4 1 0
                                                        TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand the theoretical foundations of computer science through study of mathematical and abstract models of computers and the theory of formal languages and finite automata
- To introduce concepts in automata theory and theory of computation
- To be able to identify different formal language classes and their relationships
- To design grammars and recognizers for different formal languages
- To prove or disprove theorems in automata theory using its properties

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Understand the core concepts in automata theory and formal languages
- Design grammars and automata (recognizers) for different language classes
- Identify formal language classes and prove language membership properties
- Apply formal mathematical methods to prove properties of languages, grammars and automata
- Understand and analyze the applications of Automata and finite state machines

Unit   1   **(18 Hours)**
1.1 Fundamentals and Finite Automata
Basic concepts - Strings, Alphabets, Languages, Finite State Machine, Definitions, Finite Automaton model, Acceptance of Strings and Languages, Deterministic Finite Automaton (DFA) and Non-deterministic Finite automaton (NFA) - Transition diagrams and Language recognisers, Acceptance of languages, Equivalence of NFA and DFA (Proof needed), NFA with ∈ - transitions

Unit   2   **(14 Hours)**
2.1 Regular Languages
The operators of Regular Expressions - Building Regular Sets Expressions, Precedence of Regular Expression operators, Finite Automata and Regular Expressions – From DFA's to Regular Expressions and Conversion of a given regular expression into a Finite Automata, Conversion of DFA into a Regular Expression by eliminating states, Pumping Lemma for Regular Sets (Proof needed), Closure Properties of Regular Sets (proofs not required)

Unit   3   **(12 Hours)**

3.1 Grammar Formalism

Definition of a Context Free Grammars, Derivations using a Grammar, Language of a Grammar, Leftmost and rightmost derivation of strings and sentential forms, Parse Trees – Constructing parse trees, Yield of a parse tree, From Trees to derivations, Ambiguous Grammars, Removing Ambiguity from Grammars, Leftmost Derivation, Inherent ambiguity, Normal forms for Context Free Grammars

Unit   4   **(11 Hours)**

4.1 Pushdown Automata

Definition – Model - Graphical notation - Instantaneous descriptions - Acceptance of Context Free Languages - Acceptance by Final State and Acceptance by Empty State and its Equivalence - Equivalence of Context Free Grammars and Pushdown Automata - Inter-conversion (Proofs not required) - Introduction to Deterministic Pushdown Automata

4.2 Turing Machines

Notation - Instantaneous descriptions - Transition Diagrams – Language - Turing Machines and Halting - Storage in the State - Multiple Tracks – Subroutines – Multitape Turing Machines

Unit   5   **(10 Hours)**

5.1 Mealy and Moore Machine

Finite Automata with Output – Mealy machine, Moore Machine , Properties, Comparison of Mealy and Moore Machine - Conversion of Mealy to Moore and vice versa

5.2 Applications

Applications of Finite Automata - Text Search – Findings Strings in Text, Nondeterministic Finite Automata for Text Search, A DFA to Recognise a set of Keywords - Applications of Regular Expressions - Regular Expressions in UNIX, Lexical Analysis, Finding Patterns in Text - Applications of Context Free Grammars – Parsers, the YACC parser - Generator, Markup Languages, XML and Document – Type Definitions

BOOKS FOR STUDY

Martin, John C. *Introduction to languages and the Theory of Computation*. 4th ed. New Delhi: TMH, 2011.

Hopcroft,H.E., Rajeev Motvani and Ullman J. D. *Introduction to Automata Theory Languages and Computation*. 3rd ed. Pearson, 2014.

BOOKS FOR REFERENCE

Cohen, Daniel I.A. *Introduction to Computer Theory*. 2nd ed. USA: John Wiley, 2007.

Linz, Peter. *An Introduction to formal languages and Automata theory*. 6th Ed. Jones and Bartlett Learning, 2017.

Mishra and Chandrashekaran. *Theory of Computer Science –Automata Languages and Computation*. 3rd ed. India: PHI, 2012.

WEB RESOURCES

https://www.tutorialspoint.com/automata_theory/

https://nptel.ac.in/courses/106103070/

https://www.ics.uci.edu/~goodrich/teach/cs162/notes/

PATTERN OF ASSESSMENT

Continuous Assessment   Total Marks: 50   Duration: 90 minutes
Section A - 5 ×2   =   10 marks (Answer all the questions)
Section B - 4 ×5   =   20 marks (4 out of 5)
Section C - 2 ×10 =   20 marks (2 out of 3)

Other Components   Total Marks:50
Seminars /Quiz /Group discussion/Assignments/Problem solving

End Semester Examination   Total Marks: 100   Duration: 3 hours

 Section A - 10 x 2 = 20 marks (Answer all the questions)
                                                    (2 questions to be set from each unit)
Section B - 6 × 5   = 30 marks (6 out of 8) (Atleast 1 question from each unit)
Section C - 5 ×10 = 50 marks (5 out of 7) (Atleast 1 question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS
(Effective from the academic year 2019 - 2020)

CLOUD COMPUTING : THEORY AND PRACTICE

CODE: 19CS/PC/CT45   **CREDITS : 5**
                                                            L T P : 3 0 3
                                          TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE

- To introduce the concept of Cloud Computing, Parallel and Distributed Computing
- To enable the students to learn about Virtualization and Cloud Architecture
- To give a detailed overview on Resource Pooling, Scaling, Capacity Planning and Load Balancing in the Cloud
- To familiarize concepts on Cloud Security, Service Oriented Architecture (SOA) and Cloud-based Storage
- To give a better understanding on the above said concepts through case studies on various cloud platforms

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Describe about cloud, parallel and distributed computing
- Define virtualization and the architecture of cloud computing
- Demonstrate the need for resource pooling, scaling, capacity planning and load balancing along with their roles in the cloud
- Interpret on securing and storing data over the cloud
- Build a simple application and host it using cloud

Unit   1   **(16 Hours)**
1.1 Introduction
Introduction - Limitations of the Traditional Computing Approaches - Solutions - Three Layers of Computing - Three Layers in Traditional Computing - The End of Traditional Computing – Example – Use of cloud in current scenario - Influences behind Cloud Service Adoption
1.2 Evolution, Benefits and Challenges
The Evolution of Cloud Computing - How Philosophies Converged into Cloud Computing - Comparison between Cluster, Grid and Cloud Computing - Origin of the Term 'Cloud Computing' - Early Initiatives - Utility Computing - Metering and Billing in Cloud - Separation of Data Center Operation - Benefits of Cloud Computing - Challenges of Cloud Computing - Cloud Computing and Business Challenges - Ethical Issues in

Cloud Computing - Cloud Computing: Network as Computer - Role of Web Service - Role of API - Ubiquitous Cloud - Cloud Vs. Internet

Unit   2   **(16 Hours)**

2.1 Cloud Computing Model and Services
Standard Cloud Model - Cloud Deployment Models - Choosing the Appropriate Deployment Model - Service Delivery Models - Service Abstraction - The SPI Model - A Traditional System vs Cloud System Model - All applications delivered using web-services are not SaaS - SaaS and PaaS: Salesforce.com and Force.com - Other Category of Cloud Services - Open Cloud Services

2.2 Security Reference Model
The Security Concern in Cloud - Cloud Security Working Groups - Elements of Cloud Security Model - Cloud Security Reference Model - Examining Cloud Security against Traditional Computing - Security Policy - Trusted Cloud Computing

Unit   3   **(15 Hours)**

3.1 Resource Virtualization
What is Virtualization - Virtualizing Physical Computing Resources - Understanding Abstraction - Business Benefits of Virtualization - Machine or Server Level Virtualization - Exploring Hypervisor or Virtual Machine Monitor - Operating System Level Virtualization: Removal of the hypervisor - Major Server Virtualization Products and Vendors - High-Level Language Virtual Machine - Emulation - Some Other Types of Virtualizations - Advantages of Virtualization - Downsides of Virtualization - Virtualization Security Threats - Virtualization Security Recommendations - Virtualization and Cloud Computing

3.3 Resource Pooling, Sharing and Provisioning
Resource Pooling - Commoditization of the Data Center - Standardization, Automation and Optimization - Resource Sharing - Resource Provisioning

Unit   4   **(16 Hours)**

4.1 Scaling in the Cloud
What is Scaling? - Scaling in Traditional Computing - Scaling in Cloud Computing - Foundation of Cloud Scaling - Scalable Application - Scaling Strategies in Cloud - Auto-Scaling in Cloud - Types of Scaling - Horizontal Scaling is More Cloud-Native Approach - Performance and Scalability - The Resource Contention Problem - Cloud Bursting: A Scenario of Flexible Scaling - Scalability is a Business Concern

4.2 Capacity Planning
What is Capacity Planning - Capacity Planning in Computing - Capacity Planning in Cloud Computing - Cloud Capacity: Consumers' View vs Providers' View - Capacity Planning: Then and Now - Approaches for Maintaining Sufficient Capacity - Role of Auto-Scaling in Capacity Planning - Capacity and Performance: Two Important System Attributes - Steps for Capacity Planning

4.3 Load Balancing

Importance of Load Balancing in Cloud Computing - How Load Balancing is done in Cloud - Goals of Load Balancing - Categories of Load Balancing - Parameters for Consideration - Load Balancing Algorithms - The Persistence Issue - Application Delivery Controller - Case Study: Google Cloud - Case Study: Amazon Elastic Compute Cloud (EC2)

Unit   5   **(15 Hours)**

5.1 Service Oriented Architecture

The Pre-SOA Era - Role of SOA in Cloud Computing Service - Oriented Architecture - Goal of System Designing - Service Represents Business Functionality - Open Standard Implementation - Benefits of SOA - SOA and Cloud Computing

5.2 File System and Storage

Requirements of Data-Intensive Computing - Challenges before Cloud Native File System - Model for High-Performance Processing of Large Data-sets - Cloud Native File System - Storage Deployment Models - Storage Types - Popular Cloud Storages for Developers - Popular General Purpose Cloud Storages

5.3 Security Issues

Cloud Security - Threats to Cloud Security - Infrastructure Security - Information Security - Identity Management and Access Control - Cloud Security Design Principles - Cloud Security Management Frameworks - Security-as-a-Service

BOOKS FOR STUDY

Bhowmik, Sandeep. *Cloud Computing*. Cambridge University Press, 2017

BOOKS FOR REFERENCE

Buyya, Rajkumar, Christian Vecchiola, and S. Thamarai Selvi. *Mastering cloud computing: foundations and applications programming*. Elsevier, 2013.

Sosinsky, Barrie. *Cloud Computing Bible*. John Wiley & Sons, 2011.

Dan C Marinescu, *Cloud Computing: Theory and Practice*. Morgan Kaufmann, Elsevier, 2017.

Michael J. Kavis, *Architecting the Cloud: Design Decisions for Cloud Computing Service Models (SaaS, PaaS, and IaaS)*. John Wiley & Sons, 2014.

WEB RESOURCES

https://aws.amazon.com/what-is-cloud-computing/
https://azure.microsoft.com/en-in/overview/what-is-cloud-computing/
https://www.salesforce.com/what-is-cloud-computing/
https://cloud.google.com/docs/
https://www.ibm.com/cloud/learn/what-is-cloud-computing

PATTERN OF ASSESSMENT

Continuous Assessment   Total Marks: 50   Duration: 90 minutes
Theory – 25 marks
Practical – 25 marks

Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components   Total Marks:50
Seminars/Group discussion/Assignments/Case studies/Hosting a simple cloud application

End Semester Examination Total Marks: 100   Duration: 3 hours
Theory – 50 marks   Duration – 1 ½ hours
Practical – 50 marks   Duration – 1 ½ hours

Theory Pattern

Section A - 5 x 2 = 10 marks (Answer all the questions)
                                   (1 question to be set from each unit)
Section B - 4 x 5 = 20 marks (4 out of 6)

Section C - 2 x 10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 - 2020)

DISSERTATION

CODE: 19CS/PC/DS48   **CREDITS: 8**

OBJECTIVES OF THE COURSE
- To enable the students to understand and analyse a problem
- To understand the need of literature reviews formulating a problem and in problem solving
- To enable students to select an appropriate tool to solve the problem
- To help students to develop an application to suit the business needs/implement a research problem
- To enable the students to test the accuracy
- To enable students to document the process and the implementation

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Understand and analyze a problem
- Review necessary literatures to define a problem and to understand the problem better
- Select an appropriate tool based on the need
- Develop an application/implement a research problem effectively
- Test the accuracy of the result
- Document the process in an efficient manner

GUIDELINES

One of the important stipulations regarding Dissertation for M.Sc. is that it should be in the area of Computer Science/ Computer Applications. Students are required to develop an application/implement a research problem.

The Dissertation must include the following. These are general guidelines which may differ slightly as per the demand of the study topic.

Introduction
- Existing System
- Proposed System
- Create a set of Design principles to implement the proposed system

System Analysis
  ➢ Development Environment
  ➢ Requirement Specification
  ➢ Software Requirements Specification

System Design
  ➢ Logical Design of the System
  ➢ Database Design
  ➢ Screen Design
  ➢ Report Design

Implementation
  ➢ Database creation
  ➢ Coding

Code Review and Testing
  ➢ Code Review
  ➢ Testing Process
    • Front-end Validation
    • Back-end Validation
Deployment

Conclusion

  ➢ Summary of findings, conclusions for future enhancement
  ➢ Suggestions

Bibliography
Appendix

PATTERN OF ASSESSMENT

Internal Assessment – 50 marks

Based on the criteria listed below, internal marks will be awarded.
  1. Timely completion of assigned tasks
  2. Individual Involvement and team work
  3. Quality of the Application and documentation (Design, Workflow, Testing, Precision, Relevance)
  4. Achievement of Dissertation deliverables
  5. Presentation of Completed work
  6. Viva-Voce

End Semester Examination – 100 marks

Dissertation Document must be submitted at the end of the semester. The student must present the completed work. A viva–voce based on the work will also be conducted.

Mark will be allotted based on the following criteria which may differ slightly as per the demand of the study topic.

Requirement Analysis – 10 marks
Database Design   – 10 marks
Screen Design   – 10 marks
Coding   – 10 marks
Validation   – 10 marks
Testing   – 10 marks
Reports   – 5 marks
Documentation   – 20 marks
Special Features   – 5 marks
Viva – Voce   – 10 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 - 2020)

UI, UX AND DESIGN THINKING

CODE: 19CS/PE/XI15   **CREDITS: 5**
                                                                                LTP: 3 0 3
                                                TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To understand the User Experience (UX) Design
- To know the User Design Behaviour and Principles
- To create the Prototypes and the User Interface Design
- To implement UI Design using HTML5 and CSS
- To create an Interactive Web page using Javascript

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to
- Appreciate product development as UX Designers
- Identify how, and when to use the HTML5 markup tags
- Effectively use the new CSS3 features to create websites
- Apply appropriately the JavaScript and its advanced features
- Use the bootstrap framework effectively

Unit   1   **(15 Hours)**
1.1 UX and Design Process
What is UX? - UX Design Process - Discovery and Planning, The UX Strategy, UX
research Stages - UX analysis, Design, Production -
1.2 User Behavior and User Research
Basics, Gestalt theory, Psychology in UX, User Research, Benefits of User Research -
Getting to know Your Users - User Personas

Unit   2   **(15 Hours)**
2.1 Designing Behavior
Five factors/preconditions for Users to take actions - Models of behavior change -
Behavioral approach for Product Design
2.2 Visual Design Principles and Processes
Basics of Visual Design - Design Principles - Visual Design Tools

Unit   3   **(15 Hours)**
3.1 Wireframes and Prototyping
Wireframe - Creating Wireframes, Types, Tools - Prototyping - Methods, Creating
Prototypes, Tools

3.2 UI Design and Implementation

User Interface Design - UI design Tools - Design System - UI Design Handover - Tools - Post-launching UX Activites - User Feedback - Testing - Tracking and Recording - Creating and Analyzing Conversion funnels

Unit 4   **(15 Hours)**

4.1 HTML5 and CSS3

HTML Elements – Structural/Semantic, Phrasing, Table, Embedded, Form - CSS Selectors – Positioning content – Text Styles – Borders and Backgrounds – Styling Tables – Flexbox – Animation and Transforms

Unit   5   **(18 Hours)**

5.1 JavaScript

Javascript Essentials - Browser Environment – Window Object – DOM Elements – Constraint Validation API - JQuery – Dynamic styling - Events - TypeScript – Installing TypeScript, Benefits, Building a TypeScript file

5.2 Bootstrap Framework

Installation - Responsive Grid System - Bootstrap's Style Standard - Responsive CSS - Responsive Development with Browser devTools - Z dimension - Transform - Transition - Animation - Flexbox - Responsive Website Clone

BOOKS FOR STUDY

Canziba, Elvis. *Hands-On UX Design for Developers: Design, prototype, and implement compelling user experiences from scratch*. Packt Publishing Ltd, 2018.

Clark, Nathan. *UI/UX Design for Designers & Developers Paperback*. 2018.

Clark, Nathan. *UI/UX Design Basics and Fundamentals Paperback*. 2018.

Collins, Mark J. *Pro HTML5 with CSS, JavaScript, and Multimedia*. Apress, 2017.

Rahman, Syed Fazle. *Jump Start Bootstrap*. sitepoint, 2014.

BOOKS FOR REFERENCE

Basarat Ali Syed. *TypeScript Deep Dive*. Samurai Media Limited, 2017

J. Hamm, Matthew. *Wireframing Essentials*. Packt Publishing. ISBN: 978184969854

Yayici, Emrah. *UX Design and Usability Mentor Book: With Best Practice Business Analysis and User Interface Design Tips and Techniques*. Emrah Yayici, 2014.

WEB RESOURCES

https://getbootstrssap.com/docs/4.2/getting-started/introduction/
https://git-scm.com/book/en/v2
https://www.typescriptlang.org/docs/handbook/typescript-in-5-minutes.html
https://developer.mozilla.org/bm/docs/Web/JavaScript

Practical

Create a sketch, Wireframe and Template for an app, Prototyping

HTML/CSS - Creating a Non Responsive Site, creating a Responsive Site using Media Query/Bootstrap, Javascript - Form validation

Deployment with GitHub

PATTERN OF ASSESSMENT

Continuous Assessment **Total Marks:50** **Duration: 90 minutes**
Theory – 25 marks
Practical – 25 marks
Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components **Total Marks:50**
Quiz/Assignment/Seminar/Case Study

End Semester Examination **Total Marks: 100**
Theory – 50 marks **Duration – 1 ½ hours**

Theory Pattern

Section A - 5 x 2 = 10 marks (Answer all the questions)
                              (1 question to be set from each unit)
Section B - 4 x 5 = 20 marks (4 out of 6)

Section C - 2 x 10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

Project Demonstration and Viva: 50 Marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

CYBER SECURITY

CODE: 19CS/PE/CS15   **CREDITS:5**
                                                                               L T P: 5 1 0
                                                                               TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE

- To understand the Cybercrime, Cyber Offenses and Cyber Forensics
- To understand the security challenges in mobile devices
- To analyse the Tools and Methods Used in Cybercrime
- To have an understanding on Cyber Law and Cyber security
- To understand the Indian IT Act and its strengths and weaknesses

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Explain the major concepts of Cyber Security and Forensics
- Safeguard themselves from cyber crimes
- Demonstrate the use of tools and methods used in cybercrime
- Demonstrate critical thinking and information application related to the discipline of cyber security, to include intelligence, computer forensics, cyber operations and electronic crime
- Demonstrate understanding of the legal and technical aspects of a cybercrime investigation and the application of computer forensic tools

Unit 1

1.1 Introduction to Cybercrime   **(14 Hours)**

Introduction, Cybercrime: Definition and Origins of the Word, Cybercrime and Information Security, who are Cybercriminals? Classifications of Cybercrimes, Cybercrime: The Legal Perspectives, Cybercrimes: An Indian Perspective, Cybercrime and the Indian ITA 2000, A Global Perspective on Cybercrimes

1.2 Cyber Offenses: How Criminals Plan Them

Introduction, How Criminals Plan the Attacks, Social Engineering Cyber stalking, Cyber cafe and Cybercrime, Botnets, the Fuel for Cybercrime, Attack Vector, Cloud Computing

Unit 2   **(14 Hours)**

2.1 Cybercrime: Mobile and Wireless Devices

Introduction, Proliferation of Mobile and Wireless Devices, Trends in Mobility, Credit Card Frauds in Mobile and Wireless Computing Era, Security Challenges Posed by Mobile Device Registry, Settings for Mobile Devices, Authentication Service Security, Attacks on Mobile/Cell Phones, Mobile Devices: Security Implications for Organizations, Organizational Measures for Handling Mobile, Organizational Security Policies and Measures in Mobile Computing Era, Laptops

Unit 3   **(14 Hours)**

3.1 Tools and Methods Used in Cybercrime

Introduction, Proxy Servers and Anonymizers, Phishing, Identity Theft (ID Theft), Password Cracking, Keyloggers and Spywares, Virus and Worms, Trojan Horses and Backdoors, Steganography, DoS and DDoS Attacks, SQL Injection, Buffer Overflow, Attacks on Wireless Networks

Unit 4   **(19 Hours)**

4.1 Cybercrimes and Cyber security: The Legal Perspectives

Introduction, Cybercrime and the Legal Landscape around the World, Why Do We Need Cyber laws - The Indian Context, The Indian IT Act, Challenges to Indian Law and Cybercrime Scenario in India, Consequences of Not Addressing the Weakness in Information Technology Act, Digital Signatures and the Indian IT Act, Amendments to the Indian IT Act, Cybercrime and Punishment, Cyber law, Technology and Students with respect to Indian Scenario

Unit 5   **(17 Hours)**

5.1 Computer Forensics

Understanding Computer Forensics · Introduction, Historical Background of Cyber forensics, Digital Forensics Science, The Need for Computer Forensics, Cyber forensics and Digital Evidence, Forensics Analysis of E-Mail · Digital Forensics Life Cycle, Chain of Custody Concept, Network Forensics, Approaching a Computer Forensics Investigation, Computer Forensics and Steganography, Relevance of the OSI 7 Layer Model to Computer Forensics. Forensics and Social Networking Sites: The Security/Privacy Threats, Computer Forensics from Compliance Perspective, Challenges in Computer Forensics · Special Tools and Techniques, Forensics Auditing · Antiforensics

BOOKS FOR STUDY

Godbole Nina, Belapure Sunit. Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives Wiley: April 2011 India Publications Released

BOOKS FOR REFERENCE

Diogenes Yuri , Ozkaya Erdal Cybersecurity – Attack and Defense Strategies: Infrastructure security with Red Team and Blue Team tactics Paperback – January 30, 2018

Nelson Bill, Phillips Amelia, Steuart Christopher. Guide to Computer Forensics and Investigations. Cengage Learning, 2013.

T. Britz Marjie. Computer Forensics and Cyber Crime: An Introduction. Pearson, 2013.

Wu Chwan-Hwa (John), Irwin J. David. Introduction to Computer Networks and Cyber security. CRC Press, 2013

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https://www.sophia.org/tutorials/cyber-security
https://www.simplilearn.com/tutorials/cyber-security
https://intellipaat.com/tutorial/ethical-hacking-cyber-security-tutorial/
https://www.nersc.gov/users/training/online-tutorials/cybersecurity-tutorial/
https://www.geeksforgeeks.org/what-is-information-security/

PATTERN OF ASSESSMENT

Continuous Assessment Test   Total Marks:50   Duration: 90 minutes
Section A - 5 × 2 = 10 marks (Answer all the questions)
Section B - 4 × 5 = 20 marks (4 out of 5)
Section C - 2 × 10 = 20 marks (2 out of 3)

Other Components   Total Marks:50
Seminar/Quiz/Open book test/Group discussion/Assignment/Role play/Case study

List of case studies may include but not restricted to the following:
Real-Life Examples
Example 1: Official Website of Maharashtra Government Hacked
Example 2: E-Mail Spoofing Instances
Example 3: I Love You Melissa –Come Meet Me on the Internet

Mini-Cases:
Mini-Case 1: Cyber pornography Involving a Juvenile Criminal
Mini-Case 2: Cyber defamation: A Young Couple Impacted

Scams:

Scam No. 1 –Foreign Country Visit Bait

Scam No. 2 –Romance Scam

Scam No. 3 –Lottery Scam

Financial Crimes in Cyber Domain:

Financial Crime 1: Banking Related Frauds

Financial Crime 2: Credit Card Related Frauds

End Semester Examination   Total Marks:100   Duration: 3 hours

Section A - 10 x 2 = 20 marks (Answer all the questions)

        (2 questions to be set from each unit)

Section B - 6 x 5   = 30 marks (6 out of 8)

        (atleast 1 question from each unit)

Section C - 5 x 10 = 50 marks (5 out of 7)

        (atleast 1 question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

SOFTWARE TESTING

CODE: 19CS/PE/ST15   **CREDITS:5**

L T P:3 0 3

TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To understand software testing concepts
- To understand how testing can be automated
- To know the need for coverage criteria and when to stop testing
- To learn how to perform unit testing using JUnit
- To gain an insight of various testing techniques

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to
- Appreciate the need for software testing
- Write test cases and perform manual testing
- Create automated test cases
- Use appropriate tools to test the software
- Apply various testing techniques to improve software quality

Unit   1   **(18 Hours)**

1.1 Introduction to Software Testing

Need for testing software - Fault, error and failures - Verification and validation - Testing, test failure and debugging - RIPR model - Unit testing, integration testing, system testing, acceptance testing, regression testing - Integration order - Stubs and mocks - SDLC and testing activities (V-model) - When to stop testing? - Black box and white box testing - Test plan, design, automation, execution, evaluation

Unit   2   **(18 Hours)**

2.1 Test Automation

Software Testability - Components of a Test Case - Test Automation Frameworks - JUnit - Test driven development - Cost-of-change curve - Continuous Integration - System tests in agile methods - code refactoring

2.2 Criteria-Based Test Design

Coverage - Minimal, minimum test set - coverage level - advantages of using coverage criteria

Unit   3   **(18 Hours)**
3.1 Input Space Partitioning
Input Domain Modeling - Combination Strategies Criteria - Handling constraints among characteristics
3.2 Graph Coverage
Graph Coverage Criteria - Graph Coverage for Source Code - Graph Coverage for Design Elements - Graph Coverage for Specifications - Graph Coverage for Use Cases

Unit   4   **(13 Hours)**
4.1 Logic Coverage
Semantic Logic Coverage Criteria - Syntactic Logic Coverage Criteria - Structural Logic Coverage of Programs - Specification-based Logic Coverage

Unit   5   **(11 Hours)**
5.1 Syntax-based Testing
Syntax-based Coverage Criteria - Program-based Grammars - Integration and Object-Oriented Testing
5.2 Security Testing
What is Security Testing/ Penetration Testing? – Black Box – White Box – Gray Box – Testing teams - Types of penetration tests
5.3 Case Study on different tools (Only for component)

BOOKS FOR STUDY

Ammann, Paul, and Jeff Offutt. *Introduction to software testing*. Cambridge University Press, 2016.

Desikan, Srinivasan, and Gopalaswamy Ramesh. *Software testing: principles and practice*. Pearson Education India, 2006.

Tomek Kaczanowski , *Practical Unit Testing with JUnit and Mockito.* 2013

BOOKS FOR REFERENCE

Naik, Sagar and Piyu Tripathy. *Software Testing and Quality Assurance: Theory and Practice*. Wiley.

WEB RESOURCES

https://resources.infosecinstitute.com/category/certifications-training/pentesting-certifications/introduction-overview/ [security testing]
https://www.tutorialspoint.com/security_testing/index.htm
https://www.owasp.org/images/1/19/OTGv4.pdf
https://www.coresecurity.com/penetration-testing-overview

Practical
Writing Test cases manually
Testing using JUnit
Test Driven Development
Integration testing
Coverage Criteria

PATTERN OF ASSESSMENT

Continuous Assessment   Total Marks: 50   Duration: 90 minutes
Theory – 25 marks
Practical – 25 marks

Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components   Total Marks:50
Seminars/Group discussion/Assignments/Case studies

End Semester Examination   Total Marks: 100   Duration: 3 hours

Theory – 50 marks   Duration – 1 ½ hrs
Practical – 50 marks   Duration – 1 ½ hrs

Theory Pattern
Section A - 5 x 2 = 10 marks (Answer all the questions)
Section B - 4 x 5 = 20 marks (4 out of 6)
Section C - 2 x 10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS
(Effective from the academic year 2019 – 2020)

MOBILE COMPUTING

CODE: 19CS/PE/MC15   **CREDITS: 5**
                                                                      L T P : 5 1 0
                                              TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To understand the basic concepts of mobile computing
- To be familiar with the network protocol stack
- To learn the basics of mobile telecommunication system
- To understand the functionality of Transport and Application layers
- To gain conceptual knowledge on Ad-Hoc networks

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Illustrate the generations of telecommunication systems in wireless networks
- Describe wireless and mobile communications systems and be able to choose an appropriate mobile system from a set of requirements.
- Determine the functionality of MAC, network layer and identify a routing protocol for a given Ad hoc network
- Explain the functionality of Transport and Application layers
- Appraise the quality and performance of mobile applications

Unit   1   **(18 Hours)**
1.1 Basics of Communication Technologies
Cell Phone System – Types of Telecommunication networks – Computer Networks – Traditional LAN – LAN Architectures – Components of Wireless Communication System – Architecture of Mobile Telecommunication System – Wireless Networking Standards – WLANs – Bluetooth Technology
1.2 Mobile Computing and Wireless Networking
What is Mobile Computing? - Mobile Computing vs Wireless Networking – Applications – Characteristics – Structure – Cellular Mobile Communication -   GSM – GPRS – UMTS –Broadcast Systems – Market for mobile communications – Simplified reference model
1.3 MAC Protocols
Properties – Wireless MAC Protocols- Taxonomy of MAC Protocols – Fixed Assignment Schemes : FDMA, TDMA, CDMA – Radom Assignment Schemes: ALOHA, CSMA – Reservation-based Schemes – The 802.11 MAC standard – MAC protocols for Ad Hoc Networks

Unit 2   **(18 Hours)**

2.1 Mobile Internet Protocol

Mobile IP – Packet delivery –Overview of Mobile IP – Desirable features – Key Mechanisms – Route Optimization – Dynamic Host Configuration Protocol (DHCP)

2.2 Mobile Transport Layer

Overview of TCP/IP – Terminologies – Architecture – Overview of the operation of TCP – Application layer protocols of TCP – TCP/IP vs ISO/OSI model – Adaptation of TCP window – Improvement in TCP Performance

Unit 3   **(15 Hours)**

3.1 Mobile Databases

Issues in Transaction Processing – Transaction Processing Environment: Centralized , Client-server, Distributed Environment – Mobile Environment – Data Dissemination – Transaction processing in Mobile Environment : Atomicity, Consistency, Isolation, Durability – Data replication – Mobile Transaction Models – Roll back process – Query processing - Recovery

3.2 Mobile Ad Hoc Networks

Basic Concepts – Characteristics – Applications – MANET Design Issues – Routing Essentials of Traditional Routing Protocols : Link state, Distance vector – Routing in MANET's – Popular MANET protocols: DSDVR, DSR, AODV, Zone Routing protocol, Multicast Routing protocols – Vehicular Ad Hoc networks – MANET vs VANET – Security issues in MANET – Attacks – Counter measures

Unit 4   **(15 Hours)**

4.1 Wireless Sensor Networks

WSN vs. MANET – Applications – Architecture – Challenges – Characteristics – WSN Routing protocols – Target Coverage

4.2 Operating Systems for Mobile Computing

OS responsibilities in mobile devices – Basic concepts of mobile OS – Constraints and Requirements of mobile OS – Survey of commercial Mobile OS – Comparative study of mobile OS – OS for sensor Networks

Unit 5   **(12 Hours)**

5.1 Support for Mobility

File systems – WWW – Wireless application protocol – Wireless telephony application - Push architecture – Push/Pull services - Introduction to LiFi

5.2 Mobile Commerce (Example of Mobile Computing Infrastructure)

Applications of M-Commerce – Business to Business Applications – Structure of M-Commerce – Pros and Cons – Mobile payment Systems – Security Issues

BOOKS FOR STUDY

Jochen H. Schller, "Mobile Communications", Second Edition, Pearson Education, New Delhi, 2007.

Prasant Kumar Pattnaik, Rajib Mall, "Fundamentals of Mobile Computing", PHI Learning Pvt. Ltd, New Delhi – 2012.

BOOKS FOR REFERENCE

Asoke Talukder, Hasan Ahmed, Rupa Yavagal, "Mobile Computing: Technology, Applications and Services Creation", Second Edition, TMH, 2010.

Mobile Communication and Computing by Dr. G T. Thampi, DT Editorial Services

William Stallings, "Wireless Communication and Networks", Pearson, 2009.

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https://whatis.ciowhitepapersreview.com/definition/mobile-computing/
https://www.techopedia.com/definition/8270/mobile-computing-device-mcd

PATTERN OF ASSESSMENT

Continuous Assessment   Total Marks:50   Duration: 90 minutes
Section A - 5 x 2   = 10 (Answer all the questions)
Section B - 4 x 5   = 20 (4 out of 5)
Section C - 2 x 10 = 20 (2 out of 3)

Other Components   Total Marks:50
Quiz/Assignment/Seminar/Group Discussion/Paper presentation/Case study

End Semester Examination   Total Marks: 100   Duration: 3 hours
Section A - 10 x 2 = 20 marks (Answer all the questions)
              (2 questions to be set from each unit)
Section B - 6 x 5   = 30 marks (6 out of 8)
              (atleast 1 question from each unit)
Section C - 5 x 10 = 50 marks (5 out of 7)
              (atleast 1 question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 86

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

ADVANCED TECHNOLOGIES

CODE: 19CS/PE/AT15   **CREDITS: 5**
                                                              L T P: 5 1 0
                                      TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE

- To understand the fundamentals of Neural Network and deep learning architectures
- To explore the applications of Deep Learning
- To understand the fundamentals of BitCoin and BlockChain
- To learn the basic of Quantum Computing
- To demonstrate an understanding of leading technology

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Analyse how, and when, to use deep network architecture
- Comprehend the major concepts of BitCoin
- Discuss and asses real-life use cases of Blockchain technologies
- Apply the modern technology
- Learn the framework of quantum computation

Unit 1   **(15 Hours)**

1.1 Neural Networks and Deep Learning

Neural Networks - Training NN - Activation Functions - Loss Functions - Hyper Parameters

Unit 2   **(17 Hours)**

2.1 Deep Networks

Defining Deep Learning - Architectural Principles of Deep Networks - Building Blocks of Deep Networks - Unsupervised Pretrained Networks – Convolution Neural Networks - Recurrent NNs - Recursive NNs - Applications of Deep Learning in Natural Language Processing

Unit 3   **(17 Hours)**

3.1 BitCoin

BitCoin – History of BitCoin- Bitcoin Uses, Users- Transactions, Blocks, Mining, and the Blockchain- Bitcoin Transactions- Constructing a Transaction-Bitcoin Mining- Mining transactions in blocks- Spending the transaction- Keys, Addresses, Wallets-Introduction- Bitcoin Addresses- Wallets- The Bitcoin Network- Peer-to-Peer Network Architecture- Nodes Types and Roles- The Extended Bitcoin Network-Network Discovery-Full Nodes - Exchanging "Inventory"- Simplified Payment Verification (SPV) Nodes- Bloom Filters- Transaction Pools

Unit 4   **(15 Hours)**

4.1 Blockchain

The Blockchain- Structure of a Block- Block Header- Block Identifiers - Block Header Hash and Block Height - The Genesis Block- Linking Blocks in the Blockchain- Merkle Trees- Merkle Trees and Simplified Payment Verification (SPV)-Mining and Consensus- De-Centralized Consensus- Independent Verification of Transactions- Mining Nodes- Aggregating Transactions into Blocks- Mining the Block- Assembling and Selecting Chains of Blocks- Mining and the Hashing Race- Consensus Attacks- Bitcoin Security- Security principles- User Security Best Practices

Unit 5   **(14 Hours)**

5.1 Quantum Computing

Overview- The Circuit Model of Computation- A Linear Algebra Formulation of the Circuit Model- Reversible Computation- A Preview of Quantum Physics- Quantum Physics and Computation- Qubits and The Framework of Quantum Mechanics- A Quantum Model of Computation – Quantum Computing Applications

BOOKS FOR STUDY

Andreas M. Antonopoulos. *Mastering Bitcoin: Programming the Open Block chain*. O'Reilly Media, Inc.,2017. (Unit 3, Unit 4)

Patterson, Josh, and Adam Gibson. *Deep Learning: A Practitioner's Approach*. O'Reilly Media, Inc., 2017. (Unit 1, Unit 2)

Phillip Kaye, Raymond Laflamme and Michele Mosca. *An Introduction to Quantum Computing*, Oxford University press, 2007. (Unit 5)

BOOKS FOR REFERENCE

Deng & Yu. *Deep Learning: Methods and Applications*, Now Publishers, 2013.

IanGoodfellow, Yoshua Bengio, and Aaron Courville.*Deep Learning*, MIT Press, 2016.

Karim, Md Rezaul. *Java Deep Learning Projects: Implement 10 real-world deep learning applications using Deeplearning4j and open source APIs*. Packt Publishing Ltd, 2018.

Michael A. Nielsen and Isaac L. Chuang. *Quantum Computation and Quantum Information*, Cambridge University Press, 2000.

Melanie Swan. *Blockchain*. O'Reilly Media, 2015.

WEB RESOURCES
http://deeplearning.net/
https://www.pyimagesearch.com/deep-learning-computer-vision-python-book/
https://blockgeeks.com/guides/what-is-blockchain-technology/
https://www.research.ibm.com/ibm-q/learn/what-is-quantum-computing/
https://www.research.ibm.com/ibm-q/learn/quantum-computing-applications/

PATTERN OF ASSESSMENT

Continuous Assessment   **Total Marks: 50**   **Duration: 90 minutes**

Section A - 5 x 2   = 10 (Answer all the questions)
Section B - 4 x 5   = 20 (4 out of 5)
Section C - 2 x 10 = 20 (2 out of 3)

Other Components   **Total Marks: 50**
Quiz/Assignment/Seminar/Group Discussion/Paper presentation/Case studies

End Semester Examination   **Total Marks: 100**   **Duration: 3 hours**

Section A - 10 x 2 = 20 marks (Answer all the questions)
                (2 questions to be set from each unit)
Section B - 6 x 5   = 30 marks (6 out of 8)
                (atleast 1 question from each unit)
Section C - 5 x 10 = 50 marks (5 out of 7)
                (atleast 1 question from each unit)

Note: Syllabus is subject to change depending on the trends

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 86

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

VISUAL PROGRAMMING

CODE: 19CS/PE/VP15
                                                       CREDITS:5
L T P:3 0 3
TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To learn basics of C# programming
- To introduce the concepts of Web Programming using ASP.NET
- To understand state management
- To introduce advanced concepts of Web Technology and LINQ using C# and ASP.NET
- To generate reports using Crystal reports

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Write Object Oriented Programs using C#
- Create a web application
- Effectively use the concept of state management
- Create persistent applications using LINQ
- Generate required reports

Unit 1
1.1 C# Fundamentals   **(16 Hours)**
Overview of .NET Framework - C# Fundamentals- Variables and Constants, Value Types, Reference Types, Type Conversions, Boxing and Unboxing, Expressions and Operators, Flow Control and Exception Handling - Control Flow Statements: Selection Statements, Iteration Statements or Loops, Jump Statements - Exception Handling - try…catch…finally Statement, throw Statement - Exploring Namespaces, Classes and Objects - Syntax of a Class, Method as Class Member, Access Modifiers, Objects, Constructors and Destructors, Static Classes and Static Class Members - Properties

Unit 2   **(17 Hours)**
2.1 ASP.NET
Life cycle- Specifying a Location for a Web Application -Single-File Page Model - Code-Behind Page Model - Adding controls to web form

2.2 Web Server Controls

The Control Class - The WebControl Class - The Button Control - The TextBox Control -The Label Control - The HyperLink Control -The LinkButton Control -The PlaceHolder Control - The HiddenField Control - The CheckBox Control -The RadioButton Control - The ListBox Control -The DropDownList Control -The Image Control -The ImageButton Control - The Table Control - Menus - Validation Server Controls - Master page - Web.Config

Unit 3 (15 Hours)

3.1 State Management

Understanding the session object - Sessions and the Event Model, Configuring, In-Process Session State, Out-of-Process Session state - Application Object - Query strings - Cookies, -ViewState - Global.asax

3.2 XML and .NET

Basics of XML - Create XML Document - Reading XML with XmlReader - Reading XML with XmlDocument - Working with XmlNode - Using XPath with XmlDocument - Writing XML with XmlWriter - Writing XML with XmlDocument - The XMLDataSource Control

Unit 4 (16 Hours)

4.1 LINQ

Introducing LINQ Queries - Standard Query Operators - Introducing LINQ to Dataset, SQL and XML - The LinqDataSource Control - Data Binding – Grid View, Details view, Forms view

Unit 5 (14 Hours)

5.1 ASP. NET AJAX

Understanding the need for AJAX - Building a simple ASP.NET page without AJAX - Building a simple ASP.NET page with AJAX

5.2 Crystal Reports

Overview to Crystal Reports - Creating Crystal Reports with wizards - Integrating with Web Applications

BOOKS FOR STUDY

Deitel, Paul and Harvey M. Deitel. *C# 2012 for Programmers.* Pearson Education, 5th ed.

Kogent Learning Solutions. *C# 2012 Programming Covers .NET 4.5 Black Book.* Dreamtech press, 2013.

BOOKS FOR REFERENCE

Liberty, Jesse. *Programming C#.* 4th ed. O'Reilly Media, 2009.

Schildt, Herbert. *Complete Reference C#.* New Delhi: TMH Publication, 2009.

WEB RESOURCES

https://msdn.microsoft.com/en-us/library/aa288436%28v=vs.71%29.aspx
http://www.w3schools.com/aspnet/aspnet.asp

http://csharp.net-tutorials.com/xml/introduction/
http://ajax.net-tutorials.com/basics/introduction/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks:50**   **Duration:90 minutes**
Theory – 25 marks
Practical – 25 marks
Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components: **Total Marks:50**
Quiz/Assignment/Debugging/Seminar/Analysis of real time applications/Developing web applications/ Code Reading

End Semester Examination Total Marks: 100
Theory – 50 marks   **Duration – 1 ½ hours**

Theory Pattern

Section A - 5 x 2 = 10 marks (Answer all the questions)
                              (1 question to be set from each unit)
Section B - 4 x 5 = 20 marks (4 out of 6)

Section C - 2 x 10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

Project Demonstration and Viva: 50 Marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 86

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

ADVANCED DATABASE SYSTEMS

CODE: 19CS/PE/AD15   CREDITS: 5
                                                                  L T P: 5 1 0
                                                   TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE

- To build on the previous background of database systems and enhancing the understanding of different database technologies
- To enable a comprehensive and better understanding of XML
- To understand the various security issues in Database
- To demonstrate an understanding of distributed databases and the trends
- To learn different data models
- To have an overview of data mining and data warehousing concepts

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Identify the purpose and how to use XML
- Write queries that minimizes the response time
- Create secure databases
- Apply suitable data models to different scenarios
- Collect and manage data from varied sources to provide meaningful business insights

Unit   1   **(15 Hours)**

1.1 XML: Extensible Markup Language

Types of Data - Structured, Semistructured, and Unstructured Data - XML Hierarchical (Tree) Data Model - XML Documents, DTD, and XML Schema - Storing and Extracting XML Documents from Databases - XML Languages - Extracting XML Documents from Relational Databases

1.2 Query Processing and Optimization and Database Tuning

Algorithms for Query Processing and Optimization - Translating SQL Queries into Relational Algebra - Algorithms for External Sorting - Algorithms for SELECT and JOIN Operations -Algorithms for PROJECT and Set Operations - Implementing Aggregate Operations and OUTER JOINs - Combining Operations Using Pipelining -

Using Heuristics in Query Optimization - Using Selectivity and Cost Estimates in Query Optimization - Semantic Query Optimization

Unit 2 (15 Hours)

2.1 Database Security

Introduction to Database Security Issues - Discretionary Access Control Based on Granting and Revoking Privileges - Mandatory Access Control and Role-Based Access Control for Multilevel Security - SQL Injection - Introduction to Statistical Database Security - Introduction to Flow Control - Encryption and Public Key Infrastructures - Privacy Issues and Preservation - Challenges of Database Security

Unit 3 (18 Hours)

3.1 Distributed Databases

Distributed Database Concepts - Types of Distributed Database Systems - Distributed Database Architectures - Data Fragmentation, Replication, and Allocation Techniques for Distributed Database Design - Query Processing and Optimization in Distributed Databases - Overview of Transaction Management in Distributed Databases - Overview of Concurrency Control and Recovery in Distributed Databases - Distributed Catalog Management - Current Trends in Distributed Databases

3.2 Introduction to Information Retrieval and Web Search

Information Retrieval (IR) Concepts -Retrieval Models - Types of Queries in IR Systems - Text Preprocessing - Inverted Indexing - Evaluation Measures of Search Relevance - Web Search and Analysis - Trends in Information Retrieval

Unit 4 (15 Hours)

4.1 Enhanced Data Models for Advanced Applications

Active Database Concepts and Triggers - Temporal Database Concepts - Spatial Database Concepts - Multimedia Database Concepts - Introduction to Deductive Databases – Parallel Databases

Unit 5 (15 Hours)

5.1 Data Mining Concepts

Overview of Data Mining Technology - Association Rules - Classification Clustering - Approaches to Other Data Mining Problems - Applications of Data Mining - Commercial Data Mining Tools

5.2 Overview of Data Warehousing and OLAP

 Introduction, Definitions, and Terminology -Characteristics of Data Warehouses - Data Modeling for Data Warehouses - Building a Data Warehouse - Typical Functionality of a Data Warehouse - Data Warehouse versus Views - Difficulties of Implementing Data Warehouses

BOOKS FOR STUDY

Elmasri, Ramez, and Shamkant Navathe. Fundamentals of database systems.Addison-Wesley Publishing Company, 2010.

BOOKS FOR REFERENCE

Date C. J. *Introduction to Database Systems*. USA: Pearson Education, 2003.

Ramakrishna, Raghu and Johannes Gerhke. *Database Management Systems*. McGraw Hill, 2002.

Silberschatz, Abraham, Henry F. Korth, and S. Sudarshan. Database System Concepts. McGraw Hill, 2008.

Michael Mclaughlin. Oracle Database 11g PL/SQL Programming.Oracle Press. McGraw Hill, 2008

WEB RESOURCES
https://docs.oracle.com/database/
https://www.coursera.org/learn/distributed-database

PATTERN OF ASSESSMENT

Continuous Assessment Test   **Total Marks:50**   **Duration: 90 minutes**

Section A - 5×2 = 10 marks (Answer all the questions)
Section B - 4×5 = 20 marks (4 out of 5)
Section C - 2×10 = 20 marks (2 out of 3)

Other Components   **Total Marks:50**
Seminar/Case Study/Assignment

End Semester Examination   **Total Marks:100**   **Duration: 3 hours**
Section A - 10 x 2 = 20 marks (Answer all the questions)
         (2 questions to be set from each unit)
Section B - 6 x 5 = 30 marks (6 out of 8)
         (atleast 1 question from each unit)
Section C - 5 x 10 = 50 marks (5 out of 7)
         (atleast 1 question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

**Post Graduate Elective Course offered by the Department of Computer Science
to M.A. / M.Sc. / M.Com. Degree Programme**

SYLLABUS

(Effective from the Academic Year 2019-2020)

DOCUMENTATION AND PRESENTATION

CODE: 19CS/PE/DP23   **CREDITS: 3**
LTP: 2 0 1
TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE

- To give students the knowledge and understanding to prepare formatted documents and powerful presentations
- To provide hands-on use of Microsoft Office applications
- To learn the features of Latex to prepare for a writing of journals, Paper Publications
- To give the knowledge of other word processing tools to cope up with current technology
- To learn about other word processing tools

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Create a document in Word with proper formatting
- Use Word to create personal, academic and business documents following current industry standards
- Create an effective presentation in Microsoft PowerPoint that is interactive and legible content
- Write a proper journal paper or Publish a book with proper formatting using Latex
- Make use of new word processing tools and work in cloud environment

Unit 1   **(10 Hours)**

1.1 Word Processing

Introduction – The Style Advantage, Outlining, -Autocorrect – Compatibility with previous versions of word– Styles and Character/Font Formatting – Bullets and Numbering – Character Formatting – Paragraph Formatting – Styles and paragraph Formatting, Structural Formatting, paragraph Decoration – Find, Replace and GO To – Language Tools – Auto Correct – Auto Format – Tables – Pictures and SmartArt – Headers and Footers - Symbols and Equations - Charts – Inserting Objects and Files - Bookmarks –Tables of Contents –Footnotes and Endnotes - Citations and Bibliography – Indexing – Table of Authorities – Hyperlinks and Cross-References - Envelopes and Labels - Data Documents and Mail Merge- Protection Type - Integration with other office Applications – Excel, PowerPoint

Unit 2 (10 Hours)

2.1 Presentation Tool

Introduction to PowerPoint – Changing the view – Creating a good presentation - Creating and saving Presentation Files –Creating New Slides and Text Boxes –Working with Layout, Themes and Masters –Formatting Text –Formatting Paragraphs –Correcting and Improving Text –Creating and Formatting Tables- Creating SmartArt Diagrams– Importing Image Files into PowerPoint –Compressing Images –Creating a Photo Album Layout- Working with Charts – Working with External Content- Copying Content from Other Programs - Adding Sound Effects, Music and Soundtracks –Creating Animation Effects and Transitions –Creating Support Materials –Preparing for a Live Presentation – Limiting User Access to a Presentation

Unit 3 (7 Hours)

3.1 LATeX

Introduction – Installation of LATEX – Creating a simple Document -Using Simple Commands - Packages-Special characters and symbols – Lists - Fonts - Aligning material in Rows and Columns

3.2 Structuring your Document

Author and title information - Abstract - Chapters, Sections, Subsections - Creating a Table of contents - Cross-Referencing – Creating a Bibliography - Page Styles and Page Numbering – Multi Lingual Support: Using the babel package

Unit 4 (6 Hours)

4.1 Graphicx Package

Graphical Transformations -Package Options – Floats – Figures -Side-By-Side Figures - Tables - Side-by-Side Tables - Sideways Floats - Sub-Floats -Defining Commands

4.2 Mathematics

In-Line Mathematics - Displayed Mathematics - Multiple Lines of Displayed Maths – Mathematical commands

Unit 5 (6 Hours)

5.1 Other tools

Working with Zoho and creating documents/presentations- Working with Google Docs - Creating surveys with google forms and generating reports.

BOOKS FOR STUDY

Faithe Wempen. *PowerPoint 2013 Bible*. Wiley Publishing, Inc.

Herb Tyson. *Microsoft® Word 2010 Bible*. Wiley Publishing, Inc.

Lisa A. Bucki. *Word 2013 Bible*. Wiley Publishing, Inc.

Nicola L. C. Talbot. *LATEX for Complete Novices*,2012 Dickimaw Books.

BOOKS FOR REFERENCE

Echo Swinford. *My PowerPoint 2016*.Pearson education

Freedman J. *Microsoft Word 2013 Plain & Simple* 2013. Microsoft Press

Helmut Kopka, Patrick W.Daly. *LATEX and Electronic Publishing*. Fourth Edition. Addison - Wesley 2004.

Lambert Joan. *Microsoft Word 2016 Step by Step* 1st ed. Microsoft Press.2016.

Lambert Joan. *Microsoft Power point 2016 Step by Step* 1st ed. Microsoft Press.2016.

Price Michael. McGrath Mike *Office 2016 Step by Step* 1st ed. Microsoft Press 2016.
Leslie Lamport. *LATEX -A Document Preparation System -User's Guide and Reference Manual*. Addison -Wesley Publishing Company.1994

Stefan Kottwitz. *LaTeX Beginner's Guide*. PacKt Publishing 2011

WEB RESOURCES

http://www.onlineprogrammingbooks.com/free-ebook-microsoft-office-powerpoint/
http://bookboon.com/en/microsoft-office-powerpoint-ebook#download
https://www.dit.ie/media/ittraining/msoffice/MOAC_Word_2016_Core.pdf
https://www.zoho.com/docs/help/content-management.html

PATTERN OF ASSESSMENT

CONTINUOUS ASSESMENT – Practical - 50 marks

Component 1 - **25 marks**
Mini Project Phase 1: Preparing a document using a documentation tool.
Component 2 – 25 marks
Mini Project Phase 2: Presenting a Report using a tool.

END SEMESTER EXAMINATION – Practical (3 Hours) - 100 Marks.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

**Post Graduate Elective Course offered by the Department of Computer Science
to M.A. / M.Sc. / M.Com. Degree Programme**

SYLLABUS
(Effective from the academic year 2019 - 2020)

EMERGING TRENDS IN INFORMATION TECHNOLOGY

CODE: 19CS/PE/ET23   **CREDITS : 3**
                                                              L T P : 3 0 0
                                          TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE
- To introduce the emerging trends of the current industry
- To enable students to learn about the current technologies
- To improve their research skills
- To provide students an opportunity to explore different areas of interest

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Enumerate the emerging technologies of IT industry
- Demonstrate knowledge about the significance of Emerging Technologies
- Identify areas in which these emerging technologies can be used
- Integrating more than one technology for effective solutions
- Identify research areas of interest from AR, VR, AI and Cloud Computing

Unit   1   **(9 Hours)**
1.1 Introduction to Augmented and Virtual Reality
Computer-Generated Worlds -What Is Augmented Reality? - What Is Virtual Reality?
1.2 Applications
Gaming and Entertainment, Architecture and Construction-Science and Engineering - Health and Medicine-Aerospace and Défense -Education-Telerobotic and Telepresence

Unit   2   **(8 Hours)**
2.1 Artificial Intelligence
Artificial Intelligence and Agents - What Is Artificial Intelligence? - A Brief History of AI-Agents Situated in Environments-Knowledge Representation-Dimensions of Complexity- Applications of AI

Unit   3   **(9 Hours)**
3.1 3D Printing
 Introduction –The Basics of 3D printing -3D Print Methods and Materials-

Material Extrusion - Fused Filament Fabrication -General design considerations for 3D Printing – Applications of FFF

3.2 Applications
Industrial Applications-3D Printing in space, Housing, Clothing, Medical Applications

Unit 4
4.1 Cloud Computing (7 Hours)
Introduction-Cloud Computing at a glance-Building cloud computing Environments-Cloud Computing Architecture-Introduction -The cloud reference model -Types of clouds

Unit 5 (6 Hours)
5.1 Applications
Cloud Applications -Scientific applications -Business and consumer applications -Social networking-Media applications -Multiplayer online gaming

BOOKS FOR STUDY

Ben Redwood, Filemon Schöffer. *The 3D Printing Handbook: Technologies, design and applications.,*2018 (Unit 3.2)

David Poole Alan Mackworth. *Artificial Intelligence-Foundations of Computational Agents.* Cambridge University Press,2010. (Unit 2)

Rajkumar Buyya, Christian Vecchiola, S. Thamarai Selvi. *Mastering Cloud Computing Foundations and Applications Programming.* Newnes.,2013 (Unit 4&5)

Steve Aukstakalnis. *Practical Augmented Reality -A Guide to the Technologies, Applications, and Human Factors for AR and VR.* Pearson Education, Inc.,2017. (Unit 1)

Victoria Zukas, Jonas A. Zukas. *An introduction to 3D Printing.* First Edition Design Pub.,2015. (Unit 3.1)

BOOKS FOR REFERENCE

Dieter Schmalstieg, Tobias Hollerer. *Augmented Reality: Principles and Practice (Usability).*

Helen Papagiannis. *Augmented Human: How Technology Is Shaping the New Reality.*

Nils J. Nilsson. *The Quest for Artificial Intelligence A History of Ideas And Achievements.* Web Version by Cambridge University Press.

Sean Morey and John Tinnell. *Augmented Reality: Innovative Perspectives across Art, Industry, and Academia.*

WEB RESOURCES

http://www.cambridge.org/us/0521122937
https://artint.info/index.html

PATTERN OF ASSESSMENT

Continuous Assessment Test   **Total Marks:50**   **Duration: 90 minutes**

Section A - 3 x 5 = 15 marks (3 out of 4)
Section B - 1 x 10 = 10 marks (1 out of 2)

Other Components   **Total Marks:50**
Case study on technology in real time scenarios
Poster Presentation on any one Emerging Trends
Dissertation

End Semester Examination   **Total Marks: 100**   **Duration: 3 hours**
Section A - 10 x 2 = 20 marks (Answer all the questions)
             (2 questions to be set from each unit)
Section B - 6 x 5   = 30 marks (6 out of 8)
             (atleast 1 question from each unit)
Section C - 5 x 10 = 50 marks (5 out of 7)
             (atleast 1 question from each unit)

**Post Graduate Elective Course offered by the Department of Computer Science
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SYLLABUS
(Effective from the academic year 2019 - 2020)

MULTIMEDIA

CODE: 19CS/PE/MM23   **CREDITS: 3**
                                                        L T P: 2 0 1
                                        TOTAL TEACHING HOURS: 39

OBJECTIVE OF THE COURSE
- To know about Multimedia and its elements
- To acquire skills in Multimedia using tools - Photoshop, Flash and Dreamweaver
- To enable students, develop a static web site using the acquired skills

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Edit images using Photoshop
- Design their own textures, logos and also to create animations
- Design and structure a web page with different elements using Dreamweaver

Unit   1   **(3 Hours)**
1.1 Introduction
What is Multimedia – Where to use Multimedia – Introduction to Text, Images, Sound, Animation, Video – File Formats - Stages of a Multimedia Project – Hardware – Software – Authoring Systems – Multimedia Team – Introduction to designing for the World Wide Web

Unit   2   **(11 Hours)**
2.1 Introduction to Adobe Photoshop
Features of Adobe Photoshop - Workspace basics – Panels and menus, Tools, Rulers, Undo and History, Keyboard Shortcuts, Grids and Guides – Image and Color Basics - Palettes, Customizing Color Pickers and Swatches - Image and Color Basics - Blending Modes – Creating, Opening, Importing images in Photoshop - Layer Basics – Saving the Photoshop File
2.2 Tools
Selection Tools - Drawing and Painting - Assisting Tools – Image Adjustments – Repair and Restoration – Reshaping and Transformation – Adding Text

Unit   3   **(11 Hours)**
3.1 Introduction to Adobe Flash
Features, Flash Work Environment - Stage, Menu Bar, Drawing Tools and their Modifiers - Basic Drawing Techniques – Timeline - Layers - Symbols – Libraries - Object types - Image types - Graphics formats - Colors and Resolution
3.2 Animation Techniques
Animation basics - Tweening and its Types - Shape Hint - Frame-by-Frame Animation - Text Animations - Creating Guide Path, Banners - Layer Masking -

Onion Skinning - Spot Light Effects – Buttons - Linking Images - Slide Shows - Adding Sound to Movies - Working with Scenes - Publishing Movies

Unit   4   **(9 Hours)**
4.1 Introduction to Adobe Dreamweaver
Features of Dreamweaver - Customizing Your Workspace - HTML Basics - Text, Lists and Tables -Working with Images - Working with the Insert Panel - Copying and Pasting Images from Photoshop - Working with Navigation – Creating Internal Hyperlinks - Creating an Image-based Link - Creating an External Link - Working with Forms - Form Elements

Unit   5   **(5 Hours)**
5.1 Mini Project
Create a website using Dreamweaver, Photoshop and Flash

BOOKS FOR REFERENCE

Adobe Creative Team, *Adobe Photoshop CS6 Classroom in a Book,* Adobe Press, 2012.

Adobe Creative Team, *Adobe Flash Professional CS6 Classroom in a Book,* Adobe Press, 2012.

Adobe Creative Team, *Adobe Dreamweaver CS6 Classroom in a Book,* Adobe Press, 2012.

Jeremy Osborn, Jennifer Smith, AGI Creative Team, *Web Design with HTML and CSS Digital Classroom*, Wiley Publishing, 2011.

Tay Vaughan, *Multimedia: Making it Work Eighth Edition,* Mc Graw Hill, 2011.

WEB RESOURCES
https://help.adobe.com/archive/en/photoshop/cs6/photoshop_reference.pdf
https://help.adobe.com/archive/en/flash/cs6/flash_reference.pdf
https://help.adobe.com/archive/en/dreamweaver/cs6/dreamweaver_reference.pdf
https://www.w3schools.com/html/default.asp
https://www.w3schools.com/css/default.asp

PATTERN OF ASSESSMENT
Continuous Assessment Test   Total Marks: 50   Duration: 90 minutes
Theory - 25 Marks
Practical - 25 Marks
Section A - 3 x 5 = 15 marks (3 out of 4)
Section B **-** 1 x 10 = 10 marks (1 out of 2)

Other Components   Total Marks:50
Practical/Analysis/Case Study

End Semester Examination   Total Marks: 100 marks
Theory   – 50 marks   Duration – 1 ½ hrs.
Project Demonstration and Viva – 50 marks
Theory Pattern
Section A: 5 x 2 = 10 marks (Answer all the questions)
Section B: 4 x 5 = 20 marks (4 out of 6)
Section C: 2 x 10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

**Post Graduate Elective Course offered by the Department of Computer Science
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SYLLABUS

(Effective from the academic year 2019-2020)

E-COMMERCE AND CONTENT MANAGEMENT SYSTEM

CODE: 19CS/PE/EC23   **CREDITS: 3**
L T P: 2 0 1
TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE
- To understand overall framework of E-Commerce and the role of internet in modern business
- To learn the strategies for developing electronic commerce Web sites, various payment schemes and security issues in E-Commerce
- To provide hands-on experience in the implementation of E-Commerce using an open source software

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Demonstrate an understanding of E-commerce framework
- Describe the role of internet in modern business
- Apply appropriate strategies to develop an E-Commerce web site
- Implement payment systems appropriately
- Analyze security and search engine optimization

Unit   1   **(8 Hours)**
    1.1 Introduction
        E-Commerce - History, Overview of the Framework - E-Business Models - Network – Infrastructure - Role of Internet - E- commerce and World Wide Web
    1.2 Planning for Electronic Commerce
        Identifying Benefits and Estimating Costs of Electronic Commerce Initiatives - Strategies for Developing Electronic Commerce Web Sites - Managing Electronic Commerce Implementations

Unit   2   **(8 Hours)**
    2.1 Introduction to WordPress
        Discovering WordPress – Installing WordPress
    2.2 Getting Used to the WordPress Environment
        An overview of the Dashboard – WordPress Settings – RSS feeds – User Profile

Unit 3 (8 Hours)

3.1 WordPress's Site Building Tools and Pages

Using WordPress's Site Building Tools – Appearance menu – Plugins – Media Library - Pages v Posts – Writing Posts – Internal linking of posts – Homepage of the Site - Custom Menus – User Management – Themes – Widgets – Configure WordPress as a CMS

Unit 4 (8 Hours)

4.1 Implementing eCommerce with Easycart

Implementing eCommerce with Easycart - Understanding Easycart - Obtaining and Installing Easycart - Configuring Easycart - Managing Cart settings, Checkout Settings, Order settings, Price Handler settings, Product settings, Store settings - Store Administration - Enhancing Easycart

Unit 5 (7 Hours)

5.1 Electronic Payment Systems

Digital Token based EPS – Smart cards – Credit cards – Risks – Designing EPS

5.2 Electronic Commerce Security and SEO

Online Security Issues Overview - Security for Client Computers – Communication Channel Security – Security for Server Computers – Main points for safe SEO – WordPress SEO

BOOKS FOR STUDY

Kalakota ,Ravi and Andrew B Whinston. *Frontiers of E-COMMERCE.* Pearson. 2011.

Lonmo, Dennis. *Master WordPress Like A Boss: A Beginners Guide to Planning, Designing, and Creating Your Very Own Unique WordPress Website*. 2018.

Schneider, Gary P. *Electronic commerce*. Cengage Learning, Inc; 11th edition. 2014.

Williams, Brad, David Damstra, and Hal Stern. *Professional WordPress: design and development*. John Wiley & Sons, 2015.

BOOKS FOR REFERENCE

Laudon, Kenneth C; Traver, Carol Guercio *E-Commerce: Business, Technology, Society*. 10[th]ed, Prentice Hall,2013

Plumley, George. WordPress 24-hour trainer. John Wiley & Sons, 2015.

Williams, Andy. *Wordpress for beginners, A visual step-by-step guide to creating your own wordpress site in record time, starting from zero*. Amazon Asia-Pacific Holdings Private Limited

WEB RESOURCES

http://docs.wpeasycart.com/wp-easycart-administrative-console-guide/?section=dashboard
https://www.hostinger.com/tutorials/wordpress/
https://wordpress.org/download/

PATTERN OF ASSESSMENT

Continuous Assessment   **Total Marks: 50**   **Duration: 90 mins.**
Theory – 25 marks
Practical – 25 marks
Theory Pattern
Section A - 3 x 5 = 15 marks (3 out of 5)
Section B **-** 1 x 10 = 10 marks (1 out of 2)

Other Components   **Total Marks:50**
Practical/Analysis/Case Study

End Semester Examination   **Total Marks: 100**
Theory   – 50 marks   **Duration – 1 ½ hrs.**
Project Demonstration and Viva – 50 marks
Theory Pattern
Section A: 5 x 2 = 10 marks (Answer all the questions)
Section B: 4 x 5 = 20 marks (4 out of 6)
Section C: 2 x 10 = 20 marks (2 out of 3)
(Questions for forty marks towards Section B and Section C should be set such that equal weightage is given to all units)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

ADVANCED COMPUTER GRAPHICS

CODE: 19CS/PI/AC24   **CREDITS:4**

OBJECTIVES OF THE COURSE
- Understand the two dimensional graphics and their transformations.
- Gain knowledge about graphics hardware devices and software used.
- Understand the three dimensional graphics and their transformations.
- Understand illumination and color models.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Designing 2D, 3D graphics and applying transformations.
- Apply clipping techniques to graphics.
- Apply Illumination and color models.

Unit   1

   1.1 Overview of graphics systems
   Video Display Devices - Raster Scan Systems - Random Scan Systems - Graphics Monitors and Workstations - Input Devices - Hard Copy Devices - Graphics Software.
   1.2 Output primitives
   Points and Lines - Line Drawing Algorithms - Loading the Frame Buffer - Line Function-Circle and Ellipse Generating Algorithms - Pixel Addressing and Object Geometry- Filled Area Primitives -Fill-Area Functions- Cell Array - Character Generation – Applications.

Unit   2

   2.1 Two Dimensional Geometric Transformations
   Basic Transformation – Matrix representations and homogeneous coordinates, Composite Transformations - Other Transformations-Point Clipping - Line Clipping - Polygon Clipping –Curve Clipping - Text Clipping - Exterior Clipping
   2.2 Three Dimensional Graphics
   Three Dimensional Concepts - Three Dimensional Object Representations – Polygon Surfaces - Polygon Tables- Plane Equations – Polygon Meshes - Curved Lines and Surfaces - Quadratic Surfaces - Blobby Objects.

Unit 3

3.1 Visual – Surface Detection Methods

Classification of Visible - Surface Detection Algorithms - Back-Face Detection - Depth-Buffer Method - A-Buffer Method **-** Scan-Line Method - Depth-Sorting Method - BSP-Tree Method - Area-Subdivision Method - Octree Methods - Ray-Casting Method - Curved Surfaces - Curved-Surface Representations - Surface Contour Plots - Wireframe Methods - Visibility-Detection Functions

Unit 4

4.1 Illumination and Colour Models

Light sources – Basic Illumination Models – Displaying Light Intensities - Halftone Patterns and Dithering Techniques – Polygon-Rendering Methods- Constant-Intensity Shading- Gouraud Shading - Phong Shading - Ray-Tracing Methods - Basic Ray-Tracing Algorithm- Ray-Surface Intersection- Calculations- Reducing Object-Intersection – Calculations - Space-Subdivision Methods- Antialiased Ray Tracing-Distributed Ray Tracing-Texture Mapping-Procedural Texturing Method- Bump Mapping- Frame Mapping

Unit 5

5.1 Color Models and Color Applications

Properties of Light – Standard Primaries and Chromaticity Diagram, Intuitive Colour Concepts – RGB Colour Model – YIQ Colour Model – CMY Colour Model – HSV Colour Model – HLS Colour Model-Colour Selection and Applications

5.2 Computer Animation

Design of Animation sequences – General Computer-Animation functions – Raster animation – Computer-Animation Languages - Key frame systems – Morphing – Simulating Accelerations - Motion Specifications - Direct Motion Specification Goal-Directed Systems-Kinematics and Dynamics.

BOOKS FOR STUDY

Donald Hearn and Pauline Baker M, *Computer Graphics*, Prentice Hall, New Delhi, 2007.

John F. Hughes, Andries Van Dam, Morgan Mc Guire ,David F. Sklar , James D. Foley, Steven K. Feiner and Kurt Akeley ,"Computer Graphics: Principles and Practice", 3rd Edition, Addison- Wesley Professional,2013.

BOOK FOR REFERENCES

Donald Hearn and M. Pauline Baker, Warren Carithers,"Computer Graphics With Open GL", 4th Edition, Pearson Education, 2010.

Hill F S Jr., "Computer Graphics", Maxwell Macmillan" , 1990.

Peter Shirley, Michael Ashikhmin, Michael Gleicher, Stephen R Marschner, Erik Reinhard,

Jeffrey McConnell, "Computer Graphics: Theory into Practice", Jones and Bartlett

Publishers, 2006.

KelvinSung, and AK Peters, Fundamental of Computer Graphics, CRC Press, 2010.

Steve Marschner; Peter Shirley," Fundamentals of Computer Graphics, 4th Edition, Taylor and Francis Group CRC Press, 2015

William M. Newman and Robert F.Sproull, "Principles of Interactive Computer Graphics",

Mc GrawHill 1978.

WEB RESOURCES

http://nptel.ac.in/

https://www.edx.org/course/computer-graphics/

PATTERN OF ASSESSMENT

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**

Section A - 10 x 2 = 20 marks (Answer all the questions)
           (2 questions to be set from each unit)
Section B - 6 × 5   = 30 marks (6 out of 8)
           (Atleast 1 question from each unit)
Section C - 5 ×10 = 50 marks (5 out of 7)
           (Atleast 1 question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)

SYLLABUS

(Effective from the academic year 2019 – 2020)

DIGITAL IMAGE PROCESSING

CODE: 19CS/PI/IP24   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To understand the fundamentals of digital image processing
- To know the techniques for transformation, enhancement, restoration and compression of images
- To learn segmentation and reconstruction of images

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Knowledge about the fundamentals in image processing
- Understand various spatial and frequency domain techniques available
- Understand the noise model available for image restoration
- Reducing the image size by compression techniques

Unit   1
1.1 Fundamentals of Digital image
Introduction – Origin – Steps in Digital Image Processing – Components – Elements of Visual Perception – Image Sensing and Acquisition – Image Sampling and Quantization – Relationships between pixels

Unit   2
2.1 Spatial Domain
Gray level transformations – Histogram processing – Basics of Spatial Filtering– Smoothing and Sharpening Spatial Filtering
2.2 Frequency Domain
Introduction to Fourier Transform – Smoothing and Sharpening frequency domain filters – Ideal, Butterworth and Gaussian filters

Unit   3
3.1 Image Restoration
Noise models – Mean Filters – Order Statistics – Adaptive filters – Band reject Filters – Band pass Filters – Notch Filters – Optimum Notch Filtering – Inverse Filtering – Wiener filtering
Unit   4
4.1 Image Compression

Fundamentals – Image Compression models – Error Free Compression – Variable Length Coding – Bit-Plane Coding – Lossless Predictive Coding – Lossy Compression – Lossy Predictive Coding – Wavelet Coding

Unit 5

5.1 Image Segmentation

Detection of isolated points – Line Detection –Edge Models – Basic Edge Detection

5.2 Image Reconstruction

Principles of Computed Tomography (CT) - Projections and the Radon Transform - The Fourier-Slice Theorem - Reconstruction Using Parallel-Beam Filtered Back projections

BOOKS FOR STUDY

Rafael C. Gonzales, Richard E. Woods, "*Digital Image Processing*", Pearson Education, Third Edition, 2010.

BOOKS FOR REFERENCE

Anil Jain K. "*Fundamentals of Digital Image Processing*", PHI Learning Pvt. Ltd., 2011.

Jayaraman S., Esaki Rajan S., T.Veera Kumar, "*Digital Image Processing*", Tata McGraw Hill Pvt. Ltd., Second Reprint, 2010.

WEB RESOURCES

http://eeweb.poly.edu/~onur/lectures/lectures.html

http://www.caen.uiowa.edu/~dip/LECTURE/lecture.html

End Semester Examination: Total Marks: 100   Duration: 3 Hours

Section A - 10 x 2 = 20 marks (Answer all the questions)
                 (2 questions to be set from each unit)
Section B - 6 × 5 = 30 marks (6 out of 8)
                  (Atleast 1 question from each unit)
Section C - 5 ×10 = 50 marks (5 out of 7)
                  (Atleast 1 question from each unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

DEPARTMENT OF ECONOMICS

PROGRAMME DESCRIPTION

The programme provides a solid foundation in economic theory, statistics and econometrics so as to develop a thorough understanding of both theoretical and empirical approaches to economics. Student should explore the relationship between theory and practice, test theories to increase the depth and breadth of Knowledge.

It provides a strong grounding in critical thinking and analytical skills that will facilitate students to carry out applied economics research. Students will be able to evaluate economic issues and formulate informed opinions on policy issues and recognise the validity of opposing viewpoint.

Will gain adequate experience in the field be it as an intern or a researcher so that academics has a praxis perspective.

To inculcate professional autonomy which is much sort after while recruiting graduates by the corporate and academic world. The programme will promote Co-Curricular activities like research, internships, certificate courses etc. It will focus on achieving high academic standards so as to strengthen student's competitiveness.

PROGRAMME SPECIFIC LEARNING OUTCOMES

On successful completion of the programme, the students will be able to:

- Demonstrate the ability to employ the "economic way of thinking."

- Apply economic theories and concepts to economic issues as well as formulation and analysis of policy.

- Recognize the role of ethical values in economic decisions.

- Demonstrate quantitative reasoning skills – present an economic argument in quantitative terms and conduct economic analysis.

- Demonstrate computer proficiency within economics.

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A. DEGREE : BRANCH III-ECONOMICS

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

</div>

C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks									
Subject Code	**Title of Course**	**C**	**L**	**T**	**P**	**Ex**	**CA**	**ES**	**M**
SEMESTER-I									
19EC/PC/MI14	Microeconomic Analysis I	4	4	1	0	3	50	50	100
19EC/PC/MO14	Monetary Economics	4	4	1	0	3	50	50	100
19EC/PC/DE14	Development Economics	4	4	1	0	3	50	50	100
19EC/PC/RM14	Research Methods and Analysis I	4	4	0	2	3	50	50	100
	Department Elective I								
	SAP / SL	2	2	0	0	-	50	-	100
SEMESTER-II									
19EC/PC/MI24	Microeconomic Analysis II	4	4	1	0	3	50	50	100
19EC/PC/RM24	Research Methods and Analysis II	4	4	0	2	3	50	50	100
19EC/PC/IE24	Indian Economic Development	4	4	1	0	3	50	50	100
19EC/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
	Department Elective II								
	Common Elective I								
SEMESTER-III									
19EC/PC/MA34	Macroeconomics I	4	4	1	0	3	50	50	100
19EC/PC/PE34	Public Economics	4	4	1	0	3	50	50	100
19EC/PC/EE34	Environmental Economics	4	4	1	0	3	50	50	100
19EC/PC/EC34	Econometric Methods I	4	4	0	2	3	50	50	100
19EC/PN/SI32	Summer Internship	2	2	0	0	-	50	-	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
	Common Elective II								
SEMESTER-IV									
19EC/PC/MA44	Macroeconomics II	4	4	1	0	3	50	50	100
19EC/PC/IT44	International Trade	4	4	1	0	3	50	50	100
19EC/PC/EC44	Econometric Methods II	4	4	1	0	3	50	50	100
19EC/PC/DS47	Dissertation	7	0	0	9	-	-	100	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19EC/PE/ME15	Mathematics for Economics	5	5	0	0	3	50	50	100
19EC/PE/AM15	Advanced Managerial Economics	5	5	0	0	3	50	50	100
19EC/PE/AG15	Agricultural Economics	5	5	0	0	-	50	-	100
19EC/PE/EH15	Economics of Education and Health	5	5	0	0	-	50	-	100
19EC/PE/ID15	Industrial Economics	5	5	0	0	3	50	50	100
19EC/PE/ET15	Economic Thought	5	5	0	0	3	50	50	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086
M.A. DEGREE : BRANCH III-ECONOMICS
COURSES OF STUDY
(Effective from the academic year 2019-2020)
CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks									
Postgraduate Elective Courses Offered to Other Departments									
19EC/PE/CI23	Contemporary Economic Issues	3	3	0	0	3	50	50	100
19EC/PE/IE23	Introduction to Economics	3	3	0	0	3	50	50	100
19EC/PE/EB23	Economics for Business and Marketing	3	3	0	0	3	50	50	100
19EC/PE/DA23	Introduction to Data Analytics	3	0	0	3	3	50	50	100
Independent Elective Courses									
19EC/PI/FI24	Financial Institutions and Markets in India	4	4	0	0	-	-	100	100
19EC/PI/GE24	Gender Economics	4	4	0	0	-	-	100	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH III –ECONOMICS

SYLLABUS

(Effective from the academic year 2019-2020)

MICROECONOMIC ANALYSIS- I

CODE:19EC/PC/MI14   **CREDITS:4**
                                                        L T P:4 1 0
                                    TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To understand, identify and analyse the issues related to resource allocation
- To furnish the essential tools and techniques which will be used in all areas of economic analysis
- To apply the principles of microeconomics to understand the current issues

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- apply microeconomic concepts and tools to real world situations and analyse it
- use the knowledge of microeconomic theory as a prerequisite in other areas of economics
- identify the tools required to solve specific economic issues or problems
- critically analyse the theoretical models and understand their limitations
- discuss the validity and relevance of the models

Unit   1
Introduction   **(7 Hours)**
1.1   Marginal Analysis
1.2   Tools of economic analysis –Optimization with equality constraints

Unit   2
Demand   **(16 Hours)**
2.1   Cardinal and Ordinal Approaches –Utility Maximization using calculus
2.2   Revision of demand theory
2.3   Revealed preference theory
2.4   Application of the consumer behaviour theories
2.5   Risk and uncertainty – expected utility hypothesis
2.6   Consumer surplus and elasticity measurements
2.7   Recent development in Demand Theory –Econometric models
2.8   Application: Determination of demand curve using Indian Agriculture or Industrial Data

Unit   3
Production   **(16 Hours)**
3.1   Production Functions – Properties of Linear homogenous production function
3.2   Cobb –Douglas production function

3.3   C.E.S Production Function
3.4   Variable proportions and Returns to scale
3.5   Elasticity of factor substitution and technical progress
3.6   Producer's equilibrium and cost minimization
3.7   Equilibrium of the multi-product firm
3.8   Application: Fitting production function using Indian Industrial/Agricultural data base

Unit 4

Cost   **(12 Hours)**
4.1   Traditional theory of Cost
4.2   Modern theory of cost
4.3   Cost Curves – The relation between production and cost
4.4   Application Calculation of cost using Industrial data

Unit 5

Theory of Firm   **(14 Hours)**
5.1   Price – output decisions under perfect competition
5.2   Monopoly
5.3   Price Discrimination
5.4   Control of monopoly
5.5   Monopolistic competition and excess capacity
5.6   Application: Study of the current market scenario using both primary and secondary data (Market survey and presentation)

BOOKS FOR STUDY

Koutosoyiannis. A. *Modern Micro Economics*. Replika Press Pvt., Ltd., Sonipat, 2018.
Varian. Hal. R. *Microeconomic Analysis,* Viva Books Pvt. Ltd., New Delhi, 2009.

BOOKS FOR REFERENCE

Bardhan, Pranab & Christopher. Udry. *Development Micro Economics*. New York: OUP,1999.
Basu, Kaushik and Ravi. Kanbur. *Arguments for a Better World*. (Ed.). New York: OUP, 2009.
Baumol. W. J. *Economic Theory and Operations Analysis*. New Delhi: Prentice Hall, 1982.
Breit, W & Harold. Hochman. M. *Readings in Micro Economics*. USA: Holt, Rinehart & Winston, 1971.
Henderson James M and Richard E. Quandt. *Microeconomic Theory A Mathematical Approach*. Third edition, Mcgraw-Hill, 1980.
Nicholson Walter, *Microeconomic Theory Basic Principles and Extensions,* The Dryden Press, Fortworth, 1998.
Pindyck, Robert. S & Daniel. L. Rubinfeld. *Micro Economics*. New Delhi: Prentice Hall, 2007.
Szenberg, Michael & Ramrattan. Lall. *New Frontiers in Economics*. New York: Cambridge University Press, 2004.

JOURNALS

The American Economic Review
Journal of Economic Literature

WEB RESOURCES

https://books.google.co.in/books?id=lgeUAgAAQBAJ&pg=PR1&dq=collected+readings+in+micro+economics&hl=en&sa=X&ei=unomVb65CMmOuAT9noGICg&ved=0CCMQ6AEwAQ#v=onepage&q=collected%20readings%20in%20micro%20economics&f=false
https://books.google.co.in/books?id=-7oz7hiUrGUC&pg=PT234&dq=collected+readings+in+micro+economics&hl=en&sa=X&ei=unomVb65CMmOuAT9noGICg&ved=0CEAQ6AEwBg#v=onepage&q=collected%20readings%20in%20micro%20economics&f=false

PATTERN OFASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: **Total Marks: 50**

Seminars/Quiz/Group discussion and presentation/Assignments/Case studies /Presentation

End-Semester Examination: **Total Marks 100**   **Duration: 3 hours**

Section A – 5 x 8 = 40 marks (Answer any5 out of 7 questions in 300 words each)
Section B – 3 x 20= 60 marks (Answer any 3 out of 5 questions in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A. DEGREE: BRANCH III – ECONOMICS

SYLLABUS
(Effective from the academic year 2019-2020)

MONETARY ECONOMICS

CODE:19EC/PC/MO14   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVE OF THE COURSE
- To understand the role of money and to give a comprehensive picture of the theoretical framework
- To establish the integration of theory and practice in the context of an economy- with special reference to India
- To give an insight into the integration between monetary theory and practice

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
- discuss the critical role money plays in economic development
- test the validity of the various theories empirically using relevant analytical tool
- present coherent arguments on the role and autonomy of the central bank.
- demonstrate a familiarity with range of policy issues in monetary policy
- discuss the impact of money on the external sector

Unit   1
   Demand for Money   **(10 Hours)**
   1.1 Classical –Role of Money and Transaction Approach
   1.2 Keynesian- Keynes Liquidity Preference Theory
   1.3 Post Keynesian theories –Baumol, Tobin and Friedman
   1.4 The Expected Utility Hypothesis –Neumann –Morgenstern Model (NM
        model)

Unit   2
   Money Supply and Central Banking   **(12 Hours)**
   2.1 The Supply of Monetary Base by the Central Bank – Demand for Currency   by
        Public
   2.2 Mechanical Theories of Money Supply –Money Supply Identities (Deriving
        Monetary Base)
   2.3 The Behavioural Theory of Money Supply
   2.4 The General Money Supply Function and its Empirical Estimates –Interest
        Elasticity of Money Supply

Unit   3
   Monetary and Portfolio Approach to BOP and Exchange Rate   **(16 Hours)**
   3.1 A Nation's Monetary Base and Money Stock – Relationship between
        Monetary Base, Money Stock and Exchange Rate

3.2 Managed Exchange Rates: Foreign Exchange Rate Interventions –Types, Financing Interventions, Learning with or Against the wind, Foreign Exchange Interventions and Money Stock, Sterilization of Interventions

3.3 Monetary Approach to BOP and Exchange Rate Determination -Cambridge Approach to Money Demand, Monetary Approach and Fixed and Flexible Exchange Rate Arrangement

3.4 Applying the Monetary Approach -2 Country Model

3.5 Portfolio Approach to Exchange Rate Determination –Household Allocation of Wealth, Change in Domestic Money Stock, Change in Foreign Interest Rates

Unit 4

Financial Sector in India (13 Hours)

4.1 Gurley and Shaw Thesis- Interest Rates and Monetary Policy

4.2 Structure of Financial Sector in India- Banking and Non- Banking Institutions

4.3 Reforms in Financial Sector in India since 1990 -Banking and Non-Banking Reforms

4.4 Impact of Financial Reforms

Unit 5

Monetary Policy (14 Hours)

5.1 Monetary Transmission Mechanism

5.2 Overview of Monetary Policy-Objectives, Targets, Lags and Instruments

5.3 Monetary Policy in India since 1990- Monetary Policy Framework

5.4 Autonomy of the Central Bank- Measurement of Autonomy

BOOKS FOR STUDY

Handa. Jagdish. *Monetary Economics.* New York: Routledge,2000.
Mishkin. S. Frederic. *Economics of Money, Banking and Financial Market:* New York ; Harper Collins College Publisher, 2007.

BOOKS FOR REFERENCE

Bain, Keith and Peter. Howells. *Monetary Economics Policy and its Theoretical Basis.* New York: Palgrave Macmillian, 2003.
Daniel, P. Joseph and David. Van. Hoose. *International Monetary and Financial Economics.* US: South Western Thomson Learning Publisher, 2002.
Friedman, M. Benjamin and Frank. H. Hahm. *Handbook of Monetary Economics,*
Volume 1. Amsterdam: Elsevier, 2000
Mohan, Rakesh. *Growth with Financial Stability- Central Banking in an Emerging Economy:* NewDelhi: Oxford University Press, 2011
Pierce, G. David and David. M. Shaw. *Monetary Economics Theories, Evidence and Policy.* Boston: The Butterworth, 1977.
Rangarajan. C. *Monetary Policy, Financial Stability and other Essays.* New Delhi: Academic Foundation, 2009.
Samantaraya, Amaresh. *Conduct of Monetary Policy in India-Changing Dimensionsin the Post-reform Period.* Chennai: T.R. Publications, 2015.
Reddy. Y.V. *A Review of Monetary and Financial Sector Reforms in India – A Central Banker's Perspective.* New Delhi: UBSPD, 2000.

JOURNALS
Reserve Bank of India Bulletin, Annual Report, Mumbai: 2000 onwards.
Reserve Bank of India – *Report of the Working Group: Money Supply Analytics and Methodology of Compilation*, 1998.

WEB RESOURCES
www.rbi.org.in
www.mospi.nic.in

PATTERN OF ASSESSMENT
Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: Total Marks: 50
Seminars/ Quiz/ Open book tests/ Group discussion/Assignments/ Case studies

End-Semester Examination: Total Marks: 100   Duration: 3 hours
Section A – 5 x 8 = 40 marks (Answer any 5 out of 7 questions in 300 words each)
Section B – 3 x 20 = 60 marks (Answer any 3 out of 5 questions in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A DEGREE: BRANCH III – ECONOMICS

SYLLABUS
(Effective from the academic year 2019-2020**)**

DEVELOPMENT ECONOMICS

CODE:19EC/PC/DE14   **CREDITS 4**
                                                          L T P:4 1 0
                                      TOTAL TEACHING HOURS:65

OBJECTIVE OF THE COURSE
  - To help trace the evolution of the growth of development models and grasp the entire gamut of the subject related to the current economic occurrences
  - To analyse the major economic problems of development
  - To discuss the major theoretical developments in this area of economics

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
  - identify and analyse key development economic theories affecting a number of contemporary development issues
  - enable the students to critically analyse the theories of economic development
  - enlighten the students on the causality of various developmental issues and their interconnectedness
  - pursue research on important developmental issues
  - develop the ability to explain core economic terms concepts and theories

Unit   1
   Development and Growth   **(10 Hours)**
   1.1 Historical overview of Development
   1.2 Development Vs. Growth
   1.3 Poverty and Inequality – Nurske, Lorenz and Sen's contribution
   1.4 Theory of Disguised Unemployment – R. Nurkse

Unit   2
   Theories of Economic Development   **(15 Hours)**
   2.1 Classical Theory of Development – Adam Smith, Ricardo and Malthus
   2.2 Karl Marx and Development of capitalist economy – Theory of social change, surplus value and profit
   2.3 Scumpeter's Theory of Development – innovation, role of credit, profit and social disintegration of capitalism
   2.4 Big push theory of development.

Unit   3
   The Dual Economy Models   **(15 Hours)**
   3.1 Balance and Unbalanced growth

3.2 Unlimited supply of labour – Dual Sector Model – W. A. Lewis, Fei and Ranis
   Model. D W Jorgenson's Model of Dual Economy
3.3 Dualistic Theory – Benjamin Higgins, Myrdal: Social Technological
   Geographic Financial Dualism
3.4 Rural Urban Migration A two Sector Analysis – J. R. Harris and M. P. Todaro

Unit 4
Theories of Development and the Indian Experience   **(12 Hours)**
4.1 Indian Social Structure and Development – Caste, Properties and Common
   Property Resources
4.2 Agriculture and land; access to land, access to education and employment
4.3 Judicial and Political Power and Development

Unit 5
Development and Related Issues   **(13 Hours)**
5.1 Population and development
5.2 Environment and development
5.3 HRD indices and Development – Harbison and Miers
5.4 Role of State in Development

BOOKS FOR STUDY
Higgins. Benjamin. *Economic Development: Principles and Policies.* New York: W. W. Norton, 1993.

Michael. P.Todaro and S. C. Smith. *Economic Development.* New Delhi: Pearson,2013.

Mishra, S. K. and V. K. Puri. *Economics of Development and Planning.* New Delhi: Himalaya, 2004.

Perkins, D.H. & D.L. Lindauer. *Economics of Development.* New York: W.W.Norton, 2006.

Taneja, M. I. and R.M. Myer. *Economics of Development and Planning.* New Delhi: Visha, 2005.

BOOKS FOR REFERENCE
Chakravarthy. S. *Development Planning the Indian Experience*. Calcutta: Clarendon
Press, 1989.

Debraj. Ray, *Development Economics*. New Delhi: OUP, 2010.

Eckhard. Siggel. *Development Economics a Policy Analysis Approach*, England: Ashgate, 2005.

Hollis, Chenerry & T.N. Srinivasan. (Ed.) *Handbook of Development Economics Volume I & II*, Amestradam: Elsevier, 1998.

Meier. G. *Leading Issues in Economics Development*, Bombay, Calcutta: OUP, 1995.

Sen. A.K. *Development of Freedom*. New Delhi: Oxford University,1994.

Thirwall. A.P. *Growth & Development*. New York: Palgrave Macmillan,2003.

Yujiro. Hayami. *Development Economics from the Poverty to the Wealth of Nations,* New York: OUP, 1997.

JOURNALS
Indian Growth and Development Review
Indian Journal of Gender Studies
Journal of Human Growth and Development
Quarterly Journal of Economic Growth and Development Research

WEB RESOURCES

http://www.bris.ac.uk/Depts/Economics/Growth/journals.htm
https://books.google.co.in/books?id=vO4sx6HiFrAC&pg=PA355&dq=endogenous+growth+theory&hl=en&sa=X&ei=HXUmVdy4FIOCuwSN1oDICA&ved=0CCYQ6AEwAg#v=onepage&q=endogenous%20growth%20theory&f=false
https://books.google.co.in/books?id=jD3ASoSQJ-AC&printsec=frontcover&dq=endogenous+growth+theory&hl=en&sa=X&ei=HXUmVdy4FIOCuwSN1oDICA&ved=0CEEQ6AEwBw#v=onepage&q=endogenous%20growth%20theory&f=false

REPORTS

Human Development Reports-UNDP publications 2000 onwards
Parikh. Kirit. *India Development Report (Ed.), Indira Gandhi Institute of Research and Development*, New Delhi: OUP, 2004.
World Development Reports - World Bank Publications 2000 onwards.

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**
Section A – 3 x 10 = 30 marks (3 out of 5 questions to be answered in 300 words each)
Section B – 1 x 20 = 20 marks (1 out of 2 questions to be answered in 1200 words)
Other Components: **Total Marks: 50**
Seminars/Quiz/Assignments

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**
Section A– 5 x 8 = 40 marks (5 out of 7 questions to be answered in 300 words each)
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STELLAMARISCOLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A DEGREE: BRANCH III-ECONOMICS

SYLLABUS
(Effective from the academic year 2019-2020)

RESEARCH METHODS AND ANALYSIS-I

CODE:19EC/PC/RM14   **CREDITS:4**
                                                        L T P:4 0 2
                                    TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To familiarise the students with the dimensions and methods of research
- To help organise and conduct a good research in a scientific manner
- To introduce statistical methods and provide an insight into their uses in Economics
- To demonstrate application of a range of statistical techniques using economic data

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
- Demonstrate knowledge of research methodology and research process
- Provide skill/aptitude to undertake empirical research
- Demonstrate skills in exploring data, describing and analysing data appropriately
- Understand the overall process of designing the research study from its inception to its report
- Able to choose methods appreciate to research aims and objectives
- Critically assess the various research methods

Unit   1
What is Research?   **(15 Hours)**
1.1 Introduction to Research
1.2 Overview of Science and Scientific Method
1.3 Characteristics and Elements of Scientific Method: Empirical Approach, Observations, Questions, Hypothesis, Experiments, Analyses, Conclusions, Replication
1.4 Goals of Scientific Research: Description, Prediction, Understanding/Explanation
1.5 Social Science Research – Introduction, Meaning, Objectives, Significance and Limitations
1.6 Types of Research: Pure, Applied, Analytical, Exploratory, Descriptive, Surveys, Conceptual/Theoretical models

Unit   2
Planning and designing a Research study   **(15 Hours)**
2.1 Introduction
2.2 Choosing a Research topic
2.3 Literature Review – Meaning and Purpose of a Literature Review, Literature Sources, Documenting Sources, Conducting literature search, Recording the literature, Writing a Literature Review

2.4 Research Problem – Meaning, how to formulate a Research problem
2.5 Articulating Hypothesis, Specification of hypothesis
2.6 Choosing variables to study
2.7 Choosing Study/Research participants, Assigning study/research participants to groups
2.8 Choosing Samples: Probability Sampling, Non-Probability Sampling
2.9 Ethical consideration in Research – Fundamental ethical Principles: Respect for persons, Beneficence, Justice, informed consent, Competence, Knowingness, Voluntariness

Unit 3
Data Collection, Assessment Methods and Measurement Strategies   (15 Hours)
3.1 Types of data: Time series, Cross-sectional, Panel data
     Methods of data collection
3.1 Introduction to Collecting Primary data through Observation: Participant observation. Structural observation, Internet- mediated observation, observation using Videography
3.2 Collecting Primary data using semi-structural, In-depth, Questionnaires, Interviews - Group interview, Semi-structured, In-depth, Focus groups
3.3 Using Secondary data - Sources of data (Published): Brief overview of contents of publications such as Economic Survey, Handbook of Statistics on Indian Economy, World Development Report, Statistical Outline of India, RBI Bulletin, Census Reports, NSSO, Handbook on Indian Agriculture.
3.4 Internet Website: Ministry of HRD, RBI, World Bank, ADB, IMF
3.5 Measurement, Scales of measurement: Nominal, Ordinal, Interval, Ratio Minimising Measurement Error, Assessing Reliability, strategies for increasing reliability

Unit 4
Research Design and Research Report   (15 Hours)
4.1 Research Design – Introduction
4.2 Experimental Research Designs: Principles, Randomized Design, Completely Randomized Design, Latin Square Design
4.3 Non-Experimental Designs/Qualitative Designs: Case studies, Naturalistic observation, Survey studies, Focus Groups
4.4 Introduction to Report writing
4.5 Types of Research reports
4.6 Structuring Research reports
4.7 Presentation of a Research report

Unit   5   PRACTICALS
Data Preparation, Analysis and Interpretation   (18 Hours)
5.1 Data Preparation: Logging and Tracking data, Data Screening, Constructing a Database, The data Codebook, Data entry, Transforming data, Recoding variables
5.2 Data Analysis: Descriptive Statistics – Frequency distribution, Grouped frequency distribution, Summary Statistics

5.3 Inferential Statistics: Correlation and Regression –Simple, Partial, Multiple
     Non –Linear Relationships –Functional Forms: Double-log, Semi-log,
     Reciprocal
       Regression using Dummy Variables
       Comparing Two Means – 't' Test
       Comparing Several Means –ANOVA

BOOKS FOR STUDY
Geoffrey Marczyk, David DeMatteo, David Festinger. *Essentials of Research Design and Methodology*. John Wiley & Sons, Inc. 2005.
Mark Saunders, Philip Lewis, Adrian Thornhill. *Research methods for Business Students*, 7th edition, Pearson.
John W. Creswell. Research Design: Qualitative, Quantitative and Mixed Methods Approaches, 3rd edition, Sage Publishers, Inc.
Gupta. S.P. *Statistical Methods*. New Delhi: Sultan Chand,2013.
Kothari C.R. *Research Methodology*. New Delhi: Wiley Eastern, 2001.

BOOKS FOR REFERENCE
Cochran. W. G. *Sampling technique*. New York: John Wiley, 2002.
Earl. R. Babbie. *The Practice of Social Research*. Boston: Wadsworth Cengage   Learning, 2013.
Goode, W.J. & P. K. Hatt. *Methods in Social Research*. New York: Mc Graw Hill, 1973.
Neuman, W.L. *Social Research Methods; Qualitative and Quantitative Approach*. New York: Pearson Education, 2011.
Wilkinson, T.S. & P.L. Bhandarkar. *Methodology and Techniques of Social Research*. New Delhi: Himalaya Publishing House, 2011.

JOURNALS
International Journal of Development Research
Journal of Quantitative Methods for economics and Business Administration
Journal of Quantitative Research Tools in Economics

WEB RESOURCES
https://books.google.co.in/books?id=Adec88_kpTMC&pg=PA65&dq=research+Design+in+Economics&hl=en&sa=X&ei=eoMmVbfmBMniuQSZk4FI&ved=0CCcQ6AEwAg#v=onepage&q=research%20Design%20in%20Economics&f=false
https://books.google.co.in/books?id=fWtRbkXQO48C&pg=PA107&dq=SPSS+IN+ECONOMICS&hl=en&sa=X&ei=xIMmVY63M5LauQSR7oHoDQ&ved=0CCwQ6AEwAQ#v=onepage&q=SPSS%20IN%20ECONOMICS&f=false
https://books.google.co.in/books?id=pzZ4HqiVs14C&pg=PA19&dq=SPSS+IN+ECONOMICS&hl=en&sa=X&ei=xIMmVY63M5LauQSR7oHoDQ&ved=0CDcQ6AEwAw#v=onepage&q=SPSS%20IN%20ECONOMICS&f=false

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 2 hours**
THEORY (30 MARKS)
Section A – Answer any three questions; 3x 10 = 30 marks

PRACTICALS (20 MARKS)
Section B – Answer ALL questions; 4 x 5 = 20 marks

Other Components: **Total Marks: 50**
Seminars/Quiz/Problem Assignments/article review/minor research/article submission

End-Semester Examination: only Theory   Total Marks: 100   Duration:3 hours
Section A – 5 x 8 = 40 marks (Answer any 5 out of 7 questions in 300 words each)
Section B – 3 x 20 = 60 marks (Answer any 3 out of 5 questions in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A DEGREE: BRANCH III –ECONOMICS
SYLLABUS
(Effective from the academic year 2019-2020)

MICROECONOMIC ANALYSIS II

CODE:19EC/PC/MI24   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
* To familiarize the students with the basic concepts and to equip them with the various tools for fuller understanding and in depth analysis of micro economic theory
* To make the students aware of the various applications of micro economic theory
* To equip the students with the ability to identify and analyse the issues pertaining to resource allocation in various market structures

COURSE LEARNING OUTCOMES:
On Successful completion of the course, students will be able to
* conceptualise and hence forth understand the world of business and trade
* engage in Critical thinking
* involve in a contextual analysis of theories and its relevance
* relate the theoretical model to real time applications
* understand and discuss the relevance of models

Unit   1
Theory of the Firm   **(18 Hours)**
1.1 Non collusive oligopoly – Reaction Curves Models of Cournot, Bertrand, Edgeworth, Stackleberg
1.2 Chamberlin and Hotelling, Game theory
1.3 Collusive Oligopoly – Cartels, Price Leadership, basing point system
1.4 Average Cost pricing theory
1.5 Bain's limit pricing theory
1.6 Recent development in limit pricing – Syloslabini, Bagawathi
1.7 Baumol's sales maximization theory
1.8 Williamsons utility maximizing theory
1.9 Application: Applying the different market models to the current Indian market situation through marker survey

Unit   2
Distribution   **(18 Hours)**
2.1 Marginal Productivity theory
2.2 Price employment decision in perfect and imperfect factor and product market for one variable and two variable factors
2.3 Product exhaustion theorem –Euler's theorem
2.4 Relative factor share and elasticity of substitution
2.5 Wage fixation and trade union
2.6 Wage differentials
2.7 Application: Study of the Indian government's intervention in the betterment of labour in India through wage legislations and policies

Unit 3

General Equilibrium (10 Hours)

3.1 Walras Model (2 x 2 x 2 model)
3.2 H x M x N Model
3.3 Application: An analysis of different sectors in the Indian economy

Unit 4

Welfare (11 Hours)

4.1 Criteria for welfare measurement
4.2 Derivation of bliss point
4.3 Application – evaluating the different criteria against the welfare policy consideration in the Indian context

Unit 5

Market Failure (8 Hours)

5.1 Markets with Asymmetric Information
5.2 Market failure and externalities
5.3 Application –analysis of the Indian Market

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BOOKS FOR STUDY

Koutosoyiannis. A. *Modern Micro Economics*. Replika Press Pvt., Ltd., Sonipat, 2018.
Varian. Hal. R. *Microeconomic Analysis,* Viva Books Pvt. Ltd., New Delhi, 2009.

BOOKS FOR REFERENCE

Bardhan, Pranab & Christopher. Udry. *Development Microeconomics*. New York: OUP, 1999.
Basu, Kaushik and Ravi. Kanbur. *Arguments for a Better World*. (Ed.). New York: OUP, 2009.
Baumol. W. J. *Economic Theory and Operations Analysis*. New Delhi: Prentice Hall,1982.
Breit, W & Harold. Hochman. M. *Readings in Microeconomics*. USA: Holt, Rinehart & Winston, 1971.
Henderson James M and Richard E. Quandt. *Microeconomic Theory A Mathematical Approach.* Third edition, Mcgraw-Hill, 1980.
Nicholson Walter, *Microeconomic Theory Basic Principles and Extensions,* The Dryden Press, Fortworth, 1998.
Pindyck, Robert. S & Daniel. L. Rubinfeld. *Microeconomics.* New Delhi: Prentice Hall, 2007.
Szenberg, Michael & Ramrattan. Lall. *New Frontiers in Economics*. New York: Cambridge University Press, 2004.

JOURNALS

American Economic Review
Journal of Economic Literature

WEB RESOURCES

https://books.google.co.in/books?id=lgeUAgAAQBAJ&pg=PR1&dq=collected+readings+in+micro+economics&hl=en&sa=X&ei=unomVb65CMmOuAT9noGICg&ved=0CCMQ6AEwAQ#v=onepage&q=collected%20readings%20in%20micro%20economics&f=false

https://books.google.co.in/books?id=-7oz7hiUrGUC&pg=PT234&dq=collected+readings+in+micro+economics&hl=en&sa=X&ei=unomVb65CMmOuAT9noGICg&ved=0CEAQ6AEwBg#v=onepage&q=collected%20readings%20in%20micro%20economics&f=false

https://books.google.co.in/books?id=VIrrzyrY5tYC&pg=PR78&dq=asymmetric+market+failure+cars&hl=en&sa=X&ei=gY4mVYdrz6m5BKb1gNAD&ved=0CCIQ6AEwAQ#v=onepage&q=asymmetric%20market%20failure%20cars&f=false

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)

Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: **Total Marks: 50**

Seminars/Quiz/Group Discussion/Presentation/Assignments/Case Studies/Presentation

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 5 x 8 = 40 marks (Answer any 5 out of 7 questions in 300 words each)

Section B – 3 x 20= 60 marks (Answer any 3 out of 5 questions in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A.DEGREE: BRANCH III-ECONOMICS
SYLLABUS
(Effective from the academic year 2019-2020)

RESEARCH METHODS AND ANALYSIS–II

CODE:19EC/PC/RM24 **CREDITS:4**
L T P:4 0 2
TOTAL TEACHING HOURS:78

OBJECTIVE OF THE COURSE
- To provide a solid foundation in statistics alongside economic applications
- It focuses on how to use the software to conduct statistical analysis of economic data
- To analyse data appropriately and to communicate the results of the analysis clearly

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
- Provide skills to explore data
- Demonstrate skills in understanding and describing data
- Choose appropriate analytical tool to analyse data appropriately and to communicate the results of the analysis clearly and effectively
- Recognise how to use scientific methods in economics research and analysis
- Demonstrate computer proficiency within economics
- Will be able to conduct economics analysis and hypothesis testing

Unit   1
Introduction   (15 Hours)
Summary Statistics
1.1 Measures of Central Tendency
1.2 Measures of Dispersion
1.3 Measures of deviation from normality –Skewness and Kurtosis
1.4 Frequency distributions
1.5 Exploring data with graphs

Unit   2
Random Variables and Probability Distribution   (15 Hours)
2.1 Defining Random variables –Discrete, Continuous
2.2 Probability Distribution of a Random Variable
2.3 Expected values of a random variable
2.4 Theoretical Distribution – Binomial, Poisson, Normal Distribution

Unit   3
Linear Correlation and Regression Analysis   (20 Hours)
3.1 Correlation – Meaning, Types and methods to estimate relationship between 2 or more quantitative variables, testing the significance of the co-efficient
3.2 Regression – objectives, Methods of Least Square, estimation of simple, partial and multiple regression co-efficient, assessing the significance of coefficients

using 't' test, standard error and Confidence interval approach, overall goodness of fit of the model $-R^2$, significance of the model -ANOVA

3.3 Non- Linear Regression models – Double log, Semi-Log, Reciprocal, Polynomial regression models

3.4 Regression using dummy variables

Unit 4

Statistical Inference   **(18 Hours)**

4.1 Formulation of a Statistical Hypothesis

4.2 Testing of Hypothesis – Procedure

4.3 Testing for significant differences in means –'t' Test, ANOVA, Standard Error

4.4 Testing for significant differences in variances- F test

4.5 Non parametric tests – Sign test, Run test, 'U' test, 'H' test, χ^2 distribution

Unit 5   **(10 Hours)**

Time Series Analysis

5.1 Concepts and Components

5.2 Measurement of trend

.

BOOKS FOR STUDY

Nagar, A.L. and R.K. Das. *Basic Statistics*. New Delhi: OUP,1989.

Gupta, S.C. & V.K. Kapoor. *Fundamentals of Applied Statistics*. New Delhi: Sultan Chand, 2014.

Gupta, S.P. *Statistical Methods*. New Delhi: Sultan Chand, 2014.

Viswanathan. P.K. *Business Statistics*. New Delhi: Pearson, 2000.

BOOKS FOR REFERENCE

Monga. G.S. *Mathematics and Statistics for Economics*. New Delhi: Vikas, 2000.

Padmalochan. Hazarika. *Essential Statistics for Economics and Commerce*. New Delhi: Akansha, 2006.

Salvatore. D. *Mathematics and Statistics, Schaum's Series*. New York: Tata McGraw Hill, 2000.

Speigal. M.R. *Theory and Problems of Statistics*. London: McGraw Hill, 2000.

Krishnaswamy, O.R. Methodology of Research in Social Sciences, Himalaya publishing House, 1993.

Wilkinson and Bhandarkar Methodology and Techniques of Social Research, Himalaya Publishing House.

Kothari R.C. Research Methodology, Methods and Techniques, New Age International Publishers, IInd revised edition, reprint 2008.

Les Oakshott Essential Quantitative Methods for Business Management and Finance, Palgrave

Cooper D. and Schindler P. Business Research Methods, Tata McGraw Hill. Sultan Chand & Sons.

Don E. Ehridge research Methodology in Applied Economics : Organizing Planning and Conducting Economics Research, John Wiley and sons, April 2004

Gopal M.H. An Introduction to Research Procedure in Social Sciences, Asia

Young P.V. scientific Social Survey and Research, Prentice Hall of India Ltd, N.Delhi, 1984

JOURNALS
International Journal of Development Research
Journal of Quantitative Methods for economics and Business Administration
Journal of Quantitative Research Tools in Economics

WEB RESOURCES
https://books.google.co.in/books?id=Adec88_kpTMC&pg=PA65&dq=research+Design+in+Economics&hl=en&sa=X&ei=eoMmVbfmBMniuQSZk4FI&ved=0CCcQ6AEwAg#v=onepage&q=research%20Design%20in%20Economics&f=false
https://books.google.co.in/books?id=fWtRbkXQO48C&pg=PA107&dq=SPSS+IN+ECONOMICS&hl=en&sa=X&ei=xIMmVY63M5LauQSR7oHoDQ&ved=0CCwQ6AEwAQ#v=onepage&q=SPSS%20IN%20ECONOMICS&f=false
http://iosrjournals.org/iosr-jrme.html
http://iosrjournals.org/iosr-jef.html

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 2 hours**
THEORY (30 MARKS)
Section A – Answer any three questions; 3x 10 = 30 marks

PRACTICALS (20 MARKS)
Section B – Answer ALL questions; 4 x 5 = 20 marks

Other Components: **Total Marks: 50**
Seminars/Quiz/Problem Assignments/article review/minor research/article submission

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Section B – 3 x 20 = 60 marks (Answer any 3 out of 5 questions in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

B.A DEGREE: BRANCH IV – ECONOMICS
SYLLABUS
(Effective from the academic year 2019 -2020)

INDIAN ECONOMIC DEVELOPMENT

CODE:19EC/PC/IE24   **CREDITS:4**
LTP:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To develop in the student, an awareness of the basic issues and problems pertaining to the Indian Economy
- To motivate the students to take an active interest in the current economic policies operating in India
- To encourage the students to get a better understanding of the different sectors in the Indian economy.

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- Do a comparative study of India with other economies
- Identify the different issues in the Indian Economy
- Recognize, interpret and analyse economic policies operating in India.
- Students should demonstrate familiarity with a range of policy issues operating related to the Indian Economy.
- Understand current issues facing the eocnomy

Unit   1
Profile of Human Resource of India   **(12 Hours)**
1.1 Characteristic of Indian Population - qualitative and quantitative aspects – Population as a factor of development
1.2 Population policy- National Population Policy (2000 and 2018)- Demographic Dividend
1.3 Human Development during the plan period - Appraisal of Government Measures
1.4 Human Development Index - Global, India and states - Comparison

Unit   2
Agriculture   **(12 Hours)**
2.1 Current issues in Indian Agriculture - new thrust areas in agriculture and future prospects of Green Revolution- Commercialization and diversification
2.2 Food Security issues- financing of agricultural inputs and output subsidies in agriculture
2.3 Economic reforms and agriculture . Impact of WTO on Indian Agriculture
2.4 Agrarian Crisis

Unit   3

Industrial Development (13 Hours)

3.1 Critique of Industrial Policies - Industrial Reforms

3.2 Reform of Public Sector enterprises - Privatisation and Disinvestment debate

3.3 Industrial relations and Labour welfare - National Commission on Labour

3.4 Globalization and its impact on industrial development

Unit   4

Infrastructure Development in India (13 Hours)

4.1 Infrastructure and Economic Development

4.2 Economic Infrastructure - Energy, Power, Transport, Communication, Science & Technology

4.3 Financing Infrastructural Development - PPP Model

4.4 Social Infrastructure - Education, Health - Achievement and Failures of education and health system in India

Unit   5

India's External Sector (15 Hours)

5.1 Foreign trade - Composition, Direction & Organization of trade

5.2 New Economic policy and trade - Intellectual property rights, TRIPS, TRIMS, GATS, and New EXIM policy

5.3 Impact of WTO on India' trade

5.4 New Exchange rate regime - Partial and Full convertibility, capital account convertibility

BOOKS FOR STUDY

Datt, Ruddar and K.P.M. Sundaram. *Indian Economy*. New Delhi: Sultan Chand, 2010.

Kapila, Uma , Indian Economy: Performance and Policies, 2018-19. New Delhi: Academic Foundation, 19th Revised edition, 2018

BOOKS FOR REFERENCE

Ahluwalia I J & I M D Little (eds), India's Economic Reform and Development, New Delhi,Oxford University Press, 1999

Bawa R S & P S Rarkhy, Structural Changes in Indian Economy,Amritsar,   Gurunanda Dev University Press, 1997

Datt R , Second Generation Economic Reforms in India, New Delhi, Deep & Deep Publications 2001

WEB RESOURCES

http://mhrd.gov.in/

www.rbi.org.in

www.planningcommission.nic.in

www.agricoop.nic.in

JOURNALS

The Economist

International Journal of Human Resource Development and Management

South Asian Journal of Human Resources Management

The Indian Journal of Agricultural Sciences

International Journal of Agriculture Innovations and Research

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A –3 x 10= 30 marks (Any 3 out of 5 questions to be answered in 300 words each)
Section B – 1 x 20 = 20 marks (1 out of 2 questions to be answered in 1200 words each)

Other Components: **Total Marks: 50**
Seminars/Quiz/Group discussion/Assignments/Case studies

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 5 x   8 = 40 marks (Any 5 out of 7 questions to be answered in 300 words each)
Section B – 3 x 20 = 60 marks (Any 3 out of 5 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A DEGREE: BRANCH III – ECONOMICS

SYLLABUS
(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19EC/PK/SS22   **CREDITS: 2**
                                                         L T P: 2 0 0
                                    TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development
- To instill confidence in students to face challenges
- To manage emotions and resolve conflicts
- Top organize activities and manage time
- To set goals and plan ahead

COURSE LEARNING OUTCOMES

- Communicate with confidence and poise
- Accept themselves and improve on their weaknesses
- Strengthen their relationships through confronting and solving problems
- Work more effectively and complete activities on time
- Plan their future with clarity and focus

Unit   1
Behavioural Traits   **(6 Hours)**
1.1   Self Awareness
1.2   Communication Skills –Verbal and Non Verbal
1.3   Leadership Qualities
1.4   Etiquette and Good Manners
1.5   Experiential Learning –Based on activities

Unit   2
Team Work   **(5 Hours)**
2.1.   Interpersonal Skills
2.2.   People Management
2.3.   Creative Thinking
2.4.   Critical Thinking
2.5.   Experiential Learning – Based on activities

Unit   3
Time Management   **(5 Hours)**
3.1.   Importance of time management

3.2.	Planning and Prioritizing	
3.3.	Organizing skills	
3.4.	Action Plan	
3.5.	Experiential Learning – Based on activities	

Unit 4

Conflict Resolution   **(5 Hours)**

4.1.	Reasons for conflict
4.2.	Consequences of conflict
4.3.	Managing emotions
4.4.	Methods of resolving conflicts
4.5.	Experiential Learning – Based on activities

Unit 5

Career Mapping   **(5 Hours)**

5.1.	Goal Setting and Decision Making
5.2.	Career Planning
5.3.	Resume Writing
5.4.	Handling Interviews
5.5.	Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment:
Quiz / Group Presentation /Assignment

No End Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A DEGREE: BRANCH III – ECONOMICS

SYLLABUS
(Effective from the academic year 2019-2020)

MACROECONOMICS-I

CODE:19EC/PC/MA34   **CREDITS:4**
                                                      L T P:4 1 0
                                  TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To give a comprehensive view of the basic models of the macro economy
- To discuss the micro foundations of macroeconomics
- To study the different schools of macroeconomics.

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- acquire the knowledge on Classical, Keynesian and Post Keynesian economics.
- test the validity of micro foundation to the macroeconomics
- understand the basic macro variable and their working
- test the validity of the various theories empirically using relevant analytical tools
- enhance critical thinking skills along with quantitative reasoning

Unit 1
Classical and Keynes   **(11 Hours)**
1.1 Classical Model- overview
1.2 Keynes Model- overview
1.3 Schools of thought in macroeconomics after Keynes

Unit 2
Behavioural foundation of Macro Economics   **(14 Hours)**
2.1 Consumption Function: Keynes Psychological Law, Kuznet's Consumption puzzle, Relative, Permanent, Life-Cycle Hypothesis, Inter Temporal Choice – Empirical Evidence
2.2 Investment Function: Neo-Classical Theory of Investment, Accelerator theory of Investment (Simple and Flexible Acceleration Models), Residential Theory, Stock Market and Tobin's q-ratio
2.3 Paradox of Thrift

Unit 3
The Classical-Keynesian Synthesis   **(13 Hours)**
3.1 The interaction of real and monetary sector of the economy- IS-LM model
3.2 The IS-LM model with the government sector
3.3 The role and relative effectiveness of fiscal and monetary policy in IS-LM model.

Unit   4
   The Monetarist School   **(12 Hours)**
   4.1 The quantity theory of money approach
   4.2 The expectation augmented Phillips Curve
   4.3 The orthodox monetary school and stabilization policy

Unit   5
   Neo-Keynesian Macro Models   **(15 Hours)**
   5.1 Post-Keynesian Economics
   5.2 Reinterpretation of Keynes as Non-Walrasian Equilibrium Economics
   5.3 Neo-Keynesian quantity constraint model

BOOKS FOR STUDY
Blanchard. Oliver. *Macroeconomics*. India: Pearson Education, 2011.
Levacic, Rosalin,and Alexander Rebmann, *An Introduction to Keynesian –Neoclassical Controversies.* UK: Macmillian, 1991.

BOOKS FOR REFERENCE
Blanchard, Olivier and Stanley, Fischer, " Lectures on Macroeconomics". The MIT Press, US, 1989.
Dornbusch, Rudiger, Fischer, Stanley & Startz, Richard " Macroeconomics" McGraw Hill, 9th Edition.
Mankiw. Gregory N. *Principles of Macroeconomics.*, New York: The Dryden Press, 2011.
Romer. David. *Advanced Macroeconomics.* New York: McGraw Hill, 2010.
Snowdon Brain and Vane Howard R, "Modern Macroeconomics: its Origin, Development and Current State" Edward Elgar Publishing Ltd, UK, 2005

JOURNALS
Cambridge Journal of Economics
Journal of Political Economy
The B.E. Journal of MacroEconomics

REPORTS
RBI Bulletins

WEB RESOURCES
www.rbi.org.in
www.mospi.nic.in

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: **Total Marks: 50**
Seminars/Quiz/Open book tests/Group discussion/Assignments/Case studies
End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A– 5 x 8 = 40 marks (Answer any 5 out of 7 questions in 300 words each)
Section B– 3 x 20=60 marks (Answer any 3 out of 5 questions in 1200 words each)

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SYLLABUS
(Effective from the academic year 2019-2020)

PUBLIC ECONOMICS

CODE:19EC/PC/PE34   **CREDITS:4**
                                                                      LTP:410
                                          TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To understand the nature of Public Household and the problems relating to the provisioning of social goods
- To study and understand the nuances of Public choice and the mechanisms of voting
- To understand the nature of taxation and Public expenditure

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- help students grasp the depth of economic theories applicable to public economics
- enable them critically understand the concept of collective decision making in political economy
- inculcate in them the ability to critique and redefine economic policies in the public spectrum

Unit   1
Introduction   **(10 Hours)**
1.1 Welfare Foundation – Pareto Optimality – Pareto Efficiency
1.2 Multiple Theory of Public Households. Allocation, Distribution and Stabilization

Unit   2
Theory of Public Goods   **(14 Hours)**
2.1 The concept of Public, Private, Mixed, Merit, Club goods –Reasons for governmental allocation intervention –Market Failure
2.2 The Theory of Social Goods –the General Model for Social goods –P.A. Samuelson. Social Goods allocation through the Budget
2.3 Externalities and its corrections
2.4 Theory of Optimal Distribution

Unit   3
Theory of Public Choice   **(13 Hours)**
3.1 Knut Wicksell's approach to revealing social preferences – Absolute Unanimity, Relative Unanimity, Gordon Tullock – Decision Making Cost and Voter Externality Cost
3.2 Erik Lindahl and H.Bowen's Model

3.3 Majority Voting and Public goods –the Theory of Voting –Condorcet Winner, Voting Paradox –Arrow's Impossibility Theorem –Interest groups –Political Coalitions and Log Rolling and lobbying

3.4 Theory of Rent Seeking

Unit 4

Public Expenditure (13 Hours)

4.1 Public Expenditure in India –Structure and Growth

4.2 Role of the Public Sector in India

4.3 Pricing of the Public Sector – The Second Best Theorem, Peak Load Pricing Mechanism. User Prices for Public goods

4.4 Cost Benefit Analysis

Unit 5

Principles of Taxation (15 Hours)

5.1 Introduction to Taxation in the circular flow

5.2 Classification of Taxes –Taxes in India-Types, Features, Trends –recent developments.

5.3 Approaches to tax equity –Benefit Approach and Ability to Pay Approach. The Ramsey rule for efficient taxation. Excessive Taxation, Tax evasion and the Laffer curve.

5.4 Principles of Tax Incidence – Partial Equilibrium view of Product and Factor taxes. Musgrave's Concept of tax and expenditure incidence – measuring changes in distribution
.

BOOKS FOR STUDY

Herber. Bernard. P. *Modern Public Finance, The Study of Public Sector Economics*New Delhi: AITBS, 2004.

Musgrave. Richard. A.*The Theory of Public Finance.,* New York: McGraw Hill,2016.

BOOKS FOR REFERENCE

Amiya, K. Bagchi & Garry. A. Dymski. (Eds.) *Capture and Exclude: Developing Economics and the Poor in the Global Finance.*New Delhi: Tulika Books,2007.

Boadway. R. W. *Public Sector Economics*. Massachusetts: Cambridge Winthrop Publications, 1979.

Buchanan, J. M. & Flowers. R. M. *The Public Finances An Introductory Textbook.* Illinois: Irwin Homewood,1987.

Hillman. A. L.*Public Finance and Public Policy*. UK: Cambridge, 2003.

Lekhi. R. K.*Public Finance*. Ludhiana: Kalyani,2011.

Mueller. D. C., *Public Choice.* Cambridge: University Press, 1989.

Musgrave, R. A. and Musgrave P. B.*Public Finance in Theory and Practice*. New York: Asian Student Edition,2016.

Rosen, S. Harvey & Ted Gayer, *Public Finance*, Tata McGraw Hill, New Delhi, 2017

Sankar. U.*Public Sector Pricing, Theory and Applications*.IEA Trust for Research and Development, 1992.

Sarma, J.V.M, *Public Finance*, OUP, New Delhi, 2018

Winfrey. J.C. *Public Finance- Public Choices and the Public Economy.*New York: Harper and Row,1973.

JOURNALS
Canadian Journal of Economics
Journal of Public Economics
Journal of Urban Economics

WEB RESOURCES
https://books.google.co.in/books?id=M-2M5Q2kVLcC&pg=PA244&dq=discourse+on+public+goods&hl=en&sa=X&ei=0rcmVbGqGcnbuQTqmoD4CA&ved=0CCcQ6AEwAg#v=onepage&q=discourse%20on%20public%20goods&f=false
https://books.google.co.in/books?id=c7W916Ep9joC&pg=PA82&dq=Lectures+on+principles+of+maximum+social+advantage&hl=en&sa=X&ei=M7omVZrCDcKxuASgvoGAAQ&ved=0CC4Q6AEwAw#v=onepage&q=Lectures%20on%20principles%20of%20maximum%20social%20advantage&f=false
https://books.google.co.in/books?id=lQpswqcdDLIC&pg=PR12&dq=Lectures+on+federalism+in+india&hl=en&sa=X&ei=gLomVbfuNYOCuwSN1oDICA&ved=0CCUQ6AEwAg#v=onepage&q=Lectures%20on%20federalism%20in%20india&f=false

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A –3 x10 = 30 Marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 Marks (Answer any 1 out of 2 questions in 1200 words each)

Other Components: **Total Marks: 50**
Quiz/Open book tests/Assignment/Seminar – Presentation/Viva Voce

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 5 x 8 = 40 Marks (Answer any 5 out of 7 questions in 300 words each)
Section B – 3 x 20 = 60 Marks (Answer any 3 out of 5 questions in 1200 words each)

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SYLLABUS

(Effective from the academic year 2019-2020**)**

ENVIRONMENTAL ECONOMICS

CODE:19EC/PC/EE34   **CREDITS:4**
                                                                                   L T P :4 1 0
                                                                                   TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To impart a comprehensive view of the development of theories in environmental economics
- To highlight the application of economic techniques to the analysis of environmental problem
- To empower students to conserve environment

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- Understand the concepts - conservation recycle and reuse
- Understand the significance of environment in daily life
- Include environment in mainstream economics
- Become policy makers by making environment issues inclusive.
- Enable students to understand why economics undervalues the environment

Unit   1
  Introduction to Environmental Economics   **(12 Hours)**
  1.1 The rationale of environmental economics
  1.2 The evolution and growth of environmental economics
  1.3 Social Welfare Function – maximum social advantage – Inter-temporal efficiency.

Unit   2
  Environmental Problems and Policy Solutions   **(15 Hours)**
  1.1 Classification and forms of pollution
  1.2 Pollution abatement and Issues in economics of pollution
  1.3 Weitzman Theorem – price versus quantity
  1.4 Environmental legislations in India

Unit   3
  Energy and Environment   **(10 Hours)**
  3.1 Economics of energy – an overview
  3.2 Energy conservation and environmental implication
  3.3 Economics of cleaner technology
  3.4 Economics of climate change

Unit 4

Economics of Natural Resources (13 Hours)

4.1 Overview of natural resources – measuring scarcity

4.2 Economics analysis of non-renewable resources – Risk and uncertainties – resource depletion model

4.3 Renewable resource economics – Dynamics of resource harvesting - fisheries

Unit 5

Current Environmental Issues and Policies (15 Hours)

5.1 Population, poverty and urbanisation and environmental quality

5.2 International trade and environment

5.3 Bio-diversity conservation and environment.

5.4 International Agencies to protect – global negotiations, Kyoto protocol, TRIPS, Montreal Protocol, and Stockholm convention.

BOOKS FOR STUDY

Field, Barry, C. *Environmental Economics – An Introduction*. USA: McGraw, 1994.

Hussen M Ahmed Principles of Environmental Economics: Economics, Ecology and Public sector. London: Routledge, 1999.

Kolestad. Charles. D. *Environmental Economics*. New York: Oxford University Press,2000.

BOOKS FOR REFERENCE

Baumol William, T and Wallace E Oates. *Economics, Environmental Policy and Quality of Life*. USA: Prentice Hall, 1977.

Hanley, Nick, Jason F. Shogren and Ben White. *Environmental economics in Theory and Practice*. New Delhi: Macmillan, 1997.

Pearce D. W and Kerry R. Turner *Economics of Natural Resources and Environment*. New York: Harvester, 1989.

Singh, Katar & Anil. Shishodia. *Environmental Economics: An Indian Perspective*. New Delhi: Oxford University Press, 2007.

Teintenberg. Tom, *Environmental and Natural Resource Economics*. New Delhi: Pearson, 2004.

JOURNAL

Journal of Environmental Economics

Journal of Public Economic Theory

WEB RESOURCES

https://books.google.co.in/books?id=9eyjCL4M3doC&pg=PR9&dq=lectures+on+environmental+economics+india&hl=en&sa=X&ei=GL8mVdfrMdSLuwSx94Fo&ved=0CCUQ6AEwAA#v=onepage&q=lectures%20on%20environmental%20economics%20india&f=false

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**

Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)

Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: **Total Marks: 50**

Quiz/Group Presentation/Assignment

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**

Section A – 5 x 8 = 40 marks (Answer any 5 out of 7 questions in 300 words each)

Section B – 3 x 20 = 60 marks (Answer any 3 out of 5 questions in 1200 words each)

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SYLLABUS
(Effective from the academic year 2019-2020)

ECONOMETRIC METHODS I

CODE:19EC/PC/EC34   **CREDITS:4**
L T P:4 0 2
TOTAL TEACHING HOURS:78

OBJECTIVE OF THE COURSE
- To provide with a rigourous introduction to univariate and multivariate regression and its uses in economics
- It addresses the problems faced in estimation and inference in the context of linear regression models
- To teach students how to apply relevant econometric methods (LAB SESSIONS) to analyse data and interpret the results from such analysis
- To understand the economic implications and relevance of these tools required to formulate simple econometric Models

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- Use basic econometric techniques and their applications and equip them with the broad knowledge of regression analysis
- Understand how to uses regression analysis to infer causal relations between economic variables
- Apply relevant econometric methods to analyse data and interpret the results from such analysis
- Appreciate and interpret the econometric analysis reported in empirical economics research articles
- Make use of basic econometric models in any kind of academic work

Unit   1
  Introduction   **(5 Hours)**
  1.1 Econometrics - Definition
  1.2 Stages in Empirical Econometric Research- Classical methodology

Unit   2
  Two Variable Linear Regression Analysis   **(18 Hours)**
  2.1 Linear Regression Model – Assumptions, Principle of Least Squares
  2.2 Derivation of OLS Estimator and its Properties

2.3 Standard Error

2.4 Gauss Markov Theorem- Derivation

2.5 Estimation of a Two Variable Model

2.6 Coefficient of Determination

2.7 Hypothesis Testing

Unit 3

Three Variable Linear Regression Model (20 Hours)

3.1 Introduction to the Model

3.2 Estimations of the Model by OLS Method

3.3 Hypothesis Testing: ANOVA

3.4 Coefficient of Determination

3.5 Functional Form of Regression Models: Double Log, Semi Log, Reciprocal Models

3.6 Regression Using Dummy Variables- Testing for Structural Stability of Regression Model, Interaction Effects, Seasonal Analysis, Use of Dummy Variable in Analysing Time Series & Cross –Sectional Data

Unit 4

General Linear Model (Matrix Approach) (15 Hours)

4.1 Matrix Approach to Linear Regression model: 'k – variable' Linear Regression model, Assumptions

4.2 Derivation of Gauss Markov theorem

4.3 OLS estimation, Testing significance of the model using ANOVA

Unit 5

Regression Diagnostics (20 Hours)

5.1 Detection of and remedial measures for Multicollinearity, Autocorrelation and Heteroscedasticity.

5.2 Model Selection and Diagnostic Testing

5.3 Tests of Specification errors: Detecting the presence of unnecessary variables, omitted variables and incorrect functional form (Ramsey RESET and Lagrange Multiplier Test for Adding Variables)

5.4 Errors of measurement: Consequences and remedial measures

5.5 Model Selection Criteria: R^2 and Adjusted R^2 criteria

BOOKS FOR STUDY

Damodar. N.Gujarati, *Basic Econometrics*. New Delhi: McGraw Hill International, 2011.

Damodar. N. Gujarati & Dawn, C. Porter, *Basic Econometrics*, New Delhi: Irwin/McGraw Hill, 2011.

Ramu. Ramanathan, *Introductory Econometrics with Applications*, New York: Harcourt College, 2000.

Asteriou, D and Hall, Stephen G, *Applied Econometrics*, 3rd Edition, Palgrave Macmillan, 2 0 1 5 .

BOOKS FOR REFERENCE

Christopher, Dougherty, *Introduction to Econometrics*, 4th edition, London: Oxford University Press, 2011.

Damodar. N. Gujarati & Dangeetha. S, *Basic Econometrics*, 4th edition, New York: McGraw Hill, 2007.

Dominick, Salvatore & Derrick Reagle, *Statistics and Econometrics*, *Schaum's Outlines* 2nd edition, Schaum's Series, 2011.

Koutsoyiannis, A.*Theory of Econometrics*, 2nd edition, London: Macmillan Press, 1977.

Griffiths, Hill and Judge, *Learning and Practicing Econometrics*, Wiley, New York.

Judge, G.G. et al., *Introduction to the theory and Practice of econometrics*, 2nd Edition John Wiley and Sons.

Green, William H., *Econometric Analysis*, Prentice Hall.

Johnston and Dinardo, *Econometric Methods*, 4th Edition McGraw-Hill International Edition.

Madala G.S., *Introduction to Econometrics*, John Wiley & Sons.

Madala, G.S,. *Limited Dependant and Qualitative Variables in Econometrics*, Cambridge University Press, Cambridge, 1986.

Wooldridge J., *Introductory Econometrics: A Modern Approach*, South-Western College Pub.

Baltagi, Badi H., *Econometrics*, 5th edition, Springer

Kennedy, Peter. *A, Guide to Econometrics*, 5th Edition, The MIT Press, 2003.

Studenmund, A.H.,*Using Econometrics: A Practical Guide*, Addison Wesley Publishing Company. Boston,

Mood, Alexander M, Graybill, Franklin A. and Duane C. Boes, *Introduction to the Theory of Statistics*, McGraw-Hill, 1974.

Goldberger, S., *Introductory Econometrics*, Harvard University Press.

Krishna, K. L., *Econometric Application in India*, Oxford University Press, Delhi.

Larsen, Richard J. & Marx, Morris L., *An Introduction to Mathematical Statistics and its Application*, 4th edition, Prentice Hall.

Pindyck & Rubinfeld, *Econometrics Models & Economic Forecast*, 4th edition, McGraw-Hill/Irwin

JOURNALS
Journal of Applied Econometrics
The Econometrics Journal

WEB RESOURCES
http://egei.vse.cz/english/wp-content/uploads/2012/08/Basic-Econometrics.pdf
http://www.bseu.by/russian/faculty5/stat/docs/4/Creel,Graduate%20Econometrics.pdf
http://www.bseu.by/russian/faculty5/stat/docs/4/Davidson,MacKinnon,%20Econometric%20Theory%20and%20Methods.pdf

PATTERN OFASSESSMENT

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**
Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words)
Section B –   1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)
Other Components: **Total Marks: 50**
Problem solving/Minor Project/article submission
End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**
Section A– 5 x 8 = 40 marks (5 out of 7 questions to be answered in 300 words each)
Section B– 3 x 20=60 marks (3 out of 5 questions to be answered in 1200 words each)

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SYLLABUS
(Effective from the academic year 2019-2020)

SUMMER INTERNSHIP

CODE:19EC/PN/SI32   **CREDITS:2**

OBJECTIVES OF THE COURSE
- To enable the students to connect theoretical foundations in Economics to the related fields in the economy
- To provide the students with an opportunity to avail of hands on experience with regard to the industry and/or field of study
- To open up avenues for further research and employment

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- Develop working knowledge related to various aspects of research
- Demonstrate the ability to perform job functions related to research
- Improve research skill
- Enhance personal development

The department would help students to be placed under various research institutions associated with the discipline of economics for summer internship according to the area of Interest. Each student will have to maintain the following

1. Interns will get feedback from their research supervisor/employer about their performance. Interns can in turn be graded as Very Good/Good/Satisfactory
2. A record of work done should be duly endorsed by the institution – A log book
3. The interns will have to submit a written report at the end of the internship, and make a presentation with the help of a PPT. This would be evaluated internally for 50 marks considering the grades/feedback obtained.
4. There has to be an accompanying letter from the agency stating that the student has interned with them for a period of not less than 150 hours (One month approximately).

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SYLLABUS

(Effective from the academic year 2019-2020)

MACROECONOMICS II

CODE:19EC/PC/MA44   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To give a comprehensive view of the Post Keynesian Macro Economic Model
- To address the issues of economic fluctuations
- To study the function of the open economy

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- acquire the knowledge on Post Keynesian, New-Keynesian and
  New Classical models
- Understand the economic fluctuation in the economy and evaluate the policy issues
- understand the open economy and interpret policy issues
- test the validity of the various models empirically using relevant analytical tools
- critically analysis the various policies to macroeconomic issues

Unit   1
   New Classical School   **(15 Hours)**
   1.1 Perfect information – Rational Expectation hypothesis
   1.2 Lucas- Intertemporal substitution model.
   1.3 Imperfect and asymmetric information – Barro- Ricardo equivalence and   fiscal
       policy.

Unit   2
   Real Business Cycle School   **(10 Hours)**
   2.1 Real Business Cycle School
   2.2 Real Business Cycle theory – technology shocks, neutrality of money and
        flexibility of wages and prices.
   2.3 Real Business cycle view on Great Depression.

Unit   3
   New Keynesian School   **(15 Hours)**
   3.1 Imperfect competition and price setting – Real rigidity
   3.2 Real Non Walrasian Theories : Small Menu Cost model, implicit wage
        contract theory, efficient wage theory.
   3.3 Insider- Outsider model.

Unit 4

Economic Growth (15 Hours)

4.1 Harrod-Domar Model, Solow growth model, Ramsey model with infinitely lived agent.

4.2 Application to household behaviour and interaction with the government – Ricardian equivalence.

4.3 The New Growth theory- R&D, Human capital in growth theory.

Unit 5

Open Economy Model (12 Hours)

5.1 IS-LM in the Open Economy

5.2 Mundell –Fleming Model

5.3 The Small Open Economy Under Fixed and Floating Exchange Rate

BOOKS FOR STUDY

Blanchard. Oliver. *Macroeconomics*. India: Pearson Education, 2011.

Levacic, Rosalin, and Alexander Rebmann, *An Introduction to Keynesian –Neoclassical Controversies.* UK: Macmillian, 1991.

BOOKS FOR REFERENCE

Barro, Robert J. & Sala-i-Martin, Xavier, Economic Growth McGraw Hill, New York, 1995

Blanchard, Olivier and Stanley, Fischer, " Lectures on Macroeconomics". The MIT Press, US 1989

Dornbusch, Rudiger, Fischer, Stanley & Startz, Richard " Macroeconomics" McGraw Hill, 9th Edition.

Mankiw. Gregory N. *Principles of Macroeconomics.*, New York: The Dryden Press, 2011.

Romer. David. *Advanced Macroeconomics.* New York: McGraw Hill, 2010.

Snowdon Brain and Vane Howard R, "Modern Macroeconomics: its Origin, Development and Current State" Edward Elgar Publishing Ltd., UK 2005

JOURNALS

Cambridge Journal of Economics

Journal of Political Economy

The B.E. Journal of Macro Economics

REPORTS

RBI Bulletins

WEB RESOURCES

www.rbi.org.in

www.mospi.nic.in

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**

Section A – 3 x 10 = 30 marks (3 out of 5 questions to be answered in 300 words each)

Section B – 1 x 20 = 20 marks (1 out of 2 questions to be answered in 1200 words)

Other Components: **Total Marks: 50**

Seminars/Quiz/Open book tests/Group discussion/Assignments/Case studies

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**

Section A– 5 x 8 = 40 marks (5 out of 7 questions to be answered in 300 words each)

Section B– 3 x 20=60 marks (3 out of 5 questions to be answered in 1200 words each)

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M.A DEGREE: BRANCH III – ECONOMICS

SYLLABUS
(Effective from the academic year 2019-2020**)**

INTERNATIONAL TRADE

CODE:19EC/PC/IT44   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
 • To understand the theoretical underpinnings of International Trade and to analyze the relevance of the received theories in the context of economic development.
 • To develop the ability to critically analyze the problem and prospects in International trade relationship
 • To assess the working of the existing international arrangements and the reforms suggested for a better world economic order.

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
 • Students should be able to discuss critically key trade theories
 • To test the validity of the various theories empirically using relevant analytical tools
 • Present a coherent argument on topics in international trade
 • Demonstrate a familiarity with range of policy issues in international trade
 • Analyse prospective issues in international trade relationships

Unit   1
 Neo Classical Trade Theory   **(15 Hours)**
  1.1 Introduction to International Economics
  1.2 Offer Curves and Terms of Trade
  1.3 The Heckscher Ohlin Theory – A Critique: Factor Prices and Factor Reversals
       Leontief Paradox
  1.4 Stolper – Samuelson Theorem – Magnification effect
      Demand Reversals, Transportation costs, Imperfect competition.
  1.5 Post Heckscher-Ohlin Theories - Imitation lag Hypothesis – Posner, Product
      Cycle Theory – Vernon, Overlapping Demand – Linder, Krugman Model ,
      Reciprocal Dumping Model, Gravity Theory

Unit   2
 Economic Growth and Trade   **(11 Hours)**
  2.1 Consumption and Production effects of growth on size of trade – Johnson.
  2.2 Growth trade and welfare in large country cases - Immisersing Growth -
       Bhagwati's Analysis.

2.3 Rybczynski's Theorem

2.4 Secular Terms of Trade in developing countries - Singer-Prebisch Arguments

Unit 3

Political Economy of Trade Policy (15 Hours)

3.1 Instruments of trade Policy – Tariff and Non Tariff

3.2 Tariff and Non Tariff Analysis – Partial Equilibrium in Small and Large countries. General Equilibrium in Small and Large Countries

3.3 International Factor Movements through Foreign Direct Investment, Labour Mobility, Costs and Benefits of International Factor movements

Unit 4

Balance of Payments and Foreign Exchange Market (12 Hours)

4.1 Equilibrium and Disequilibrium Price adjustment and BOP disequilibrium – The J curve – Marshall - Lerner condition – Income Absorption

4.2 Foreign Exchange Market –Types, Functions, Determination of Equilibrium Exchange rate, Forward markets – Adjustment of Foreign Exchange Markets

4.3 Foreign Exchange Policy

Unit 5

International Negotiations and Trade Policy (12 Hours)

5.1 A brief historical over view of International Trade Agreements – IMF – World Bank - ITO – GATT – UNCTAD – NIEO – EU-Brexit - (not to be tested)

5.2 Globalization, WTO – AoA, GATS, Sanitary and Phytosanitary measure – Critical Analysis.

5.3 Controversies in Trade policy – Brander – Spencer Analysis. Anti Globalization

BOOKS FOR STUDY

Appleyard. D. R. *International Economics*. New York: McGraw Hill,1998.

Krugman P. R., Obstfeld M., and Melitz M., (2017), *International Economics: Theory and Policy,* Pearson Education, London, 2017

BOOKS FOR REFERENCE

Bhagwati, Jagdish and T. N. Srinivasan. *Lectures on International Trade, 2nd Ed*. New Delhi: OUP, 2003

Bhagwati. Jagdish. (Ed). *Trade, Balance of Payments and Growth.* Holland: Holland,1998

Carbaugh. R. J. *International Economics*. UK: South Western, 2008.

Feenstra, Robert.C, *International Trade: Theory and Evidence*. Princeton, USA: Princeton University Press, 2004.

Kindlebergr. Charles. P. *International Economics*. New York: McGraw Hill, 2000.

Ray, P.W and Kundu K.B. *International Economics: Pure Theory- Trade Policy.* New Delhi: Mahabharat, 2001.

Sinha. R.K. (Ed). *New International Economic Order – Need, Implementation, Obstacles, Prospects.* New Delhi: Deep and Deep, 2010.

JOURNALS
Journal of Economic History
Journal of International Economics
Journal of Monetary Economics

WEB RESOURCES
https://books.google.co.in/books?id=tV6tzmkghGUC&printsec=frontcover&dq=wto+agreement&hl=en&sa=X&ei=xYsmVfKqMo-8uAT8kICIDw&ved=0CCMQ6AEwAQ#v=onepage&q=wto%20agreement&f=false
http://economyincrisis.org/wto?gclid=Cj0KEQjwxpipBRCap8PR2Om7vq4BEiQA6V7OVUjgtZxtohQTpmcQAmHeZXDNIZoVFs6JTJyNNk0FMoEaAneq8P8HAQ

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A –3 x10 = 30 Marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 Marks (Answer any 1 out of 2 questions in 1200 words each)

Other Components: **Total Marks: 50**
Quiz/Open book tests/Assignment/Seminar Presentation/Viva Voce

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 5x 8 = 40 Marks (Answer any 5 out of 7 questions in 300 words each)
Section B – 3 x 20 = 60 Marks (Answer any 3 out of 5 questions in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A.DEGREE: BRANCH III-ECONOMICS

SYLLABUS
(Effective from the academic year 2019-2020**)**

ECONOMETRIC METHODS II

CODE:19EC/PC/EC44   **CREDITS:4**
                                                               L T P:4 1 0
                                             TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To understand the econometric methodology for empirical quantitative analysis of data
- To provide a solid ground for empirical research

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
- apply econometric methodology for carrying out empirical research
- Train and equip students with requisite skills to carry out applied economics research
- apply relevant econometric methods to analyse data and interpret the results from such analysis
- appreciate and interpret the econometric analysis reported in empirical economics research articles
- make use of econometric models in any kind of academic work

Unit   1

Problems on Estimation- Violation of OLS assumptions   **(15 Hours)**
  1.1 Multicollinearity- Nature, Consequences, tests for detection and Remedial measures
  1.2 Heteroscedasticity- Nature, Consequences, tests for detection and Remedial measures
  1.3 Autocorrelation- Nature, Consequences, tests for detection and Remedial measures

Unit   2

Simultaneous Equation Models   **(10 Hours)**
  2.1 Introduction to Simultaneous Equation Models
  2.2 Simultaneous Equation Bias –Simple Keynesian Income Determination
  2.3 Identification Problem –Under Identification –Exact Identification, Over Identification
  2.4 Rules for Identification – Order Condition, Rule Condition

Unit   3

Unit Model with Qualitative Dependent Variables   **(10 Hours)**
  3.1 Linear Probability Model (LPM), Problems related to LPM
  3.2 Logit Model – Estimation
  3.3 Probit Model -Estimation

Unit 4

Dynamic Econometric Models   (15 Hours)
4.1 Role of Lags in Economics and the Reason for Lags
4.2 Distributed Lag models –Koyck Model –Partial Adjustment Model –Adaptive
   Expectations Model
4.3 Estimation of Autoregressive models
4.4 Causality in Economics – The Granger test

Unit 5

Time Series Analysis   (15 Hours)
5.1 Introduction to Time Series Data and Analysis
5.2 Stationality –Unit Root Test
5.3 Co-integration Tests
5.4 Methods of Modelling Time Series Data –AR, MR and ARIMA

BOOKS FOR STUDY

Gujarati. Damodar. N. *Basic Econometrics*, New Delhi: McGraw Hill, 2011.
Gujarati, Damodar N. & Dawn C. Porter, *Basic Econometrics*, 5th edition, Irwin/McGraw Hill, 2013
Ramanathan, Ramu, *Introductory Econometrics with Applications*, Fifth edition, New York: Harcourt College, 2013

BOOKS FOR REFERENCE

Greene. William H..*Econometric Analysis*. New York: Prentice Hall, 2000.
Kalirajan. K.P. *Applied Econometrics*. New Delhi: Oxford, 1995.
Klein. Lawrence R.. *An Introduction to Econometrics*. New York: Prentice Hall, 1962.
Maddala,. G.S. *Econometric Methods and Application*s. New Delhi: Oxford University, 1994.
Patterson. Kerry, *Introduction to Applied Econometrics: A Time series Approach*.
Palgrave Macmillan, 2000.
Pindyck. R.S & Rubinfeld, D.L, *Econometric Models & Econometric Forecasts*, US: McGraw Hill Higher Education, 2000.
Thomas. R. L. *Introductory Econometrics: Theory and Applications*, New Delhi:,
 Pearson Education, 1993.
Walter Enders, *Applied Econometrics Time series*, Wiley India, 2008.
Hamilton, JD., *Time Series Analysis*. Princeton University Press, New Jersey, 1998.
Judge, G.G., Griffiths, W.E., Hill, R.C., Lutkepohl, H. and Lee, T.C., *The Theory and Practice of Econometrics*, 2nd edition John Wiley and Sons, New York, 1985.
Johnston, J. and Dinardo, D., *Econometric Methods*, McGraw Hill, New York.
Lutkepohl, Helmut, *New Introduction to Multiple Time Series Analysis*, Springer, New York, 2007.
Rao, P., Miller, R. L., Applied Econometrics, Wadsworth Publishing Company, 1971.

JOURNALS
Journal of Applied Econometrics
Journal of Econometrics

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 x 10 = 30 marks (3 out of 5 questions to be answered in 300 words each)
Section B – 1 x 20 = 20 marks (1 out of 2 questions to be answered in 1200 words)

Other Components: **Total Marks: 50**
Presentation of summary of research articles/Problem Assignments/Quiz/minor research projects

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 5 x 8 =40 marks (5 out of 7 questions to be answered in 300 words each)
Section B –   3 x 20 = 60 marks (3 out of 5 questions in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A.DEGREE : BRANCH III – ECONOMICS

SYLLABUS
(Effective from the academic Year 2019-2020**)**

DISSERTATION

CODE:19EC/PC/DS47   **CREDITS:7**

Guidelines

➢ **Page Limit:**
The Dissertation shall be within a space of about 50 – 75 pages typed in font size 12, font style: Times New Roman with 1 ½ line spacing on A4 Size paper

➢ **Title of the Dissertation :**
Each Dissertation should contain the following – 'Dissertation submitted to Stella Maris College (Autonomous), Chennai in partial fulfillment of the requirement for the Degree of Master of Arts in Economics by name of the candidate, Department of Economics, Place, Month, Year

➢ **The Dissertation shall contain :**
   • Contents Page
   • The Dissertation Copy will include Certificate of the Supervisor, Declaration, and Acknowledgement.
   • Chapters to necessarily include: Introduction, Review of relevant Literature, Analysis, Summary and Conclusion
   • Introductory chapter comprising of introduction/statement of the research problem supported with secondary data, significance and scope of the study, objectives, hypothesis, and methodology: Data source, description of variables, definitions and concepts, estimation issues, tools for analysis, limitation, chapterization
   • The student can use Quantitative or Qualitative/Descriptive or both methods.
   • The final chapter shall contain "Summary and Conclusions',
   • At the end of the Dissertation 'List of References' must be given in alphabetical/chronological order.
   • Appendix: Statistical output and other related contents to be included

➢ **Submission:**
Each student may prepare two copies of the thesis one for her and one copy to be submitted to the department duly signed by the candidate, Head of the Department and Supervisor15 days before the commencement of the End semester examination.

➢ Guidelines for Evaluation:

Students must adhere to intermediate deadlines	05
Periodic presentation of the following:	
Settle on a topic in consultation with the supervisor	
Submit the proposal	
Thesis outline and first draft submission	
Read background literature, preparation of the same	
Submit research design (methodology and tools for analysis)	
Complete 75% of analysis and submission of the rough draft	25
Literature Review (15 – 20)	15
Creativity, analysis, logical presentation, and conclusion	30

- **Thesis (Total marks)**   **75**
- **Viva Voce exam**   **25**
- **Total**   **100**

There shall be more than one external examiner based on areas of specialization. (For instance, quantitative research, Major areas of applied economics research etc.)

There will be double valuation for the dissertation by the guide and an external examiner, who will also conduct the viva- voce. The viva voce marks to be given only by the external examiner. The norms for valuation will be the same as applicable for theory papers.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A DEGREE: BRANCH III – ECONOMICS

SYLLABUS
(Effective from the academic year 2019-2020)

MATHEMATICS FOR ECONOMICS

CODE:19EC/PE/ME15   **CREDITS:5**
                                                                  L T P:5 0 0
                                           TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To learn mathematical methods that has become indispensable for a proper understanding of the current economic literature
- To study mathematical techniques and illustrate with proper economic models
- To investigate economic problems using mathematical tools and apply this knowledge to problems relating to micro and macroeconomic theory

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- acquire computational skills and solve problems in algebra and optimisation.
- Analytical skills - should be capable of identifying the tools required to solve specific economic issues or problems.
- Application of the indicated mathematical tools to the solution of micro and macroeconomic problems.
- Integrate theories with mathematical techniques
- apply optimization techniques for economic analysis

Unit   1
       Linear Algebra   **(15 Hours)**
       1.1 Matrices, Inverse, Simultaneous Linear Equations, Cramer's Rule for Solving System of Linear Equations
       1.2 Rank of a Matrix, Eigen Values and Vectors – Cayley Hamilton's Theorem
       1.3 Leontief Input-Output Model, Hawkins –Simon Condition
       1.4 Open and Closed Model

Unit   2
       Differential Calculus   **(13 Hours)**
       2.1 Derivatives – Single Variable and Multi Variable – Partial and Total
       2.2 Economic Applications, Marginal and Elasticity Concept
       2.3 Higher Order Derivatives and Young's Theorem
       2.4 Convex and Concave Functions
       2.5 Properties of Linear Homogenous Functions, Euler's Theorem

Unit 3   **(12 Hours)**

Classical Optimization and Applications

3.1 Unconstrained Optimization in Single and Multi-Variable Functions

3.2 Constrained Optimization With Equality Constraints, Lagrangian Method

3.3 Applications – Utility Maximization, Cost Minimization, Profit – Output Maximization

Unit 4   **(10 Hours)**

Mathematical Programming – Linear Optimization

4.1 Introduction to Linear Programming and Graphical Solution of the Diet and Production Problems

4.2 Simplex Method of Solution (Two Variables and maximisation problems only)

4.3 Formulation of the Dual Programme –Statement of Duality Theorems

4.4 Applications from Economics

Unit 5

Dynamic Analysis   **(15 Hours)**

5.1 Definite And Indefinite Integrals, Application – Measuring Consumer and Producer Surplus

5.2 Difference Equations – First and Second Order and Cobweb Model, Samuelson's Multiplier Accelerator

5.3 Differential Equations – First and Second Order, Harrod-Domar and Solow Model

BOOKS FOR STUDY

Bansal. Anjali. *Mathematical Methods for Economics***,** New Delhi: Nath Enterprises**,**   1995.

Chiang, A.C, & Kevin. Wainweight. *Fundamental Methods of Mathematical Economics*. Indian Ed. New Delhi:McGraw-Hill, International, 2017

Mehta, B.C. and Madnani G.M. *Mathematics for Economists*, New Delhi:Sultan Chand, 1996.

BOOKS FOR REFERENCE

Allen. R.G.D. *Mathematical Economics.* Madras: English Language Book Society and Macmillan Press, 1973.

Manicavachagom, PillayT.K, Natarajan T, K.S.Ganapathy.*Algebra***,** Volume II, Madras: S. Viswanthan Printed and Publishers, 1997.

Michael Harrison and Patrick Waldron , *Mathematics for Economics and Finance*, Routledge Publishing , 2011

Narayanan, S. and ManicavachagamPillay T.K. *Calculus***,** Madras: S. Viswanthan Printers and Publishers, 1995.

Sancheti, D.C and V.K. Kapur, *Business Mathematics***,** New Delhi: Sultan Chand, 1981.

Simon, C. and L. Blume, *Mathematics for Economists*, Viva Books Pvt., Ltd., New Delhi, 2017.

Sydsaetar, Knut and Peter Hammond, *Mathematics for Economic Analysis***,** Singapore**:** Pearson Education, 2005.

JOURNALS

Journal of Mathematical Economics

WEB RESOURCES

http://homepage.ntu.edu.tw/~econman/faculty/cfchou/MathEco1.pdf
http://www.railassociation.ir/Download/Article/Books/Basic%20Mathematics%20for%20Economists.pdf

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: **Total Marks: 50**

Seminars/Quiz/Assignments/Problem solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 5 x 8 = 40 (Answer any 5 questions out of 7 in 300 words)
Section B – 3 x 20 = 60 (Answer any 3 out of 5 questions in 1200 words)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A DEGREE: BRANCH III – ECONOMICS

SYLLABUS
(Effective from the academic year 2019-2020)

ADVANCED MANAGERIAL ECONOMICS

CODE:19EC/PE/AM15   **CREDITS:5**
                                                                  L T P:5 0 0
                                            TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To apply economic theory and methods to business and administrative decision making
- To develop the ability to understand the business environment in order to analyse opportunities and take decisions under uncertainty.

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
- apply various micro tools to the business world
- analyse and interpret the various strategies adopted in the business.
- understanding of the various decision making techniques in business.
- application of economic theory and methods to business decision making
- understand the business environment in order to take decision under uncertainty.

Unit   1
Demand Estimation and Business Forecasting Technique   (15 Hours)
1.1 Demand estimation using marketing research and statistical techniques
1.2 Simple Linear Regression Model –Interpretation and problems in
    applying the linear regression model
1.3 Business forecasting techniques –Deterministic time series, smoothing
    techniques, Barometric techniques, Survey and Opinion Polling
    technique
1.4 Introduction to Non Linear Regression model –Semi Logarithmic Transformation,
    Reciprocal and Double Log Transformation

Unit   2
Pricing Techniques   (13 Hours)
2.1 Objectives of Pricing
2.2 Pricing methods –Cost plus pricing, Variable mark up pricing, Intuitive
    Pricing, Experimental Pricing, Stable and Imitative pricing, Incremental
    Cost Pricing
2.3 Pricing Strategies –Product line pricing, Differential pricing, Transfer pricing

Unit   3
Business Strategy Games –Game Theory   (13 Hours)
3.1 Non co-operative games –simultaneous and sequential games
3.2 Equilibrium under sequential games –Business rivalry as a sequential
    game
3.3 Simultaneous games –Nash equilibrium strategy

Unit   4

Capital Budgeting (10 Hours)

4.1 Value maximisation and Capital Budgeting

4.2 The capital budgeting process – Projecting cash flows, evaluating the capital project, capital rationing and the profitability ratio

4.3 The Cost of Capital –Cost of Debt Capital, Cost of Equity Capital, the Composite Cost of Capital

Unit   5

Risk and Decision Making (14 Hours)

5.1 The concept of certainty, risk and uncertainty

5.2 Risk and Decision making –Risk Return, Evaluation Statistics, Risk Preference, Risk Aversion and Insurance

5.3 Adjusting Business Decision for Risk

5.4 Decision Tree Analyses

BOOKS FOR STUDY

McGuigan. James .R., Meyer R. Charles, Frederick H .de B. Harris, *Managerial Economics: Application, Strategy and Tactics*. Ohio: South Western Cincinnati, 2002.

Petersen, H. Craig and Lewis W. Chris. *Managerial Economics*. New Delhi: Prentice Hall of India, 1999.

BOOKS FOR REFERENCE

Dean. Joel, *Managerial Economics*, New Delhi: Prentice Hall, 1968.

Spencer. Multon H, *Managerial Economics, Text Problems and Short Cases*. Illinois: Richard D Irwin, Homewood, 1968

JOURNALS

Journal of Managerial Economics

International Journal of Economics and Management

WEB RESOURCES

http://www.cengage.com/economics/discipline_content/preview_guide/preview_guide/PreviewGuide_McGuiganMoyerHarris_12e.pdf

http://www.itu.dk/~mounma/bouba/081009/0127408525.pdf

http://www.londoninternational.ac.uk/sites/default/files/programme_resources/lse/lse_pdf/subject_guides/mn3028_ch1-4.pdf

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 3 x 10 =30 marks (Answer any 3 out of 5 questions in 300 words each)

Section B – 1 x 20 =20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: **Total Marks: 50**

Seminars/Quiz/Open book tests/Group discussion/Assignments/Case studies

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 5 x 8 = 40 marks (Answer any 5 out of 7 questions in 300 words each)

Section B – 3 x 20 = 60 marks (Answer any 3 out of 5 questions in 1200 words each)

M.A. DEGREE: BRANCH III -ECONOMICS
SYLLABUS
(Effective from the academic year 2019-2020)

AGRICULTURAL ECONOMICS

CODE:19EC/PE/AG15   **CREDITS:5**
                                                   L T P:5 0 0
                                   TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- Impart breadth of knowledge and analytical skills to students in the field of agricultural economics
- Familiarise students with policy issues relevant to agriculture
- Gain understanding on problems associated with agricultural labour, agricultural credit and marketing and sustainable agriculture

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- Obtain a comprehensive view of the primary sector of the Indian Economy
- Understand the significance of agriculture in the development process
- Gain enhanced understanding on policy matters relevant to Indian agriculture at large
- Enable to comprehend contemporary issues like food security, sustainable agricultural practices, nutrition sensitisation in a complex changing scenario

Unit   1
Introduction   **(13 Hours)**
1.1 Place of Agriculture in Indian economy
1.2 Trends in Agricultural Productivity
1.3 Agricultural Development under Plan periods
1.4 Special Economic Zone Policy and Agriculture.

Unit   2
Agricultural Labour   **(13 Hours)**
2.1 Problems of Agriculture Labour
2.2 Efficiency of Agriculture Labour
2.3 Impact of Mechanization on Agriculture Labour
2.4 National Employment Guarantee Scheme and its impact on agriculture

Unit   3
Agricultural Credit & Marketing: Co-operative Credit Structure   **(13 Hours)**
3.1 Role of NABARD
3.2 Role of Commercial Banks
3.3 Micro Finance-Meaning, Role, and Trends
3.4 Issues of Agriculture Subsidies
3.5 Problems of Agriculture Marketing in India

3.6 Agriculture -Marketing and Price System in India
3.7 Problems of Agriculture – Export- Imports
3.8 Role of Food Corporation of India
3.9 Agreements of WTO in Agriculture

Unit   4
Sustainable Agriculture: Bio Technology   **(13 Hours)**
4.1 Meaning and Trends
4.2 Organic Farming – Present status and Future
4.3 Contract Farming - Present Status and Future
4.4 Diversification of Agriculture in India (High Technology in Agriculture)
4.5 Integrated Farming Systems
4.6 Agricultural Management – Concept, Recent trends and Problems
4.7 Joint liability groups under agriculture

Unit   5
Nutrition sensitive Agriculture   **(13 Hours)**
5.1 Linkage between agriculture and nutrition
5.2 Pathways of linking agriculture with nutrition
5.3 Importance of nutrition-sensitive agriculture in India.

BOOKS FOR STUDY
Misra S.K. & V.K.Puri (2007) Indian Economy ,New Delhi, 2007, Himalaya Publication house Mumbai.
Gopal Ji & Suman Bhakari 'Indian Economy ; Performance and Policies, 2012 Pearson Publication , New Delhi
Agrawal A.N, Indian Economy Problem of Development and Planning; 2015, New Age International Private Limited, New Delhi

BOOKS FOR REFERENCE
Johnson P.A , Development Issues of Indian Economy, 2003, Manan Prakashan, New Delhi.
Kapila Uma; (ed) Indian Economy Since Independence, 2003 Academic Foundation New Delhi
Baidyanath Prasath Singh : Indian Economy Today Changing Contours; 2005, Deep and Deep Publications, New Delhi
Surjit Singh, S S Acharya, Vidya Sagar – Sustainable Agricultural Poverty and Food Securities, 2002 Rawat Publication , Jaipur Vol- I & II •
Singh, Ajit and Hamid Tabatabai – Economic crisis and Third world Agriculture, Cambridge University Press, 1993.
Ashok Gulati & Tin Kelley – Trade Liberalization of Indian Agriculture, Oxford University press, 2000.
C.S. Prasad – Sixty years of Indian Agriculture , 2006, New Delhi
P S Hansra G Perumal and K Chandrakandan – Modernization of Indian Agriculture in 21st century challenges, opportunity and strategies, Concept Publication Co. New Delhi, 2001
Norten, George W – The Introduction to Economics of Agricultural Development McGraw Hill Co. Publication, New Delhi, 1993

JOURNALS
Working papers of IGIDR
Indian Institute of Foreign Trade (WTO studies)
 World Bank
TARINA (https://tarina.tci.cornell.edu/)
IFPRI

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: **Total Marks: 50**
Seminars/Field trips/Group discussion/Case studies

No End-Semester Examination:
Submission of a Term Paper with the paper related research study.
Topic to be approved by the course teacher.
Total marks 100 (to be reduced to 50 marks)

Guidelines for Evaluation:

Style, format and neatness in presentation   10
Methodology: Database/Data Source, Variable description, Sampling techniques, Tools of
analysis   10
Review of Relevant Literature/background   10
          of the study
Presentation of the Research problem, Objectives, Hypothesis,
Significance of the study   10

Creativity, analysis, reasoning, and conclusion   20
Project (Total marks)   60
Viva Voce   30
Research-in-Progress (Planning, Presentation & Execution) 10
Total   100
Evaluation of the Term Paper Presentation and viva voce to be done by a panel of examiners
consisting of the external examiner, and the course teacher.
Evaluation of the Term Paper to be done by the course teacher and an external examiner from
MSSRF

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A.DEGREE: BRANCH III-ECONOMICS

SYLLABUS

(Effective from the academic year 2019-2020**)**

ECONOMICS OF EDUCATION AND HEALTH

CODE:19EC/PE/EH15   **CREDITS:5**
                                                                 L T P:5 0 0
                                                   TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To highlight the individual choices in the demand for health and education
- To identify the factors which promote human capital formation
- To analyse critically the policy issues of education and health

COURSE LEARNING OUTCOMES

On Successful completion of the course, students will be able to
- helps to gain skill and knowledge to work as a health economist
- design, analyse and interpret economic evaluation research
- integrate theoretical input with practical knowledge
- ability to understand the significance of the contribution of human capital formation to the economy
- prepare students to be competent in the labour market

Unit   1
   Introduction   **(12 Hours)**
   1.1 Importance, scope of Education and health in Human Development
   1.2 Indicators of Education
   1.3 Indicators of the provision of the health care
   1.4 Education, health and its impact on Economic Development- Denison
   1.5 Education as an investment – Schultz
   1.6 Development of indicators for monitoring progress for education and health
       With respect to other countries.

Unit   2
   Education   **(15 Hours)**
   2.1 Approaches to Education –Human Capital, Screening Signalling Hypothesis
   2.2 Determinants of investment in education – private and public investment –role of
       the government
   2.3 Rate of return- Mincer ,Blaug, - Private and Social returns
   2.4 Financing Education –User Fee, Voucher, Loans

Unit   3
   Education – Issues and Policies   **(13 Hours)**
   3.1 Challenges in Education –Issues pertaining to expanding equity efficiency and
       inclusion
   3.2 Education Policy in India- SSA, RTE, RMSA, RUSA
   3.3 Country specific studies with respect to education

Unit 4
Health (15 Hours)
4.1 Role of Health in Economic development
4.2 Determinants of Health
4.3 Market Failure, Externalities
4.4 Health Care Services –Role of Private and Public Sector
4.5 Health care financing and Health insurance
4.6 Health policy in India – National Health Policy 2002, NRHM, NUHM, Ayushman Bharat scheme, NFHS

Unit 5
Other Dimensions of education and health (10 Hours)
5.1 Skill Development and training –Becker –On the Job Training Model
5.2 Public Choice Perspective -Human Development Paradigm and Capability approach. Mahbub –ul-Haq and Sen
5.3 Quality of human capital and labour productivity
5.4 International health care systems and Alternative Designs
5.5 Women and Health

BOOKS FOR STUDY
Peter Zweifel, Friedrich, Health Economics Springer – verlag, Oxford University, 1997
Chattopadhyay. Saumen. *Education in Economics –Disciplinary Evolution and Policy Discourse*, New Delhi: Oxford University Press, 2012.
Development of indicators for monitoring progress towards Health for all the year 2000, WHO 1981

BOOKS FOR REFERENCE
Anthony J. Culyer, Joseph P, *Hand book of Health Economics*, Volume: 1A, Holland, Elsevier, 2001
McPake, Barbara & Charles. Normand. *Health Economics –An International Perspective*. London: Routledge. 2006.
Basu. Kaushik.(Ed). *The Oxford Companion to Economics in India*. New Delhi: Oxford University Press, 2007.
Borjas. J. George. *Labour Economics*. New York: McGraw Hill – Irwin,2005.
Fukuda, Parr and Shivakumar. A.K. (Ed), *Readings in Human Development.* New Delhi: Oxford University Press, 2005.
Gerald, Meier and James. E. Rauch. *Leading Issues in Economic Development,* New Delhi: Oxford University Press, 2005.
Glewwe, Paul, *Education Policy in Developing Countries* (ed.) University of Chicago: Chicago Press, 2013.
Hanushek, Eric & Finis. Welch. *Handbook of the Economics of Education, Vol. & 2.* Melbourne: Elsevier,2006.

JOURNALS
Education for All
Human Resource Development Review
WHO Report
Economic Survey
Social Development Report
NFHS Report

PATTERN OF ASSESSMENT

| **Continuous Assessment Test:** | **Total Marks: 50** | **Duration: 90 minutes** |

Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

| **Other Components:** | **Total Marks: 50** |

Seminars/Group discussion/Case studies/Article review

No End-Semester Examination:
Submission of a Term Paper with the paper related research study. Topic to be approved by the course teacher and should be guided by the course teacher.
Total marks 100 (to be reduced to 50 marks)

Guidelines for Evaluation:

Style, format and neatness in presentation	10
Methodology: Database/Data Source, Variable description, Sampling techniques, Tools of analysis	10
Review of Relevant Literature/background of the study	10
Presentation of the Research problem, Objectives, Hypothesis, Significance of the study	10
Creativity, analysis, reasoning, and conclusion	20
Project (Total marks)	60
Viva Voce	30
Research-in-Progress (Planning, Presentation & Execution)	10
Total	100

Evaluation of the Term Paper Presentation and viva voce to be done by a panel of examiners consisting of the external examiner, and the course teacher.

Evaluation of the Term Paper to be done by the course teacher and an external examiner from the department

STELLAMARISCOLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A DEGREE: BRANCH III –ECONOMICS

SYLLABUS

(Effective from the academic year 2019-2020)

INDUSTRIAL ECONOMICS

CODE:19EC/PE/ID15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To understand the ways in which economics forces operate within the industrial sectors
- To assess whether markets are competitive and how to measure the extent of competition in markets

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- Knowledge of the evolution of Industrial economics and different schools of thought.
- Understanding of various forms of competitions and rivalry between firms in the industrial sector.
- Predict the behaviour of the firms in the modern economy
- Apply the theoretical models to address key issues in mergers and acquisitions
- Apply the theoretical models to address key in competition, entry barriers and research and development

Unit   1
   Introduction   **(10 Hours)**
   1.1 Scope and Objectives of Industrial Economics
   1.2 The simple structure – Conduct – Performance model
   1.3 Criticisms of the SCP model
   1.4 Alternative schools of thought

Unit   2
   Market Concentration   **(15 Hours)**
   2.1 Nature and measurement of market concentration
   2.2 Indices of concentration
   2.3 Inequality measures
   2.4 Theories of measurement: Deterministic and stochastic approaches

Unit   3
   Barriers to Entry   **(12 Hours)**
   3.1 Concepts to barriers to entry by Bains, Stigler
   3.2 Sources to Barriers to Entry
   3.3 Limit Pricing Theory
   3.4 Strategic Entry Deterrence

Unit 4

Vertical Integration Conglomerate Diversification and Mergers   (13 Hours)
4.1 Conglomerate Diversification: Concepts, measures, determinants and consequences of diversification, mergers, FDI
4.2 Vertical integration: Nature and Extent of Vertical integration, theories of vertical integration, monopolistic motives for integration

Unit 5

Technical Progress & Performance   (15 Hours)
5.1 Economics of Research
5.2 Market structure and incentive to invent
5.3 Concepts by Arrow & Schumpeter
5.4 Concepts of Profit Margin
5.5 Productivity and Technical Efficiency
.

BOOK FOR STUDY
Roger. Clark, *Industrial Economics.* New York: Blackwell Publishers, 2013.

BOOKS FOR REFERENCE
P. J. Devine, R.M Jones, N.Lee, W.J Tyson, *An Introduction to Industrial Economics.* Chicago: Minera Series 26. George Allen and Unwin, 2001.
Stephen. Marlin. *Advanced Industrial Economics.* New York: Blackwell Publishers, 2011.

JOURNALS
International Journal of Industrial Organization
Journal of Industrial Economics

WEB RESOURCES
http://www.kevinhinde.com/EuropeanIndustry/EC455lecture1.pdf
https://www.e-elgar.co.uk/PDFs/WebCats/IndustrialeconomicsUK.pdf
http://ecommons.library.cornell.edu/handle/1813/3878

PATTERN OF ASSESSMENT
Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: Total Marks: 50
Seminars/Quiz/Open book tests/Group discussion/Assignments/Problem solving/Case studies

End-Semester Examination: Total Marks: 100   Duration: 3 hours
Section A – 5x 8 = 40 marks (Answer any 5 out of 7 questions in 300 words each)
Section B – 3x 20= 40 marks (Answer any 3 out of 5 questions in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH III - ECONOMICS

SYLLABUS

(Effective from the academic year 2019-2020**)**

ECONOMIC THOUGHT

CODE:19EC/PE/ET15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To investigate various perspectives that have influenced economic thought in different periods and places
- To provide an understanding of the development of mainstream economic theory
- To acquaint students with the creation and evolution of alternative schools of economic thought

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
- conceptualise the evolution of economic ideas
- identify the ideology of different schools of thought
- capable of Critical thinking
- Involve in a contextual analysis of theories and its relevance
- Acquire writing and Presentation Skills
- engage in academic exercises and present ideas in a concurrent manner

Unit   1   **(7 Hours)**
   Pre-Classical Thought
   1.1 Greek Political Philosophy – Plato and Aristotle
   1.2 Scholasticism – Thomas Acquinas
   1.3 Enlightenment Political Philosophy – William Petty, Hobbes and Locke
   1.4 The English Mercantilists – Thomas Mun
   1.5 The French Physiocrats – Francois Quesnay

Unit   2   **(16 Hours)**
   Classical Economics
   2.1 Adam Smith
   2.2 Thomas Malthus
   2.3 David Ricardo
   2.4 Jeremy Bentham
   2.5 John Stuart Mill

Unit   3   **(16 Hours)**
   Alternative schools of Thought
   3.1 Scientific Socialism – Karl Marx
   3.2 Institutionalism – T.B. Veblen
   3.3 German historical School – older and Younger School
   3.4 Under employment equilibrium – J.M. Keynes
   3.5 Ahimsa Economy – M.K. Gandhi

Unit   4   **(16 Hours)**
       Modern Economics
       4.1 Marginalism
           4.1.1 English School – W. Stanley Jevons
           4.1.2 Austrian School – Carl Menger, Bohm-Bawerk
           4.1.3 Laussane School – Leon Walras, V. Pareto
       4.2 Neoclassical Economics
           4.2.1 Alfred Marshall
           4.2.2 J.B. Clark
       4.3 Welfare Economics – Arrow – Rawls- Amartya Sen

Unit   5   **(10 Hours)**
       Nobel Laureates in Economics **
       http://nobelprize.org
       ** This unit is for internal assessment only.

BOOKS FOR STUDY
Gide, C and Rist, C., A History of Economic Doctrines, George G. Harrp and Co., Ltd., London, 1960.
Roll Eric, A History of Economic Thought, Faber Paperback, London, 1992.

BOOKS FOR REFERENCE
Blaug Mark, Economic History and The History of Economics, Wheatsheaf Books Ltd., Sussex, 1986.
Dasgupta Ajit, A History of Indian Economic Thought, Routledge, London, 1993.
Deane Phyllis, The Evolution of Economic Ideas, Cambridge University Press, London, 1978.
Helibroner, Robert L., The Worldly Philosophers, Touchstone Book, Simon and Schuster, 1999 Paperback 7th Edition.
Schumpeter, J.A. History of Economic Analysis, Allen Unwin Co., Ltd., London, 1996, Paperback.
Seligman B., Main Current trends in Modern Economics, The Press of Glencoe, New York, 1963.

JOURNALS
Journal of the History of Economic Thought
The European Journal of the History of Economic Thought

WEB RESOURCES
https://www.etcases.com/media/clnews/14214979671707593998.pdf
http://digamo.free.fr/backhaus122.pdf
http://modernecon.org/wp-content/uploads/2012/12/history-of-thought-Final-print-book-3.pdf
http://cobe.boisestate.edu/lreynol/WEB/PDF_HET/CHAPTER1INTRO.pdf
http://mises.org/sites/default/files/Austrian%20Perspective%20on%20the%20History%20of%20Economic%20Thought_Vol_2_2.pdf
http://economics.uwo.ca/people/laidler_docs/theroleof.pdf
http://is.vsfs.cz/el/6410/zima2013/BA_ETD/um/4176060/-An-Outline-of-the-History-of-Economic-Thought-Screpanti-and-Zamagni-Oxford-2005-2nd-Ed.pdf

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 x 10 = 30 marks (Answer any 3 out of 5 questions in 300 words each)
Section B – 1 x 20 = 20 marks (Answer any 1 out of 2 questions in 1200 words)

Other Components: **Total Marks: 50**
Seminars/Quiz/Assignments/Problem solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 5 x 8 = 40 (Answer any 5 questions out of 7 in 300 words)
Section B – 3 x 20 = 60 (Answer any 3 out of 5 questions in 1200 words)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

**Postgraduate Elective Course offered by the Department of Economics to
M.A / M.Sc. Degree Programme**

SYLLABUS
(Effective from the academic year 2019-2020**)**

CONTEMPORARY ECONOMIC ISSUES

CODE:19EC/PE/CI23   **CREDITS:3**
L T P:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To understand concepts in Economics and thereby enable a comprehensive application of such concepts in the current economic scenario
- To help grasp the various nuances that connect with Economics per se, and in that way identify the causes for the various economic issues of the present day

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
- understanding of the working of various Economic systems.
- employ economic theory, to provide an original analysis of current or historical events, to analyze social problems.
- understanding of basic concepts in Public and International Economics
- understanding of economic problems specifically poverty and unemployment insight into trade cycles

Unit   1
Introduction: The Ideology within Economics   (8 Hours)
1.1 A brief overview of the concept of economic systems –Capitalism, Socialism, Mixed – Gandhian Model
1.2 The trend in economic ideologies over the years: free market laissez faire – capitalism to planned development –role of the government –to liberalization and globalization
1.3 Problems of development with special reference to India –economic and non-economic

Unit   2
Poverty and Economic Inequality   (8 Hours)
2.1 Meaning of poverty –measures and magnitude–basic measures of poverty
2.2 Development as freedom- Amartya Sen's Capability Approach.
2.3 Unemployment –types and the current scenario

Unit   3
Political Economy and Role of the Government   (9 Hours)
3.1 Market Failure and Need for Government -Public versus private goods and Externalities

3.2 Basic Concepts of federalism – Cooperative Federalism, Competitive Federalism, Asymmetric Federalism and market Preserving Federalism.

3.3 Fiscal budgetary developments- Preparation, Enactment, Execution and Parliamentary control over finance

3.4 An analysis of the recent Indian central government Budget.

Unit 4

International Trends and Issues (8 Hours)

4.1 Free trade versus protection –tariffs and non-tariff barriers

4.2 Globalisation and Anti-Globalisation

4.3 A brief overview of GATT and WTO –TRIPS,TRIMS,AOA, Sanitary And Phyotsanitary Measures

Unit 5

Business Cycles and Inflation (6 Hours)

5.1 Business Cycles – Types, Phases,Causes and Effects

5.2 Inflation – Types,Causes and Effects

5.3 Methods to control Inflation

5.4 Application – Choose a country and any major issue and study its impact on its economic growth.

BOOKS FOR STUDY

Boadway. R, Shah. A, *Fiscal Federalism, Principles and Practice of Multiorder Governance,* Cambridge University Press, England, 2009

Datt and Sundaram. *Indian Economy*, New Delhi: S. Chand, 2007.

Carbaugh. R.J. *International Economics.* UK: Cenage Learning, 2008.

Michael. P.Todaro. *Economic Development.* U.S.A. and London: Longman, 1995.

Tyagi. B.P., *Public Finance*, 5th edition, Jai Prakash Nath Publications, New Delhi, 2013

Jhingan.M.L., *Macroeconomic Theory*, 13th Edition, Vrinda Publications Ltd, New Delhi, 2013

BOOKS FOR REFERENCE

Agarwal. B. J. Humphries & I. Robeyns (Eds.).*Capabilities Freedom & Equality*. New Delhi: Oxford University Press, 2006.

Browning. E.K. *Public Finance and the Price System*. New Delhi:Pearson, 1994.

Cherunilam, Francis. International Economics, New Delhi: Tata McGraw Hill, 2012

Cullenberg S. &P. K. Patnaik (ed.). *Globalization, Culture, and the Limits of the Market – Essays in Economics and Philosophy.* New Delhi: Oxford University Press, 2004.

Das Gupta S. & Ray Kiely (eds.). *Globalization and After*. New Delhi: Sage,2006.

Dhingra. I.C.*The Indian Economy Environment and Policy.* New Delhi:Sultan Chand, 2007.

Enders, W. & T. Sandler.*The Political Economy of Terrorism*. New York: Cambridge University Press,2006.

Jogdand, P.G. & S. M. Michael. (Eds.). *Globalization and Social Movements*, New Delhi:Rawat, 2003.

Pirages, Dennis & K. Cousins. (Eds.).*From Research Scarcity to Ecological Security,* New Delhi: Oxford University Press, 2008.

Rodrik. Dani. The Globalization Paradox, United Kingdom: Oxford University Press, 2011.

Sen. Amartya. *Development as Freedom*. New Delhi: Oxford University Press,2000.

Sen. Amartya. *Identity & Violence.* New Delhi:Penguin Books, 2006.

Shah. P. J,*Morality and Markets.* New Delhi: Academic Foundations, 2004.

Steger. M. B., *Globalization: The New Market Ideology.* New Delhi:Rawat Publications, 2004.

Uma. Kapila (Ed.). *Indian Economy Since Independence.* New Delhi:Academic Foundation, 2006 – 07.

JOURNALS

Economic and Political Weekly

International Journal of Sustainable Development & World Ecology

Journal of Social and Development studies

The Economist

International Journal of Human Resource Development and Management

WEB RESOURCES

http://www.in.undp.org/

www.imf.org

www.worldbank.org

www.wto.org

www.unctad.org

www.un.org

www.rbi.org.in

http://mhrd.gov.in/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**

Section A – 3 x 10 = 30 marks (3 out of 5 questions to be answered in 300 words each)

Section B – 1 x 20 = 20 marks (1 out of 2 questions to be answered in 1200 words)

Other Components: **Total Marks: 50**

Seminars/Quiz/Open book tests/Group discussion/Assignments/Problem solving/Case studies

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**

Section A– 5 x 8 = 40 marks (5 out of 7 questions to be answered in 300 words each)

Section B– 3 x 20=60 marks (3 out of 5 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

**Postgraduate Elective Course offered by the Department of Economics to
M.A / M.Sc. Degree Programme**

SYLLABUS
(Effective from the academic year 2019-2020)

INTRODUCTION TO ECONOMICS

CODE:19EC/PE/IE23   **CREDITS:3**
                                                               LTP:3 0 0
                                          TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To introduce the students to different fields of economics
- To give the students a basic understanding of the working of economy

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- discuss critically key issues in economics informed by recent research
- demonstrate a familiarity with a range of policy issues
- familiar with recent trends in the economy.
- identify the tools require to solve economic issues
- overall understanding of how the economy works

Unit   1
Microeconomics   **(7 Hours)**
1.1 Definition Economics - Demand , Supply and Equilibrium in Market
1.2 Cost and Revenue - Concepts
1.3 Pricing Methods - Concepts

Unit   2
National Income   **(8 Hours)**
2.1 National Income - Concepts
2.2 Measurement and Difficulties in Calculating

Unit   3
Fiscal   **(7 Hours)**
3.1 Taxation- Different types of taxes - Concepts
3.2 GST - An Overview

Unit   4
International Trade   **(8 Hours)**
4.1 Foreign trade - Concepts and Structure - BOP, BOT- BOP Balance Sheet-
    Overview
4.2 Disequilibrium - Measures to correct BOP - Concepts

Unit   5
  Economics Issues Overview   **(9 Hours)**
  5.1 Poverty & Inequalities
  5.2 Unemployment
  5.3 Inflation
  5.4 Economic Growth

BOOKS FOR STUDY

Dewett,K K & M H Navalur, Modern Economic Theory, New Delhi, S. Chand, 2006
Datt, Gaurav , Ashwani Mahajan; Indian Economy,New Delhi, S Chand & Co. Ltd., 2018

BOOKS FOR REFERENCE

Mankiw, Gregory N, Macroeconomics, Worth Publishers, New York, 2016
Ahuja H L, Introduction to Economics, New Delhi, S Chand , 2012
Samuelson Paul, William D Nordhaus; Economics, New York McGraw Hill, 2009

WEB RESOURCES

www.rbi.org
www.cso.org

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 x 10 = 30 marks (3 out of 5 questions to be answered in 300 words each)
Section B – 1 x 20 = 20 marks (1 out of 2 questions to be answered in 1200 words)

Other Components: **Total Marks: 50**
Seminars/Quiz/Group discussion/Assignments/Case studies

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A– 5 x 8 = 40 marks (5 out of 7 questions to be answered in 300 words each)
Section B– 3 x 20=60 marks (3 out of 5 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

Postgraduate Elective Course offered by the Department of Economics to M.A / M.Sc. Degree Programme

SYLLABUS
(Effective from the academic year 2019-2020)

ECONOMICS FOR BUSINESS AND MARKETING

CODE:19EC/PE/EB23   **CREDITS:3**
                                                    L T P:3 0 0
                                      TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To analyse the overall objectives of an organization
- To understand the use of appropriate strategies for the achievement of this objective

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- Understand the fundamental marketing concepts
- Understand the role of marketing as a fundamental organizational policy process
- Apply the knowledge, concept, tools necessary to understand challenges and issues of marketing in a growing international and global context.
- Integrate theory with marketing practices
- Gain knowledge on the relevant strategies required in achieving the objectives

Unit 1
Structure and Growth of an Organization   **(8 Hours)**
1.1 Objectives of a Business Organization –Profit, Growth, Sales, Utility Maximization
1.2 Definition and Element of Organizational Structure
1.3 Common Organizational Designs –Traditional and Modern

Unit 2
Product and Service: Growth and Development   **(8 Hours)**
2.1 Product and Services - Concept, Types and Features - Product Line and Product Mix Decisions
2.2 New Product Development Strategy and Product life Cycle Strategy

Unit 3
Pricing   **(7 Hours)**
3.1 Pricing - Objectives and Types
3.2 Methods and Strategies

Unit 4
Marketing Channels and Supply Chains Management   **(8 Hours)**
4.1 Channel Behaviour and Organization
4.2 Supply Chain Management

Unit 5

Advertising, Sales Promotion and Public Relations (8 Hours)
   5.1 Advertising- Objectives, Advertising Budget, Developing and   Evaluating
       Advertising Strategy
   5.2 Sales Promotion - Objectives, Major Sales Promotion Tools; Public Relations

BOOKS FOR STUDY
Kotler. Philip, *Principles of Marketing*. New Delhi: Prentice Hall of India. 2010.
Stephen. Robbins P, *Essentials of Organizational Behaviour*. New Jersey: Prentice Hall.
1986.

BOOKS FOR REFERENCE
Davis,Keith, and NewstromW.John, *Human Behaviour at Work, Organizational Behaviour*.
New Delhi: Tata McGraw Hill. 2006
Stanton, William J; Fundamentals of Marketing, US, McGraw Hill, 1987
Kotler, and Armstrong, *Principles of Marketing*. New Delhi: Prentice Hall of India. 2004.
Prasad. L.M., *Human Resource Management*. New Delhi: Sultan Chand. 2005.
Tripathi. P.C., H*uman Resource Development*. New Delhi: Sultan Chand. 2010.

JOURNALS
Quantitative Marketing and Economics
Journal of Economics and Business

WEB RESOURCES
http://www.behavioraleconomics.com/BEGuide2014.pdf
http://dash.harvard.edu/bitstream/handle/1/2962609/behavioral%20economics%20and%20m
arketing.pdf?sequence=2

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 3 x 10 = 30 marks (3 out of 5 questions to be answered in 300 words each)
Section B – 1 x 20 = 20 marks (1 out of 2 questions to be answered in 1200 words)

Other Components: **Total Marks: 50**
Seminars/Quiz/Open book tests/Group discussion/Assignments/Case studies

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A– 5 x 8 = 40 marks (5 out of 7 questions to be answered in 300 words each)
Section B– 3 x 20=60 marks (3 out of 5 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

**Postgraduate Elective Course offered by the Department of Economics to
M.A / M.Sc. Degree Programme**

SYLLABUS
(Effective from the academic year 2019–2020)

INTRODUCTION TO DATA ANALYTICS

CODE:19EC/PE/DA23   **CREDITS:3**
                                                                 L T P:0 0 3
                                              TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- Emphasis on problem based learning and focus on how to use the software to conduct statistical analysis of data
- To introduce some of the statistical and econometric techniques that are widely used in empirical studies
- To teach students how to apply relevant econometric methods to analyse data and interpret the results from such analysis
- To understand the implications and relevance of these tools required to formulate simple models

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
- Will provide skills to describe, interpret, explore and analyse data
- Knowledge of the statistical and econometric techniques that are widely used in empirical studies in economics
- how to apply relevant econometric methods to analyse data and interpret the results from such analysis
- understand the significance and relevance of the tools required to formulate simple models
- undertake simple scientific research

Unit   1   **(2 Hours)**
Introduction to data analytics
1.1 Importance of data analytics in scientific research

Unit   2   **(7 Hours)**
Descriptive Statistics:
2.1 Grouping data: Frequency distributions
2.2 Summary statistics – Mean, median, mode, standard deviation, variance, Skewness
2.3 Diagrammatic presentation of data.

Unit   3   **(8 Hours)**
Linear Relationship
Correlation and Regression analysis
3.1 Estimating correlation and regression coefficients
3.2 Testing the significance of correlation and regression coefficients: Test of significance and confidence interval approach

Unit 4   **(7 Hours)**

Non-linear Relationship

4.1 Estimating non-linear regression models: Double-log, Semi-log

4.2 Simple regression models using dummy variables

Unit 5   **(15 Hours)**

Inferential Statistics:

4.1 Introduction to hypothesis-testing

4.2 Large sample tests

4.3 Small sample tests

BOOKS FOR STUDY

Nargundkar Rajendra, <u>Marketing Research-Text and Cases</u>, 2nd edition, Tata McGraw-Hill Publishing Company Limited, New Delhi, 2004.

SPSS Manual

End-Semester Examination (Only Practical)

Total Marks: 100   **Duration: 3 hours**

Answer any TEN questions out of 13 questions. (10 * 10 = 100)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH III-ECONOMICS

SYLLABUS

(Effective from the academic year 2019-2020)

FINANCIAL INSTITUTIONS AND MARKETS IN INDIA

CODE:19EC/PI/FI24   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To familiarize the students with the knowledge of the Indian Financial System.
- To acquaint the students on the Indian financial institutions and markets and the role played by the same on the financial system

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to
- Understand the functioning of the Indian Financial system
- Describe the role of various financial and non-financial institutions in India
- Recognise the role of various regulatory bodies in regulating the financial institutions in India.
- Analyse the features of different money market and capital market instruments in India.
- Basic knowledge about the foreign exchange market.

Unit   1
   Introduction
   1.1 The Indian Financial system: An Overview
   1.2 Structure and Growth of Financial System
   1.3 Functions of the financial system
   1.4 Indian financial system pre and post liberalization

Unit   2
   Financial Institutions
   2.1 Commercial Banks: Growth and role played –Nationalization –Management of assets and liabilities –Lending policies –Recent reforms in banking sector
   2.2 Development Banks: Overview –Growth and functions –Source of funds – Performance of IDBI, ICICI, IFCI, SFC, SIDBI, SIDCs
   2.3 Non Banking Financial Institutions: Overview –growth and functions –reforms in NBFl's – performance of Insurance companies investment banks –Mutual Funds and Pension Funds
   2.4 Regulatory mechanism and statutory authorities in financial markets: RBI and SEBI –Role played by them

Unit   3
   Financial Markets
   3.1 Indian Financial Markets: Structure role and growth
   3.2 Money market: Definition –Role and Function –Source of funds –Instruments of the money market, call money, treasury bills, term money, certificate of deposit, commercial papers

3.3 Capital market: Definition –Role and functions –source of funds – primary market- secondary market

Unit 4

Foreign Exchange Market

4.1 Exchange rates – Fixed and flexible –determination of exchange rates

4.2 Foreign exchange markets – Cash and sport markets –exchange rate quotas – LERMS

4.3 Nature of Forex markets –Forex inflow and outflow –factors affecting forex market

4.4 RBI and Exchange management

Unit 5

Financial Derivatives

5.1 Financial Derivatives –Need for derivatives –types of derivatives

5.2 Options Market –Definition –difference between future and option contracts

5.3 Interest rate derivative markets

5.4 Foreign exchange derivative markets
.

BOOKS FOR STUDY

Meir Kohn, *Financial Institutions and Market*, New Delhi: Tata McGraw Hill 2013

Chandra, P. *Financial management: Theory and practice.* New Delhi: Tata McGraw-Hill Education. 2017.

BOOKS FOR REFERENCE

Das, S. C. *The financial system in India: Markets, instruments, institutions, services and regulations.* New Delhi: PHI Learning, 2015.

Bhole L.M *Indian Financial Institution and Markets*, New Delhi: Tata McGraw Hill 2002

Khan M.Y. *Indian Financial System*, 4th edition, New Delhi: Tata McGraw Hill 2004

Mishkin Frederic and Stanley G Eakins *Financial Markets and Institution,* 4th edition New York: Addison Wesley2003

Pathak Bharathi.V, The *Indian Financial System Markets Institutions and Services*, 2nd edition, New Delhi: Pearson Education India 2007

PATTERN OF ASSESSMENT

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**

Section A– 5 x 8 = 40 marks (5 out of 7 questions to be answered in 300 words each)

Section B– 3 x 20=60 marks (3 out of 5 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A. DEGREE: BRANCH III –ECONOMICS

SYLLABUS
(Effective from the academic year 2019-2020)

GENDER ECONOMICS

CODE:19EC/PI/GE24   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To sensitize students on issues relating to gender
- To identify the marginalization of women in economic theory
- To enable them to study and analyze economic theories with the gender lens

COURSE LEARNING OUTCOMES
On Successful completion of the course, students will be able to

- understand and critically evaluate the philosophical underpinnings of gender economics
- help students to unlearn the basis of economic theorising
- help them understand the reality of incorporating gender as an axis of study in economic theory and in economics
- equip the students to deconstruct and reconstruct economic theories and the applications thereof, to make economics more relevant and inclusive
- enable students to write the term paper
- understand patriarchy

Unit   1
   Gender: An Introduction
   1.1 Gender–Gender as a category of analysis –Julie A. Nelson's analysis of gender
   1.2 Patriarchy –Patriarchy and Gender
   1.3 The need for Economics from a feminist perspective- Gender in Economics

Unit   2
   A Critique of Methods, Concepts and Philosophies
   2.1 Classical Economics – Positivism -A critique of Cartesian Binary
        Epistemology within the subject of Economics
   2.2 Neoclassical Economics – A Critique of Neo Classical Economics –
        Michele Pujol
   2.3 Post-Keynesian Economics –A comparison between Feminist
        Epistemology and the post Keynesian methodology –Lee B.Levin
   2.4 Marxist Economics –Marxist Feminism –Frederich Engels –Margaret
        Benston –Maira Rosa Della Costa –Barbara Bergmann
   2.5 An Empirical Challenge of Feminist Economics – The Use of Stand point
        Epistemology – Sandra Harding. Use of Vignettes as a Qualitative tool

Unit 3

Gender, Work, and Family

3.1 Themes of the Family: A Critique from a Feminist point of view

3.2 Debates on household labour –Gary Becker –Division of Work within Family, Discrimination Theory, NotburgaOtt –Division of Work, Asa Rosen –Discrimination Model

3.3 Sexual Division of labour and labour market stereotypes – pink collar – glass ceiling – glass cliff – glass escalator

Unit 4

Economic Development: A Gender Perspective

4.1 Women in Development (WID), Women and Development (WAD) and Gender and Development (GAD)

4.2 Women and the environment – Women, Environment and Development (WED)

4.3 Ecofeminism – concept and recent trends

Unit 5

Work, Poverty and Globalization

5.1 Poverty and Gender –Women workers in the organized and unorganized sectors –Informalization of work –Feminization of work -Feminization of poverty

5.2 Impact of Liberalization, Privatization and Globalization on women   5.3 Gender and policy implications

5.4 Women: Invisible workers and visible work –Statistical Purdah

5.5 Conceptualization of women's work: A critique of data system

5.6 Official and International Agency –reports on Women's Status in India

BOOKS FOR STUDY

Julie. A.Nelson. *Feminism*, *Objectivity and Economics*. London: Routledge, 1996.

Kuiper, Edith and Jolande.Sap. (Eds.)*Out of Margin: Feminist Perspectives on Economics*. London: Routledge,1995.

BOOKS FOR REFERENCE

Barker, Drucilla and Susan.Feiner."Economics She Wrote" Ch. 1. in*Barker and FeinerLiberating Economics: Feminist Perspectives on Families, Work, and Globalization.*Ann Arbor: University of Michigan Press, 2004.

Bhasin Kamala, *Patriarchy*, New Delhi: Kali for Women, 2006.

Geske, Dijkstra and Janneke.Plantenga.*Gender and Economics.* London: Routledge,1993.

Caroline.O.N. Moser. (1993). *Gender, Planning and Development: Theory, Practice and Training*, London: Routledge, 1993.

Custer. Peter.*Capital Accumulation and Women's Labour in Asian Economics*. New Delhi: Vistar, 1997

John. Florence. (Ed.) *Gender Matters.* Chennai: Semmoodhai, 2013.

Krishnaraj,Maithreyi and Joy. P.Deshmukh. *Gender in Economics.*New Delhi: Ajantha,1991.

Loutfi, M.F. (ed.), *Women, Gender and Work*. New Delhi: Rawat, 2002.

Sanjari, Kumkum and Uma.Chakravarthi.*From Myths to Markets: Essays on Gender*. New Delhi: Manohar, 1999.

Uma, Narayan and Sandra. Harding. Eds. *Decentering the Center: Philosophy for a Multicultural, Postcolonial, and Feminist World.*Bloomington: Indiana University Press, 2000.

JOURNALS
British Journal of Management
Feminist Economics
Gender Studies
Review of Social Economy
Special Issue of Signs

REPORTS
Shram Shakti, Report on the Unorganized Sector, New Delhi, 1987

WEB RESOURCES
https://books.google.co.in/books?id=hUOGlDTtqroC&pg=PA222&lpg=PA222&dq=Over+view+of+gender+economics+philosophies&source=bl&ots=cigmY6OUVt&sig=bZus0DwAqLCEJeg2jJHGhrB3ozA&hl=en&sa=X&ei=Me_WVl7lKI2TuASxrIIY&ved=0CEQQ6AEwBg#v=onepage&q=Over%20view%20of%20gender%20economics%20philosophies&f=false
http://www.tlrp.org/rcbn/capacity/Journal/issue3.pdf
http://socpro.oxfordjournals.org/content/39/3/253.abstract
http://www.inc.com/larry-kim/after-shattering-glass-ceiling-female-ceos-fall-off-the-glass-cliff.html

PATTERN OF ASSESSMENT
End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A– 5 x 8 = 40 marks (5 out of 7 questions to be answered in 300 words each)
Section B– 3 x 20=60 marks (3 out of 5 questions to be answered in 1200 words each)

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

DEPARTMENT OF ENGLISH

PROGRAMME DESCRIPTION

The Master's Programme in English aims to expose students to a range of literatures written in or translated into English. The Programme strikes a balance between traditional courses such as British, American, and Indian literatures and theoretical and concept-based courses such as Critical theory, Gender Studies, and Postcolonial Studies. These courses acquaint students with various conceptual frameworks and equip them with tools for analysis and interpretation of texts. Other concept-based courses such as Literature and Subalternity sensitise students to marginalised narratives and voices. The programme also offers the students the opportunity to explore the interrelations of text, theory, and culture across the field of literary studies, and to develop their knowledge and understanding of critical and research methods through research undertaken for presentations, assignments and term papers. Courses such as Literature and Mysticism, and Literature and Ecology enable students to celebrate polyphonic voices, and to engage ethically with the world around them. The Elective courses offered by the Department aim to equip students with skills leading to employability in areas such as English Language Teaching, Creative Writing, and Technical Writing.

PROGRAMME SPECIFIC LEARNING OUTCOMES

On successful completion of the MA programme, students will be able to:

- demonstrate knowledge of major periods, authors and theories
- demonstrate advanced research and academic writing
- demonstrate argumentative skills which enable students to defend interpretations and research practices by using textual material, secondary sources and literary theory
- appreciate literary theory and analyse and interpret a variety of texts
- respond empathetically to marginalised voices and narratives
- engage meaningfully with the contemporary socio-political environment
- relate sensitively and ethically to the human and non-human environment around them
- employ their skills in the professions of English language teaching, technical writing, creative writing and writing for different media.
- Appreciate literary canons and effectively critique them

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A. DEGREE : BRANCH VII-ENGLISH

COURSES OF STUDY

(Effective from the academic year 2019-2020)

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
SEMESTER-I									
19EL/PC/LB14	Literature of the British Isles – I	4	4	1	0	3	50	50	100
19EL/PC/AL14	American Literature: Modernism and After	4	4	1	0	3	50	50	100
19EL/PC/LS14	Literature and Subalternity	4	4	1	0	3	50	50	100
19EL/PC/GS14	Gender Studies	4	4	1	0	3	50	50	100
	SAP / SL	2	2	0	0	-	50	-	100
	Department Elective I								
SEMESTER-II									
19EL/PC/LB24	Literature of the British Isles – II	4	4	1	0	3	50	50	100
19EL/PC/LM24	Literature and Mysticism	4	4	1	0	3	50	50	100
19EL/PC/CT24	Contemporary Critical Theory – I	4	4	1	0	3	50	50	100
19EL/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
	Department Elective II								
	Common Elective I								
SEMESTER-III									
19EL/PC/PC34	Postcolonial Studies	4	4	1	0	3	50	50	100
19EL/PC/LE34	Literature and Ecology	4	4	1	0	3	50	50	100
19EL/PC/IL34	Indian Literatures – I	4	4	2	0	3	50	50	100
19EL/PC/CT34	Contemporary Critical Theory – II	4	4	2	0	3	50	50	100
19EL/PN/SI32	Summer Internship	2	0	0	0	-	50	-	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
	Common Elective II								
SEMESTER-IV									
19EL/PC/LG44	Linguistics	4	4	1	0	3	50	50	100
19EL/PC/SH44	Shakespeare	4	4	1	0	3	50	50	100
19EL/PC/IL44	Indian Literatures – II	4	4	2	0	3	50	50	100
19EL/PC/DS47	Dissertation	7	0	9	0	-	50	50	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19EL/PE/DF15	Detective Fiction	5	5	0	0	-	50	50	100
19EL/PE/TW15	Technical Writing	5	5	0	0	-	50	50	100
19EL/PE/ET15	English Language Teaching	5	5	0	0	-	50	50	100
19EL/PE/CL15	Children's Literature	5	5	0	0	-	50	50	100
19EL/PE/CW15	Creative Writing	5	5	0	0	-	50	50	100
19EL/PE/NF15	New Fiction and the Contemporary World	5	5	0	0	-	50	50	100
19EL/PE/RF15	Reading Films	5	5	0	0	-	50	50	100

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
Postgraduate Elective Courses Offered to Other Departments									
19EL/PE/EC23	English for Communication	3	3	0	0	3	50	50	100
19EL/PE/LS23	Literature and Spirituality	3	3	0	0	3	50	50	100
19EL/PE/MF23	Literature, Myth and Folklore	3	3	0	0	3	50	50	100
19EL/PE/FF23	Fantasy Fiction	3	3	0	0	3	50	50	100
Independent Elective Courses									
19EL/PI/PF24	Popular Fiction	4	0	0	0	-	-	100	100
19EL/PI/LN24	Literature and Science	4	0	0	0	-	-	100	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS

(Effective from the academic year 2019-2020)

LITERATURE OF THE BRITISH ISLES – I

CODE:19EL/PC/LB14

CREDIT:4
L T P:4 1 0
TOTAL TEACHING HOURS:65

COURSE OBJECTIVES
- To develop an analytical and critical approach to British literary texts from the sixteenth to the nineteenth centuries
- To foster a deeper and sensitive understanding of representative writers in relation to the social, cultural and political milieu
- To train students to critically analyse prescribed texts using relevant concepts

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- critically engage with early modern texts from the British Isles
- appreciate literary creative conventions in the context of the changing milieu of the British Isles from the sixteenth to the nineteenth centuries
- demonstrate an analytical and critical approach to the British literary tradition
- examine the representative writers in their social, cultural and political milieu
- use relevant concepts in the critical analysis of the texts

Unit 1   **(20 Hours)**
1.1 Edmund Spenser   *Amoretti* Sonnet I
1.2 John Donne   A Valediction: Forbidding Mourning
1.3 John Webster   *The Duchess of Malfi*
1.4 John Milton   *Paradise Lost: Book I*

Unit 2   **(14 Hours)**
2.1 Alexander Pope   *Essay on Criticism* (lines 1-200)
2.2 Aphra Behn   *The Rover*

Unit 3   **(14 Hours)**
3.1 William Wordsworth   Ode on Intimations to Immortality from Early Recollections of Childhood
3.2 Samuel T Coleridge   Dejection: An Ode
3.3 John Keats   Ode on a Grecian Urn
3.4 Thomas De Quincey   On the Knocking at the Gate in *Macbeth*

Unit   4   **(12 Hours)**
      4.1 Robert Browning   Fra Lippo Lippi
      4.2 Mathew Arnold   *The Study of Poetry*
      4.3 Emily Bronte   *Wuthering Heights*
      4.4 Thomas Hardy   *Tess of the D'Ubervilles*
      4.5 Oscar Wilde   *Salomi*

Unit   5
Practical Application Tasks   **(5 Hours)**

BOOKS FOR REFERENCE

Bayley, Peter. *Edmund Spenser: Prince of Poets*. Hutchinson University Library, 1971.

Dever, J.W. "Tragedy and Style." *Revenge Tragedies New Casebook Series.* Ed. Steve
     Simkin, Palgrave, 2001.

Gardner, Helen. *Religion and Literature.* Faber and Faber, 1997.

--- . *Metaphysical Poets.* Oxford UP, 1997.

Galvan, Jill Nicole. *Replotting Marriage in Nineteenth-Century Britain*. Ohio State
     University Press, 2018.

Greenblatt, Stephen. "Marlowe and the Will to Absolute Play" (Chapter 5), *Renaissance Self-
     fashioning: From More to Shakespeare.* Chicago UP, 1980.

Havens, Hillary. Ed. *Didactic Novels and British Women's Writing, 1790-1820*. Routledge,
     2016.

Hill, Christopher. Introduction, "Milton's Christian Doctrine" (Part V). *Milton and the
     English Revolution.* Faber and Faber, 1977.

Leech, Clifford. *Webster: The Duchess of Malfi*. Edward Arnold, 1963.

Loomba, Ania. "Women's Division of Experience." *Revenge Tragedies New Casebook
     Series.* Ed. Steive Simkin, Palgrave, 2001.

Martines, Lauro. *Society and History in English Renaissance Verse.* Basil Blackwell, 1985.

Parry, Graham. *The Seventeenth Century Intellectual and Cultural Context of English
     Literature: 1603-1700.* Longman Group UK Ltd, 1989.

Poplawski, Paul. *English Literature in Contexts*. Cambridge University Press, 2008.

Price, Martin. "The Restoration and the Eighteenth Century." *The Restoration and the
     Eighteenth Century,* Oxford UP, 1973.

Rivers, Isabel. "The Making of a 17th Century Poet." *John Milton Introductions,* Ed. John
     Broadbent. Cambridge UP, 1973.

Sanders, Wilbur. "Providence and History in Elizabethan Thought." *The Dramatist and the
     Received Ideas: Studies in the Plays of Marlowe and Shakespeare.* Cambridge UP,
     1968.

---, "History without Morality: Edward II." *The Dramatist and the Received Ideas: Studies in
     the Plays of Marlowe and Shakespeare.* Cambridge UP, 1968.

Steane, J.B. *Marlowe: A Critical Study.* Cambridge UP, 1964.

Steinbach, Susie L. *Understanding the Victorians: Politics, Culture and Society in
     Nineteenth-Century Britan.* Routledge, 2012.

Thrun-Dierkes, Petra. *Salome's Modernity: Oscar Wilde and the Aesthetic of Transgression.*
     University of Michigan, 2011.

Todd, Janet. *Aphra Behn Studies.* Cambridge University Press, 2008.

JOURNALS
English Literary Renaissance
Studies in Renaissance
Victorian Literature and Culture

WEB RESOURCES
www.poets.org
www.poetryfoundation.org
www.johnmilton.org

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	**Total Marks: 50**	**Duration: 90 minutes**
Section A –two out of four 300-word essays		2 x 10 = 20 marks
Section B – two out of four 650-word essays		2 x 15 = 30 marks

Other Components: **Total Marks: 50**
Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work –
Passage Analysis/Quiz/Panel Discussion/Group Presentation

End-Semester Examination:	**Total Marks: 100**	**Duration: 3 hours**
Section A –four out of six 300-word essays		4 x 10 = 40 marks
Section B –three out of five 650-word essays		3 x 20 = 60 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019-2020)

AMERICAN LITERATURE: MODERNISM AND AFTER

CODE:19EL/PC/AL14   **CREDITS:4**
                                                       L T P:4 1 0
                                                       TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To study American Literature as an outcome of its traditions, cultures and politics
- To identify key ideas, significant historical or cultural events, and characteristic perspectives or attitudes expressed in the literature of the period
- To engage with the cultural and political significations of literature from minority communities
- To gain perspectives on the development of characteristic forms or styles of expression during the period

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- identify the transition from Romanticism to Modernism in American literature
- display a knowledge of the different political and cultural movements and their representation in literature
- engage with the issues raised in experimental and fringe movements that were characteristic of the period
- relate politically and aesthetically to literatures of minority communities such as the African Americans, the Native Americans and the Diaspora
- identify characteristic features of Modernist and Postmodern texts

Unit   1 Poetry   **(15 Hours)**
      1.1 Robert Frost   After Apple Picking
      1.2 Wallace Stevens   The Idea of Order at Key West
      1.3 Allen Ginsberg   Howl
      1.4 Robert Lowell   Skunk Hour
      1.5 James Merrill   The Water Hyacinth
      1.6 Lorna Dee Cervantes   Freeway 280
      1.7. Rita Dove   Persephone Abducted
      1.8 Langston Hughes   The Weary Blues
      1.9 Simon J. Ortiz   A Story of How A Wall Stands

Unit   2 Prose   **(10 Hours)**
      2.1 Anwar F. Accawi   The Telephone
      2.2 John McPhee   Silk Parachute

Unit 3 Fiction (15 Hours)

3.1 William Faulkner   *The Sound and the Fury*
3.2 John Barth   Lost in the Funhouse
3.3 Toni Morrison   *Beloved*
3.4 Leslie Marmon Silko   Mistaken Identity

Unit 4 Drama (12 Hours)

4.1. Tennessee Williams   *A Streetcar Named Desire*
4.2. Tony Kushner   *Angels in America (Part-I)*

Unit 5 Practical Application Tasks (13 Hours)

BOOKS FOR REFERENCE

Al Maleh, Layla. *Arab Voices in Diaspora: Critical Perspectives on Anglophone Arab Literature*. Rodopi, 2009.

Bigsby, C.W.E. *A Critical Introduction to Twentieth Century American Drama*. CUP, 1984.

Bradbury, Malcolm and Howard Temperley ed. *Introduction to American Studies*. Longman, 1981.

Bradley, Scully. *American Tradition in Literature*. W. W. Norton and Co, 1962.

Geyh, Paula ed. *The Cambridge Companion to Postmodern American Fiction.* CUP, 2017.

Grice, Helena, Candida Hepworth, Maria Lauret and Martin Padget. *Beginning Ethnic American Literatures*. Palgrave, 2001.

Horton, Rod W. *Background of American Literary Thought*. Prentice Hall, 1982.

Kenner, Hugh. *Home Made World: The American Modernist Writers*. Allied Publications, 1975.

Krasner, David ed. *A Companion to Twentieth Century American Drama*. Wiley-Blackwell, 2004.

Lee, Robert A. ed. *Native American Writing*. Routledge, 2011.

Madson, Deborah L. ed. *The Routledge Companion to Native American Literature.* Routledge, 2016.

Millard, Kenneth. *Contemporary American Fiction*. OUP, 2000.

Miller, Joshua L. *The Cambridge Companion to the American Modernist Novel*. CUP, 2017.

Mitchell, Angelyn and Danielle K. Taylor ed. *The Cambridge Companion to African American Women's Literature*. CUP, 2009.

Neville, Mark A. and Herzberg Max J. *Literature in America*. Rand McNally, 1958.

Nyman, Jopi. *Home, Identity, and Mobility in Contemporary Diasporic Fiction.* Rodopi, 2009.

JOURNALS
ARIEL: A Review of International English Literature (online)
Modern Fiction Studies

WEBSITES
www.poets.org
www.poetryfoundation.org

PATTERN OF ASSESSMENT:

Continuous Assessment Test:　　　**Total Marks: 50**　　　**Duration: 90 minutes**

Section A – three out of four 300-word essays　　　　　　3x10=30 marks

Section B – one out of two 750-word essays　　　　　　1x20=20 marks

Other Components:　　　　　　**Total Marks: 50**

Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work/Quiz/Panel Discussion/Group Presentation

End-Semester Examination:　　　**Total Marks: 100**　　　**Duration: 3 hours**

Section A – four out of six 300-word essays　　　　　　4x10 = 40 marks

Section B – three out of five 750-word essays　　　　　　3x20 = 60 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS

(Effective from the academic year 2019–2020)

LITERATURE AND SUBALTERNITY

CODE:19EL/PC/LS14   **CREDITS:4**
                                                          L T S:4 1 0
                                       TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To enable an understanding of the concept of subalternity
- To sensitise students to the silenced and marginalised voices in a text
- To enable students to position subaltern identities in texts
- To enable students to critically evaluate and analyse literary texts with reference to the intersection of the varied factors of oppression
- To enable students to extend their understanding of issues gained from the text to the world around them

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to
- demonstrate an understanding of the concept of subalternity
- read literary texts within the theoretical framework of subalternity
- respond sensitively to silenced and marginalised voices in a text
- critically evaluate and analyse literary texts with reference to the intersection of the various factors of oppression such as race, class, caste, religion, ethnicity, gender, sexual identity, physical and mental disability, age etc.
- extend their understanding of issues gained from the text to the world around them

Unit   1   **(20 Hours)**

1.1 Augusto Boal	Aristotle's Coercive System of Tragedy (from *Theatre of the Oppressed*, 31-34)
1.2 Gayatri Spivak	Can the Subaltern Speak? (from *Postcolonial Studies Reader*)
1.3 Ranajit Guha	On Some Aspects of the Historiography of Colonial India
1.4 James Cherlton	The Dimensions of Disability Oppression: An Overview (from *Nothing About Us, Without Us)*

Unit   2   **(10 Hours)**

2.1 Yashvant Vaghela	Identity
2.2 Nellie Wong	My Eyes Follow Them
2.3 Donna Kate Rushin	The Bridge Poem
2.4 Audre Lorde	Power

Unit   3   **(17 Hours)**

3.1 Mahesh Dattani	*On a Muggy Night in Mumbai*
3.2 Dolores Prida	*Beautiful Senoritas*

Unit   4 (10 Hours)

    4.1 Bama   *Sangati*
    4.2 Mahasweta Devi   Rudali (Short Story)
    4.3 Temsula Ao   Curfew Man (from *These Hills Called Home*)

Unit   5

Practical Application Tasks (8 Hours)

BOOKS FOR REFERENCE
Anazaldua, Gloria. *This Bridge Called My Back: Writing by Radical Women of Color*.
    Kitchen Table: Women of Colour, 1983.
Christian, Barbara. *Black Feminist Criticism: Perspectives on Black Women*
    Writers, Pergamon Press, 1985.
Collins, Patricia Hill and Sirma Bilge. *Intersectionality:Key Concepts*. Polity Press, 2016.
Fanon, Frantz. *Black Skin, White Masks*, Grove, 1967.
Goodley, Dan. *Disability Studies: An Interdisciplinary Introduction.* Sage, 2011.
Gramsci, Antonio. *History of the Subaltern Classes, Prison Notebooks Vol. II,* (Ed. &Tr.)
    Joseph A. Buttigieg, Columbia UP, 1996, pp 24-25.
Milner, Andrew and Jeff Browitt. *Race and Ethnicity in Black and Latino Cultural Studies:*
    Contemporary Critical Theory. III Ed. Rawat, 2003.
Mitchell, David T and Sharon L. Snyder. *Narrative Prosthesis: Disability and the*
    Dependencies of Discourse. University of Michigan Press, 2011.
Omvedt, Gail. "Chapter 11: Sita's Curse and Shambuk's Silence", *Dalit Visions*. Orient
    Longman, 2006.
Spivak, Gayatri Chakraborti. "Subaltern Studies: Deconstructing Historiography." Ed.
    Ranajit Guha, *Writings on South Asian History and Society Vol IV*. OUP, 1985, 330-
    363.

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	Total Marks: 50	Duration: 90 minutes
Section A – two out of four 300-word essays		2x10=20 marks
Section B – one out of two 650-word essay		1x15=15 marks
Section C- passage analysis (unseen)		1x15=15 marks

Other Components: **Total Marks: 50**

Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work –
Passage Analysis/Quiz/Panel Discussion/Group Presentation/Role-Play/Dramatisation
Creative Writing

End-Semester Examination:	Total Marks: 100	Duration: 3 hours
Section A- two out of four 300-word essays		2x10=20 marks
Section B- three out of five 750-word essays		3x20=60 marks
Section C- passage analysis (unseen)		1x20=20 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

GENDER STUDIES

CODE: 19EL/PC/GS14   **CREDITS:4**
                                                                              L T P:4 1 0
                                                  TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To enable students to recognise difference as an essential concept in gender studies
- To help students appreciate the ways in which writers from gender-minority communities revision their identity positions in specific contexts and reconstruct the marginal positions
- To enable students to use concepts and theories to critically engage with literary texts for an understanding of the construction and perpetuation of gendered identities in society

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- display an understanding of the history of the Women's Movement and the development of Gender and Queer Studies
- apply concepts and critical frameworks required for a gendered reading of canonical texts as well as contemporary literature
- respond to other media and real life contexts with sensitivity to and awareness of gendered positions
- understand the intersectionality of race, class and gender and extend it to real life scenario

Unit   1   **(17 Hours)**
     1.1 Simone de Beauvoir   Introduction: *The Second Sex*
     1.2 Virginia Woolf   *A Room of One's Own* (Chapter I &VI)
     1.3 Elaine Showalter   extract from *Woolf and the Flight into Androgyny*
     1.4 Adrienne Rich   When We Dead Awaken: Writing as Revision
     1.5 Judith Butler   Interiority to Gender Performatives (from *Gender Trouble*)

Unit   2   **(10 Hours)**
     2.1 David S Gutterman   Postmodernism and the Interrogation of Masculinity
                                     (From *Theorizing Masculinities* ed. Michael Kaufman, Harry Brod)
     2.2 bell hooks   *Black Women: Shaping Feminist Theory*

Unit 3 (10 Hours)
    3.1 Mahasweta Devi   Draupadi (Short Story)
    3.2 Maya Angelou   Still I Rise
                                        Our Grandmothers

Unit 4 (15 Hours)
    4.1. Chitra Bannerjee Divakaruni   *The Palace of Illusions*
    4.2. Laura Esquivel   *Malinche*
    4.3 Manobi Bandyopadhyay   *A Gift of Goddess Lakshmi*
                                        (trans. Jhimli Mukerjee Pandey
                                          & Manobi Bandhopadhyay)

Unit 5
Practical Application Tasks (13 Hours)

BOOKS FOR REFERENCE

Gilbert, Sandra & Susan Gubar. *Madwoman in the Attic: The Woman Writer and the Nineteenth-Century Literary Imagination*. Yale Nota Bene, 2000.

James, Joy and T Denean Sharpley-Whiting. Eds. *The Black Feminist Reader*. Blackwell, 2000.

Rahman, Momin and Stevi Jackson. *Gender and Sexuality: Sociological Approache*s. Polity Press. 2010.

Rooney, Ellen. Ed. *The Cambridge Companion to Feminist Literary Theory*. Cambridge U P, 2008.

Schneir, Miriam. Ed. *The Vintage Book of Feminism: The Essential Writings of the Contemporary Women's Movement*. Vintage, 1995.

Tharu, Susie & K Lalitha. *Women Writing in India*. Oxford UP, 1991.

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – one out of two 650-word essays   1x15=15 marks
Section B – one out of two 750-word essays/passage analysis   1x20=20 marks
Section C – passage analysis (unseen)   1x15=15 marks

Other Components: **Total Marks: 50**
Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work – Passage Analysis etc/Quiz/Panel Discussion/Group Presentation/Role-Play/Dramatization

End-Semester Examination   **Total Marks: 100**   **Duration: 3 hours**
Section A – four out of six 300-word essays   4 x 10 = 40 marks
Section B – two out of four 750-word essays   2 x 20 = 40 marks
Section C – passage analysis (unseen)   1 x 20= 20 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019-2020)

LITERATURE OF THE BRITISH ISLES – II

CODE:19EL/PC/LB24   CREDITS:4
                                                               L T P:4 1 0
                                               TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To develop an analytical and critical approach to literature from the British Isles produced in the twentieth century
- To introduce students to the complexities of literary creation in the context of the changing social, cultural, political milieu of twentieth century
- To equip students with critical tools required to engage with issues of national identity as expressed in literary texts

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- appreciate literary creative conventions in the context of the changing milieu of the British Isles in the twentieth century
- appreciate and understand writers within the socio-cultural and political contexts
- display an awareness of the major movements of the century
- identify and critique discourses on ethnicity, nationhood and identity embedded in literary texts from the British Isles
- engage with literary forms and analyse literary themes of major literary schools/movements in the twentieth century

Unit   1
Poetry I   (13 Hours)
1.1 Gerard Manley Hopkins Pied Beauty
1.2 T.S. Eliot   *The Waste Land*
1.3 W.B. Yeats   Sailing to Byzantium
                           Circus Animals' Desertion
1.4 Philip Larkin   Whitsun Weddings
1.5 Dylan Thomas   Do Not Go Gentle into that Good Night

Unit   2
Poetry II   (10 Hours)
2.1 Ted Hughes   Pike
                           Apple Tragedy
2.2 Seamus Heaney   Follower
                           The Tollund Man
2.3 Carol Ann Duffy   Mrs. Faust
                           Small Female Skull

2.4 Jo Shapcott	Thetis	
2.5 Jackie Kay	Pride	

Unit 3
Drama   **(13 Hours)**
3.1 Tom Stoppard   *Arcadia*
3.2 Martin Crimp   *The Country*

Unit 4
Fiction   **(20 Hours)**
4.1 Julian Barnes   *A History of the World in 10½ Chapters*
4.2 Kazuo Ishiguro   *The Remains of the Day*
4.5 Caryl Phillips   *The Final Passage*

Unit 5
Practical Application Tasks   **(9 Hours)**

BOOKS FOR REFERENCE

Cox, C.B., and Dyson A.E.,(eds.). *The Twentieth Century Mind: History of Ideas And Literature in Britain*. 3 Vols. Oxford UP, 1972.

Esslin, Martin. *The Theatre of The Absurd*. Eyre Methuen, 1974.

Hutcheon, Linda. *A Poetics of Postmodernism: History, Theory And Fiction*. Routledge, 1988.

Lodge, David. *The Modes of Modern Writing*. Edward Publishers, 1977.

Morrison, Blake. *The Movement; English Poetry and Fiction of The 1950's*. Oxford UP, 1980.

Purse, Nigel. *Tom Stoppard's Plays: Patterns of Plenitude and Parsimony*. Brill,2016.

Thwaite, Anthony. *Poetry Today: A Critical Guide to British Poetry*. Longman Group, 1985.

Woods, Tim. *Beginning Postmodernism*. Manchester UP, 1999.

JOURNALS
Wasafiri
Modern Fiction Studies
Boundary 2
WEBSITES
www.poets.org
www.poetryfoundation.org
https://owl.english.purdue.edu/owl/

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	Total Marks: 50	Duration: 90 minutes
Section A – three out of five 300-word essays		3x10=30 marks
Section B – one out of three 750-word essays		1x20=20 marks
Other Components:	**Total Marks: 50**	
Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work Quiz/Panel Discussion/Group Presentation/Role-Play/Dramatisation/Creative Writing		
End-Semester Examination:	**Total Marks: 100**	**Duration: 3 hours**
Section A – four out of six 300-word essays		4 x10 =40
Section B – three out of five 750-word essays		3 x 20 =60

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019-2020)

LITERATURE AND MYSTICISM

CODE:19EL/PC/LM24   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To foster an understanding in students of the breadth, diversity and parallel strains of thought and experience in key literary texts from major religious traditions
- To enable students to explore expressions of mystical experience outside religious traditions
- To encourage students to explore the interface among class, caste, gender and mystical experiences
- To enable students to appreciate the possibilities of non-empirical modes of knowledge
- To train students to think critically about the place of mystical experience and expression in contemporary times across and within religious communities

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- demonstrate an understanding of mystical traditions within major religious traditions of the world
- study literary expressions of mystical experiences using relevant reading methods
- display knowledge of mystical symbols, categories, practices and terminology across various traditions over a span of about 2500 years
- engage with mystical expressions outside religious traditions, such as nature mysticism
- appreciate and produce a pluralistic discourse on mystical expressions embedded within religious traditions

Unit   1   **(15 Hours)**
   1.1 The Holy Bible
                1.1.1   Psalms   42
                1.1.2   Song of Solomon   Chapters 2 and 3
   1.3 St. Francis of Assisi   Canticle of Brother Sun
   1.4 St. John of the Cross   Stanzas of the Soul that Suffers with Longing to See God
   1.5 John Donne   Batter my heart, three person'd God
   1.6 George Herbert   The Collar
   1.7 G M Hopkins   The Windhover
   1.8 Iyesubiran   Pillaithamizh 63 (from *Extraordinary Child* p 175)

Unit 2 (15 Hours)

2.1 Periyazhvar	Anxiety About Her Son (Tr. P V Sundaram)
2.2 Andal	The Song to the Kuyil (from *The Secret Garland* p 159)
2.3 Sundarar	O madman… (from *Eating God,* p 100)
2.4 Mahadevi Akka	No God This Man (from *Speaking of Siva* p 123)
2.5 Rajai	The man of the house … (from *Eating God,* p 159)
2.6 Kamalakanta Bhattacharya	Who is this … (from *Singing to the Goddess,* p 32)
2.7 Shenkottai Avudai Akka	Mei-poi Villakkam (from *Transgressing Boundaries* p 179-181

Unit 3 (15 Hours)

3.1 Kabir	Where are You Searching for Me Friend? (from *Sacred Songs of India*)

3.1.1. Documentary on Kabir by ShabnamVirmani – **not for testing**

3.2 Jalal-ud-din Rumi	Reed Flute's Song (from *The Essential Rumi*)
3.3 Omar Khayyam	Book of Pots from *The Rubaiyat of Omar Khayyam*)
3.4 Rabiya	If I adore You …
	Eyes are at rest…
	(http://www. poemhunter.com/poem/)
3.5 Guru Nanak	It is the month of Chet… (from *Eating God* p 10)

Unit 4 (15 Hours)

4.1 Denise Levertov	Against Intrusion (from *Life Around Us, p 72)*
4.2 Emily Dickinson	You'll know it…
4.3 Kahlil Gibran	Religion (from *The Prophet* p. 49-50)

Unit 5

Practical Application Tasks (5 Hours)

BOOKSFOR REFERENCE

James, William. *The Varieties of Religious Experience.* Modern Library, 1902.

Knysh, Alexander. *Sufism: A New History of Islamic Mysticism.* Princeton University Press, 2017.

Nandakumar, Prema. *Goda's Garland of Devotion.* Samata Books, 1989.

Sharda, S.R. *Sufi Thought.* Munshiram Manoharlal Publishers, 1998.

Sivaramakrishna, M and Sumita Roy.*Poet Saints of India*. Sterling Publishers, 1996.

Vendler, Helen. *The Poetry of George Herbert*. Harvard University Press, 1996.

JOURNALS

Bhakti Studies

Renascence

WEB RESOURCES

www.innerexplorations.com

www.sacred-texts.com/isl/

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – two out of four 650-word essays   2x15=30 marks

Section B –   passage analysis (unseen)   1x20=20 marks

Other Components: **Total Marks: 50**

Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work/ Quiz/Panel Discussion/Group Presentation

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – four out of six 650-word essays   4 x15 =60

Section B – one out of two 750-word essays   1 x 20 =20

Section C – passage analysis (unseen)   1 x 20=20

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019 -2020)

CONTEMPORARY CRITICAL THEORY –I

CODE:19EL/PC/CT24   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To guide students to an understanding of major shifts in contemporary critical theory
- To enable students to identify the similarities and differences between various critical theories
- To train students to identify links between theory and text

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- understand the relevance of critical theories
- demonstrate an understanding of contemporary critical theories
- understand the similarities and differences between various critical theories
- analyse texts based on critical theories and concepts
- engage with critical concepts and apply them to contemporary contexts

Unit   1   **(12 Hours)**
  1.1 Cleanth Brooks   Irony as a Principle of Structure
  1.2 Victor Shklovsky   Art as Technique

Unit   2   **(15 Hours)**
   2.1 Jonathan Culler   Literary Competence
                                    (Section on Blake's Sunflower: 113-116)
  2.2 Roland Barthes   The Death of the Author

Unit   3   **(14 Hours)**
  3.1 Jacques Derrida   Diffèrance
  3.2 Umberto Eco   Towards a Semiological Guerrilla Warfare

Unit   4   **(12 Hours)**
  4.1 Jean-Francois Lyotard   Defining the Post-Modern
  4.2 Wolfgang Iser   The Reading Process: A Phenomenological
                                    Approach

Unit   5
Practical Application Tasks   **(12 Hours)**

BOOKS FOR REFERENCE

Birch, David. *Language, Literature and Critical Practice: Ways of Analysing Text*.
Routledge, 1989.

Collins, Jeff and Bill Mayblin. *Introducing Derrida: A Graphic Guide.* Icon Books, 2014.

Culler, Jonathan. *Structuralist Poetics: Structuralism Linguistics and the Study of Literature*.
Routledge, 1989.

Green, Keith and Jill Le Brian. *Critical Theory and Practice: A Course Book*. Routledge,
1996.

Guerin, Wilfred, L., et al. *A Handbook of Critical Approaches to Literature*. Fourth Edition,
Oxford UP, 1992.

Jefferson, Ann and David Robey, eds. *Modern Literary Theory: A Comparative Introduction*.
Batsford, 1986.

Ryan, Michael. *Literary Theory: A Practical Introduction*. Blackwell, 1999.

Schmiz, Thomas, A. *Modern Literary Theory and Ancient Texts: An Introduction*.
Blackwell, 2007.

Selden, Raman. *A Reader's Guide to Contemporary Literary Theory*. Harvester, 1989.

Tyson, Lois. *Critical Theory Today: A User-friendly Guide*. Routledge, 2015.

Wolfreys, Julian, ed. *Modern North American Criticism and Theory: A Critical Guide*.
Edinburgh UP, 2006.

-- -, ed. *Modern European Criticism and Theory: A Critical Guide*. Edinburgh UP, 2006.

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	Total Marks: 50	Duration: 90 minutes
Section A – two out of four 300-word essays		2x10=20 marks
Section B – one out of two 650-word essays		1x15=15 marks
Section C– passage analysis (unseen)		1x15=15 marks

Other Components:	Total Marks: 50

Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work –
Passage Analysis etc/Quiz/Panel Discussion/Group Presentation

End-Semester Examination:	Total Marks: 100	Duration: 3 hours
Section A– two out of four 300-word essays		2x10=20 marks
Section B – three out of five 750-word essays		3x20=60 marks
Section C– passage analysis (unseen)		1x20=20 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19EL/PK/SS22   **CREDITS: 2**
                                                           L T P: 2 0 0
                                        TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development
- To instill confidence in students to face challenges
- To manage emotions and resolve conflicts
- To organize activities and manage time
- To set goals and plan ahead

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

- Communicate with confidence and poise
- Accept themselves and improve on their weaknesses
- Strengthen their relationships through confronting and solving problems
- Work more effectively and complete activities on time
- Plan their future with clarity and focus

Unit   1
Behavioural Traits   **(6 Hours)**
1.1   Self- Awareness
1.2   Communication Skills –Verbal and Non-Verbal
1.3   Leadership Qualities
1.4   Etiquette and Good Manners
1.5   Experiential Learning –based on activities

Unit   2
Team Work   **(5 Hours)**
2.1.   Interpersonal Skills
2.2.   People Management
2.3.   Creative Thinking
2.4.   Critical Thinking
2.5.   Experiential Learning – based on activities

Unit 3

Time Management   (5 Hours)

3.1. Importance of time management
3.2. Planning and Prioritizing
3.3. Organizing skills
3.4. Action Plan
3.5. Experiential Learning – based on activities

Unit 4

Conflict Resolution   (5 Hours)

4.1. Reasons for conflict
4.2. Consequences of conflict
4.3. Managing emotions
4.4. Methods of resolving conflicts
4.5. Experiential Learning – based on activities

Unit 5

Career Mapping   (5 Hours)

5.1. Goal-setting and Decision-making
5.2. Career Planning
5.3. Resume Writing
5.4. Handling Interviews
5.5. Experiential Learning – based on activities

BOOKS FOR REFERENCE

Khera, Shiv. *You Can Win*. Macmillan India, 2002.

Mishra, Rajiv. K. *Personality Development: Transform Yourself*. Rupa, 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*.

   Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment: **Total Marks: 50**
Quiz / Group Presentation /Assignment

No End Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

POSTCOLONIAL STUDIES

CODE:19EL/PC/PC34   CREDITS:4
                                                                                       L T P:4 1 0
                                                             TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce the students to some key theoretical formulations in the field
- To help develop an awareness of issues – social, political, cultural and economic – relating to the experience of colonialism and after
- To encourage dialogue on conditions of marginality and plurality and to question metanarratives

COURSE LEARNING OUTCOMES
On successful completion of the course, the students will be able to

- analyse texts using key concepts and theories in the field
- interrogate dominant discourses in texts influenced by colonial ideologies
- appreciate texts emerging from postcolonial nations
- engage with the interplay of issues of race, colour, caste and gender in a neo-colonial world
- challenge social inequalities existing in colonised regions and communities in the age of postcoloniality

Unit	1	
	Essays	**(20 Hours)**
	1.1 Edward Said	Introduction (from *Orientalism)*
	1.2 Robert J.C. Young	Postcolonialism (from *Postcolonialism: An Historical Introduction)*
	1.3 Ania Loomba	Defining the Terms: Colonialism, Imperialism, Neo-Colonialism, Postcolonialism (from Chapter 1 C*olonialism/Postcolonialism)*

Unit	2	
	Fiction and Prose	**(20 Hours)**
	2.1 Jhumpa Lahiri	Unaccustomed Earth (from *Unaccustomed Earth)*
	2.2 Nadine Gordimer	The Train from Rhodesia (from *The Harper Anthology of Fiction*)
	2.3 John Kelly	We are All in the Ojibway Circle (*The Faber Book of Contemporary Canadian Short Stories*
	2.4 Witi Ihimaera	The Whale (from *The Harper Anthology of Fiction*)
	2.5 Chimamanda Adichie	*Americanah*

Unit   3
Poetry   **(10 Hours)**
3.1 Lisa Bellear   Women's Liberation
3.2 Judith Wright   At Cooloola
3.3 Derek Walcott   Ruins of a Great House
3.4 Gabriel Okara   Piano and Drums

Unit   4
Drama   **(10 Hours)**
4.1 Wole Soyinka   *Death and the King's Horseman*
4.2 Louis Nowra   *Radiance*

Background Reading
Ashcroft et al. *The Empire Writes Back*
Padmini Mongia, ed.*Contemporary Post-Colonial Theory*
Ashcroft et al. ed. *The Post-Colonial Studies Reader*

Unit   5
Practical Application Tasks   **(5 Hours)**

BOOKS FOR REFERENCE

Ashcroft, Bill. *On Post-Colonial Futures: Transformations of Colonial Culture*. Continuum, 2001.
Ashcroft, Bill, et al. *Post-Colonial Studies: The Key Concepts.* 2nd ed., Routledge, 2007.
Barker, Francis. et al., editors. *Colonial Discourse/Postcolonial Theory*. Manchester UP, 1994.
Bayard, Caroline. *The New Poetics in Canada and Quebec: From Concretism to Post-Modernism*. University of Toronto Press, 1989.
Bennett, Bruce, editor. *A Sense of Exile*. Centre for Studies in Australian Literature, 1988.
Chew, Shirley, and David Richards, editors. *A Concise Companion to Postcolonial Literature.* Wiley Blackwell, 2010.
Irvine, Lorna L. *Sub/version: Canadian Fiction by Women*. ECW Press, 1986.
Jahabegloo, Raman. *India Revisited: Conversations on Continuity and Change.* Oxford UP, 2008.
Juneja, Om Prakash. *Post Colonial Novel : Narratives of Colonial Consciousness*. Creation, 1995.
King, Bruce. *New National and Post-colonial Literatures: An Introduction*. Clarendon Press, 1996.
Kudchedkar, Shirin and Jameela Begum, editors. *Canadian Voices*. Pencraft, 1996.
Lazarus, Neil, editor. *The Cambridge Companion to Postcolonial Literary Studies*. Cambridge UP, 2004.
Nkosi, Lewis. *Tasks and Masks: Themes and Styles of African Literature*. Longman, 1981.
Pandey, Sudhakar. *Perspectives on Canadian Fiction*. Prestige Books, 1994.
Schwarz, Henry and Sangeeta Ray. *A Companion to Postcolonial Studies*. Blackwell, 2000.
Soyinka, Wole. *Art, Dialogue and Outrage: Essays on Literature and Culture*. Methuen, 1993.
Tanti, Melissa et al., editors. *Beyond "Understanding Canada": Transnational Perspectives on Canadian Literature.* U of Alberta Press, 2017.

Walder, Dennis. *Post-Colonial Literatures in English: History, Language and Theory*.
    Blackwell, 1998.
Young, Robert J.C. *Postcolonialism: An Historical Introduction*. Blackwell, 2001.

JOURNALS
ARIEL: A Review of International English Literature
Journal of Commonwealth Literature
Postcolonial Studies
Wasafiri

WEB RESOURCES
http://www.mohamedrabeea.com/books/book1_3985.pdf
http://www.udel.edu/ArtHistory/ARTH435/Ashcroft.pdf
http://faculty.ksu.edu.sa/Nugali/English%20461/Postcolonialism.pdf

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	Total Marks: 50	Duration: 90 minutes
Section A –two out of four 300-word essays		2x10=20 marks
Section B – one out of three 750-word essays		1x20=20 marks
Section C – passage analysis (unseen)		1x10=10 marks

Other Components: **Total Marks: 50**

Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work –
Passage Analysis /Quiz/Panel Discussion/Group Presentation/Role-Play/Dramatisation
Creative Writing

End-Semester Examination:	Total Marks: 100	Duration: 3 hours
Section A – four out of six 300-word essays		4x10=40 marks
Section B – two out of four 750-word essays		2x20=40 marks
Section C – passage analysis (unseen)		1x20=20 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019-2020**)**

LITERATURE AND ECOLOGY

CODE:19EL/PC/LE34   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce students to writings on environmental and ecological issues
- To train students in viewing ecology as a way of reading the world
- To equip students with the appropriate critical tools to apply an ecological mode of thinking to literary texts
- To enable students to understand the intersection of race, class, gender and the environment
- To train students to extend the ecological mode of thinking beyond literary texts to real life

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- demonstrate an understanding of important schools of thinking in the field of environmentalism and ecology, especially from the non-Anglo-American regions
- read literary texts within the theoretical framework of ecocriticism
- reconsider literary history using the ecocritical framework
- critically evaluate literary texts with reference to the interconnectedness of race, class, gender and the environment
- extend their understanding of ecological issues gained from the text to the real world in order to move towards an ecologically sustainable mode of living

Unit   1
   Theoretical Considerations   **(20 Hours)**
   1.1 Cheryl Glotfelty and Harold Fromm   Introduction (from *The Ecocriticism Reader: Essays in Literary Ecology*

   1.2 Ann Fisher-Wirth and
       Laura – Gray Street   Editors' Preface (from *The Ecopoetry Anthology)*
   1.3 Nirmal Selvamoney   Oikopoetics and Tamil Poetry
   1.4 Amitav Ghosh   *The Great Derangement* Part I Chapters 15-18

Unit   2
   Nature Writing and its Critique   **(15 Hours)**
   2.1 William Wordsworth   Tintern Abbey
   2.2 Terry Tempest Williams   The Bowl (from *Sisters of the Earth*)
   2.3 Karen Tei Yamashita   *Through the Arc of the Rain Forest*

Unit 3
Environmentalism and Conservation   **(15 Hours)**

3.1 Sarah Orne Jewett	A White Heron (from *Sisters of the Earth*)
3.2 Sarah Joseph	*Gift in Green*
3.3 Stanley Kunitz	The Wellfleet Whale

Unit 4
Ecoliterature   **(10 Hours)**

4.1 Denise Levertov	Metier of Blossoming. (from *This Great Unknowing: Last Poems* p 11)
4.2 Emily Warn	Focus (from *The Leaf Path* p 15)
4.3 Wangari Maathai	The Cracked Mirror
4.4 Louise Erdrich	I was Sleeping where the Black Oaks Move
4.6 Ronald M Brendt and Catherine M Breadt, eds.	Becoming Birds (from *The Speaking Land* pp 192-193)

Unit 5
Practical Application Tasks   **(5 Hours)**

BOOKS FOR REFERENCE

Bryson. Scot. *Ecopoetry: A Critical Introduction*. University of Utah Press, 2002.

---. *The West Side of Any Mountain: Place, Space and Ecopoetry*. University of Iowa Press, 2005. en.bookfi.net. 21 Mar 2014.

Clark, Timothy. *The Cambridge Introduction to Literature and the Environment*. Cambridge University Press, 2011.

---. *Ecocriticism on the Edge: The Anthropocene as a Threshold Concept*. Bloomsbury, 2016.

Fisher-Wirth, Ann and Laura-Gray Street, eds. *The Ecopoetry Anthology*. Trinity University Press, 2013.

Glotfelty, Cheryll and Harold Fromm. *The Ecocriticism Reader: Landmarks in Literary Ecology*. University of Georgia Press, 1996.

Hall, Mathew. *Plants as Persons: A Philosophical Botany*. SUNY Press, 2011.

Levertov, Denise. *New and Selected Essays*. New Directions, 1958.

Longley, Michael. *Earth Songs: A Resurgence Anthology of Contemporary Eco-poetry*. Ed. Peter Abbs. Green Books, 2002.

Mahood, Molly. *The Poet as Botanist*. Cambridge UP, 2008.

Schliepake, Christopher. *Ecocriticism, Ecology, and the Cultures of Antiquity*. Lexington Books, 2017.

Wall, Derek. *Green History: A Reader in Environmental Literature, Philosophy and Politics*. Routledge, 1994. en.bookfi.net. 25 Jan 2014.

JOURNALS
ASLE
Journal of Literature and Science
Renascence

WEBSITES
http://www.american-buddha.com/lit.sistersearthtoc.htm

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – two out of four 650-word essays   2x15=30 marks
Section B – passage analysis (unseen)   1x20=20 marks

Other Components: **Total Marks: 50**

Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work/Quiz/Panel Discussion/Group Presentation

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – four out of six 650-word essays   4 x15 =60 marks
Section B – one out of two 750-word essays   1 x 20 =20 marks
Section C – passage analysis (unseen)   1 x 20=20 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

INDIAN LITERATURES - I

CODE:19EL/PC/IL34   **CREDITS:4**
                                                                                              L T P:4 2 0
                                                                    TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To introduce students to important literary, cultural and theoretical trends in India from the Classical Period to India's independence in 1947
- To familiarise students with the most significant writers and their texts in various bhashas
- To enable students to identify various modes of relationships between literatures across India
- To sensitise students to appreciate and respect the cultural, linguistic and religious diversity of India
- To introduce students to literary and cultural traditions, their continuity and interrogation

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- identify the important literary, cultural and social trends in India during the period under consideration
- interpret and critique texts produced in India during this period using relevant reading methods
- place the texts in their respective social, cultural and political contexts
- trace the varied relationships between literatures produced in different languages during this period
- appreciate the multiple linguistic, literary, cultural and spiritual traditions during this period that have impacted India's identity

Unit   1
Indian Aesthetics and Thought   (15 Hours)

1.1 Bharatha	On Natya and Rasa: Aesthetics of Dramatic Experience (*from* The Natya (in fact) *to* having only one act, *from* A person who can,…*to* in this manner, trans. G K Bhatt *Indian Literary Criticism.* Ed. G N Devy)
1.2 Akathinaiyal	Porulatikaram 1-20 (from Tolkappiyam trans. V Murugan)
1.3 Rabindranath Tagore	Nationalism in India
1.4 Babasaheb Ambedkar	Castes: Their Mechanism, Genesis and Development in India

Unit 2

Upto 6th century AD (15 Hours)

2.1 Mahendravarman	*Trivikramam*
2.2 Buddha	The Rod, Happiness (from *Dhammapada* trans. Valerie Roebuck)
2.3 Paripatal	Verse X "They offer the river liquour" (from *The River Speaks* trans. Muthukumar)

Unit 3

7th Century to 18th Century (20 Hours)

3.1 Amir Khusro	Verses 33, 40, 49, 65, 69 (from *In the Bazaar of Love* trans. Paul Losensky and Sunil Sharma)
3.2 Dara Shikoh	I. Invocation IV. Discourse on the Attributes of God, the Most High V. Discourse on the Soul (from *Majma-ul-Bahrain)*
3.3 Kalhana	*Rajatarangini* Chapter I Verses 1-73

Unit 4

19th Century to Independence (20 Hours)

4.1 Mirza Ghalib	Ghalib's Presian Verses: 16, 130, Urdu Verses: 85, 124, 126 (from *Oxford India Ghalib: Life, Letters and Ghazals*, ed. Russel)
4.2 Kirupabai Sathianadan	*Saguna*
4.3 Fakir Mohan Senapati	Dak Munsi (trans. Chinmay Hota)
4.4 M K Gandhi	What is Swaraj (from *Hind Swaraj*)

Unit 5

Practical Application Tasks (8 Hours)

BOOKS FOR REFERENCE

Hoskote, Ranjit. Introduction. *I, Lalla*. Penguin Books, 2013.

Mukherjee, Meenakshi. *Realism and Reality: Novel and Society in India*. OUP, 1994.

Muthukumar V.N. Introduction. *The River Speaks*: *The Vaiyai Poems from the Paripātal*. Penguin Books, 2012.

Ramakrishnan E.V. *Locating Indian Literature*. Orient BlackSwan, 2011.

Thapar, Romila. *The Past as Present: Forging Contemporary Identities through History*. Aleph Book Company, 2014.

--- . *What is Nationalism?* Aleph Book Company, 2016.

JOURNALS

Kavya Bharati

Indian Literature

The Little Magazine

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	**Total Marks: 50**	**Duration: 90 minutes**
Section A - two out of four 650-word essays		2x15=30 marks
Section B – one out of two 750-word essays		1x20=20 marks
Other Components:	**Total Marks: 50**	

Oral Presentation/Quiz/Group Presentation/Role-Play/Dramatisation/Creative Writing

End-Semester Examination:	**Total Marks: 100**	**Duration: 3 hours**
Section A – four out of six 650-word essays		4x15=60 marks
Section B – two out of four 750-word essays		2x20=40 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019-2020)

CONTEMPORARY CRITICAL THEORY II

CODE:19EL/PC/CT34   **CREDITS:4**
                                                             L T P:4 2 0
                                                  TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To guide students to an understanding of some important ideas and concepts in Culture Studies
- To help students to establish links between theory and text
- To enable students to understand contemporary trends in critical theory in the context of literature, culture and media

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- demonstrate a knowledge of ideas in contemporary critical theory
- display an understanding of the links between theory and text
- interpret texts within critical and theoretical frameworks
- engage with texts / discourses and analyse them in the light of contemporary critical theories
- display an advanced level of critical and analytical skills

Unit 1   **(15 Hours)**
  1.1 Toril Moi   Introduction (from *Sexual/Textual Politics*)
  1.2 Vandana Shiva   Women in Nature (from *Staying Alive*)

Unit 2   **(15 Hours)**
  2.1 Stephen Greenblatt   Introduction to the Power of Forms in the
                                 English Renaissance
  2.2 Stuart Hall   Cultural Studies and its Theoretical Legacies
  2.3 Hayden White   Historiography - Art or Science

Unit 3   **(20 Hours)**
  3.1 Raymond Williams   Sociology of Culture
  3.2 Carl Gustav Jung   The Principal Archetypes

Unit 4   **(20 Hours)**
  4.1 Michel Foucault   Panopticism
  4.2 Pierre Bourdieu   The Forms of Capital

Unit   5
   Practical Application Tasks (Suggested Texts)   **(8 Hours)**
   5.1 George Orwell   *1984*
   5.2 Oodgeroo Noonuccal   No More Boomerang
   5.3 Stephen Daldry   *The Hours* (film)

BOOKS FOR REFERENCE

Green, Keith and Jill Le Brian. *Critical Theory and Practice: A Course Book*. Routledge, 1996.

Guerin, Wilfred, L., et al. *A Handbook of Critical Approaches to Literature*. Fourth Edition**,** Oxford UP, 1992.

Jefferson, Ann and David Robey eds. *Modern Literary Theory: A Comparative Introduction***.** Batsford, 1986.

Nayar, Pramod K**.** *Reading Culture: Theory, Praxis, Politics*. Sage, 2006.

Ryan, Michael. *Literary Theory: A Practical Introduction***.** Blackwell, 1999.

Schmiz, Thomas, A. *Modern Literary Theory and Ancient Texts: An Introduction*. Blackwell, 2007.

Selden, Raman. *A Readers Guide to Contemporary Literary Theory*. Harvester, 1989.

Storey, John. *Cultural Theory And Popular Culture: An Introduction,* 8th edition*.* Routledge, 2018.

Wolfreys, Julian, ed. *Modern North American Criticism and Theory: A Critical Guide*. Edinburgh UP, 2006.

-- -, ed. *Modern European Criticism and Theory: A Critical Guide*. Edinburgh UP, 2006.

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – two out of four 150-word essays   2x5=10 marks
Section B – two out of four 650-word essays   2x15=30 marks
Section C – passage analysis (unseen)   1 x10 =10 marks

Other Components: **Total Marks: 50**
Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work –
Passage Analysis /Quiz/Panel Discussion/Group Presentation

End-Semester Examination: **Total Marks: 100**   **Duration: 90 hours**
Section A – four out of six 300-word essays   4 x10 =40 marks
Section B – two out of four 750-word essays   2 x 20 =40 marks
Section C- 1 passage analysis (unseen)   1x 20=20 marks

M.A. DEGREE: BRANCH XII – ENGLISH

SYLLABUS
(Effective from the academic year 2019 – 2020)

SUMMER INTERNSHIP

CODE: 19EL/PN/SI32 **CREDIT: 2**

OBJECTIVE OF THE COURSE

- To enhance practical skills and to provide opportunities for the application of knowledge through hands-on training
- To provide opportunities to learn about possible careers

COURSE LEARNING OUTCOME

On successful completion of the course, the students will be able to
- Demonstrate skills that are useful at the workplace
- Negotiate the challenges and opportunities of actual work spaces

FIELD WORK: 75 hours

Summer Internship: a minimum period of seventy five hours during the summer holidays between the second and third semesters

EVALUATION **Total Marks: 50**
Oral Presentation 25 marks
Written Report 25 marks

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

LINGUISTICS

CODE:19EL/PC/LG44   **CREDITS:4**
                                                                            L T P:4 1 0
                                          TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To enable students to perceive language as a science
- To introduce students to the socio-cultural variables that impact the production of the varieties of English language
- To enable students to understand the functioning of the brain and its role in speech production

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- understand issues related to the functioning of the English language
- analyse sounds and identify patterns of sounds in the English language
- compare and contrast language in terms of systematic differences in phonetics, phonology, morphology, syntax and semantics
- connect language, society and culture, and understand language variations such as social, regional and historical dialects.
- understand the functioning of the brain and its role in speech production, and analyse speech disorders

Unit   1   **(25 Hours)**
  1.1 Phonology
     1.1.1 Speech Mechanisms
     1.1.2 The Cardinal Vowel Scale
     1.1.3 English Vowels, Diphthongs, Consonants
     1.1.4 Allophones
     1.1.5 Stress, Intonation, Elision, Assimilation
     1.1.6 Phonemic Transcription
  1.2 Morphology
     1.2.1 Definition and Classification of Morphemes
     1.2.2 Bound, Free, Derivational, Inflectional Morphemes;
            Empty, Zero Morphemes
     1.2.3 Allomorph
Unit   2   **(18 Hours)**
  2.1. Syntax
     2.1.1.   Sentence Patterns
     2.1.2 I.C. Analysis

2.2. Introduction to the Three Schools of Grammar
    2.2.1 Traditional Grammar
    2.2.2 Structural Grammar
    2.2.3 Transformational-Generative Grammar

Unit 3   **(7 Hours)**
    3.1 Synonymy, Antonymy, Hyponymy
    3.2 Homophony, Homonymy, Polysemy

Unit 4   **(10 Hours)**
    4.1   Sociolinguistics
        4.1.1 Dialects - Social and Geographical
        4.1.2 Pidgin, Creole Languages
        4.1.3 Choosing a Code - Code Choice
                               Code Switching
                               Code Mixing
    4.2   Neurolinguistics
        4.2.1 Language areas in the brain
        4.2.2 Language errors
        4.2.3 Aphasia

Unit 5   **(5 Hours)**
    5.1 Langue and Parole
    5.2 Saussure's Concept of Sign—Sound Image and Concept

BOOKS FOR REFERENCE

Balasubramanian, T. *A Text Book of English Phonetics for Indian Students*. Macmillan India
    Ltd,1981.

Crystal, David. *The Cambridge Encyclopaedia of the English Language*. Cambridge:
    Cambridge UP, 2003.

Palmer, Frank. *Semantics: A New Outline*. Cambridge: Cambridge UP, 1977.

---. *Grammar*, second ed. Penguin, 1971.

Yule, George. *The Study of Language: An Introduction*. Oxford UP, 1970.

Piller, Ingrid. *Linguistic Diversity and Social Justice: An Introduction to Applied
    Sociolinguistics*. Oxford UP, 2016.

Pullum, Geoffrey K. *Linguistics: Why it Matters*. Wiley, 2018

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A

Phonemic transcription of a passage (about 7-8 sentences)   10 marks

Three-term labels of phonemes of five words   5x2= 10 marks

Section B

Analyzing sentence pattern/ Disambiguate(4 sentences)   4x2.5= 10 marks

Section C

Short notes - two out of four   2x5= 10 marks

Essay - one out of two   1x10=10 marks

Other Components: **Total Marks: 50**

Classroom Tasks   2x25=50

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Phonemic transcription of a passage   10 marks

Three-term labels of phonemes of five words   5x1=   5 marks

Analysing sentence pattern – five sentences   5x1=   5 marks

Disambiguate – five sentences   5x2= 10 marks

Short notes on four out of six concepts   4x5= 20 marks

Five essays with internal choice   5x10= 50 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019-2020)

SHAKESPEARE
CODE:19EL/PC/SH44   **CREDITS:4**
                                                                         L T P:4 1 0
                                                           TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To understand and appreciate Shakespeare's craft
- To interpret Shakespeare's texts in contemporary contexts
- To engage critically with theatrical and cinematic interpretations of Shakespeare plays

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- demonstrate an understanding of the formal features of comedies, tragedies and histories as evident in the plays of Shakespeare
- study the ways and mediums through which Shakespeare's plays have been dispersed over the past four hundred years
- examine the formal features of the sonnet as evident in Shakespeare's sonnets
- examine the ways in which Shakespeare's sonnets critique received traditions
- evaluate the contemporary relevance of Shakespeare's works

Unit   1   **(20 Hours)**
1.1 *Macbeth*
        (for close reading)
Unit   2   **(20 Hours)**
2.1 *A Midsummer Night's Dream*
        (for close reading)
Unit   3   **(15 Hours)**
3.1 *Henry V*
3.2 *Henry V* film Version directed by Laurence Olivier
3.3 *Henry V* film directed by Kenneth Branagh
3.4 Taking on Shakespeare: Kenneth Branagh's "Henry V" - Peter Donaldson,
        Shakespeare Quarterly, Vol.42, No.1 (Spring 1991) 60-71
Unit   4   **(5 Hours)**
4.1 Sonnets: VI, XVIII, XLVI, LIII, LX, CXVI, CXXIX, CXXX, LXXXIII, CXI

Unit   5
Practical Application Tasks   **(5 Hours)**
5.1 Analysis of plays not prescribed on the syllabus
5.2 Analysis of movie/stage versions, adaptations, retellings of Shakespeare's plays

BOOKS FOR REFERENCE

Bernard, Mc Elroy. *Shakespeare's Mature Tragedies*. Princeton UP, 1976.

Bloom, Harold. *Shakespeare: The Invention of the Human*. Fourth Estate, 1999.

Brian, Vickers. *Appropriating Shakespeare: Contemporary Critical Quarrels*. Yale UP, 1993.

Campbell, Lily B. *Shakespeare's Histories: Mirror of Elizabethan Policy*. Methuen, 1973.

Charlton, H.B. *Shakespearean Comedy*. Methuen, 1945.

Coghill, Nevill. *Shakespeare's Professional Skills*. Cambridge UP, 1967.

Dieter, Mehl. *Shakespeare's Tragedies: An Introduction*. Cambridge UP, 1986.

Dollimore, Jonathan and Allan Sinfield, editors. *Political Shakespeare: New Essays in Cultural Materialism.* Manchester UP, 1985.

Fraser, Russell. *Shakespeare: The Later Years*. Columbia UP, 1976.

Harris, Jonathan Gil. *Masala Shakespeare: How a Firangi Writer Became Indian*. Aleph Book Company, 2018.

Kott, Jan. *Shakespeare Our Contemporary*. Methuen, 1967.

Leggatt, Alexander. *Shakespeare's Comedy of Love*. Methuen, 1974.

Long, Michael. *The Unnatural Scene: A Study in Shakespearean Tragedy*. Methuen, 1976.

Moschovakis, Nick, editor. *Macbeth: New Critical Essays*. Routledge, 2008.

Murphy, Andrew, editor. *The Renaissance Text.* Manchester UP, 2000.

Smith, Emma, editor. *Shakespeare's Tragedies.* Blackwell Publishing Ltd., 2004.

Tillyard, E M W. *Shakespeare's History Plays*. Chatto & Windus, 1956.

Vendler, Helen. *The Art of Shakespeare's Sonnets*. Harvard University Press, 1997.

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – three out of five 300-word essays   3x10 = 30 marks

Section B – one out of two 750-word essays   1x20 = 20 marks

Other Components: **Total Marks: 50**

Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Scheduled Class Work/ Quiz/Panel Discussion/Group Presentation/Role-Play/Dramatization/Creative Writing

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – four out of six 300-word essays   4 x10 =40 marks

Section B – three out of five 750-word essays   3 x 20 =60 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019-2020)

INDIAN LITERATURES – II

CODE:19EL/PC/IL44   **CREDITS:4**
                                                          L T P:4 2 0
                                              TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To introduce students to the literary, cultural and theoretical trends in India from India's independence to the present time
- To familiarise students with the important social, cultural, political and economic factors that shaped Indian literatures in different bhashas during this period
- To acquaint students with some significant writers and their texts in various languages
- To encourage students to critically examine patterns of continuity and change in Indian literature and culture during this period
- Sensitise students to appreciate and respect the social, cultural, linguistic and religious diversity of India

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- identify the important literary trends in India during the period under consideration
- study the texts in relation to their respective social, cultural and political contexts
- trace the varied relationships between literatures produced in different bhashas during this period
- trace the varied relationships between literary productions in various bhashas and the socio-cultural and political reality that informs them.
- interrogate patterns of continuity and change in Indian culture and tradition during this period from the perspective of literary studies

Unit   1
   Indian Aesthetics and Thought   **(15 Hours)**
   1.1. Amartya Sen   Secularism and its Discontents (from *The Argumentative Indian*)
   1.2. Bruce King   Rewriting India, Autobiography, History and Globalisation (from *Rewriting India*)
   1.3. G. N. Devy   The Masculine State (from *The G. N. Devy Reader*)
   1.4. Romila Thapar   Historical Consciousness in Early India (from *Cultural Pasts: Essays in Early Indian History*)

Unit   2
   1947–1980   **(15 Hours)**
   2.1 Popati Hiranandani   Husband
   2.2 Dhoomil   The City, Evening and an Old Man: Me
   2.3 R Parthasarathy   Rough Passages
   2.4 Khushwant Singh   India is a Strange Country

Unit 3

1980–2000 (20 Hours)

3.1 Narayan	*Kochareti*
3.2 Kanjarani Longjam Chanu	Poison Arrow
3.3 Prem Narayan Nath	Poems
3.4 Sidhalingaiah	From *A Word With You World* ("The College Students Union Elections…. And they were abashed" (pp 120-122), "Perhaps writers didn't need caste labels,…he had found me a house (pp 246-248), trans. S R Ramakrishna)
3.5 Nissim Ezekiel	In India (from *Latter Day Psalms p*p50-52*)*
3.6 A. K. Ramanujan	No Amnesiac King

Unit 4

2000 to the Present (20 Hours)

4.1 S. Ramakrishnan	*Aravaan*
4.2 Brij Nath Betaab	Ghazal
4.3 Arshad Mushtaq	That's When I Threw Stones
4.4 Arundhati Subramaniam	To the Welsh Critic who doesn't Find Me Identifiably Indian
4.5 Vivek Narayan	Shooting
4.6. Tishani Doshi	A Poem
4.7 Poile Sengupta	*So Said Shakuni Thus Spake Shurpanaka*
4.8 Keki Daruwalla	*For Pepper and Christ*

Unit 5

Practical Application Tasks (8 Hours)

BOOKS FOR REFERENCE

Deshpande, G. P., editor. *Modern Indian Drama: An Anthology*. Sahithya Akademi, 2001.

Devy, G N. *The Crisis Within: On Knowledge and Education in India*. Aleph Bopok Company, 2016.

D'Souza, Eunice. *Talking Poems: Conversations with Poets.* OUP, 1999.

Kalinnikova, Elena J. *Indian-English Literature a Perspective*. Vimal Prakashan, 1982.

Karnad, Girish. *Three Plays: Nagamandala, Hayavadana, Tughlaq*. OUP, 1997.

Karnad, Girish, Badal Sircar and Vijay Tendulkar. *Three Modern Indian Plays*. OUP, 1998.

Karnani, Chetan. *Eminent Indian English Writers*. Rawat, 2001.

Khair, Tabish. *Babu Fictions: Alienation in Contemporary Indian English Novels*. Oxford UP, 2001.

King, Bruce. Rev.ed. *Modern Indian Poetry in English*. Oxford UP, 1998.

Lisa Lau and Om Prakash Dwivedi. *Re-Orientalism and Indian Writing in English*. Palgrave Macmillan, 2014.

Mukherjee, Meenakshi. *The Twice-Born Fiction: Themes and Techniques of the Indian Novel in English*. Heinemann, 1971.

Naik, M.K. *A History of Indian English Literature*. Sahitya Akademi, 1982.

---. ed. *Aspects of Indian Writing in English*. Macmillan, 1980.

Trivedi, Harish. *Colonial Transactions*. Ohio Press, 1995.

JOURNALS
Indian Literature-Sahitya Akademi
Asian Journal of English Studies
Journal of Indian Writing in English
Asian Quarterly : An International Journal of Contemporary Issues AQ

PATTERN OF ASSESSMENT:

Continuous Assessment Test:　　　**Total Marks: 50**　　　**Duration: 90 minutes**
Section A - two out of four 650-word essays　　　　　　2x15=30 marks
Section B – one out of two 750-word essays　　　　　　1x20=20 marks

Other Components:　　　**Total Marks: 50**
Oral Presentation/Quiz/Group Presentation/Role-Play/Dramatisation/Creative Writing/ Assignments

End-Semester Examination:　　　**Total Marks: 100**　　　**Duration: 3 hours**
Section A – four out of six 650-word essays　　　　　　4x15=60 marks
Section B – two out of four 750-word essays　　　　　　2x20=40 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

DISSERTATION

CODE:19EL/PC/DS47   **CREDITS:7**
                                                       L T P:0 9 0

OBJECTIVES OF THE COURSE
- To enable students to identify a research gap
- To train students to formulate a clear research question
- To equip students with higher order critical and analytical skills and techniques of documentation
- To train students to organize arguments coherently
- To acquaint students with ethical issues involved in research

COURSE LEARNING OUTCOMES
On the successful completion of the course, students will be able to

- demonstrate a knowledge of the research process
- identify and use appropriate research methods and terminology
- deal with ethical challenges of research and exhibit a high standard of ethical behaviour
- demonstrate the skills required to write and publish research work

Course Description: Analysis / argument in the form of an extended research paper on a topic or aspect of a topic following the MLA (Eighth Edition) documentation and citation style.

Length : Around 6000-9000 words / 25-35 pages, organised in 4-5 chapters

Purpose : To demonstrate a student's capability and skill
   a) in undertaking independent, original work at the postgraduate level
   b) in preparing and writing a sustained and logically structured argument in clear prose
   c) in referencing and documentation
   d) in presentation

Scope : Students could work on
   a) an author / authors
   b) a particular theme or issue in the context of a literary work
   c) application of a given theoretical approach to a particular text / group of texts
The above entails extensive reading of primary and secondary texts
(to be done in consultation with the supervisor)

Citation and documentation   : MLA Handbook, 8th edition to be followed.

Requirement: 1. An abstract of 250-300 words
                            2. A clear thesis statement
                            3. Works Cited – a minimum of 5 secondary sources including
                                 at least 1 article
                            4. Documentation and Bibliography using MLA (Eighth
                                Edition) format
                            5. Drafting and revising process to be followed

PATTERN OF ASSESSMENT

Continuous Assessment:
Annotated Bibliography   20 marks
Draft   30 marks

No CA Test

External and Internal Evaluation of Dissertation   100 marks

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M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

DETECTIVE FICTION

CODE:19EL/PE/DF15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce the student to detective fiction and its various sub-genres
- To train them to recognise the formulae of classic detective fiction
- To help students identify the conventions of the genre and how they have evolved with the changing times

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- display an awareness of the characteristic features of detective fiction
- appreciate diverse sub-genres of detective fiction
- demonstrate an understanding of the formulae of classic detective fiction
- identify and analyse salient features of the sub-genres in select texts
- engage with the historical, political and cultural realities directing the writers and framing the readers of detective fiction

Unit	1	
	Overview of Detective Fiction	**(5 Hours)**
	1.1 History of Detective Fiction	

Unit	2	
	The Role of the Detective	**(10 Hours)**
	2.1 Dupin in Edgar Allan Poe	
	2.2 Holmes in Arthur Conan Doyle	

Unit	3	
	The Golden Age Detective Fiction	**(16 Hours)**
	3.1 Features of Classic Detective Fiction	
	3.2 Agatha Christie	

Unit	4	
	Crime Fiction: Sub-genres	**(26 Hours)**
	4.1 Hard-boiled Detective Fiction	
	4.2 The Crime Thriller	
	4.3 Spy Fiction	
	4.4 The Police Procedural	
	4.4.1 Nordic Noir	
	4.5 The Serial Killer Novel	

Unit 5
Practical Application Tasks   (8 Hours)

BOOKS FOR REFERENCE

Bernthal, J.C. *The Ageless Agatha Christie: Essays on the Mysteries and Legacies.* McFarland, 2016.

Duncan, Paul. *Film Noir: Films of Trust and Betrayal.* Harpenden, 2000.

Knox, Ronald. Introduction. *Best Detective Stories of the Year 1928.* Edited by Ronald Knox and H. Harrington. Faber and Faber, 1929, pp. xi-xiv.

Messent, P. "Introduction: From Private Eye to Police Procedural - The Logic of Contemporary Crime Fiction." *Criminal Proceedings: The Contemporary American Crime Novel.* Pluto Press, 1997.

Priestman, Martin, editor. *The Cambridge Companion to Crime Fiction.* Cambridge UP, 2003.

Qusby, Ian. *The Crime and Mystery Book: A Reader's Companion.* Thames and Hudson, 1997.

Symons, Julian. *Bloody Murder: From the Detective Story to the Crime Novel: A History.* Harmondsworth, 1974.

WEB RESOURCES

Van Dine, S.S. "Twenty Rules for Writing Detective Stories". *American Magazine,* Sept. 1928. gaslight.mtroyal.ca/vandine.htm.

PATTERN OF ASSESSMENT:

Continuous Assessment:	Total Marks: 50
One written assignment	25 marks
One seminar	25 marks

No CA Test

End-Semester Evaluation	Total Marks:100

Term paper: Analysis of any work of detective fiction in the light of any of the sub-genres prescribed in the syllabus

No End-Semester Examination

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M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

TECHNICAL WRITING

CODE:19EL/PE/TW15   **CREDITS:5**
                                        L T P:5 0 0
                              TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce students to various styles and methods in technical writing
- To train students in skills required for a technical communicator
- To train students in using basic online packages and applications as tools of technical
- writing

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- demonstrate an understanding of styles and methods in Technical Writing
- locate, evaluate and use online packages and appliances effectively
- display skills required for a technical communicator
- use visuals effectively
- integrate the components of accuracy, brevity and objectivity in Technical Writing

Eligibility Criteria
     Knowledge of MS Office

Unit   1
     Introduction   **(5 Hours)**
     1.1 What is Technical Writing?
     1.2 Difference Between Technical and Academic Writing
     1.3 The Scope of Technical Writing
     1.4 The Role and Essential Skills of a Technical Communicator

Unit   2
     Guidelines and Grammar in Technical Writing   **(12 Hours)**
     2.1.Basic Patterns and Elements of the Sentence
     2.2.Common Grammar, Usage, Punctuation Problems
     2.3.Writing with Clarity and Precision
     2.4.The Fog Factor

Unit   3
     The Writing Process   **(18 Hours)**
     3.1   Audience Analysis
     3.2   Task Analysis
     3.3   Writing and Editing (Using Track Changes)
     3.4   Communicating with Visuals

Unit   4
   Application of Technical Writing - I   **(15 Hours)**
   4.1 Writing Proposals
   4.2 Technical Reports: Survey – Report

Unit   5
   Application of Technical Writing - II   **(15 Hours)**
    5.1 Users' Manuals
    5.2 Writing for the Web

BOOKS FOR REFERENCE

Blake, Gary and Robert W Bly. *The Elements of Technical Writing*. Macmillan Publishers,
      1993
Blicq, Ronald, S and Lisa Moretto. *Technically Write*!. Prentice Hall, 2004.
Marnell, Geoffrey. *Essays on Technical Writing*. Burdock Books, 2016
Reddy, Devaki and Shreesh Chaudhary. *Technical English*. Macmillan, 2009.
Rizvi, Ashraf M. *Effective Technical Communication*. Tata McGraw-Hill, 2006.
Samson, C Donald. *Editing Technical Writing*. Oxford UP, 1995.

Electronic Resource
Business Writing – Clarity, UK

PATTERN OF ASSESSMENT:
Continuous Assessment: **Total Marks: 50**

Two written Assignments   2 x 25 = 50 marks
No CA Test

End-Semester Evaluation: **Total Marks: 100**
Project: Designing a web page, with four links (to be submitted on a CD)

No End-Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS

(Effective from the academic year 2019–2020)

ENGLISH LANGUAGE TEACHING

CODE:19EL/PE/ET15   **CREDITS:5**
                                                         L T P:5 0 0
                                    TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To acquaint students with the psychology of language learning
- To enable students to distinguish between language acquisition and language learning
- To equip students with the skill to identify the methods and approaches in language teaching
- To train students in assessing the needs of learners and in preparing lesson plans for different levels of learners
- To train them to prepare materials for teaching the four language skills
- To acquaint students with the different kinds of syllabi
- To help students gain an understanding of the principles of language testing and the different kinds of tests

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to
- gauge and use effectively the strategies identified by psychology with reference to language learning
- assess learner needs, and plan and teach lessons which take into account learners' backgrounds, and needs
- demonstrate knowledge about language skills, and the different tasks that could be used to train learners in the use of the language
- demonstrate awareness of appropriate teaching strategies
- plan and prepare lessons designed to develop their learners' overall language competence
- distinguish between various kinds of tests and their purpose

Unit   1
Introduction   **(15 Hours)**
1.1 Difference between language acquisition and language learning – L1 and L2
1.2 Psychology of Learning
        1.2.1 Behaviorism
        1.2.2 Cognitivism
        1.2.3 Humanism

Unit   2
Approaches and Methods in Teaching English   **(15 Hours)**
2.1 Grammar Translation Method
2.2 Situational Method

2.3 Audiolingual Method
2.4 Communicative Approach
2.5 Use of Technology in the Teaching of English (Using the Language Lab)

Unit   3

Syllabus   **(15 Hours)**
3.1 Definition of Curriculum and Syllabus
    3.1.1 Needs Analysis
    3.1.2 Defining Objectives
3.2 Types of Syllabus
    3.2.1 Structural Syllabus
    3.2.2 Functional Syllabus
    3.2.3 Communicative Syllabus
    3.2.4 Task-based Syllabus

Unit   4

Testing   **(10 Hours)**
4.1 Validity and Reliability in Testing
4.2 Types of Tests
4.3 Formative and Summative Testing

Unit   5

Practical Application Tasks   **(10 Hours)**
 5.1 Preparation of Tasks to teach Four Language Skills
 5.2 Teaching Practice

BOOKS FOR REFERENCE
Baxter, Andy. *Evaluating Your Students: Handbooks for Teachers.* Richmond Publishers, 1999.
Brown, H. Douglas. *Teaching by Principles: An Interactive Approach to Language Pedagogy*. Pearson Education ESL, 2007.
Dunkel, Patricia A. and Frank Pialorsi. *Advanced Listening Comprehension: Listening and Notetaking Skills.* Heinle ELT, 2005.
Epstein, Ruth and Mary Ormiston. *Tools and Tips for Using ELT Materials: A Guide for Teachers*. University of Michigan Press, 2007.
Hutchinson, Tom and Alan Waters. *English for Specific Purposes: A Learner Centred Approach*. Cambridge: Cambridge UP, 1987.
Hanratty, Luan. *TEFL 101: Principles, Approaches, Methods & Techniques*. TEFL Ideas,2016.
Hughes, Arthur. *Testing for Language Teachers. Cambridge University Press*, (1989) 2002.
Hutchinson, Tom and Alan Waters. English for Specific Purposes: A Learner Centred Approach. Cambridge UP, 1987.
Krashen, Stephen D. *Second Language Acquisition and Second Language Learning.* Pergamon Press, 1981.
Larsen-Freeman, Diane and Marti Anderson. *Techniques and Principles in Language Teaching*, 3rd edition, Oxford University Press, 2011.
Lefrancois, Guy R. *Psychology for Teaching*. Wordsworth Publishing Co., 1975.
Nunan, David. *The Self-Directed Teacher: Managing the Learning Process*. Cambridge University Press, 1996.
Prabhu, N.S. *Second Language Pedagogy*. Oxford UP, 1987.

Renandya, Willy A and Handoyo Puji Widodo, eds. *English Language Teaching Today*. Springer, 2016.

Richards, Jack C. and T.S. Rodgers. *Approaches and Methods in Language Teaching: A Description and Analysis*. Cambridge UP, 1986.

Rivers, Wilga. M. *Interactive Language Teaching*. Cambridge UP, 1987.

Weir, C. *Language Testing and Validation: An Evidence-Based Approach*. Palgrave Macmillan, 2005.

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	**Total Marks: 50**	**Duration: 90 minutes**
Section A – three out of four 150-word answers		3x5=15 marks
Section B – one out of two 650-word essays		1x15=15 marks
Section C – preparation of tasks for a given passage		20 marks

Other Components:	**Total Marks: 50**	
Practice teaching (Teaching their own classmates/ Bridge Course students)		25 marks
Preparation of lesson plan		25 marks

End-semester Evaluation (Internal)   **Total Marks: 100**
Portfolio (Preparation of materials, five lessons)

No End-Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019-2020)

CHILDREN'S LITERATURE

CODE:19EL/PE/CL15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce students to the key tenets of children's literature and the postulations of key theorists in the field
- To help them read and interpret literary texts written by adults for children
- To introduce students to the features of specific sub-genres in the field

COURSE LEARNING OUTCOMES
On completion of the course, the students will be able to

- appreciate the paradoxes involved in the term Children's Literature
- engage with and identify the features of the Fairy Tale, the Folk Tale, the Postmodern Picturebook, the Fantasy, the School Story and the Graphic Novel
- comprehend the influence of adult ideologies and the role of socio-cultural constructs in texts written for children
- appreciate and analyse texts intended for children across cultures
- engage with texts for children as cultural artefacts

Unit	1	
	Introduction to Children's Literature	**(10 Hours)**
	1.1 Defining Children's Literature	
	1.2 How to read Children's literature	
Unit	2	
	The Folk Tale and The Fairy Tale	**(15 Hours)**
	2.1 Features of the Folk Tale	
	2.1.1 *Gulla and the Hangul* – Mariam Karim Ahlawat and Proiti Roy	
	2.1.2 *Under the Neem Tree* – P Anuradha and A. V. Ilango	
	2.2 Features of the Fairy Tale	
	2.2.1 Fairy Tale Motifs across Cultures: Cinderella Stories Across The World	
Unit	3	
	The Postmodern Picturebook	**(15 Hours)**
	3.1. Features of the Postmodern Picturebook	
	3.1.1. *King and King* –Stern Nijland and Linda De Haan	
	3.2. Metafiction and the Postmodern Picturebook	
	3.2.1 *The Stinky Cheese Man and Other Fairly Stupid Tales* John Scieszka and Lane Smith	

Unit   4
The Novel   (18 Hours)
4.1 Features of the Fantasy
      4.1.1 *Harry Potter and the Philosopher's Stone*- J K Rowling
4.2 Features of the Graphic Novel
      4.2.1   *Captain Coconut and the Case of the Missing Bananas*
          Anushka Ravishankar
Unit   5
Practical Application Tasks   (7 Hours)

BOOKS FOR REFERENCE
Alston, Ann. *The Family in English Children's Literature*. Routledge, 2008.
Cullingford, Cedric. *Children's Literature and its Effects: The Formative Years*. Cassel,1998.
Grenby, M. O., and Kimberley Reynolds. *Children's Literature Studies: A Research Handbook*. Palgrave, 2011.
Haviland, Virginia, editor. *Children and Literature: Views and Reviews*. Bodley Head, 1974.
Kakar, Sudhir. *The Inner World: A Psycho-Analytic Study of Childhood and Society in India*. 2nd ed., Oxford UP, 1981.
Peter, Hunt, editor. *Understanding Children's Literature: Key Essays from the International Companion Encyclopaedia of Children's Literature*. Taylor & Francis e-Library, 1999. *BookFI.* en.bookfi.net.
Reynolds, Kimberley. *Children's Literature in the 1890s and the 1990s*. Writers and Their Work Series, Northcote House in association with the British Council, 1994.
---. *Radical Children's Literature: Future Visions and Aesthetic Transformations in Juvenile Fiction*. Palgrave, 2007.
Sipe, Lawrence R., and Sylvia Pantaleo, editors. *Postmodern Picturebooks: Play, Parody, and Self-Referentiality.* Routledge, 2008.
Styles, Morag, and Eve Bearne, editors. *Art, Narrative and Childhood.* Trentham, 2003.
Superle, Michelle. *Contemporary English-Language Indian Children's Literature: Representations of Nation, Culture, and the New Indian Girl*. Routledge, 2011.

JOURNALS
CLAQ - Children's Literature Association Quarterly
IBBY - The International Board on Books for Young People

WEB RESOURCES
Anstey, Michele. "'It's Not All Black and White': Postmodern Picturebooks and New Literacies." *Journal of Adolescent & Adult Literacy*, vol. 45, no. 6, 2002, pp. 444+.
Academic Search Elite. www.scribd.com/doc/91921813/Postmodern-Picture-Books.
Berry, Nita. "Social Change through Children's Books – An Indian Perspective." *Children and Their Books. Bookbird*, vol. 54, no.1, pp. 48–54*. IBBY*, www.ibby.org.
Gubar, Marah. "Risky Business: Talking about Children in Children's Literature Criticism."
Children's Literature Association Quarterly, vol. 38, no. 4, 2013, pp. 450–57. *Literature Online.*
Serafini, Frank, and Felicia Tompkins. "Books In/As/Through Books." *The Reading Teacher*, vol. 68, no. 5, 2015, pp. 344–46. *EBSCOhost.*
Smith, Tamara Ellis. "The Vibrant Triangle: The Relationship between the Picture Book, the Adult Reader, and the Child Listener." *Bookbird*, vol. 51, no. 2, 2013, pp. 66–69. *IBBY*, www.ibby.org.

PATTERN OF ASSESSMENT:

Continuous Assessment:	**Total Marks: 50**
One written assignment	25 marks
One group presentation	25 marks

No CA Test

End-Semester Evaluation	**Total Marks: 100**
A 2000-word Term Paper (Critical Analysis/Creative)	

No End-Semester Examination

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

CREATIVE WRITING

CODE:19EL/PE/CW15   **CREDITS:5**
                                                                 L T P:5 0 0
                                              TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To enable students to analyse aspects of poetry, fiction, drama and film scripts
- To enable them to produce a creative piece in a specific genre
- To give students hands-on training in producing a piece of creative writing
- To enable students to understand their writing process and discuss the importance of editing in order to publish one's work.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- demonstrate an understanding of the aspects of poetry, fiction, drama and film scripts
- produce a creative piece based on the various aspects of poetry, fiction, drama and film scripts
- demonstrate an awareness of the features of different literary genres to be used in producing a creative piece in a specific genre
- create works of poetry, fiction, drama as well as film scripts
- understand the significance of analysing their own writing process and editing their creative writing piece in order to publish their work

Unit   1
   Introduction to Creative Writing   **(5 Hours)**
      1.1 Why do we write?
      1.2 The writing process
      1.3 Editing your work
      1.4 Publishing and marketing

Unit   2
   Poetry   **(15 Hours)**
      2.1 Using poetic devices: simile, metaphor, imagery, symbol, synecdoche, metonymy, rhyme and rhythm
      2.2 Types of Poetry
         2.2.1. Haiku
         2.2.2. Blackout Poetry
         2.2.3. Performance / Slam Poetry
         2.2.4. Free Verse
         2.2.5. Sonnet

Unit   3

  Fiction   **(15 Hours)**
     3.1 Aspects of Fiction
        3.1.1 Creating plot, character, setting, point of view, themes
        3.1.2 Writing linear and non-linear narratives
     3.2 Types of Fiction: Flash fiction, short story and the novel
        3.2.1 Epistolary Novel
        3.2.2 Stream-of-Consciousness
        3.2.3 Speculative Fiction (Fantasy, Science Fiction, Horror etc.)
        3.2.4 The Novel of Social Realism
        3.2.5 The Bildungsroman

Unit   4

  Drama   **(15 Hours)**
    4.1 Aspects of Drama
        4.1.1   Creating plot, character, setting
        4.1.2   Writing dialogue
        4.1.3   Writing Stage Directions
   4.2 Types of Drama: Plays and Playlets
        4.2.1 Comedy
        4.2.2 Tragedy

  Unit 5

  Scriptwriting   **(15 Hours)**
     5.1 Aspects of Scriptwriting
        5.1.1 Creating plot, character, setting
        5.1.2 Writing dialogue
        5.1.3 Writing the mis-en-scene
     5.2 Linear and non-linear narrative structure

BOOKS FOR REFERENCE
Dancyger, Ken, and Jeff Rush. *Alternative Scriptwriting: Successfully Breaking the Rules.*
      Focal Press, 2007.
Disher, Gary. *Writing Fiction: An Introduction to the Craft*. Allen & Unwin, 2001.
Eagleton, Terry. *How to Read a Poem*. Blackwell Publishing Ltd, 2007.
Earnshaw, Stephen editor. *The Handbook of Creative Writing*. Edinburgh University Press,
      2007.
Fry, Stephen. *The Ode Less Travelled*. Hutchinson, 2005.
Harper, Graeme. *Critical Approaches to Creative Writing*. Routledge, 2018.
Le Guin, Ursula K. *Steering the Craft*. Mariner Books, 1998.
Mills, Paul. *The Routledge Creative Writing Coursebook*. Routledge. 2006.
Neale, Derek editor. *A Creative Writing Handbook: Developing Dramatic Technique*,
      Individual Style and Voice. A & C Black Publishers Ltd., 2009.

WEBSITES
www.poets.org
www.poetryfoundation.org
www.literarydevices.org

PATTERN OF ASSESSMENT:

Continuous Assessment:	**Total Marks: 50**
One written assignment	25 marks
One seminar	25 marks

(Both the above may include passage analysis, adaptation, dramatisation, scriptwriting, writing based on prompts)

No CA test

End-Semester Evaluation	**Total Marks: 100**
Creative Writing Project	

No End-Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS

(Effective from the academic year 2019–2020)

NEW FICTION AND THE CONTEMPORARY WORLD

CODE:19EL/PE/NF15   **CREDITS:5**
L T S:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To enable students to read, analyse, and assess twenty-first century fiction in the light of global, national and other topical issues
- To encourage them to engage with these issues in ways that will bring them to a deeper understanding and awareness of these in relation to their lives

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- critically analyse new fiction
- understand the social, political, economic, and cultural contexts that shape new fiction
- relate to new fiction
- arrive at a better understanding of the contemporary world
- engage better with the contexts that shape new fiction

Course Content
Two award winning novels of the year / previous year to be selected by the course teacher and students. (To select, if possible, one novel in English by an Indian author)

Unit   1
   Introduction to Fiction   **(10 Hours)**
   1.1 The Novel
   1.2 The Short story

Unit   2
   Introduction to the Context/ Text   **(10 Hours)**
   2.1 Political and Economic Background
   2.2 Cultural, Literary and Social Background

Unit   3
   Novel 1   **(17 Hours)**

Unit   4
   Novel 2   **(17 Hours)**

Unit   5
   Practical Application Tasks   **(11 Hours)**

BOOKS FOR REFERENCE

Eaglestone, Robert. *Contemporary Fiction: A Very Short Introduction.* Oxford University
      Press, 2013.

Eaglestone, Robert, and Daniel OGormon. *The Routledge Companion to Twenty-First
      Century Literary Fiction*. Routledge, 2019.

Easthope, Antony. *Literary into Cultural Studies*. Routledge, 1991.

Walder, Dennis. Ed. *Literature in the Modern World: Critical Essays and Documents*.
      (1990). Oxford UP, (2nd Rev. ed.) 2004.

Continuous Assessment:	**Total Marks: 50**
One oral presentation	25 marks
One take-home test	25 marks

No CA Test

End-Semester Evaluation (Internal)	**Total Marks: 100**
A 2000-word term paper	

No End-Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

READING FILMS

CODE:19EL/PE/RF15   **CREDITS:5**
                                                               L T P:5 0 0
                                         TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce students to the evolution of films and to significant movements in cinema
- To help students analyse films as an art form, using film language, editing, camera angles and movements as well as the sound in cinema
- To enable students to study various forms of representation in films
- To enable students to analyse the relationship between literature and films through adaptations
- To enhance the students' understanding of representation in cinema through the prescribed texts

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- trace the evolution of cinema and major film movements
- critically analyse cinema from various perspectives
- identify various technical aspects of cinema
- appreciate and develop an academic discourse on cinema
- analyse the relationship between films and literature through adaptations

Unit   1
Evolution of Films   **(8 Hours)**
1.1 Evolution of films from still to moving pictures
1.2 Evolution of films from black and white to colour
1.3 Evolution of films from silent movies to talkies
Texts to be discussed:
Lumière Brothers   *The Arrival of a Train*
George Melies   *A Trip to the Moon*
Edwin Porter   *The Great Train Robbery* (1903)
Dadasaheb Phalke   *Growth of a Pea Plant*

Unit   2
How to Read a Film   **(15 Hours)**
2.1 Film Language – aspect ratio, mis-en-scène, montage, etc.
2.2 Editing – montage, jump cut, cross cut, fade, dissolve, iris in/out, etc.
2.3 Cinematography-camera movements and angles
2.4 Sound-diegetic and non-diegetic sounds

Unit 3

Global Cinematic Movements (16 Hours)

3.1 Italian Neorealism	Vittorio De Sica	*Ladri di Biciclette*
3.2 French New Wave	François Truffaut	*Les Quatre Cents Coups*
3.3 Iranian New Wave	Jafar Panahi	*Offside*
3.4 Indian Parallel Cinema	Satyajit Ray	*Pather Panchali*

Unit 4

Representation in Indian Cinema (16 Hours)

4.1 Tom Emmatty	*Oru Mexican Aparatha*
4.2 Mari Selvaraj	*Pariyerum Perumal*
4.3 Karan Johar	'Ajeeb Dastaan Hai Yeh' from *Bombay Talkies*
Zoya Akhtar	'Sheila Ki Jawaani' from *Bombay Talkies*
4.4 Alankrita Shrivastava	*Lipstick Under My Burkha*

Unit 5

Adaptations (10 Hours)

5.1 Vishal Bharadwaj	*Maqbool*
5.2 Danny DeVito	*Matilda*

BOOKS FOR REFERENCE

Abrahams, Nathan, et al. *Studying Film*. Arnold: Hodder Headline Group, 2001.
    Aitken, Ian. *European Film Theory and Cinema: A Critical Introduction*. Edinburgh University Press, 2001.

Andrew, Dudley. *Concepts in Film Theory*. Oxford University Press, 1984.

Bazin, Andre. *What is Cinema? Vol. I*. University of California Press, 2005.

Bhaskar, Ira. 09 Apr 2013, "The Indian New Wave*". Routledge Handbook of Indian Cinemas*. edited by K. Moti Gokulsing and Wimal Dissanayake. Routledge, 2019. pp. 19-34.

Buckland, Warren, editor. *Film Theory and Contemporary Hollywood Movies*. Routledge, 2009.

Butler, Andrew. *Film Studies*. Pocket Essentials, 2005.

Dixon, Wheeler Winston and Foster, Gwendolyn. *A Short History of Film*. Rutgers University Press, 2018.

Elsaesser, Thomas, and Malte Hagener. *Film Theory: An Introduction Through the Senses*. Routledge, 2010.

Hutcheon, Linda. "In Defence of Literary Adaptation as Cultural Production." *Media Culture Journal*, vol. 10, no. 2, May 2007.

http://journal.media-culture.org.au/0705/01-hutcheon.php

Kuhn, Annette, Guy Westwell. *A Dictionary of Film Studies.* OUP, 2012.

Monaco, James. *How to Read a Film: The World of Movies, Media, and Multimedia: Language, History, Theory*. Oxford University Press, 2000.

Nichols, Bill. *Movies and Methods.* University of California Press, 1976.

Nichols, Bill. *Engaging Cinema: An Introduction to Film Studies.* W. W. Norton and Company, 2010.

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A: four out of six 150-word essays   4x5=20 marks
Section B: three out of five 300-word essays   3x10=30 marks

Other Components: **Total Marks: 50**
Assignment/Seminar/Presentation/Open Book Test/Film Analysis/Quiz

End-semester Evaluation   **Total Marks: 100**

A 2000 word term paper

No End-Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
Postgraduate Elective Course offered by the Department of English to
M.A / M.Sc. Degree Programme

SYLLABUS
(Effective from the academic year 2019-2020)

ENGLISH FOR COMMUNICATION

CODE:19EL/PE/EC23   **CREDITS:3**
                                                        L T P: 3 0 0
                                          TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE
- To train students to listen carefully and record accurately vital information in specific contexts
- To help students improve their proficiency in spoken English
- To train students to interpret visual representation of facts and ideas
- To help students identify grammatical inaccuracies in a text
- To enable students to draft well-structured paragraphs, and letters of application and complaint

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- listen and accurately record essential information in specific contexts
- speak fairly proficient English
- read and interpret verbal and graphic representation of information
- write organized and coherent paragraphs
- write formal letters of application and complaint

Target Learners
- Postgraduate students with considerable proficiency in English

Unit   1
   Listening   **(8 Hours)**
   1.1 Listening for gist
   1.2 Listening for specific information
           1.2.1   Instructions
           1.2.2   Announcements
   1.3 Note-taking
           1.3.1   Telephonic Messages
           1.3.2   Lectures
Unit   2
   Speaking   **(15 Hours)**
   2.1 Using appropriate registers
   2.2 Pronunciation
   2.3 Intonation
   2.4 Tone
   2.5 Role Play
   2.6 PowerPoint Presentation

Unit   3

   Reading   **(8 Hours)**
   3.1 Skimming: Identifying the main points of a text
    3.2 Scanning: Looking for specific information in a text
    3.3 Interpreting charts, graphs, pie-diagrams etc.

Unit   4

   Writing   **(8 Hours)**
   4.1 Error identification
   4.2 Paragraph Writing
   4.3 Summarising
   4.4 Writing Formal Letters
            4.4.1 Letter of application
            4.4.2 Letter of compliant

BOOKS FOR REFERENCE

Anand, Renu. Gayatri Khanna. *Oxford Communicative : English Resource Book.* Oxford, 2016.

Jones Macziola,Sarah& Greg White. *Getting Ahead: A Communication Skills Course for Business English: Teacher's Book.* Cambridge, 2001.

…. Getting Ahead: A Communication Skills Course for Business English: Learner's Book. Cambridge, 2001.

Jones Leo & Richard Alexander. *New International Business English: Teacher's Book.* Cambridge, 1997.

…, New International Business English: Student's Book. Cambridge, 2000.

*…, New International Business English: Workbook.*Cambridge, 2000.

Kumar, Sanjay & Pushp Latha. *Communication Skills.* II Edition. Oxford, 2015.

Mavor, Ferrier. W. *English for Business.* New Jersey, 1988.

Pandey, Meenu, Anant Acharya & Ankush Tripathi. *Ace Your Communication Skills.* Rigi, 2017.

WEB RESOURCES
www.cambridgeenglish.org
www.pearsonlongman.com

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	**Total Marks: 50**	**Duration: 90 hours**
Role-play		10 marks
Listening to a lecture – Note-taking / Summarising		10 marks
Reading Comprehension		10 marks
Power-point presentation (graphic representation of facts & figures)		20 marks

End-Semester Examination:	**Total Marks:100**	**Duration:3 hours**
Section A – Reading Comprehension (passages)		20 marks
Bar Charts / Pie charts / graphs		20 marks
Section B – Error-identification		10 marks
Vocabulary		10 marks
Section C – Paragraph writing		10 marks
Summarising		10 marks
Letters of application and complaint		2 x 10 = 20 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
Postgraduate Elective Course offered by the Department of English to
M.A / M.Sc. Degree Programme

SYLLABUS
(Effective from the academic year 2019–2020)

LITERATURE AND SPIRITUALITY

CODE:19EL/PE/LS23   **CREDIT:3**
                                                        L T P:3 0 0
                                              TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To introduce students to the spiritual and mystical dimensions of different religious traditions, through literature
- To enable students to explore and appreciate expressions of spiritual experience within major religious traditions
- To promote, in students, an understanding of the commonality and differences among various spiritual traditions

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- demonstrate an understanding of spiritual traditions and practices within major religious traditions of the world
- display the skills required to interpret spiritual texts from across traditions
- appreciate the pluralistic discourses embedded within religious traditions
- show an awareness of the importance of the spiritual dimension in the holistic growth of an individual
- engage in an inter-faith dialogue

Unit   1   **(8 Hours)**
1.1 Sumangalamata   At Last Free (*from Women in Praise of* the
                                      Sacred Ed. Jane Hirschfield, p 18)
1.2 Three Tantric Buddhist Women's Song (*from Women in Praise of* the
                                      Sacred Ed. Jane Hirschfield, p 51-52)
1.3 Surdas   Today My Friend (*from Sur's Ocean* Trans.
                                      John Stratton Hawley, p 33)
1.4 Basavanna   The Elephant is Huge (*from Eating God* Ed.
                                      Arundhathi Subramanian, p 134)
1.5 Mirabhai   Love has stained my body (*from Women in
                                      Praise of the Sacred* Ed. Jane Hirschfield, p 133)

Unit   2   **(8 Hours)**
2.1 The Bible   Psalm 23 *New King James Version*
2.2 The French Beguine   from *The Soul Speaks (from Women in Praise of
                                      the Sacred* Ed. Jane Hirschfield, p 111-112)
2.3 Donne   Hymn to God the Father
2.4 Christina Rossetti   Spring
2.5 Hopkins   God's Grandeur

Unit 3   (11 Hours)

3.1 Rumi	Story-Water *(from Essential Rumi* Ed. Coleman Barks, p 171-172, 265)
3.2 Rabi'a	I am fully qualified *(from Women in Praise of the Sacred* Ed. Jane Hirschfield p 43)
3.3 Kabir	Saints I See The World Is Mad
3.4 Sheikh Muzaffer	Stories *(from Essential Sufism* Ed. James Fadiman p 131, 132, 146)
3.5 Yunus Emré	I Haven't Come Here To Settle Down

Unit 4   (12 Hours)

4.1 Enheduanna	O my Lady, Beloved of Heaven (from Women in Praise of *the Sacred* Ed. Jane Hirschfield p 3)
4.2 Sappho	Leave Crete *(from Women in Praise of the Sacred* Ed. Jane Hirschfield p 16)
4.3 Nahuatl	Invocation for Storing of Corn *(from Women in Praise of the Sacred* Ed. Jane Hirschfield p 146)*
4.4 Denis Levertov	The Goddess

BOOKS FOR REFERENCE

Fadiman, James. Ed. *Essential Sufism.* Castle Books, 1997.

Hirschfield, Jane. *Women in Praise of the Sacred.* HarperPerennial, 1994.

James, William. *The Varieties of Religious Experience*. Modern Library, 1902.

King, Ursula. *Christian Mystics: Their Lives and Legacies throughout the Ages*. Routledge, 2004.

Knysh, Alexander. *Sufism: A New History of Islamic Mysticism.* Princeton University Press, 2017.

Sivaramakrishna, M and Sumita Roy. *Poet Saints of India***.** Sterling Publishers, 1996.

Subramaniam, Arundhathi. Ed. *Eating God.* Penguin Ananda, 2014.

Underhill, Evelyn. *Mysticism: A Study In Nature And Development Of Spiritual Consciousness*. Methuen & co., 1911.

JOURNALS
Bhakti Studies
Renascence
WEBSITES
www.innerexplorations.com
www.sacred-texts.com/isl/
http://www.poetry-haikhana.com/Poets/E/Emre Yunus/Ihaventomeh/index.html
http://symbolreader.net/2014/08/24/the-goddess-by-denise-levertov/

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	**Total Marks: 50**	**Duration: 90 minutes**
Section A – two out of four 650-word essays		2x15=30 marks
Section B – one out of two 750-word essay		1x20=20 marks
Other Components:	**Total Marks: 50**	

Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Quiz/Panel Discussion/
Group Presentation/Role-Play/Dramatisation
Creative Writing

End-Semester Examination:	**Total Marks: 100**	**Duration: 3 hours**
four out of six 800-word essays		4x25=100 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
Postgraduate Elective Course offered by the Department of English to
M.A / M.Sc. Degree Programme

SYLLABUS
(Effective from the academic year 2019–2020)

LITERATURE, MYTH AND FOLKLORE

CODE:19EL/PE/MF23   **CREDITS:3**
L T P:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To understand the historical and contemporary significance of mythic and folk narratives from across the world.
- To compare and contrast mythic and folk narratives cross-culturally with reference to cultural distinctiveness, historical interaction and contemporary relevance.
- To analyze the influence of mythic and folk narratives on art, literature, films etc.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- demonstrate an understanding on the influence of mythological narratives in society.
- demonstrate an understanding on the influence of folk narratives in society.
- appreciate the cultural similarities in mythological and folk narratives
- appreciate the cultural differences in mythological and folk narratives
- examine the mythic and folk influences in contemporary culture

Unit 1
Myths of Creation   **(9 Hours)**
1.1 Lumerai, the Mother Snake: A Rainbow Serpent Creation Story from the Northern Territory (Australia)
1.2 Pan-Gu and the creation of the world (China)
1.3 Odin and Ymir (Norse)
1.4 The Flood, Epic of Gilgamesh (West Asia)

Unit 2
Myth and Gender   **(10 Hours)**
2.1 Pandora (Greek)
2.2 Shiva-Shakti (India)
2.3 Why Women Have Long Hair (Pan-African)
2.4 The Princess in the Tower (Jewish)

Unit 3
Myth and the Non-Human World /Natural World   **(10 Hours)**
3.1 Anansi (Africa)
3.2 How Marshlands Came to Be (Siberian)
3.3 Pele (Hawaiian Volcano goddess)
3.4 Namazu, the Earth Shaker (Japanese)

Unit   4

   Myth of Nations and Communities   **(10 Hours)**
   4.1 The White Buffalo Woman (Lakota)
   4.2 St. Patrick and the Snakes (Irish)
   4.3 People of the Sacred Tree (Pygmy)
   4.4 The People Could Fly (African American)

BOOKS FOR REFERENCE

Billson, Janet Mancini and Kyra Mancini. *Inuit Women: Their Powerful Spirit in a Century of Change*. Rowman & Littlefield. 2007.

Bronner, Simon. *Folklore: The Basics*. Taylor & Francis. 2016.

Colum, Padraic. *Nordic Gods and Heroes*. Dover Publications, 1996.

Bendix, Regina F, and Galit Hasan-Rokem. Ed *A Companion to Folklore*. Blackwell Publishing Ltd., 2012.

George, Andrew. *The Epic of Gilgamesh: The Babylonian Epic Poem and Other Texts in Akkadian and Sumerian*. Penguin Classics, 2002.

Gokhale, Namita. *The Book of Shiva*. Penguin UK, 2012.

Kleeman, Terry and Tracy Barret. *The Ancient Chinese World*. Oxford University Press, 2005.

Kenaan, Vered Lev. *Pandora's Senses: The Feminine Character of the Ancient Text*. The University of Wisconsin Press, 2008.

Stookey, Lorena Laura. *Thematic Guide to World Mythology*. Greenwood Press, 2004.

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	Total Marks: 50	Duration: 90 minutes
Section A: two out of four 300-word essays		2x10= 20 marks
Section B: two out of four 650-word essays		2x15= 30 marks

Other Components: **Total Marks: 50**
Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Quiz/Panel Discussion/ Group Presentation/Role-Play/Dramatisation/ Creative Writing

End-Semester Examination:	Total Marks: 100	Duratin:3 hours
Section A: four out of six 250-word essays		4x10= 40 marks
Section B: three out of five 750-word essays		3x20= 60 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
Postgraduate Elective Course offered by the Department of English to
M.A / M.Sc. Degree Programme

SYLLABUS
(Effective from the academic year 2019–2020)

FANTASY FICTION

CODE:19EL/PE/FF23   **CREDITS:3**
L T P:3 0 0
TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE
- To introduce students to various definitions of fantasy fiction
- To introduce students to the history of fantasy fiction

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- demonstrate a basic understanding of the sub-genre of fantasy fiction
- identify the genre and features of fantasy fiction
- discuss the evolution of fantasy fiction
- evaluate and discuss a work of fantasy fiction using prescribed texts
- discuss the socio-cultural contexts and their impact on works of fantasy fiction

Unit 1   **(7 Hours)**
1.1 Introduction to Fantasy Fiction

Unit 2   **(6 Hours)**
2.1 Evolution of Fantasy Fiction

Unit 3   **(13 Hours)**
3.1 Ursula K Le Guin   Dragonfly

Unit 4   **(13 Hours)**
4.1 Nnedi Okarofor   *Akata Witch*

BOOKS FOR REFERENCE
Card, Orson Scott. "The Infinite Boundary". *How to Write Science Fiction and Fantasy*.
        Writers' Digest Books. 1990.
Dalton, A. J. *Sub Genres of British Fantasy Literature*. Luna Press Publishing, 2017.
Hume, Kathryn. *Fantasy and Mimesis*. Methuen, 1984.
Mendelsohn, Farah, Edward James. *A Short History of Fantasy*. Middlesex University
        Press, 2009.
Reid, Robin Anne. *Women in Science Fiction and Fantasy (Vol. 1 & 2)*. Greenwood
        Press, 2009.
Sinclair, Frances. *Fantasy Fiction*. School Library Association, 2008.
Stableford, Brian. *The A to Z of Fantasy Literature*. The Scarecrow Press, Inc., 2009.
Swinfen, Ann. *In Defense of Fantasy: A Study of the Genre in English and American
        Literature Since 1945*. Routledge & Kegan Paul, 1984.

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A: two out of four 300-word answers   2x10= 20 marks
Section B: two out of three 750-word essays   2x15= 30 marks

Other Components: **Total Marks: 50**
Assignment/Seminar/Presentation/Take Home Test/Open Book Test/Quiz/Panel Discussion/
Group Presentation/Role-Play/Dramatisation/ Creative Writing

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A: three out of five 300-word answers   3x10= 30 marks
Section B: two out of four 650-word essays   2x15= 30 marks
Section C- two out of four 750-word essays   2x20= 40 marks

M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS

(Effective from the academic year 2019–2020)

POPULAR FICTION

CODE:19EL/PI/PF24   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To encourage students to identify features of popular fiction
- To guide students to an appreciation of the balance between popular appeal and aesthetic value

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- identify features of popular fiction
- identify and critique techniques that contribute to the popular appeal of works of fiction
- understand and appreciate works of fiction that become a crucial part of the contemporary milieu

COURSE CONTENT
Two bestsellers from the past three years, with literary merit, to be selected by the course teacher and student/s, in consultation with the faculty of the Department

BOOKS FOR REFERENCE
Berberich, Christine, editor. *The Bloomsbury Introduction to Popular Fiction*. Bloomsbury, 2015
Glover, David and Scott McCracken, editors. *The Cambridge Companion to Popular Fiction*. Cambridge UP, 2017.

PATTERN OF ASSESSMENT
End-Semester Examination   **Total Marks:100**
Four out of six 850-word essays   4x25= 100 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
M.A. DEGREE: BRANCH VII - ENGLISH

SYLLABUS
(Effective from the academic year 2019–2020)

LITERATURE AND SCIENCE

CODE:19EL/PI/LN24   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To introduce students to the interdisciplinary field of Literature and Science
- To familiarise students with the reading methods used in this field
- To train students to read and analyse literary texts using concepts from various sciences

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- study trends in literary studies and various sciences alongside each other
- analyse the prescribed texts using concepts from different sciences

Unit   1
Theoretical Background
1.1 Mathew Arnold   Literature and Science
1.2 C P Snow   Two Cultures
1.3 Aldous Huxley   Literature and Science

Unit   2
Literature and Physics
2.1 Tom Stoppard   Hapgood

Unit   3
Literature and Mathematics
3.1 Edna St. Vincent Millay   Euclid Alone has Looked on Beauty Bare

Unit   4
Literature and Botany
4.1 Elizabeth Gilbert   Signature of All Things

Unit   5
Practical Application Tasks

BOOKS FOR REFERENCE
Alexander, Sarah C. *Victorian Literature and the Physics of the Imponderable*. Routledge, 2015.
Gold, Barry J. *Thermopoetics: Energy in Victorian Literature.* MIT Press, 2010.
Gossin, Pamela. *Routledge Encyclopaedia of Literature and Science*. Greenwood Publishing, 2002.

Haydern, Judy. *Literature in the Age of Celestial Discovery: From Copernicus to Flamsteed*. Palgrave, 2016.

Meisel, Martin. *Chaos Imagined: Literature, Art and Science*. Columbia University Press, 2016.

JOURNALS
Journal of Literature and Science
Configurations

PATTERN OF ASSESSMENT

End-Semester Examination:	**Total Marks: 100**	**Duration: 3 hours**
Four out of six 850-word essays		4x25= 100 marks

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
DEPARTMENT OF FINE ARTS
PROGRAMME DESCRIPTION

In keeping with the commitment of Stella Maris College towards nurturing academic excellence, the Department of Fine Arts offers a teaching-learning-evaluation system that assures optimal educational benefits. The M.A. programme employs multiple teaching-learning methodologies. While art and design practice nurtures the creativity of students, the study of art history provides a strong theoretical framework for their artistic expression. The combination of art theory and practice has remained unique to the curriculum and forms the strength of the programme.

The postgraduate programme provides students with a holistic art and design curriculum with focus on vocational and entrepreneurial skills for greater employability. A mandatory summer internship further enhances the exposure of students to art and design. Research is integral to the curriculum and several courses are dependent on critical enquiry, including a mandatory dissertation in the third semester.

Various curricular and co-curricular activities such as study tours, guest lectures, workshops, field visits, visits to galleries and museums, certificate courses, conferences, seminars, and collaborative projects with reputed institutions are organised or undertaken on a regular basis to enhance and complement the curriculum.

PROGRAMME LEARNING OUTCOMES

On successful completion of the postgraduate programme, it is intended that students will be able to

- Demonstrate an understanding of art history, art and design
- Describe and define critical concepts in Visual Arts
- Make a meaningful contribution to society
- Think creatively and analytically, using the skills and training imbibed from their study
- Demonstrate research writing and communication skills to present a clear, coherent and independent exposition of knowledge and ideas
- Demonstrate the skills needed to be able to function successfully in their field
- Show self-awareness and emotional maturity
- Exhibit the ability to work in teams

- Exhibit a strong sense of professionalism in a range of contexts
- Demonstrate career and leadership readiness
- Apply knowledge, theories, methods, and practices in visual arts to address real-world challenges and opportunities
- Demonstrate social and ethical responsiblity in their academic, professional and personal lives

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A. DEGREE : BRANCH X-HISTORY OF FINE ARTS

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

C-Credit, L-Lecture Hours, T-Tutorial Hours, P- Practical Hours, Ex-Exam Hours, CA- Continous Assessment Marks, ES-End Semester Marks, M-Maximum Marks									
Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
SEMESTER-I									
19FA/PC/AI14	Arts and Ideas - Indian	4	4	1	0	3	50	50	100
19FA/PC/AW14	Art and Ideas - Western	4	4	1	0	3	50	50	100
19FA/PC/P115	Drawing Practical	5	0	0	7	3	50	50	100
19FA/PC/P215	Fundamentals of Design Practical	5	0	0	7	3	50	50	100
	Department Elective I								
SEMESTER-II									
19FA/PC/T124	Design for Textiles Practical	4	0	0	6	-	50	-	100
19FA/PC/G124	Publishing Design Practical	4	0	0	6	-	50	-	100
19FA/PC/P324	Photography Practical	4	0	0	6	-	50	-	100
19FA/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
	Department Elective II								
	Common Elective I								
SEMESTER-III									
19FA/PC/CI34	Crafts in India	4	4	1	0	3	50	50	100
19FA/PC/T234	Textile Embellishment Practical	4	0	0	6	-	50	-	100
19FA/PC/G234	Communication Design I Practical	4	0	0	6	-	50	-	100
19FA/PC/DS37	Dissertation	7	0	0	8	-	50	50	100
19FA/PN/SI32	Summer Internship	2	0	0	0	-	50	-	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
	Common Elective II								
SEMESTER-IV									
19FA/PC/VC44	Visual Culture	4	4	1	0	3	50	50	100
19FA/PC/T345	Textile Printing Practical	5	0	0	7	-	50	-	100
19FA/PC/G345	Communication Design II Practical	5	0	0	7	-	50	-	100
19FA/PL/AC42	Art for Children	2	2	0	0	-	50	-	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19FA/PE/P115	Painting Practical	5	0	0	5	-	50	-	100
19FA/PE/P215	Media Exploration Practical	5	0	0	5	-	50	-	100
19FA/PE/CW15	Critical Writing	5	5	0	0	-	50	-	100
19FA/PE/RM15	Research Methodology	5	5	0	0	-	50	-	100
19FA/PE/P315	Book Illustration Practical	5	0	0	5	-	50	-	100
19FA/PE/P415	Digital Illustration Practical	5	0	0	5	-	50	-	100

M.A. DEGREE : BRANCH X-HISTORY OF FINE ARTS

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks									
Postgraduate Elective Courses Offered to Other Departments									
19FA/PE/CD23	Creative Design Practical	3	0	0	3	-	50	-	100
19FA/PE/PA23	Paper Art Practical	3	0	0	3	-	50	-	100
Independent Elective Courses									
19FA/PI/FM24	Fundamentals of Fashion Management	4	0	0	0	3	-	100	100
19FA/PI/IM24	Indian Miniature Painting	4	0	0	0	3	-	100	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

ARTS AND IDEAS - INDIAN

CODE: 19FA/PC/AI14   **CREDITS: 4**
                                                                    L T P: 4 1 0
                                        TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To provide a historical survey of Indian art with emphasis on social, cultural, religious, and political contexts
- To provide an overview of Indian art from prehistory to the postmodern
- To understand how artistic styles in painting, sculpture, and architecture were fashioned by the predominant ideas of the respective time period

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Comprehend the span of Indian art from prehistory to the postmodern
- Understand the history of artistic expression in the Indian tradition
- Discuss the political, social and religious contexts for the production and use of Indian architecture, sculpture and painting
- Understand how major ideas and religions shaped the art of the times
- Identify and discuss select, representative works of art

Unit 1   **(10 hrs)**
   Introduction
   1.1 Indus Valley Civilization: Trade and Agriculture
       1.1.1 Architecture: The Great Bath and Granary, Mohenjodaro
       1.1.2 Seals: Humped Bull, Unicorn, Yogi
   1.2 Indian Religions: Vedic, Buddhism, Jainism, Hinduism, Islam

Unit 2   **(15 hrs)**
   Buddhist and Jain
   2.1 Buddhist: The Human Ideal, Social Reformation
       2.1.1 Architecture: Stupa No.1 Sanchi; Chaitya: Karle, Cave19, Ajanta Vihara: Cave 1, 21, Ajanta; Cave No.12 (Tin Thal), Ellora
       2.1.2 Sculpture: Vedika: Ruru Jataka, Bharhut; Torana: The Enlightenment, Western gateway, The Great Departure, Conversion of Kashyap Brothers, Salabhanjika/Yakshi, Eastern gateway, Stupa No.1 Sanchi; Seated Buddha, Sarnath
       2.1.3 Painting: Chaddanta Jataka, Cave No.10, Ajanta, Bodhisattva Padmapani, Cave No.1, Ajanta
   2.2 Jain: Man and Nature
       2.2.1 Architecture: Dilwara temples, Mount Abu

2.2.2 Sculpture: Dilwara temples, Mount Abu; Gommatesvara, Sravana-Belagola
2.2.3 Painting: Sittanavasal murals, Jaina miniatures

Unit 3 (15 hrs)

Hindu: Cosmic Mythology, Symbolism and styles
3.1 Architecture
3.1.1 Rockcut architecture: Five Rathas, Mamallapuram; Kailasanatha Temple, Ellora
3.1.2 Structural architecture: North Indian: Lingaraja Temple, Bhuvaneswar; Sun Temple, Konark; Kandariya Mahadeo Temple, Khajuraho; Central Indian: Kesava temple, Somnathpur; South Indian: Shore Temple, Mamallapuram, Brihadeswara Temple, Thanjavur
3.2 Sculpture: Ardhanariswara, Gangaikondacholapuram; Vishnu Anantasayana, Deogarh; Seated Vishnu, Aihole; Plinth Relief sculptures, Hoysalasvara Temple, Halebid; Trimurti, Cave No.1, Elephanta; Nataraja Bronze, Tiruvalangadu; Shakthi: Mahishasuramardini panel, Mahishasura Mandapa, Mamallapuram
3.3 Painting: Bhakthi: Sundarar setting out on his journey to Kailash, Brihadeswara Temple, Thanjavur; Krishna and Radha in the Groves, Kangra miniature painting

Unit 4 (10 hrs)

Islam: Submission to God and Symbols of Power
4.1. Architecture: Qutb complex, Delhi; Jami Masjid, Delhi; Fatehpur Sikri Complex, Agra; Humayun's Tomb, Delhi; Akbar's Tomb, Sikandra; Taj Mahal, Agra
4.2 Mughal Miniatures: Akbar Restrains Havai, Jehangir's Dream

Unit 5 (15 hrs)

Modern: Nation as Concept: Colonialism, Nationalism, Post Colonialism
5.1 Company Painting; Raja Ravi Varma,
5.2 1900–1940s: Bengal School: Abanindranath Tagore
5.3 Jamini Roy, Amrita Shergil, D.P.Roy Choudhary, Ram Kinker Baij

5.4 1940s–1960s: Calcutta Group, Delhi Silpi Chakra, PAG, Bombay: M.F. Husain, S. H. Raza, F. N. Souza, Madras Art Movement, Cholamandal Artist's Village: K.C.S. Paniker, P.V. Janakiram

5.5 1970s: Akbar Padamsee, K.G. Subramaniam, Bhupen Khakker, Redappa Naidu, Anjolie Ela Menon, Bikash Bhatacharjee, R.B.Bhaskaran, Sudhir Patwardhan

5.6 1980s–2010: Rumana Husain, Vivan Sundaram, Nalini Malani, Atul Dodiya, Subodh Gupta, Jitish Kallat

BOOKS FOR REFERENCE

Anantharaman, Ambujam. *Temples of South India.* Chennai: East West, 2009.

Bhagat, Ashrafi. *Framing the Regional Modern: K.C.S. Paniker and the Madras Art Movement.* Thrissur: Kerala Lalithakala Akademi, 2011.

Bhalla, A.S. *Royal Tombs of India: 13th to 18th Century.* Ahmedabad: Mapin Publishing, 2009.

Brown, Percy. *Indian Architecture Vol. I: Buddhist and Hindu.* Bombay: D.B. Taraporevala Sons, 1971.

Bunce, W. Frederik. *Islamic Tombs in India: The Iconography and the Genesis of their Design.* New Delhi: D.K. Printworld, 2004.

Chakraverty, Anjan. *Indian Miniature Painting.* New Delhi: Roli and Jannsen, 1996.

Champakalakshmi, R. and Usha Kris. *The Hindu Temple.* New Delhi: Roli and Janssen, 2001.

Champakalakshmi R. *Religion, Tradition and Ideology: Pre-colonial South India.* New Delhi: Oxford University Press, 2011.

Chandra, Pramod. *The Sculpture of India: 3000 BC-1300AD.* Washington: National Gallery of Art, 1985.

Dehejia, Vidya. *Indian Art.* London: Phaidon, 1997.

Deva, Krishna. *Temples of North India.* India: National Book Trust, 1985.

Fisher, Robert E. *Buddhist Art and Architecture.* London: Thames & Hudson, 2006.

Havell, E. B. *Indian Sculpture and Painting with an Explanation of their Motives and Ideals.* New Delhi: Cosmo, 1980.

Harle, J.C. *The Art and Architecture of the Indian Subcontinent.* Middlesex: The Pelican History of Art Series, Penguin, 1986.

Jhaveri, Amrita. *A Guide to 101 Modern and Contemporary Indian Artists.* Mumbai: India Book House, 2005.

Koch, Ebba. *Mughal Architecture.* New Delhi: Oxford University Press, 2002.

Michell, George. *Hindu Art and Architecture.* London: Thames and Hudson, 2000.

Miller, Barbara Stoler. *Exploring India's Sacred Art: Selected Writings of Stella Kramrisch.* New Delhi: Indira Gandhi National Centre for the Arts, 1994.

Mitter, Partha. *Art and Nationalism in Colonial India 1850-1922: Occidental Orientations.* New York: Cambridge University Press, 1994.

Mitter, Partha. *Indian Art,* Oxford History of Art series. Oxford: Oxford University Press, 2001.

Morley, Grace. *Indian Sculpture.* New Delhi: Roli Books, 2005.

Nagaswamy, R. *Brhadisvara Temple: Form and Meaning.* New Delhi: Indira Gandhi National Centre for the Arts and Aryan Books International, 2011.

Pant, Pushesh. *Ajanta and Ellora Cave Temples of Ancient India.* Holland: Roli, 2007.

Sen Gupta, Subhadra. *Fatehpur Sikri.* New Delhi: Niyogi Books, 2013.

Sinha, Gayatri, ed. Indian Art: An Overview. New Delhi: Rupa, 2004.

Sinha, Gayatri, ed. Art and Visual Culture in India: 1857-2007. New Delhi: Marg, 2009.

Singh, Sumit. *Islamic Architecture: A Critical Study*. New Delhi: Cyber Tech Publications, 2014.

Swaminathan, S. *Mahabalipuram: Unfinished Poetry in Stone.* India: Arkey Graphics, 2011.

Talim, Meena. *Buddhist Art.* 2 Vols. Delhi: Buddhist World Press, 2014.

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**
    Continuous Assessment Test: Total Marks: 50   **Duration: 90 minutes**
        Section A – 3 x 10 = 30 marks (3 out of 4 questions)
        Section B – 1 x 20 = 20 marks (1 out of 2 questions)
    Other Components: **Total Marks: 50**
        Assignment, seminar, quiz, open book test, group discussion

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
    Section A – 4 x 10 = 40 marks (4 out of 6 questions)
    Section B – 3 x 20 = 60 marks (3 out of 4 questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

ARTS AND IDEAS - WESTERN

CODE: 19FA/PC/AW14   **CREDITS: 4**
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To provide an orientation to art history as an academic discipline
- To learn the appropriate vocabulary and critical tools for discussing and writing about works of art
- To provide a historical survey of Western art with emphasis on social, cultural, religious, and political contexts
- To understand how artistic styles in painting, sculpture, and architecture were fashioned by the predominant ideas of the respective time period

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- View art history as an academic discipline and understand its methods of analysis
- Understand the vocabulary of art history
- Understand the history of artistic expression in the Western artistic tradition, from the Classical period to the Postmodern
- Understand how major ideas shaped the art of the times
- Identify artistic styles and discuss select works of art

Unit 1   **(05 hrs)**
   Introduction
   1.1 Subjects and vocabulary of art history
   1.2 Different ways of seeing

Unit 2   **(15 hrs)**
   Classical and Medieval
   2.1   Hellenic: Humanism: Doryphorus; Idealism: Hermes and the Infant Dionysus; Rationalism: Parthenon, Athens
   2.2   Hellenistic: Realism: Nike of Samothrace, Old Market Woman
   2.3   Roman: Organisation, Utilitarianism: Pantheon, Forum of Trajan
   2.4   Early Christian and Byzantine: Authoritarianism: Justinian and Theodora mosaics, San Vitale, Ravenna
   2.5   Romanesque: Contemplative Life: Last Judgement, west tympanum, Saint-Lazare, Autun, France
   2.6   Gothic: Dualism: Chartres Cathedral, Chartres

2.7   Late Medieval: Late Medieval Naturalism: Madonna Enthroned with Saints and
       Prophets, Cimabue; Madonna Enthroned, Giotto

Unit   3   **(15 hrs)**
   Renaissance and Baroque
   3.1 Renaissance: Classical Humanism: David, Ceiling, Sistine Chapel, Michelangelo;
       School of Athens, Raphael; Scientific Naturalism: Annunciation, Fra Angelico;
       Last Supper, Leonardo da Vinci; Renaissance Individualism: Adoration of the
       Magi, Sandro Botticelli
   3.2 Counter-Reformation: Religious Dramas in Dark and Light: Conversion of St.
       Paul, Caravaggio; Faith and Transformation: St. Teresa in Ecstasy, Gian Lorenzo
       Bernini; Spirituality and Art: The Burial of Count Orgaz, El Greco; Painter of
       Courtly Life: Las Meninas, Diego Velazquez
   3.2 Baroque: Painter of an Inner Light: The Company of Captain Frans Banning Cocq
       (Night Watch), Rembrandt van Rijn; Photography before Photography: The Art
       of Painting, Jan Vermeer

Unit   4   **(15 hrs)**
   Eighteenth and Nineteenth Century
   4.1 Neoclassicism: In Service of the Revolution: The Oath of Horatii, Jacques Louis
       David
   4.2 Romanticism: Art and Revolution: Liberty Leading the People, Eugene Delacroix;
       Painting the News: Raft of the Medusa, Theodore Gericault; The Third of May
       1808, Francisco Goya; Back to Nature: Haywain, John Constable; Slavers
       Overthrowing the Dead and Dying, J M W Turner
   4.3 Realism: Social Commentary: Third Class Carriage, Honore Daumier; Realism
       and Scandal: Olympia, Edouard Manet; Realism and Geometry: The Cotton
       Exchange at New Orleans, Edgar Degas; Sculptural Realism: Gates of Hell,
       Auguste Rodin
   4.4 Impressionism: Painter of Air and Mist: La Gare Saint Lazare, Claude Monet; Art
       and the City: Bar at the Folies-Bergere, Edouard Manet
   4.5 Post-Impressionism: Alliance of Art and Science: Sunday Afternoon on the Island
       of La Grande Jatte, Georges Seurat; Mont St. Victoire, Paul Cezanne; Symbolism
       in the Arts: Starry Night, Vincent van Gogh; Vision after the Sermon, Paul
       Gauguin

Unit 5   **(15 hrs)**
   Twentieth Century Art
   5.1 Early Twentieth Century: Modernism
       5.1.1 Fauvism: Harmony in Red, Henri Matisse
       5.1.2 Expressionism: The Scream, Edvard Munch; Expressionism in Germany:
       The Street, Dresden, Ernst Ludwig Kirchner
       5.1.3 Cubism: Les Demoiselles d' Avignon, Pablo Picasso; Man with a Guitar,
       Georges Braque
       5.1.4 Futurism: Nude Descending the Staircase, Marcel Duchamp

5.1.5 Surrealism: Persistence of Memory, Salvador Dali; Palace at 4 am, Alberto Giacometti; Two Fridas, Frida Kahlo

5.1.6 Abstraction: Composition with Red, Blue and Yellow, Piet Mondrian; Composition VIII, Vassily Kandinsky; Reclining Figure, Henry Moore; The Spiral, Alexander Calder

5.1.7 Antiwar Art: The Night, Max Beckmann; The Avenger, Ernst Barlach; Guernica, Pablo Picasso

5.2 Mid-twentieth century:

5.2.1 Abstract Expressionism: No.1, Jackson Pollock; No.14, Mark Rothko

5.2.2 Pop Art: Green Coca-Cola Bottles, Andy Warhol; Hopeless, Roy Lichtenstein; Monogram, Robert Rauschenburg

5.3 New Millennium: Postmodernism

5.3.1 Photorealism: Supermarket Shopper, Duane Hanson

5.3.2 Feminism: The Dinner Party, Judy Chicago; Untitled, Cindy Sherman; Your Gaze Hits the Side of My Face, Barbara Kruger

5.3.3 Conceptual Art: One and Three Chairs, Joseph Kosuth

5.3.4 Earth Art: Spiral Jetty, Robert Smithson

5.3.5 Social and Political Art: Stereo Styles, Lorna Simpson

5.3.6 New Media: Mansheshe, Tony Oursler

BOOKS FOR REFERENCE

Acton, Mary. *Learning to Look at Modern Art.* London: Routledge, 2004.

Arnason, H.H. *A History of Modern Art.* 3rd ed. London: Thames and Hudson, 1986.

Britt, David, ed. *Modern Art: Impressionism to Post-Modernism.* London: Thames and Hudson, 1989.

Bowness, Alan. *Modern European Art.* World of Art series. London: Thames and Hudson, 1985.

Craske, Matthew. *Art in Europe 1700-1830.* New York: Oxford University Press. 1997.

Facos, Michelle. *An Introduction to Nineteenth Century Art.* New York: Routledge, 2011.

Gombrich, E H. *The Story of Art.* London: Phaidon, 2010.

Janson, H.W., and Anthony F. Jansen. *History of Art.* New York: Harry N. Abrams, Inc, 1997.

Kleiner, Fred S. *Gardners' Art Through the Ages.* 13th ed. Belmont: Thomson Wadsworth, 2009.

Marien, Mary Warner and William Fleming. *Flemming's Arts and Ideas.* 10th ed. California: Thomson Wadsworth, 2005.

Meechaam, Pam, and Julie Sheldon. *Modern Art: A Critical Introduction.* London: Routledge, 2000.

Read, Herbert. *A Concise History of Modern Sculpture.* London: Thames and Hudson, 1989.

Stangos, Nikos, ed. *Concepts of Modern Art.* World of Art Series. London: Thames and Hudson, 1994.

Walther, Ingo F. *Art of the 20th Century*. 2 vols. London: Taschen, 1998.

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**

    Continuous Assessment Test: Total Marks: 50   **Duration: 90 minutes**
        Section A – 3 x 10 = 30 marks (3 out of 4 questions)
        Section B – 1 x 20 = 20 marks (1 out of 2 questions)

    Other Components: **Total Marks: 50**
        Assignment, seminar, quiz, open book test, group discussion

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
    Section A – 4 x 10 = 40 marks (4 out of 6 questions)
    Section B – 3 x 20 = 60 marks (3 out of 4 questions)

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

DRAWING PRACTICAL

CODE: 19FA/PC/P115   **CREDITS: 5**
                                                                           L T P: 0 0 7
                                                         TOTAL TEACHING HOURS: 91

OBJECTIVES OF THE COURSE
- To help establish the basics of visual vocabulary for drawing
- To prepare the students to produce art works using varied approaches to drawing
- To provide an exposure to perspective and figure drawing
- To enable the students to develop representational drawing

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand the visual vocabulary of art
- Create pictorial drawing using orthographic, isometric and oblique projections
- Combine various perspectives to achieve a three- dimensional forms and depth in drawing
- Use methods like crating and varied rendering techniques to create representational drawings
- Represent figures in proportion and draw portraits

UNIT 1   **(20 hrs)**
     Visual Vocabulary
     1.1   Point, Line, Plane, Shape.
     1.2   Form, Space, Depth
     1.3   Colour, Light, Tone, Texture
     1.4   Composition, Proportion, Balance, Emphasis, Harmony, Rhythm, Movement

UNIT 2   **(15 hrs)**
     Approaches to Drawing
     2.1   Contour drawing–Gesture drawing, Imitational Drawing, Cross-Contour drawing
     2.2   Pictorial Drawing–Orthographic, Isometric and Oblique Projections

UNIT 3   **(25 hrs)**
     Perspective Drawing–Rectilinear & Curvilinear forms
     3.1   Vanishing points, Horizons
     3.2   One-point Perspective
     3.3   Two-point Perspective
     3.4   Three-point Perspective

UNIT 4   **(15 hrs)**
       Representational Drawing
       4.1   Plan, Elevation and Section views
       4.2   Dimensional views using Crating
       4.3   Rendering Techniques
       4.4   Icons and Symbols

UNIT 5   **(16 hrs)**
       Figure Drawing
       5.1   Gesture Drawing
       5.2   Proportions of Head and Full Figure

BOOKS FOR REFERENCE

Ching, Francis D. K. Drawing: *A Creative Process.* New York: Van Nostrand Reinhold, 1990.

Gail, Angela. *Drawing: A Step-by-Step Guide to Drawing Techniques.* Twickenham: Tiger Books International, 1997.

Curnow, Vera. *The Best of Coloured Pencil - Vol 5.* Massachusetts: Quarry – Rockport, 1999.

Douet, Valerie C., ed. *Drawing for Pleasure*. Kent: Search, 2001.

Guptill, Arthur. *Freehand Drawing Self Taught*. New York: Watson Guptill, 1984.

Mulick, Milind, *Sketckbook.* Pune: Jyotsna Prakshan, 2007.

Sidaway, Ian and Hoggett, Sarah. *The practical Encyclopedia of Drawing*. London: Hermes House, 2012.

Hogarth, Burne. *Dynamic Anatomy*. New York: Watson-Guptill Publications, 1990.

Hogarth, Burne. *Dynamic Figure Drawing*. New York: Watson-Guptill Publications, 1996

Vebell, Victoria. *Exploring the Basics of Drawing*. New York: Thomson Delmar Learning, 2005.

Woods, Michael. *Pencil Drawing*. New York: Dover, 1987.

Yot, Richard. *Light for Visual Artists.* London: Laurence King Publishing Ltd. 2013

PATTERN OF ASSESSMENT

Continuous Assessment: **50 marks**
       Classwork   40 marks
       Assignment   10 marks

End Semester Examination
Total Marks: 100   **Duration: 3 Hours**
Question Paper Pattern – **one** out of two questions

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

FUNDAMENTALS OF DESIGN PRACTICAL

CODE: 19FA/PC/P215   **CREDITS: 5**
                                                                L T P: 0 0 7
                                        TOTAL TEACHING HOURS: 91

OBJECTIVES OF THE COURSE
- To develop 'design seeing'
- To understand the principles of design
- To become familiar with typography as a medium of design
- To introduce the concept of image, symbols and meanings

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand and discuss 'design seeing'
- Understand and use the elements and principles of design
- Understand colour and its dynamics
- Ideate, develop and apply typography as an effective medium
- Combine idea, type and image into effective design

Unit   1   **(18 hrs)**
       Elements of design
       1.1   Dots, line and space
       1.2   Form and shape
       1.3   Texture

Unit   2   **(18 hrs)**
       Colour
       2.1   Colour wheel
       2.2   Physical and psychological qualities
       2.3   Colour interactions: harmony, contrasts, hue, intensity, value

Unit   3   **(15 hrs)**
       Principles of Design
       3.1   Balance, emphasis and rhythm
       3.2   Unity and variety
       3.3   Proportion and scale

Unit   4   **(20 hrs)**
       Basics of typography
       4.1   Elements of letterforms
       4.2   Type anatomy
       4.3   Type styles and families

Unit 5   **(20 hrs)**

      Idea and Image
      5.1   Pictorial symbols and meaning
      5.2   Symbols and icons

BOOKS FOR REFERENCE

Ames, Lee J. *The Dot, Line and Shape Connection.* New York: Doubleday, 1982.

Carter, Rob, Ben Day, and Philip Meggs. *Typographic Design: Form and Communication.* 4th ed. New Jersey: John Wiley, 2007.

Cole, Alison. *Colour.* London: Dorling Kindersley, 1993.

Hampshire, Mark, and Keith Stephenson. *Communicating with Pattern: Stripes.* New Delhi: RotoVision, 2004.

Hampshire, Mark, and Keith Stephenson. *Communicating with Pattern: Circles and Dots.* New Delhi: RotoVision, 2006.

Morioka, Adams, and Terry Stone. *Colour Design Workbook: A Real World Guide for Using Colour in Graphic Design.* Massachusetts: Rockport, 2006.

Pao, Imin, and Joshua Berger. *30 Essential Typefaces for a Lifetime.* Massachusetts: Rockport, 2006.

Philips, Peter, and Gillian Bunce. *Repeat Patterns: A Manual for Designers, Artists and Architects.* London: Thames and Hudson, 1993.

Sinha, Anil. *Ideating Identity.* Ahmedabad: Maitreya, National Institute of Design, 2010.

PATTERN OF ASSESSMENT

Continuous Assessment: **50 marks**
      Classwork   40 marks
      Assignment   10 marks

End Semester Examination
Total Marks: 100   **Duration: 3 Hours**
Question Paper Pattern – **one** out of two questions

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

DESIGN FOR TEXTILES PRACTICAL

CODE: 19FA/PC/T124   **CREDITS: 4**
                                                          L T P: 0 0 6
                                          TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To introduce textiles, constructions techniques and end uses
- To provide an understanding of the process of design development for textiles, particularly of the synergy between ideation, research and design development
- To enable the creation of original design solutions for textile surfaces

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand textiles and their construction
- Understand and apply design development methodologies for textile surfaces
- Develop designs from observed and inspired sources
- Construct patterns and repeats for print design
- Create textile designs using CAD

Unit   1   **(10 hrs)**
     Introduction to textiles
     1.1   Fibres, yarns and fabrics
     1.2   Textile construction techniques
     1.3   Textiles in fashion and home

Unit   2   **(10 hrs)**
     Design research
     2.1   Problem analysis, research questions, objectives and mind mapping
     2.2   Client and market profiling - demographic and psychographic research

Unit   3   **(15 hrs)**
     Design ideation
     3.1   Design approaches – historical; conceptual; trend, market and client oriented
     3.2   Colour in textiles: colour forecasting, Pantone fashion and home palette
     3.3   Concept note, mood board and colour story

Unit   4   **(20 hrs)**
     Design development
     4.1   Motif and pattern derivation
     4.2   Design rendering in different media

Unit   5   **(23 hrs)**
          Layouts and Repeat Construction
          5.1   Types of layouts
          5.2   Repeat construction: tailored repeat structures, seamless repeats
          5.3   Design editing and repeat development in CAD

BOOKS FOR REFERENCE

Diane, Tracy, and Tom Cassidy. *Colour Forecasting*. United Kingdom: Blackwell, 2005.

Drudi, Elisabetta Kuky. *Fashion Prints: How to Design and Draw*. Amsterdam: Pepin, 2008.

Hornung, David. Colour: A workshop for Artists and Designers. London: Laurence King, 2005.

Meller, Susan, and Joost Elffers. *Textile Designs*. London: Thames and Hudson, 1991.

Phillips, Peter, and Gillian Bunce. *Repeat Patterns: A Manual for Designers, Artists and Architects.* London: Thames and Hudson, 1993.

San Martin, Macarena. *Patterns in Fashion*. Koln: Evergreen, 2009.

Sausmarez, Maurice De. *Basic Design: The Dynamics of Visual Form*. London: A & C Black, 1992.

Yates, Marypaul. *Textiles: A Handbook for Designers*. New York: W.W. Norton and Company, 1995.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   **50 marks**

Assessment of end semester submission   **50 marks**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

PUBLISHING DESIGN PRACTICAL

CODE: 19FA/PC/G124   **CREDITS: 4**
                                                             L T P: 0 0 6
                                          TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To develop thematic and sequential typographic design applications
- To provide an overview of publishing design
- Problem solving in typography, publishing design and communication through skill-building exercises

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand typographic classification and type specimens
- Apply grids and layouts in publishing design
- Understand printing techniques and processes
- Combine type and image into effective design
- Design for specific publishing applications

Unit 1   **(18 hrs)**
   Grid Application
   1.1   Grid
   1.2   Template
   1.3   Page layout

Unit 2   **(15 hrs)**
   Printing Techniques and Processes

Unit 3   **(15 hrs)**
   Flyers and posters
   3.1   Layouts

Unit 4   **(15 hrs)**
   Newspaper design
   4.1   Mastheads
   4.2   Newspaper layouts

Unit 5   **(15 hrs)**
      Brochures and Magazines
      5.1   Folds
      5.2   Pagination
      5.3   Wrapper and layout

BOOKS FOR REFERENCE

Carter, Rob, Ben Day and Philip Meggs. *Typographic Design: Form and Communication.* 4th ed. New Jersey: John Wiley, 2007.

Coultre, Martijn F. Le and Alston W. Purvis. *A Century of Posters.* Hampshire: Lund Humphries, 2002.

Krause, Jim. *Layout Index.* Ohio: How Design Books, 2001.

Krause, Jim. *Idea Index.* Ohio: How Design Books, 2000.

Matlock, Marshall C. *The Best of Newspaper Design.* 22nd ed. Massachusetts: Rockport, 2001.

Pao, Imin, and Joshua Berger. *30 Essential Typefaces for a Lifetime.* Massachusetts: Rockport, 2006.

Rabinowitz, Tova. *Typography: In-Depth Guide to the Art and Techniques of Designing with Type.* New York: Thomson Delmar, 2006.

Rivers, Charlotte. *Mag-Art: Innovations in Magazine Design.* Switzerland: RotoVision, 2006.

Rivers, Charlotte. *Promo-Art: Innovations in Invitations, Greetings, and Business Cards.* Switzerland: RotoVision, 2008.

Walton, Roger, ed. *Page Layout: Inspiration Innovation Information.* New York: HBI, 2000.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   **50 marks**
Assessment of End Semester Submission   **50 marks**

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

PHOTOGRAPHY PRACTICAL

CODE: 19FA/PC/P324   **CREDITS: 4**
L T P: 0 0 6
TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To enable a creative exploration of digital photography and its applications
- To train in technical and aesthetic aspects of photography and develop narrative photo essays
- To enable an understanding of various aspects of studio light settings
- To introduce image processing in Photoshop

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand the elements of photography
- Shoot photographs that document/narrate
- Explore studio photography under different light settings
- Edit and process images in Photoshop
- Use photography for select design applications

Unit   1   (10 hrs)
Introduction to Photography
1.1   History of Photography - an overview
1.2   Understanding the Equipment
1.3   Elements of Photography

Unit   2   (19 hrs)
Photo Essays
2.1   Documentary
2.2   Photojournalism

Unit   3   (19 hrs)
Creative Image Manipulation
3.1   Processing
3.2   Digital Darkroom Techniques

Unit   4   (15 hrs)
Studio Photography
4.1   Product
4.2   Portraiture
4.3   Fashion

Unit   5   **(15 hrs)**
       Applied Photography

BOOKS FOR REFERENCE

Ang, Tom. *Digital Photographer's Handbook.* London: Penguin, 2009.

Ang, Tom. *Digital Photography: A Step-By-Step Guide to Creating and Manipulating Great Images*. London: Mitchell Beazley, 2001.

Busch, David D. *Mastering Digital SLR Photography: The Serious Photographer's Guide to High- Quality Digital SLR Photography*. Boston: Thomson Course Technology, 2005.

Clec'h, Marie- Laure, trans. *Photo Retouching with Photoshop: A Designer's Notebook*. California: O'Reilly Media, 2005.

Hope, Terry. *Better Picture Guide to Black and White Photography* 2. Switzerland, Rotovision, 2001.

Larbalestier, Simon. *The Art and Craft of Montage. London*: Mitchell Beazley, 1993.

London, Barbara and Jim Stone. *A Short Course in Digital Photography.* New Jersey: Pearson Education, 2010.

Warren, Bruce. *Photography*. 2nd ed. New York: Delmar, 2002.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   **50 marks**

Assessment of End Semester Submission   50 marks

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19FA/PK/SS22   **CREDITS: 2**
L T P: 2 0 0
TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development
- To instill confidence in students to face challenges
- To manage emotions and resolve conflicts
- Top organize activities and manage time
- To set goals and plan ahead

COURSE LEARNING OUTCOMES

- Communicate with confidence and poise
- Accept themselves and improve on their weaknesses
- Strengthen their relationships through confronting and solving problems
- Work more effectively and complete activities on time
- Plan their future with clarity and focus

Unit   1
   Behavioural Traits   **(6 Hours)**
   1.1   Self Awareness
   1.2   Communication Skills –Verbal and Non Verbal
   1.3   Leadership Qualities
   1.4   Etiquette and Good Manners
   1.5   Experiential Learning –Based on activities

Unit   2
   Team Work   **(5 Hours)**
   2.1.   Interpersonal Skills
   2.2.   People Management
   2.3.   Creative Thinking
   2.4.   Critical Thinking
   2.5.   Experiential Learning – Based on activities

Unit   3
   Time Management   **(5 Hours)**
   3.1.   Importance of time management

3.2.	Planning and Prioritizing
3.3.	Organizing skills
3.4.	Action Plan
3.5.	Experiential Learning – Based on activities

Unit 4
Conflict Resolution   (5 Hours)
4.1.	Reasons for conflict
4.2.	Consequences of conflict
4.3.	Managing emotions
4.4.	Methods of resolving conflicts
4.5.	Experiential Learning – Based on activities

Unit 5
Career Mapping   (5 Hours)
5.1.	Goal Setting and Decision Making
5.2.	Career Planning
5.3.	Resume Writing
5.4.	Handling Interviews
5.5.	Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment:
Quiz / Group Presentation /Assignment

No End Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

CRAFTS IN INDIA

CODE: 19FA/PC/CI34   **CREDITS: 4**
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To introduce craft traditions of India as intrinsic to national identity and heritage
- To enable an appreciation of select textile, metal, wood, and other crafts
- To create an awareness of the contemporary scenario in the craft sector
- To provide an overview of craft revival and intervention

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand the diversity and ethnicity of craft traditions in India
- Identify the visual and material language of major craft traditions
- Review contemporary craft practice
- Discuss challenges facing the craft sector
- Discuss craft in the context of agencies, initiatives and interventions

Unit   1   **(20 hrs)**
      Textiles
      1.1   Handlooms: Baluchari, Chanderi, jamdani, khadi, Kani weaving, kota doria, Kancheepuram, Paithani, Varanasi
      1.2   Dyed, printed and painted cloth: ajrakh, bandhani and leheria, block prints of Bagh, Bagru and Sanganer; ikkat, patola, sungadi, kalamkari, pichwai; phad
      1.3   Stitched embellishment: Kashmiri kashida, Chamba rumal, chikankari, kantha, kasuti, khatwa, kutchi, phulkari, sujani, zardosi, Toda

Unit   2   **(15 hrs)**
      Metal, wood, stone and clay
      2.1   Metal: bidri, Cuttacki tarkashi, dhokra, iron craft of Bastar, koftgiri, lamps of Tamil Nadu, meenakari, Tanjore art plate, thewa
      2.2   Wood: dampati dolls, wood carving of Karnataka and Kashmir, lacquer ware of Channapatna and Sankheda, kaavad, Kondapalli toys
      2.3   Stone and clay: blue pottery of Jaipur, longpi of Manipur, pacchikari of Agra, terracotta figures of Tamil Nadu and Bengal

Unit   3   **(10 hrs)**
      Paper, leather and fibre
      Kottan of Chettinad, leather puppets of Andhra, leather footwear of Kolhapur and Rajasthan, papier mache of Kashmir; patta painting of Bengal and Orissa, Sanjhi of Mathura, sikki grass craft

Unit 4 (10 hrs)

Craft Mediation and Revival

4.1   Role of the Government and apex organisations
4.2   Pioneers and revivalists
4.3   Craft collectives and producer groups: Porgai, Urmul, WomanWeave
4.4   Challenges to the craft sector

Unit 5 (10 hrs)

Design Intervention

5.1   Sustainabile approaches: Malkha, Ethicus
5.2   Regional initiatives: Anokhi, Kalakshetra, Kala Raksha, Raw Mango
5.3   Design interventions: Gunjan Gupta, Sahil Bagga and Sarthak Sengupta, Sandeep Sangaru, Rahul Mishra

BOOKS FOR STUDY

Jaitly, Jaya. *Crafts Atlas of India*. New Delhi: Niyogi Books, 2012.

Ranjan, Aditi, and M. P. Ranjan. *Crafts of India: Handmade in India*. New Delhi: Council of Handicraft Development Corporations, 2007.

Varadarajan, Lotika, and Krishna Amin-Patel. *Of Fibre and Loom*: The Indian Tradition. New Delhi: Manohar, 2008.

BOOKS FOR REFERENCE

Baxter, Maggie. *Unfolding Contemporary Indian Textiles*. New Delhi: Niyogi, 2015.
Crill, Rosemary. *Indian Ikat Textiles*. New York: Weatherhill, 1998.

Dallapiccola, Anna L., ed. *Indian Painting: The Lesser-known Traditions*. New Delhi: Niyogi Books, 2011.

Ghosh, G. K., and Shukla Ghosh. *Indian Textiles: Past and Present*. New Delhi: APH Publishing Corporation. 2011.

Jain – Neubauer, Jutta. *Feet & Footwear in Indian Culture*. Totonto: The Bata Shoe Museum, 2000.

Mathur, Kamlesh. *Crafts and Craftsmen*. Jaipur: Pointer Publishers, 2004.

Mohanty, B. *Pata – Paintings of Orissa.* New Delhi: Publications Division, 1984.

Naik, Shailaja D. *Traditional Embroideries of India*. New Delhi: APH Publishing Corporation. 2012.

Postel, Michel, and Zarine Cooper. *Bastar Folk Art: Shrines, Figurines and Memorials.* Mumbai: Project for Indian Cultural Studies Publication VIII, 1999.

Ramaswamy, Visalakshi. *The Kottan: The Palmyra Basket of Chettinad*. Chennai: M.Rm.Rm. Cultural Foundation, 2013.

Sabnani, Nina. *Kaavad Tradition of Rajasthan: A Portable Pilgrimage*. New Delhi: Niyogi Books, 2014.

Shrikant, Usha. *Ethnic Embroidery of India*. Mumbai: Samata, 1998.

Singh, Martand, ed. *Handcrafted Indian Textiles*. New Delhi: Roli Books, 2000.

Tyabji, Laila. *Threads & Voices: Behind the Indian Textile Tradition*. New Delhi: Marg, 2007.

Venkatesan, Soumhya. *Craft Matters: Artisans, Development and the Indian Nation*. New Delhi: Orient Blackswan, 2009.

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**

   Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
      Section A – 3 x 10 = 30 marks (3 out of 4 questions)
      Section B – 1 x 20 = 20 marks (1 out of 2 questions)

   Other Components: Total Marks: 50
      Assignment, seminar, quiz, open book test, group discussion

End Semester Examination: Total Marks: 100   Duration: 3 Hours
      Section A – 4 x 10 = 40 marks (4 out of 6 questions)
      Section B – 3 x 20 = 60 marks (3 out of 4 questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

TEXTILE EMBELLISHMENT PRACTICAL

CODE: 19FA/PC/T234   **CREDITS: 4**
                                                      L T P: 0 0 6
                                 TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To provide an awareness and appreciation of embellished textiles
- To provide an understanding of major techniques of surface embellishment
- To provide an understanding of textile as a medium for artistic expression
- To enable a personal exploration of textile, technique and design

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Appreciate surface embellishment as a means of decorating textiles
- Explore stitchery to understand its diverse uses on textile
- Identify and explore different types of textile embelllishments
- Create samples of fabric manipulation and stitched embellishment
- Explore possibilities in textile art and create an art work

Unit	**1**	**(15 hrs)**
	Fabric Manipulation	
Unit	**2**	**(18 hrs)**
	Embroidery	
	2.1 Freestyle embroidery	
	2.2 Machine embroidery	
Unit	**3**	**(10 hrs)**
	Appliqué	
Unit	**4**	**(15 hrs)**
	Quilting and Patchwork	
Unit	**5**	**(20 hrs)**
	Textile Art	

BOOKS FOR REFERENCE

Cox, Ann. *Silk Ribbon Embroidery Designs & Techniques*. Kent: Search Press, 2005.

Cheney, Nigel and McAllister, Helen. *Textile Surface Manipulation*. London: Bloomsbury, 2013.

Gardiner, Wendy. *The Encyclopedia of Sewing Techniques*. Kent: Search Press, 2004.

Hemingway, Karen. *The Encyclopedia of Stitches.* London: New Holland Publishers, 2004.

Langford, Pat. *Embroidery from Sketch to Stitch.* Sydney: Kangaroo Press, 1996.

Leitner, Christina. *Paper Textiles.* London: A & C Black, 2005.

Lokey, Jennifeer. *Machine-Embroidered Quilts*. Woodinville: Martingale & Company, 2004.

Manfredi, Paola. *Chikankari: A Lucknawi Tradition*. New Delhi: Niyogi Books, 2017.

McCormick, Maggi Gordon. *The Quilting Sourcebook*. London: Collins & Brown, 1997.

Nelson, Patricia. *Stylish Sewing Techniques*. Woodinville: Martingale & Company, 2000.

Nussbaum, Terri. *Quick-Change Quilts.* Woodinville: Martingale & Company, 2002.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   50 marks
Assessment of End Semester Submission 50 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

COMMUNICATION DESIGN I PRACTICAL

CODE: 19FA/PC/G234   **CREDITS: 4**
                                                          L T P: 0 0 6
                                              TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To understand categories of logos and symbols and their development
- To understand visual hierarchy and communication in the development of corporate identity
- To develop visual aesthetics related to package design and labels

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand the communication process
- Understand corporate and brand identity
- Be aware of design development as an integral process of design
- Ideate, develop and create icons and symbols particularly in the area of brand identity
- Create effective design for packaging surfaces

Unit   1   **(04 hrs)**
Introduction
Communication process

Unit   2   **(20 hrs)**
Corporate and Brand Identity
Designing symbols and logotypes

Unit   3   **(20 hrs)**
Designing Brand Identity
Building brand identity

Unit   4   **(10 hrs)**
Packaging Design
4.1   Material and design considerations
4.2   Packaging templates, finishes and effects

Unit   5   **(24 hrs)**
Packaging Applications

BOOKS FOR REFERENCE

Alan and Livingston, Isabella. *Dictionary of Graphic Design and Designers: Third Edition.* London: Thames and Hudson World of Art, 2012.

Carter, Rob, Ben Day, and Philip Meggs. *Typographic Design: Form and Communication.* 4th ed. New Jersey: John Wiley, 2007.

Cossu, Matteo. *1000 Ideas by 100 Graphic Designers.* Massachusetts: Rockport, 2009.

Cullen, Cheryl Dangel. *The Best of Business Card Design.* Massachusetts: Rockport, 2002.
Foster, John. *Masters Poster Design: Poster Design for the Next Century.* Massachusetts: Rockport, 2006.

Gordon, Bob and Maggie Gordon, eds. *A Complete Guide to Graphic Design.* London: Thames and Hudson, 2005.

Groth, Chuck. *Exploring Packaging Design.* New York: Thomson, 2006.

Healey, Matthew. *Deconstructing Logo Design.* Switzerland: RotoVision, 2010.

Jute, Andre. *Grids: The Structure of Graphic Design.* Switzerland: RotoVision, 1996.

Krause, Jim. *Idea Index.* Ohio: How Design Books, 2000.

Livingston, Alan and Isabella Livingston. *Dictionary of Graphic Design and Designers.* 3rd edition, London: Thames and Hudson, 2012.

Pao, Imin, and Joshua Berger. *30 Essential Typefaces for a Lifetime.* Massachusetts: Rockport, 2006.

Rabinowitz, Tova. *Typography: In-Depth Guide to the Art and Techniques of Designing with Type.* New York: Thomson Delmar, 2006.

Rivers, Charlotte. *Logo-Art: Innovation in Logo Design.* Switzerland: RotoVision, 2009.

Sibley/Peteet Design, Austin. *The Best of Business Card Design 8.* Massachusetts: Rockport, 2008.

Sinha, Anil. *Ideating Identity.* Ahmedabad: Maitreya, National Institute of Design, 2010.

Wheeler, Alina. *Designing Brand Identity: A Complete Guide to Creating Building and Maintaining Strong Brands.* New Jersey: John Wiley, 2003.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   **50 marks**

Assessment of End Semester Submission 50 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

DISSERTATION

CODE: 19FA/PC/DS37   **CREDITS: 7**

OBJECTIVES OF THE COURSE
- To enable students to demonstrate their capacity to carry out independent academic research on a selected topic
- To provide an opportunity to apply skills and knowledge of art and design to a new issue, area, work or body of work of the student's choice

GUIDELINES
- The student should select a clearly defined dissertation topic in her area of interest in the disciplines of art or design
- The student should present her plan for research to a panel of faculty. This plan should include:
  - A rationale for the topic, indicating the question to be studied and reasons why it is worth studying
  - An outline of the dissertation, indicating the principle chapters or sections into which it will be divided
  - An indication of the sources to be consulted, and a basic bibliography
- Following presentation and approval of the research plan, the student will be allotted a faculty supervisor
- The student is required to meet with her supervisor weekly to update on work progress
- The work will be disqualified if found plagiarised
- The student will be assessed on her capacity to define a topic for examination, to articulate a coherent scheme for examining this topic, to gather the necessary information, and to analyse and present this information in a way that satisfactorily assesses the topic that she has set herself.

FORMAT
- The dissertation must be word-processed in the prescribed format.
- The main part of the dissertation must be double-spaced. Footnotes and bibliography should be single-spaced.
- Margins on the top, right and bottom of the page should be 1" each, with a minimum of 1.5" on the left margin to allow for binding.
- The dissertation should contain the following elements:

- **Title page:** This must state the title of the dissertation, the name and department number of the student, and the statement:

  Dissertation submitted to Stella Maris College (Autonomous)
  in partial fulfilment of the requirements for the degree of
  Master of Arts, History of Fine Arts

  Department of Fine Arts
  Stella Maris College (Autonomous)
  Chennai 600086
  [year-year]

- **Certificate:**

  This is to certify that the dissertation [Title], submitted in partial fulfillment of the requirements for the award of the Degree of Master of Art in the History of Fine Arts is the record of work done by [name of student] under the guidance and supervision of [faculty supervisor] in the Department of Fine Arts, Stella Maris College, Chennai, during the period of her study in the years [year-year].

  Date:
  Place: [Name of Student]

  Head of the Department   Supervisor
  Department of Fine Arts   Department of Fine Arts
  Stella Maris College   Stella Maris College
  Chennai 600 086   Chennai 600 086

  Principal
  Stella Maris College
  Chennai 600 086

- **Declaration:** Students must sign the following declaration:

  I hereby declare that the dissertation [Title], submitted by me in partial fulfilment of the requirements for the Masters Degree in the History of Fine Arts is the record of research work done by me during the academic year [year-year], and this dissertation has not been offered for any other course of study. I undertake that all material presented for examination is my own work and has not been written for me, in whole or in part by any other person.

  Date:
  Place: [Name of Student]

- **Acknowledgements:** The student may wish to acknowledge any help that she received in the preparation of her dissertation.
- **Table of contents:** This must list the contents of the dissertation by chapters, with sections where appropriate, and the page number for each, together with the page numbers for the notes, bibliography and images. A list of illustrations is to be provided if required.

- **Abstract:** This must provide a brief statement (not more than 200 words) of the main themes or findings of the dissertation.
- **Main text:** Each main heading (introduction, chapters, conclusion, references, bibliography) must start on a new page. Sections within chapters may continue on the same page. The number of pages should be restricted to a minimum of 45 and maximum of 50, from introduction to conclusion, and not including bibliography.
- **References:** Footnotes should be numbered consecutively and the references to which they refer should be placed either at the bottom of the relevant page or at the end of the dissertation, and before the bibliography. If required, a glossary is to be provided following References.
- **Bibliography:** The bibliography must list all works used in the preparation of the dissertation, including all those noted in the references. A complete bibliography of all resources used/referred to must be attached to the work
- **Images:** Only one or two images to be placed per page with image numbers and captions.

VIVA VOCE

- The student will appear for a viva voce to ascertain the authenticity of the work and whether she has independently and thoroughly researched the topic. The student is expected to demonstrate ability to analyse/evaluate her own work and conclusions as well as demonstrate knowledge of the subject.

EVALUATION
Continuous assessment by supervisor

- Meetings, discussions and research drafts   50 marks

Final assessment: by supervisor and external examiner

- Dissertation   40 marks
- Viva voce   10 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
M.A. DEGREE
BRANCH X - HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019 -2020)

SUMMER INTERNSHIP

CODE: 19FA/PN/SI32   **CREDITS: 2**

OBJECTIVES OF THE COURSE
- To enable the student to acquire knowledge necessary for enhancing design competency
- To create opportunities for capacity building through industry experience

LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Enhance their knowledge about the chosen area of design
- Understand professional approaches to design
- Demonstrate relevant design skills
- Use appropriate media in design development
- Document and discuss their industry experience with clarity

GUIDELINES
- The student will source and select an organization, firm or facility specializing in textiles or graphic design, where she will be permitted to undergo a mandatory internship / work experience for a duration of four weeks
- The interning agency may be identified in the city of Chennai, or any other feasible location
- The student should finalise her choice of interning agency and obtain necessary approvals from the Department of Fine Arts and the agency before the completion of the second semester of study
- The internship must be completed between the second and third semesters, during the summer vacation
- Students are expected to maintain a logbook/workbook of their internship experiences, which will be submitted along with a report at the beginning of the third semester
- Students will also make a presentation of their internship activities and learning
- A Certification Letter stating the duration and nature of internship, along with an attendance certificate from the agency of internship will have to submitted

EVALUATION
Logbook/workbook	50 marks
Report	30 marks
Presentation	20 marks

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

VISUAL CULTURE

CODE: 19FA/PC/VC44   **CREDITS: 4**
                                                          L T P: 4 1 0
                                        TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To examine images and their meaning across disciplinary boundaries such as art history and media studies
- To create an awareness of visual culture through select theories

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Gain an awareness of visual culture
- Understand the meanings and ideas underlying images
- Explain the concept of appropriation and its connection to cultural production
- Evaluate the impact of consumerism on society and culture
- Discuss the idea of gender constructs in visual culture

Unit   1   **(05 hrs)**
        Introduction to Visual Culture

Unit   2   **(15 hrs)**
        Image and Meaning
        2.1   Sign and semiotics
        2.2   Appropriation and cultural production

Unit   3   **(15 hrs)**
        Technologies and the Multiplying Image
        3.1   The myth of photographic truth
        3.2   Image reproduction: the copy
        3.3   Walter Benjamin and mechanical reproduction

Unit   4   **(15 hrs)**
        Consumer Culture
        4.1   Advertising and consumer societies
        4.2   Commodity culture and commodity fetishism

Unit   5   **(15 hrs)**
        Visualising Gender
        5.1   Cultural constructions of femininity and masculinity
        5.2   Psychoanalysis of power and desire
        5.3   Gaze and spectacle

BOOKS FOR STUDY

Sturken, Marita and Lisa Cartwright. *Practices of Looking: An Introduction to Visual Culture,* 2nd edition, New York: Oxford University Press, 2008.

Hall, Stuart, ed. *Representation: Cultural Representations and Signifying Practices.* London: Sage, 1997.

BOOKS FOR REFERENCE

Bantjes, Marian. *Pretty Pictures.* London: Thames and Hudson, 2013.

Berger, John. *Ways of Seeing.* London: BBC and Penguin, 1972.

Benjamin, Walter. *The Work of Art in the Age of Mechanical Reproduction.* trans. J.A. Underwood, London: Penguin, 2008.

Bird, Michael. *100 Ideas that Changed Art.* London: Laurence King, 2012.

Chandrasekhar, Indira, and Peter C. Seel, eds. *Body City: Siting Contemporary Culture in India.* Delhi: Tulika, 2000.

Kapur, Geeta. *When was Modernism: Essays on Contemporary Cultural Practice in India.* Delhi: Manohar, 2000.

Kromm, Jane, and Susan B. Bakewell, eds. *A History of Visual Culture: Western Civilisation from the 21st Century.* New York: Berg, 2010.

Mirzoeff, Nicholas. *An Introduction to Visual Culture.* London: Routledge, 2000.

Mirzoeff, Nicholas, ed. *The Visual Culture Reader.* London: Routledge, 1998.

Murthy, Laxmi, and Rajashri Dasgupta. *Our Pictures, Our Words: A Visual Journey through the Women's Movement.* New Delhi: Zubaan, 2011.

Ramaswamy, Sumathi. *Beyond Appearances. Contributions to Indian Sociology series.* New Delhi: Sage, 2003.

Schroeder, Jonathan E. *Visual Consumption.* Oxon: Routledge, 2002.

Sinha, Gayatri. *Art and Visual Culture in India: 1857-2007.* Delhi: Marg, 2009.

Walker John A. and Chaplin S. *Visual Culture: An Introduction.* Manchester: Manchester University Press, 1997.

PATTERN OF ASSESSMENT

Continuous Assessment: **Total Marks: 50**

Continuous Assessment Test: Total Marks: 50   **Duration: 90 minutes**
Section A – 3 x 10 = 30 marks (3 out of 4 questions)
Section B – 1 x 20 = 20 marks (1 out of 2 questions)

Other Components: **Total Marks: 50**
Assignment, seminar, quiz, open book test, group discussion

End Semester Examination: **Total Marks: 100**   **Duration: 3 Hours**
Section A – 4 x 10 = 40 marks (4 out of 6 questions)
Section B – 3 x 20 = 60 marks (3 out of 4 questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

TEXTILE PRINTING PRACTICAL

CODE: 19FA/PC/T345   **CREDITS: 5**
                                                                 L T P: 0 0 7
                                              TOTAL TEACHING HOURS: 91

OBJECTIVES OF THE COURSE
- To introduce dyeing and printing processes
- To enable creative design solutions for block, screen and digitally printed textiles
- To enable a personal exploration of textiles, techniques and design

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Appreciate textile dyeing techniques
- Understand textile printing techniques
- Appreciate print embellishment as a surface patterning technique
- Develop print design for different end uses
- Design for block, screen and digital prints

Unit 1   **(08 hrs)**
        Dyeing
        1.1   Natural and synthetic dyes
        1.2   Dyeing at different processing stages - resist and piece dyeing techniques

Unit 2   **(08 hrs)**
        Printing styles and techniques - direct, discharge, mordant and resist styles

Unit 3   **(30 hrs)**
        Block Printing
        3.1   Direct and resist techniques
        3.2   Design and product development

Unit 4   **(30 hrs)**
        Screen Printing
        4.1   Hand-screen, automatic flat bed and rotary screen processes
        4.2   Design and product development

Unit 5   **(15 hrs)**
        Digital printing

GUIDELINES
- A workshop on dyeing will be conducted if feasible
- Unit 3 will require students to design one block that will be carved and used along with blocks available at printing units to develop a textile product

- Units 4 and 5 will require the development of prints in the form of samples or finished products

BOOKS FOR REFERENCE

Gentille, Terry A. *Printed Textiles.* New Jersey: Prentice Hall, Inc., 1982.

Meller, Susan and Joost Elffers. *Textile Designs.* London: Thames and Hudson Ltd., 1991.

Robinson, Stuart and Patricia Robinson. *Exploring Fabric Printing.* London: Mills and Boon Ltd., 1970.

Sausmarez, Maurice De. *Basic Design: The Dynamics of Visual Form*. London: A & C Black, 1992.

Storey, Joyce. *The Thames and Hudson Manual of Textile Printing*. London: Thames and Hudson, 1992.

Vidyasagar, P.V. *Handbook of Textiles*. New Delhi: Mittal Publications, 1998.

Wells, Kate. *Fabric Dyeing and Printing.* London: Conran Octopus Ltd., 1997.

Yates, Marypaul. *Textiles: A Handbook for Designers.* New York: W.W. Norton and Company, 1995.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   **50 marks**

Assessment of End Semester Submission **50 marks**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

COMMUNICATION DESIGN II PRACTICAL

CODE: 19FA/PC/G345   **CREDITS: 5**
                                                               L T P: 0 0 7
                                          TOTAL TEACHING HOURS: 91

OBJECTIVES OF THE COURSE
- To understand varied media and its relevance to promotion
- To provide a brief background to advertising
- To explore design opportunities in the field of visual merchandising
- To provide a foundation in digital arts in relation to web page and mobile application development

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Relate to the field of advertising and its design requirements
- Show awareness of design development as an integral process of design
- Design a comprehensive advertising campaign
- Display skills in understanding space and form particularly for visual merchandising
- Create raster and vector visual effects for mobile apps using Adobe Photoshop and other image-editing software

Unit 1   **(20 hrs)**
        Advertising process
        1.1   Copy and visual
        1.2   Layout

Unit 2   **(25 hrs)**
        Advertising campaign
        2.1   Public service
        2.2   Commercial
        2.3   Social media and online

Unit 3   **(04 hrs)**
        Visual Merchandising
        3.1   Window and in-store display for retail
        3.2   Exhibition design

Unit 4   **(17 hrs)**
        Mobile applications
         4.1   Flat design techniques

       4.2   Screen layouts – 2D and 3D graphics
       4.3   Userflow design, wireframes, mobile UI patterns

Unit 5   **(25 hrs)**
       Web page planning
       5.1   Composition
       5.2   Layout
       5.3   Web page production

BOOKS FOR REFERENCE

Alan and Livingston, Isabella. *Dictionary of Graphic Design and Designers: Third Edition*. London: Thames and Hudson World of Art, 2012.

Beaird, Jason. *The Principles of Beautiful Web Design.* 2nd edition, Sitepoint, 2010.

Cossu, Matteo. *1000 Ideas by 100 Graphic Designers.* Massachusetts: Rockport, 2009.

Grant Design Collaborative. *1000 More Graphic Elements.* Massachusetts: Rockport, 2009.

Jones, John Philip, ed. *The Advertising Business: Operations, Creativity, Media Planning, Integrated Communications.* California: Sage, 1999.

Morgan, Tony. *Visual Merchandising: Window and In-store Displays for Retail.* 2nd ed. London: Laurence King, 2011.

Roman, Kenneth and Jane Maas. *How to Advertise: What Works, What Doesn't, and Why,* 3rd edition, London: Kogan Page, 2003.

PATTERN OF ASSESSMENT

- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   **50 marks**

Assessment of End Semester Submission   **50 marks**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

PAINTING PRACTICAL

CODE: 19FA/PE/P115   **CREDITS: 5**
                                            L T P: 0 0 5
                                   TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To provide an exposure to painting with watercolours, acrylics and mixed media
- To introduce colour theories and colour relationships
- To enable the creation of art on three-dimensional forms

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Paint in different media and explore various techniques of rendering
- Understand painting with light and shadow
- Understand colour theories and colour relationships
- Create paintings on different themes
- Explore painting on three-dimensional forms

Unit 1   **(10 hrs)**
Introduction
    1.1   Light and Shadow
    1.2   Colour Relationships
    1.3   Colour Theory

Unit 2   **(15 hrs)**
Watercolour & Inks
Wash, Wet-on-dry, Wet-on-wet, Brush Painting, Masking Techniques

Unit 3   **(15 hrs)**
Acrylics
Glazing, Alla Prima, Impasto, Knife Painting, Opaque Wash

Unit 4   **(10 hrs)**
Mixed Media

Unit 5   **(15 hrs)**
Art on Three-Dimensional forms

GUIDELINES
- Demonstration of techniques that have not been prescribed in the syllabus may be conducted
- Peer review is to be conducted periodically
- A painting journal submitted monthly will be a mandatory component of the continuous assessment
- Prescribed coursework is to be completed and presented on scheduled dates during the semester to the course teacher

BOOKS FOR REFERENCE

Felder, Eugene. *Still Life Fundamentals*. London: Kandour, 1956.

Fig, Joe. *Inside the Painter's Studio*. New York: Princeton Architectural Press, 2009.

Harrison, Hazel. Art School, *How to Paint and Draw*. London: Hermes House, 2009.

Herniman, Barry. *Painting Mood and Atmosphere*. Kent: Search Press, 2004.

King, Jennifer, ed. *Work Small, Learn Big! Sketching with Pen & Watercolor*. Nevada: International Artist Publishing, 2003.

Mulick, Milind. *Watercolour.* Pune: Jyotsna Prakashan, 2000.

Parramon, Jose M. *Basic Techniques and Exercises – Painting Landscape and Still Lifes in Watercolour*. New York: Watson - Guptill Publications, 1998.

Sidaway, Ian. *Mastering the Art of Oils, Acrylics and Gouache*. London: Hermes House, 2014.

Simpson, Ian, ed. *Complete Painting Course,* London: HarperCollins Publishers, 1993.

Tappenden, Curtis, et al. *Complete Art Foundation Course*. London: Octopus Publishing, 2006.

Webb, David. *Still Life in Watercolour*, Kent: Search Press, 2005.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   **50 marks**

Assessment of End Semester Submission   50 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

MEDIA EXPLORATION PRACTICAL

CODE: 19FA/PE/P215   **CREDITS: 5**
                                                               L T P: 0 0 5
                                        TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To introduce students to two-dimensional and three-dimensional Media
- To enable students to create art combining two-dimensional and three-dimensional forms
- To introduce installation art
- To provide an exposure to visual kinetics

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand the varied applications of two-dimensional and three-dimensional media
- Produce art works assimilating two-dimensional and three-dimensional forms
- Create installation art
- Explore visual kinetics to create art like mobiles and stabiles
- Create art involving readymades and upcycled materials

Unit   1   **(05 hrs)**
Introduction
        Media Exploration–Two-dimensional

Unit 2   **(15 hrs)**
    Media Exploration–Three-dimensional

Unit 3   **(15 hrs)**
    Integrating 2D and 3D

Unit 4   **(15 hrs)**
    Installation

Unit 5   **(15 hrs)**

    Visual Kinetics

GUIDELINES

- A journal submitted monthly will be a mandatory component of the continuous assessment
- Prescribed coursework is to be completed and presented on scheduled dates during the semester to the course teacher

BOOKS FOR REFERENCE

Felder, Eugene. *Still Life Fundamentals*. London: Kandour, 1956.

Fig, Joe. *Inside the Painter's Studio*. New York: Princeton Architectural Press, 2009.

Harrison, Hazel. Art School, *How to Paint and Draw*. London: Hermes House, 2009.

Herniman, Barry. *Painting Mood and Atmosphere*. Kent: Search Press, 2004.

King, Jennifer, ed. *Work Small, Learn Big! Sketching with Pen & Watercolor*. Nevada: International Artist Publishing, 2003.

Mulick, Milind. *Watercolour.* Pune: Jyotsna Prakashan, 2000.

Parramon, Jose M. *Basic Techniques and Exercises – Painting Landscape and Still Lifes in Watercolour*. New York: Watson - Guptill Publications, 1998.

Sausmarez, Maurice de. *Basic Design: The Dynamics of Visual Form.* London: A & C Black (Publishers) Ltd. 2002.

Sidaway, Ian. *Mastering the Art of Oils, Acrylics and Gouache*. London: Hermes House, 2014.

Simpson, Ian, ed. *Complete Painting Course,* London: HarperCollins Publishers, 1993.

Tappenden, Curtis, et al. *Complete Art Foundation Course*. London: Octopus Publishing, 2006.

Webb, David. *Still Life in Watercolour*, Kent: Search Press, 2005.

PATTERN OF ASSESSMENT

- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   50 marks

Assessment of End Semester Submission   50 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

CRITICAL WRITING

CODE: 19FA/PE/CW15   **CREDITS: 5**
                                                                  L T P: 5 0 0
                                            TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To introduce styles and approaches towards developing competency in writing about art and design through visual experience
- To develop critical thinking and writing skills
- To develop research skills
- To understand citation styles and documentation

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Demonstrate critical thinking skills
- Employ the various stages of the writing process, including brainstorming, outlining, drafting, revising and editing
- Understand and use the various modes of discourse in writing
- Compose a clear, coherent, unified argumentative essay
- Understand the ethics of research

Unit   1   **(03 hrs)**
        Analytic and Critical Thinking
        1.1   Seeing and saying
        1.2   Subject matter and content

Unit   2   **(06 hrs)**
        Style and Documentation
        2.1   The right word: denotation, connotation, concreteness
        2.2   Effective sentences and coherent paragraphs
        2.3   Grammar and syntax
        2.4   Citation styles: MLA and Chicago

Unit   3   **(02 hrs)**
        Four Modes of Discourse
        3.1   Narration
        3.2   Description
        3.3   Exposition
        3.4   Argument

Unit   4   **(14 hrs)**
        Types of Writing about Art and Design
        4.1   Essays and research papers

      4.2   Formal analysis
      4.3   Comparison and contrast

Unit 5   **(40 hrs)**
      Research and the Writing Process
      5.1   Researching resources, data collection, selecting key-points, note-making, summarising, paraphrasing, direct quote, plagiarism
      5.2   Thesis statement, outlining, drafting, introduction, body paragraphs, conclusion, revising, editing, proofreading

BOOKS FOR REFERENCE

Anderson, Jonathan, et al. *Thesis and Assignment Writing.* New Delhi: Wiley Eastern, 1992.

Anderson, Marilyn, et al. *Crtical Thinking, Academic Writing and Presentation Skills.* Noida: Pearson India, 2010.

Barnet, Sylvan, *A Short Guide to Writing about Art.* 9th edition, New Jersey: Pearson Prentice Hall, 2008.

Booth, Wayne C., et al. *The Craft of Research.* Chicago: University of Chicago Press, 1995.

D'Alleva, Anne. *Look! The Fundamentals of Art History.* 3rd edition, New Jersey: Pearson Education. 2004.

Hudson, Suzanne and Nancy Noonan-Morrissey, *The Art of Writing about Art.* Belmont: Wadsworth, 2002.

Minor, Vernon Hyde. *Art History's History,* 2nd edition, New Jersey: Prentice Hall, 2001.

MLA Handbook for Writers of Research Papers. 7th edition, New York: Modern Language Association, 2009.

Podro, Michael. *The Critical Historians of Art.* New Haven and London: Yale University Press, 1982.

Skwire, David and Sarah Skwire. *Writing with a Thesis: A Rhetoric and Reader.* 8th edition, Fort Worth: Harcourt College Publishers, 2001.

Tyson, Lois. *Critical Theory Today: A User Friendly Guide.* 2nd edition, New York: Routledge, 2006.

William, Robert. *Art Theory: A Historical Introduction,* 2nd edition, West Sussex: Wiley-Blackwell, 2009.

WEB RESOURCE

The Chicago Manual of Style Online. www.chicagomanualofstyle.org

PATTERN OF EVALUATION

- There will be no end semester examination
- Evaluation will be based on continuous internal assessment of written assignments
- Assignments to be in the form of essay, exhibition review and research paper
- **Continuous Assessment:**   **100 marks**

Essays	40 marks
Exhibition review	15 marks
Research paper	20 marks
Evaluation of term paper by external examiner:	25 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

RESEARCH METHODOLOGY

CODE: 19FA/PE/RM15

CREDITS: 5
L T P: 5 0 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To inculcate and develop the research habit
- To provide knowledge of the research tools and methods
- To write research papers, reports and dissertation

COURSE LEARNING OUTCOMES

At the end of the semester a student will be able to:

- Display the cultivation of a research habit
- Demonstrate an understanding of research tools and methods
- Demonstrate the ability to collect and analyse data
- Write papers and reports using research tools
- Write a dissertation using necessary research techniques

Unit 1 Introduction to Research Methodology (08 hrs)
    Types of Research
    1.1   Descriptive vs. Analytical
    1.2   Applied vs. Fundamental
    1.3   Quantitative vs. Qualitative
    1.4   Conceptual vs. empirical

Unit 2 (10 hrs)
    Research Formulation
    2.1   Defining the Research Problem
    2.2   Literature review
    2.3   Primary, secondary and tertiary sources
    2.4   Developing a working hypothesis

Unit 3 (12 hrs)
    Research Methods
    3.1   Traditional methods: historical, institutional, philosophical, comparative
    3.2   Modern methods: questionnaire, interview, focus group discussion, observation, case study, content analysis, statistical, experimental, brainstorming techniques

Unit 4 (15 hrs)
   Data Collection and Analysis
   4.1   Methods of data collection
   4.2   Analysis strategies
   4.3   Testing of hypothesis

Unit 5 (20 hrs)
   Thesis Writing
   5.1 Style manuals mla,chicago
   5.2 Layout, structure and language
   5.3 Bibliography, referencing and citation
   5.4 Ethics: copyright, Intellectual Property Rights, plagiarism, citation and acknowledgement, reproducibility and accountability

BOOKS FOR REFERENCE

Anderson, Jonathan et al. *Thesis and Assignment Writing*. New Delhi: Wiley Eastern, 1992.

MLA Handbook for Writers of Research Papers. 8th edition. New York: Modern Language Association, 2016.

Skwire, David and Sarah Skwire. *Writing with a Thesis*: *A Rhetoric and Reader*, 8th ed. Fort Worth: Harcourt College Publishers, 2001.

WEBSITES

The Chicago Manual of Style Online. www.chicagomanualofstyle.org

PATTERN OF EVALUATION

- There will be no end semester examination
  - Evaluation will be based on continuous internal assessment of written assignments
  - Assignments to be in the form of essay, literature review, abstract and research paper
- **Continuous Assessment: 100 marks**
  - Essay   25 marks
  - Literature review   10 marks
  - Abstract   10 marks
  - Research paper   30 marks
  - Evaluation of term paper by external examiner: 25 marks

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

BOOK ILLUSTRATION PRACTICAL

CODE: 19FA/PE/P315   **CREDITS: 5**
                                                     L T P: 0 0 5
                                       TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To facilitate the developing of hand rendered illustration skills
- To enable students to explore styles, techniques and media
- To enable students to develop a personal style of expression
- To foster creativity in developing illustrations for books

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand the process of illustration from ideation to final execution
- Achieve proficiency in hand rendered illustration skills, media and techniques
- Illustrate characters from observed and inspired sources
- Develop a personal illustrative style
- Develop original and creative illustrations for picture books

Unit   1   **(05 hrs)**
        The Illustration Process
        1.1   Research, ideation
        1.2   Building visual references
        1.3   Concept and composition

Unit 2   **(10 hrs)**
        Media and Techniques
        2.1   Drawing media
        2.2   Painting media
        2.3   Mixed media

Unit 3   **(10 hrs)**
        Style Exploration
        3.1   Overview of illustration styles
        3.2   Exploring a theme in different styles

Unit 4   **(10 hrs)**
        Character Illustration
        4.1   Face, figure, gesture, expression and movement
        4.2   Character development

Unit 5   **(30 hrs)**
        Picture Book Illustration

BOOKS FOR REFERENCE

Bettley, James. *The Art of the Book: From Medieval Manuscript to Graphic Novel*. London: V&A Publications, 2001.

Bossert, Jill. *Children's Book Illustration*. Sussex: Rotovision, 1995.

Eyre, Doug. *Drawing Caricatures*. Wiltshire: The Crowood Press, 2007

Haller, Susan. *Stock Workbook Illustration 2*: Scott & Daughters Publishing, Inc., 2000

Lewis, Brian. *An Introduction to Illustration*. London: Grange Books, 1995.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   **50 marks**

Assessment of End Semester Submission   **50 marks**

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

DIGITAL ILLUSTRATION PRACTICAL

CODE: 19FA/PE/P415   **CREDITS: 5**
                                                             L T P: 0 0 5
                                        TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- To introduce digital illustration using Adobe Illustrator and Photoshop
- To understand digital colour palettes
- To develop vector and raster illustrations

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Appreciate the relevance of digital illustration
- Understand the process of digital illustration
- Create illustrations using relevant software
- Build digital colour schemes
- Create digital vector and raster illustrations for various applications

Unit 1   **(05 hrs)**
   Introduction
   1.1   History of Digital Illustration
   1.2   Applications of Digital Illustration

Unit 2   **(15 hrs)**
   Software and Style Exploration

Unit 3   **(15 hrs)**
   Digital Colour Schemes – HSV Colour theory

Unit 4   **(15 hrs)**
   Vector Graphics

Unit 5   **(15 hrs)**
   Raster Graphics

BOOKS FOR REFERENCE
Carter, David E. *The New Big Book of Color.* New York: Collins Design, 2006.

Computer Graphics. Hong Kong: Rockport Publishers, Inc. 1992.

Haller, Susan. *Stock Workbook Illustration 2*: Scott & Daughters Publishing, Inc., 2000

Hornung, David. *Colour*. London: Laurence King Publishing Ltd., 2005.

Illustrations 1997: Eight Edition. New York: The Black Book, 1997.

Sidaway, Ian and Hoggett, Sarah. *The practical Encyclopedia of Drawing*. London: Hermes House, 2012.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 50 marks
- A set of works will be prescribed for end semester assessment. These works should not have been part of the continuous assessment.

Continuous Assessment   **50 marks**

Assessment of End Semester Submission   **50 marks**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

CREATIVE DESIGN PRACTICAL

CODE: 19FA/PE/CD23   **CREDITS: 3**
                                                              L T P: 0 0 3
                                        TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE
- To enable students to develop creative design skills
- To provide an awareness of design applications on varied products

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand design seeing
- Explore different media for design rendering
- Develop designs for varied applications
- Explore possibilities in recycling materials

Unit	**1**	**(08 hrs)**
	Pottery Painting	
Unit	**2**	**(08 hrs)**
	Fabric Painting	
Unit	**3**	**(08 hrs)**
`	**Glass Painting**	
Unit	**4**	**(10 hrs.)**
	Designing with Paper	
Unit	**5**	**(05 hrs.)**
	Designing with Recycled Materials	

BOOKS FOR REFERENCE
Espi, Lorette. *Step-by-Step Pottery and Ceramics.* London: New Holland, 1995.

Fairbairn, Caroline. *An Introduction to Decorating and Glazing Pottery.* California: Thunder Bay, 1999.

Foster, Viv. *The Stained Glass Handbook.* London: Quantum, 2006.

Innes, Miranda. *Fabric Painting.* London: Dorling Kindersley, 1996.

Larbalestier, Simon. *The Art and Craft of Montage.* London: Mitchell Beazley, 1993.

Moor, Andrew. *Contemporary Stain Glass*. London: Mitchell Beazley, 1989.

Orthaus, Angelika. *A Creative Guide to Painting on Silk.* London: New Holland, 1994.

Owen, Cheryl. *The Practical Handbook of Card Making*. London: Hermes, 2008.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- Prescribed coursework completed and presented to the course teacher on scheduled dates during the semester will be evaluated for 100 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

PAPER ART PRACTICAL

CODE: 19FA/PE/PA23   **CREDITS: 3**
L T P: 0 0 3
TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE
- To introduce paper as a creative medium of expression
- To enable the exploration of select techniques of paper art

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand types of paper and their characteristics
- Explore the possibilities of using paper in creative expression
- Create artwork that showcases different techniques of using paper

Unit	1		(05 hrs)
	Introduction		
	1.1	Types of paper	
	1.2	Styles of paper art	

Unit	2	(08 hrs)
	Marbling	

Unit	3	(08 hrs)
	Collage	

Unit	4	(08 hrs)
	Frottage	

Unit	5	(10 hrs)
	Paper Construction	

BOOKS FOR REFERENCE

Jackson, Paul. *Paper Pop-Ups.* Rockport: Rockport Publishers, 1997.

Lively, Kate, (ed.), *Making Great Papercrafts Origami Stationery and Gift Wraps,* New Delhi: OM Books International, 2008.

Maflin, Andrea. *Decorative Paper.* London: Conran Octopus, 1995.

Rozelle, Lew. *Origami Ornaments.* New York: St. Martins Press, 2000.

Soterious, Alexandra. *Gift of Conquerors: Hand Papermaking in India,* Ahmedabad: Mapin,

1999.

Ziegler, Kathleen and Nick Greco. *Paper Sculpture: A Step-by-Step Guide.* Rockport: Rockport Publishers, 1994.

PATTERN OF ASSESSMENT
- There will be no end semester examination
- All course work will be periodically assessed through the semester for 100 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS

(Effective from the academic year 2019-2020)

FUNDAMENTALS OF FASHION MANAGEMENT

CODE: 19FA/PI/FM24   **CREDITS: 4**

OBJECTIVES OF THE COURSE
- To introduce fashion management
- To create an awareness of the fashion industry
- To enable an understanding of the business of fashion

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Demonstrate a basic understanding of the fashion industry and its management
- Understand fashion forecasting
- Discuss the dynamics of trends and seasons in the fashion industry
- Demonstrate an awareness of fashion branding, marketing and promotion
- Discuss the business of fashion

Unit   1
    The business of fashion
    1.1   The fashion industry in the twentieth century
    1.2   Technology
    1.3   Influential designers

Unit 2
    Fashion Trend and Prediction
    2.1   Fashion forecasting and its process
    2.2   Trend prediction
    2.3   Fashion forecasting agencies

Unit 3
    Fashion Transition
    3.1   Fashion buying
    3.2   Merchandising
    3.3   Retail formats and the retail calendar

Unit 4

    Fashion Communication
4.1   The fashion consumer
4.2   Branding
4.3   Fashion marketing and promotion
4.4   Visual merchandising and fashion advertising

Unit 5

    Fashion and Business
5.1   Setting up a fashion business
5.2   Creative business planning
5.3   Branding basics
5.4   Innovative marketing and promotion
5.5   Design and copyright

BOOK FOR STUDY

Dillon, Susan. *The Fundamentals of Fashion Management*. Lausanne: AVA Publishing, 2012.

BOOKS FOR REFERENCE

Baugh, Gail. *The Fashion Designer's Textile Directory: The Creative Use of Fabrics in Design*. London: Thames and Hudson, 2011.

Diamond, Jay and Ellen Diamond. *Fashion Apparel, Accessories and Home Furnishings*. New Delhi: Dorling Kindersley, 2008.

Fogg, Marnie. *The Fashion Design Directory*. London: Thames and Hudson, 2011.

Gale, Colin and Jasbir Kaur. *Fashion and Textiles*. Oxford: Berg, 2004.

Gardiner, Wendy. *The Encyclopedia of Sewing Techniques*. Kent: Search, 2004.

Ireland, Patrick John. *Encyclopedia of Fashion Details*. London: B T Batsford, 1996.

San Martin, Marcarena. *How to be a Fashion Designer*. Singapore: Paco Asensio, 2009.

Worsley, Harriet. *100 Ideas that Changed Fashion*. London: Laurence King, 2011.

PATTERN OF ASSESSMENT

End Semester Examination: **Total Marks: 100   Duration: 3 Hours**
    Section A – 4 x 10 = 40 marks (4 out of 6 questions)
    Section B – 3 x 20 = 60 marks (3 out of 4 questions)

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M.A. DEGREE: BRANCH X – HISTORY OF FINE ARTS

SYLLABUS
(Effective from the academic year 2019-2020)

INDIAN MINIATURE PAINTING

CODE: 19FA/PI/IM24   **CREDITS: 4**

OBJECTIVES OF THE COURSE
- To provide an understanding of Indian miniature painting traditions such as Mughal, Deccani and Rajput
- To be aware of stylistic variations between the different schools of Indian miniature painting

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand the techniques used in miniature painting
- Appreciate the range of miniature paintings produced across India
- Understand the significance of Mughal, Deccani and Rajput schools of miniature painting
- Distinguish between stylistic variations in the different schools of miniature painting
- Discuss salient features of major schools of painting

Unit   1
    Materials, themes and techniques

Unit 2

    Mughal miniatures under Akbar and Jehangir

Unit 3
  Deccani miniatures of Ahmednagar

Unit 4
    Rajput Miniatures: Rajasthani schools
    4.1   Bhakthi movement
    4.2   Mewar
    4.3   Bundi
    4.4   Kishangarh

Unit 5
    Rajput Miniatures: Pahari schools
    5.1   Basholi
    5.2   Kangra

BOOKS FOR STUDY

Barret, Douglas, and Basil Gray. *Indian Painting*. London: Skira, Macmillan, 1978.

Brijbhushan, Jamila. *The World of Indian Miniatures*. Tokyo: Kodansha International, 1979.

Welch, Stuart Cary. *Imperial Mughal Painting*. New York: George Braziller, 1978.

BOOKS FOR REFERENCE

Brown, Percy. *Indian Painting Under the Mughals*. New York: Hacker Art Books, 1975.

Beach, Milo Cleveland. *The New Cambridge History of India: Mughal and Rajput Painting*. Cambridge: University Press, 2000.

Tömöry, Edith. *A History of Fine Arts in India and the West*. Madras: Orient Longman, 1982.

PATTERN OF ASSESSMENT

End Semester Examination:　　　　　　**Total Marks: 100　　Duration: 3 Hours**

    Section A – 4 x 10 = 40 marks (4 out of 6 questions)
    Section B – 3 x 20 = 60 marks (3 out of 4 questions)

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
DEPARTMENT OF INTERNATIONAL STUDIES
PROGRAMME DESCRIPTION

The Master's degree in International Studies is a unique programme with an interdisciplinary approach to understanding contemporary issues in international relations. The programme is designed to provide students with a broad foundation for analytical thinking and greater understanding on topics such as international law, politics, economics, security, cooperation and peace. A comprehensive elective and area studies track is a distinct part of the curriculum with a focus on specific regions such as the Middle East, Latin America, the Asia Pacific and South Asia. The programme provides both theoretical and in-depth analysis of the concepts, approaches and various debates in international relations. The programme includes a Summer Internship and submission of a dissertation that allows students to choose topics across various courses taught. The programme offers appropriate knowledge and skill sets needed to choose a variety of careers.

PROGRAMME SPECIFIC OUTCOMES

On successful completion of the Post Graduate programme, the students will be able to:

- Demonstrate an understanding of International Relations from multiple perspectives
- Understand, analyse and solve problems drawing on multiple, relevant/interrelated fields of study
- Demonstrate a working knowledge in various sub fields of the discipline.
- Understand public policy making and its implementation
- Think critically, analyse and solve problems
- Acquire an inter disciplinary perspective and a worldview on global issues
- Apply theory to practice through simulations and class room training.
- Acquire a broad perspective on the functioning of international institutions, IGOs, INGOs and NGOs
- Evaluate an international issue from multiple perspectives such as political, economic, security and institutional
- Demonstrate career and leadership readiness required in a highly competitive environment.
- Demonstrate knowledge, understanding and professionalism required for the discipline

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A. DEGREE : BRANCH II (E)-INTERNATIONAL STUDIES

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, L-Lecture Hours, T-Tutorial Hours, P- Practical Hours, Ex-Exam Hours, CA- Continous Assessment Marks, ES-End Semester Marks, M-Maximum Marks									
SEMESTER-I									
19IS/PC/IH14	International History(1648-1945)	4	4	1	0	3	50	50	100
19IS/PC/IR14	International Relations Since 1945	4	4	1	0	3	50	50	100
19IS/PC/IS14	International Security	4	4	1	0	3	50	50	100
19IS/PC/IP14	International Political Economy	4	4	1	0	3	50	50	100
	SAP / SL	2	2	0	0	-	50	-	100
	Department Elective I								
SEMESTER-II									
19IS/PC/TR24	Theories of International Relations	4	4	1	0	3	50	50	100
19IS/PC/IL24	International Law-I	4	4	1	0	3	50	50	100
19IS/PC/IF24	India's Foreign Policy	4	4	1	0	3	50	50	100
19IS/PC/RM24	Research Methodology	4	4	1	0	3	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19IS/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
	Common Elective I								
SEMESTER-III									
19IS/PC/IO34	International Organisations	4	4	1	0	3	50	50	100
19IS/PC/AF34	American Foreign Policy	4	4	1	0	3	50	50	100
19IS/PC/IL34	International Law-II	4	4	1	0	3	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19IS/PN/SI32	Summer Internship	2	2	0	0	-	50	-	100
	Department Elective II								
	Common Elective II								
SEMESTER-IV									
19IS/PC/HR44	Human Rights	4	4	1	0	3	50	50	100
19IS/PC/PS44	Introduction to Peace and Conflict Studies	4	4	1	0	3	50	50	100
19IS/PC/GP44	Government and Politics of China	4	4	1	0	3	50	50	100
19IS/PC/DS47	Dissertation	7	0	0	9	-	-	100	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19IS/PE/IT15	International Terrorism	5	5	0	0	3	50	50	100
19IS/PE/GL15	Globalisation	5	5	0	0	3	50	50	100
19IS/PE/LA15	Latin American:Polity, Economy and Society	5	5	0	0	3	50	50	100
19IS/PE/ME15	Contemporary Issues of the Middle East	5	5	0	0	3	50	50	100
19IS/PE/AP15	The International Order in the Asia-Pacific	5	5	0	0	3	50	50	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A. DEGREE : BRANCH II (E)-INTERNATIONAL STUDIES

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, L-Lecture Hours, T-Tutorial Hours, P- Practical Hours, Ex-Exam Hours, CA- Continous Assessment Marks, ES-End Semester Marks, M-Maximum Marks
19IS/PE/PT15	Introduction to Political Thought	5	5	0	0	3	50	50	100
19IS/PE/SA15	Government and Politics of South Asia	5	5	0	0	3	50	50	100
Postgraduate Elective Courses Offered to Other Departments									
19IS/PE/GE23	Global Environmental Policy and Issues	3	3	0	0	3	50	50	100
19IS/PE/SC23	Politics, Society and Cinema	3	3	0	0	-	50	50	100
19IS/PE/PP23	Indian Polity and Politics for Competitive Exams	3	3	0	0	3	50	50	100
Independent Elective Courses									
19IS/PI/EC24	Ethnicity Culture and International Relations	4	0	0	0	3	-	100	100
19IS/PI/TW24	Third World Development Challenges	4	0	0	0	3	-	100	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INTERNATIONAL HISTORY 1648-1945

CODE:19IS/PC/IH14   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide the students with a historical background to International Relations
- To comprehend the working and process of diplomacy
- To familiarize the emergence of the contemporary global order

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- Analyze ways and methods in which diplomacy is practiced since the beginning of international relations.
- Assess the significance of key turning points in world history.
- Critically analyze the emergence of different ideologies and leadership that led to the world wars.
- Build a firm historical foundation for the study of International relations.
- Develop an interest in the past and an appreciation of human endeavor.

Unit 1
The Role of the State in International Affairs   **(13 Hours)**
1.1 The State
1.2 The Church –State Relations
1.3 Emergence of the Westphalian State
1.4 Imperialism and Colonialism
1.5 Mercantilism and Foreign Trade

Unit 2
Revolutions in Europe and America in the 18 Century   **(13 Hours)**
2.1 The Age of Reason - Hobbes, Locke and Rousseau
2.2 The Industrial Revolution
2.3 The American Revolution
2.4 The French Revolution
2.5 Revolutions and the Nation State

Unit 3
Age of Diplomacy   **(13 Hours)**
3.1 Congress of Vienna – The Success of Metternich
3.2 Emergence of Balance Of Power Politics- Concert of Europe
3.3 Unification of Italy- Cavour
3.4 Unification of Germany and Alliance System- Bismarck
3.5 Alliances and Counter Alliances

Unit 4
   World War I (1914-18)   **(13 Hours)**
    4.1 International Setting at the Outbreak of the World War
    4.2 Major Powers and their Policies
    4.3 Causes and Course of the War -Treaty of Versailles
   4.4 Establishment of the League of Nations and its achievements
   4.5 Failure of the League of Nations

Unit 5
   World War II (1939-45   **(13 Hours)**
   5.1 Interwar Period: 1918-39
   5.2 Emergence of Fascism, Nazism and Militarism
   5.3 Causes and Course of the World War II
   5.4 War Time Conferences-The Atlantic Charter, Yalta, Potsdam and
        San Francisco and the establishment of the UN
   5.5 Collective Security

BOOK FOR STUDY
Derek Mckay, H.M. Scott. *The Rise of the Great Powers 1648 – 1815*, USA Routledge, 2014.
Nicholas Doumanis . *The Oxford Handbook of European History, 1914-1945*, New York, Oxford University Press, 2016.
Roy Bridge, Roger Bullen. *The Great Powers and the European States System 1814-1914*, USA Routledge, 2014.

BOOKS FOR REFERENCE
Antony Best, Jussi Hanhimaki, *International History of the Twentieth Century and Beyond*, USA Routledge, 2008.
Bartlett, C.J. *The Global Conflict*, U.K: Longman, 1994.
Baycroft, Timothy, *Nationalism in Europe (1789-1945),* London : Cambridge University Press, 1999.
Carlton J.H Hayes, *World History*, London: Macmillan and Co Ltd, 1950
Carr E.H., *The Twenty Years' Crisis 1919-1939: An Introduction To The Study of International Relations*, U.K: Palgrave, 1939.
Cornwell R.D, *World History In The Twentieth Century, London*: Longman, 1975.
Craig Gordon A, Abhilasha Kumar, *Europe 1815-1914,* New York: Dryden Press, 1979.
Eric Hobsbawm . *Age Of Revolution: 1789-1848*, London, Phoenix Press. 2010
Geoffrey Parker. *The Thirty Years' War*, USA Routledge,2006.
Gordon Martel *A Companion to International History 1900-2001*, London: Blackwell, 2007.
Grant A.J *Europe In The 19th And 20th Centuries (1815-1939),* New York: Oxford University Press, 1969.
H. L. Wesseling. *The European Colonial Empires: 1815-1919*, H. L. Wesseling, New York, Routledge 2013
Jeremy Black .*European International Relations 1648-1815*, Palgrave Macmillan, 2002.
John Hirst. *The shortest History of Europe* , Australia, Black Inc, 2012.
Kennedy, Paul, *Rise and Fall of the Great Powers*, NY: Random House, 1987.
Keylor, William R. The Twentieth Century World: *An International History, New York*: Oxford University Press, 1984.
Nye, Jr., Joseph S. *Understanding International Conflict: An Introduction to Theory and History,* New York: Longman, 1997.

Shelley Baranowsk, *Nazi Empire: German Colonialism and Imperialism from Bismarck to Hitler*, USA, Cambridge University Press, 2011.
Sperber, *Revolutionary Europe, 1780-1850,* London ,Longman Pub Group, 2000.

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 2 Essays Out Of 5 in about 1000 Words Each (20x2=40 Marks)
Sec B: Answer Any 1 Out Of 2 in about 300 Words Each (1x10=10 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case studies/Simulation/Exhibitions/Documentaries/short films/Class tests

End-Semester Examinations
Question Paper Pattern for End Semester Examination
- All Essay type questions
- 5 essays out of 10. (internal choice "Either or")
- Each essay will be of 1500 words.
- Each question will carry 20 marks (20x5=100)
- Time allotted : 3 hours

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INTERNATIONAL RELATIONS SINCE 1945

CODE:19IS/PC/IR14   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To acquaint the students with present trends and dynamics in International Relations
- To highlight the geo -political, geo-strategic and geo -economic perspectives in the international system
- To create an awareness about the changing global order

COURSE LEARNING OUTCOMES:
On successful completion of the course the student will be able to

- Identify and describe some key figures, events and trends in the recent history of international relations
- Critically analyze the complex interrelationships that exist among nations and between peoples and communities in the interdependent modern world.
- Describe, explain and apply basic knowledge of the historic and contemporary role and effects of different international actors in the global system (e.g., multilateral and bilateral organizations, development agencies, nation-states, State and Non State actors)
- Elaborate on the geo-political, geo-strategic and geo-economic significance of relationships between countries and areas in the global system.

Unit   1   **(14 Hours)**
   Cold War Origins And Development
   1.1 Emergence of Cold War: Growing Confrontation in the Grand Alliance 1945-1947
   1.2 Decolonization 1945-195
   1.3 Cold War Regional Alliances; WARSAW Pact, NATO, SEATO,CENTO
   1.4 Emergence Of Third World: Asia And Africa,NAM

Unit   2   **(14 Hours)**
   Conflicts During The Cold War
   2.1 Berlin -1948, 1961,
   2.2 Korea 1953,
   2.3 Cuba 1961,
   2.4 Vietnam 1954-1972,
   2.5 Afghanistan 1979

Unit   3   **(12 Hours)**
   Systemic Transformation In the Post War Period
   Détente Era 1972-89
   3.1 Geo-political and Geo-strategic Transformations

3.2 Emergence of the Strategic Triangle
3.3 Sino Soviet war
3.4 Sino-US Normalization
3.5 Arms Control and disarmament

Unit   4   **(12 Hours)**
The New World Order
4.1 Decline of Soviet Communism and Disintegration of USSR
4.2 CIS – Emergence of Central Asia
4.3 European Integration –from EC to European Union
4.4 Balkans and disintegration of Yugoslavia

Unit 5   **(13 Hours)**
Unipolar Movement
5.1 Rise of American Hegemony
5.2 The Gulf War I and II - Issues and Concerns
5.3 Conflict Zones - The Middle East, Balkans
5.4 US Rebalancing and Pivot to Asia Policy
5.5 The World at the turn of the Century

BOOKS FOR STUDY

Peu Ghosh, *International Relations*, PHI Learning, 2016
Karen A. Mingst *Essentials of International Relations*, W. W. Norton & Company, 2013

BOOKS FOR REFERENCE

Allison T Graham, *Essence of Decision: Explaining The Cuban Missile Crisis***,** 2 edition U.K, Longman, 1999
Bache Ian , George Stephen, *Politics in the European Union*, 2 edition, New York, Oxford University Press, 1999
Bartlett, C.J, *The Global Conflict***,** U.K., Longman, 1994
Brodie, Bernard, *War and Politics***,** U. K Longman. 1974
Cini, M, *The European Union Politics, Manchester* , 2 edition Oxford University Press,1996
Dunbabin, John, *International Relations Since 1945*, 2 Vols. U.K., Longman, 1994
Goldstein S Joshua, *International Relations***,** Longman, U.K, 2005
Hastedt P. Glenn*, International Politics, Enduring Concepts of Contemporary Issues***,** U.K, Longman, 2003
Mcaulay Martin, *Russia, America And The Cold War 1945-1991*, London, Longman, 1998
McCauley Martin, *Afghanistan And Central Asia* : A Short History**,** U.K, Longman, 2002
McCormick J, *Understanding The European Union : A Concise Introduction, Basingstoke*: Macmillan. U.K, 1999
Muller, *Quiet Cataclysm : Reflections On The Recent – Transformation Of World Politics***,** U.K, Longman,1995
Nye S Joseph , *Understanding International Conflict: An Introduction To Theory and History***,** U.K ,Longman,2000
Papp Daniel S. *Contemporary International Relations: Frameworks for Understanding***,** U.K., Longman, 2002
Raymond Duncan, W, World Politics *In The 21st Century***,** Longman, U.K, 2004
Richard K Betts, *Conflict After The Cold War***,** U.K, Longman, 2005
Robert J Art, *International Politics: Enduring Concepts And Contemporary Issues*, Longman, U.K., 2004

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 2 Essays Out Of 5 in about 1000 Words Each (20x2=40 Marks)
Sec B: Answer Any 1 Out Of 2 in about 300 Words Each (1x10=10 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case
studies/Simulation/Exhibitions/Documentaries/short films/Class tests

End-Semester Examinations
Question Paper Pattern for End Semester Examination

- All Essay type questions
- 5 essays out of 10. (internal choice "Either or")
- Each essay will be of 1500 words.
- Each question will carry 20 marks (20x5=100)
- Time allotted : 3 hours

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INTERNATIONAL SECURITY

CODE:19IS/PC/IS14   **CREDITS:4**
                                                      L T P:4 1 0
                                                      TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide the student with a basic understanding of the relevance of security studies
- To discern the changing nature of contemporary warfare
- To explore the dynamics of international security in the twenty first century

COURSE LEARNING OUTCOMES:
On successful completion of the course the student will be able to

- Understand the changing nature of the concept of security and its evolution throughout the 20th and 21st centuries
- Analyse the political, military, social, cultural, and ethical impacts of war in their regional and global contexts and the security issues that arise with it.
- Demonstrate and explain comprehensive knowledge of the international system, and the role of security within it.
- Identify and analyse works and literature that cover concepts like war, security, threats, diplomacy and strategy in security studies.

Unit   1
   The Nature and Significance of Security Studies   **(13 Hours)**
   1.1 Nature and Significance of Security Studies
   1.2 Emergence of Security Studies: Traditional vs Copenhagen
   1.3 Emergence of Classical Strategic thought: Kautilya, Sun Tzu, Clausewitz
   1.4 Approaches to Security and Foreign Policy

Unit   2   **(13 Hours)**
   The Dynamics of National Security
   2.1 Definition, Nature and Scope
   2.2   National Power and National Security
   2.3 Securitization – Barry Buzan
   2.4 State and Security: Liberal, Authoritarian, Failed
   2.5 Emerging paradigms of Security: Human Security
Unit   3
   Typologies of International Conflict   **(13 Hours)**
   3.1 Definition and nature of Conflict
   3.2 Levels of Analysis in conflict- Kenneth Waltz,
   3.3 Typologies of Conflict: Inter State, Intra State, Regional Conflict
   3.4 Conventional and Unconventional warfare
   3.5 Low Intensity Conflict: Insurgency, Proxy war, Left wing Extremism, Guerilla warfare.

Unit   4   **(13 Hours)**
   The Nature and Significance of Contemporary Warfare
   4.1 Changing dynamics of warfare
   4.2 The Military-Industrial Complex
   4.3 Revolution in Military Affairs and Technical Military Revolution
   4.4 Cyber and Internet Warfare
   4.5 Electronic warfare

Unit   5   **(13 Hours)**
   Evolving threat and New Security Domains
   5.1 Proliferation: Small Arms and WMDs and International Security
   5.2 International Terrorism
   5.3 Health and Pandemics
   5.4 International Migration
   5.5 Environmental Security

BOOKS FOR STUDY
Buzan, Barry People, *States and fear: The National Security Problem in International Relations*, Boulder Co. Lynne Rienner Publisher, 1991
Kenneth Waltz, *Man, The State and War: A Theoretical Analysis*, U.K, Columbia University Press, 1959,

BOOKS FOR REFERENCE
Ayoob, Mohammed, *The Third World Security Predicament*, U.K. Boulder Co. Lynne Rienner, 1995
Booth, Ken, *New Thinking about Strategy and International Security London*, Harper Collins, 1991
Buzan, Barry, *An Introduction to Strategic Studies, Military Technology and International Relations*, New York, St. Martin's Press,1987
Carl Von Clausewitz, J J Graham, *On War*, U.K, Taylor and Francis, 2005
Klane, Michael T., (1991), *World's Security: Trends and Challenges at the Century's end*, U.K. St. Martin's Press
Maroof Raza, *Low Intensity Conflicts: The New Dimension to India's Military Commitments*, Meerut, Karthikeya Publishers, ,1995
Martin Van Creveld, *The Changing face of war: Lessons of Combat from the Marne to Iraq*, U.K, Random House, 2007
Martin Van Creveld, *Transformation of War*, U.K Free Press, 1991
Peter Hugh, *Understanding Global Security*, U.K. Pearson,2004
Scott Sagan & Kenneth Waltz, *The Spread of Nuclear Weapons: A Debate Renewed*, W.W. New York, Norton & Company, 2003
Sun-Tzu's, *The Art of Warfare*, Modern Library Paper back ,2000
Thomas Shelling, *The Strategy of Conflict*, U.K.,Cambridge University Press ,1980

PATTERN OF ASSESMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 2 Essays Out Of 5 in about 1000 Words Each (20x2=40 Marks)
Sec B: Answer Any 1 Out Of 2 in about 300 Words Each (1x10=10 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case
studies/Simulation/Exhibitions/Documentaries/short films/Class tests

End-Semester Examinations:
Question Paper Pattern for End Semester Examination

- All Essay type questions
- 5 essays out of 10. (internal choice "Either or")
- Each essay will be of 1500 words.
- Each question will carry 20 marks (20x5=100)
- Time allotted : 3 hours

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INTERNATIONAL POLITICAL ECONOMY

CODE:19IS/PC/IP14
                                                                              CREDITS:4
                                                                              L T P:4 1 0
                                                                              TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To explore the interaction between politics and economics in the international system.
- To understand the effect of international institutions on economic relations
- To familiarize the student with the specific issues pertaining to developing countries in the context of International Political Economy

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- Understand the link between politics and economics
- Understand the relevance of economic forces on global politics
- Comprehend the latest trends in global political economy and the impact of globalisation.
- Understand the working of International Monetary Organisations

Unit   1   **(13 Hours)**
        Introduction to IPE
        1.1 Meaning of International Political Economy
        1.2 Schools of IPE-Mercantilism, Liberalism and Marxism
        1.3 Emergence of International Political Economy
        1.4 Institutions of International Political Economy

Unit   2   **(13 Hours)**
        International Trade System
        2.1 Emergence of a multilateral trading system
        2.2 Regionalism and Multilateralism
        2.3 GATT
        2.4 WTO

Unit   3   **(13 Hours)**
        Domestic Responses
        3.1 Protection - tariffs, quotas, VERS, NTBs
        3.2 Free Trade vs. Protection
        3.3 North - South divide

Unit   4   **(13 Hours)**
        International Monetary System
        4.1 Origins- Bretton Woods

4.2 The IMF-Functions and Criticism
4.3 The World Bank - functions and Criticism
4.4 Politics of Lending

Unit 5 (13 Hours)
Developing Countries and the International Political Economy
5.1 Foreign Direct Investment in Developing Economies
5.2 Developing Country Debt
5.3 Financial Crises and stabilization.

BOOKS FOR STUDY
Gilpin, Robert , *Global Political Economy: Understanding the International Economic Order,* Princeton: Princeton University Press, 2001.
Oatley, Thomas, *International Political Economy: Interests And Institutions In The Global Economy*, U.K.: Pearson / Longman, 2003

BOOKS FOR REFERENCE
Acemoglu, Daron and Robinson, James A, *Why Nations Fail*, London ,2012
Burch, Kurt and Robert Allen Denemark, *Constituting International Political Economy,* Colorado: Lynne Rienner Publishers, 1997.
Cohn ,Theodore H., *Global Political Economy*,Pearson Education Inc, 2009
Dunn and Chase, Christopher K.ed, *The Historical Evolution of the International Political Economy,* U.K: Edward Elgar Publication. Co, 1995.
Friedens, Jeffrey & Lake, David, *International Political Economy: Perspectives on Global Power and Wealth*, U.K.: Routledge, 2000.
Gilpin, Robert , *Global Political Economy: Understanding the International Economic Order,* Princeton: Princeton University Press, 2001.
Gilpin, Robert*, Global Political Economy: Understanding the International Economic Order,* U.K.: Orient Blackswan, 2003.
Hoekman, Bernard M, *The Political Economy Of The World Trading System The WTO And Beyond*, New Delhi: Oxford University Press, 2001.
Ian, Clark, *Globalisation and Fragmentation: International Relations in the Twentieth Century*, U.K.: Oxford University Press, 1997.
Krasner, Stephen D, *International Régimes,* New York: Cornell University Press, 1983.
Lipson, Charles and Cohen, Benjamin J., *Theory And Structure In International Political Economy: An International Organization Reader*, USA: MIT Press.
Mill,John Stuart, *Principles of Political Economy*,BNP Publishing,2012
Miller, Raymond C, *International Political Economy: Contrasting World Views, U.K.*: Taylor & Francis Group, 2008.
Polanyi, Karl ,*The Great Transformation: The Political and Economic Origins of Our Time Beacon* Press,Boston 2001
Ravenhill,John, *Global Political Economy*, Oxford University Press,2013
Seligson,Mithchell A, *Development and Underdevelopment: The Political Economy of*

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 2 Essays Out Of 5 in about 1000 Words Each (20x2=40 Marks)
Sec B: Answer Any 1 Out Of 2 in about 300 Words Each (1x10=10 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case
studies/Simulation/Exhibitions/Documentaries/short films/Class tests

End-Semester Examinations:
Question Paper Pattern for End Semester Examination
- All Essay type questions
- 5 essays out of 10. (internal choice "Either or")
- Each essay will be of 1500 words.
- Each question will carry 20 marks (20x5=100)
- Time allotted : 3 hours

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

THEORIES OF INTERNATIONAL RELATIONS

CODE:19IS/PC/TR24   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To appreciate the importance of theory
- To understand seminal theoretical concepts in IR
- To apply theoretical framework in the study of relations among States

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- Appreciate various philosophies relating to international relations.
- Conceptualize various foundational theories in International Relations.
- Critically analyse the dynamics of contemporary theories relating to International Relations.
- Apply seminal and theoretical frameworks to case studies in International Relations.
- Discuss critically about, major IR theories, relating these both to contemporary events and historical processes.

Unit   1   **(13 Hours)**
         Nature and Significance of International Relations Theory
         1.1 Nature and Scope of International Relations Theory
         1.2 Political Philosophy and International Relations Theory
         1.3 Anarchy and International Politics
         1.4 Balance of Power Theory

Unit   2   **(20 Hours)**
         Theories of International Relations
         2.1 First Great Debate: A Realist Critique of Idealism
         2.2 Second Great Debate-Methodological Debates
         2.3 Realism / Neo Realism
         2.4 Liberalism / Neo Liberalism
         2.5 Constructivism

Unit   3   **(12 Hours)**
         Behaviouralism and International Relations theory
         3.1 General Systems Theory
         3.2 Structural and Functional Theory
         3.3 Game Theory
         3.4 Decision Making Theory

Unit   4   **(10 Hours)**
　　　　　Critical Theories in International Relations
　　　　　4.1 Marxism
　　　　　4.2 Feminism
　　　　　4.3 Post Modernism
　　　　　4.4 The English School

Unit   5   **(10 Hours)**
　　　　　Seminal Concepts in International Relations
　　　　　5.1 Nation State
　　　　　5.2 Nationalism
　　　　　5.3 National Interest
　　　　　5.4 National Power

 BOOKS FOR STUDY
 Burchill S., & Linklater A (eds), *Theories of International Relations*. New York, Palgrave, 2001.
 Baylis J, Steve Smith, Patricia Owens, *The Globalization of World Politics: An Introduction to International Relations.*

BOOKS FOR REFERENCE
 Adam Watson, , *International Relations And The Practice Of Hegemony*, University of UK, Westminster, 2002.
 Buzan Barry & Richard Little, *International Systems In World History : Remaking The Study Of International Relations,* U K, Oxford University Press, 2000.
 Buzan Barry and Waever Ole , *Regions and Powers: The Structure of International Security,* UK, Cambridge University Press,2000.
 Booth, Ken & Smith Steve*, International Relations Theory Today*, Pensylvania University Park Pennsylvania State University Press, 1995.
 Boucher, *Political Theories of International Relations: from Thucydides To The Present*, U K, Oxford University Press, 1998.
 Brown C, *International Relations Theory Today*.UK Palgrave Macmillan, 1992.
 Brown Chris, *Understanding International Relations*, UK, Palgrave, 2001.
 Buzan Barry, *International Security Possible? In Ken Booth (ed), New Thinking About Strategy And International Security, *, London, Harper Collins, 2000
 Columbis, Theodore & Wofe James, *Introduction To International Relations Power and Justice*, New Delhi, Prentice Hall, 1990.
 Dougherty, James & Pfatzgraft, Robert, *Contending Theories of International Relations,* New York, Harper and Row, 2001
 Dunne Tim, Milja Kurki, Steve Smith, *International Relations Theories*, OUP Oxford, 2013
 Griffiths Martin, *International Relations Theory for twenty-first century: An Introduction, London,* Routledge Publication, 2008.
 John M Hobson, *The State and International Relations*, Cambridge University Press.2000
 Kegley, C.W., and E. Wittkopf, *World Politics: Trend and Transformation*, New York, St. Martins Press, 2016.
 Light, M., and A.J.R. Groom, (eds), *International Relations : A Handbook of Current Theory,* London Frances Printer 2016.
 Luche Charles & Saide Abdul, *Concepts of International Politics In Global Perspective*, New Jersey, Prentice Hall, Engelwood and Cliffs,1995.
 Michael Cos, Time Dunne & Ken Booth (eds.) *Empires, Systems and States Great*

Transformations In International Politics, UK, Cambridge University Press, 2002.
Mingst, Karen *A, Essentials of International Relations,* New York, W. W. Norton and Company, 2004.
Patrick M. Morgan, *Deterrence Now*, UK, Cambridge University Press, 2000
Sylvester C, *Feminist Theory And International Relations In A Postmodern Era*, Cambridge Publication, U .K, 1994.

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 2 Essays Out Of 5 in about 1000 Words Each (20x2=40 Marks)
Sec B: Answer Any 1 Out Of 2 in about 300 Words Each (1x10=10 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case studies/Simulation/Exhibitions/Documentaries/short films/Class tests

End-Semester Examinations
Question Paper Pattern for End Semester Examination

- All Essay type questions
- 5 essays out of 10. (internal choice "Either or")
- Each essay will be of 1500 words.
- Each question will carry 20 marks (20x5=100)
- Time allotted : 3 hours

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INTERNATIONAL LAW – I

CODE:19IS/PC/IL24   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To acquaint the students with core concepts in International Law
- To explain the interaction between international law and International Relations
- To emphasise the role and significance of the State and Statehood in international Law

COURSE LEARNING OUTCOMES:
On successful completion of the course the student will be able to

- The student will be able to comprehend the process of formulating International law
- Distinguish between IL.and ML
- Identify the scope and application of International Law and its limitations

Unit   1   **(16 Hours)**
    Introduction
1.1 Evolution and development of International Law
1.2 Definitions, Concepts and basis of International Law
1.3 Sources of International Law
1.4 Municipal law and International law
1.5 Classification and Codification of International Law

Unit   2   **(16 Hours)**
State and International Law
2.1 Sovereignty
2.2 Territory and Jurisdiction
2.3 Recognition
2.4 Succession

Unit   3   **(13 Hours)**
The Individual in International Law
3.1 Nationality
3.2 Asylum
3.3 Extradition
3.4 Diplomatic immunities and privileges

Unit   4   **(8 Hours)**
International Justice System
4.1 Formation and structure -ICJ, ICC, Tribunals, Commissions

4.2 Jurisdiction- ICJ, ICC, Tribunals, Commissions
4.3 Functioning – Scope and limitations- ICJ, ICC, Tribunals, Commissions
4.4 War Crime Tribunals and special courts – Rwanda, Former Yugoslavia
4.5 Alternative Dispute Resolution- Negotiation, Arbitration,Mediation and Conciliation

Unit   5   **(12 Hours)**
   India and International Law
   5.1 India's contribution to International Law
   5.2 Indian constitution and International Law
   5.3 India and Treaty Compliance Mechanism
   5.4 Indian judiciary and IL

BOOKS FOR REFERENCE

Agarwal, H.O, *International Law and Human Rights,* New Delhi, Central Law   Publishers, 2002.
Armstrong, David, *International Law and International Relations*, London, Cambridge University Press, 2007.
Agius Emmanuel and Busuttil Salvino, *Future Generations & International Law*, Earthcscan Publications Ltd , 1998.
Birnie, P W & Boyle, A.E, *International Law And The Environment*, UK Oxford University Press, 2008.
Brownlie, I, *Principles Of Public International Law*,UK,Oxford University Press, 2003.
Cassese, Antonio, *International Law,* New York. Oxford University Press, 2001.
Chandra Satish, *Minorities In The National And International Law*, New Delhi, Deep and Deep Publications, 1993.
Chimni, B S, *International Law And World Order-A Critique of Contemporary Approaches*, London Sage Publications, 1993.
Collier John, , *The Settlement of Disputes in International Law,* London, Oxford University Press,1999.
Friedman, Wolfgang, *The Changing Structure Of International Law*, Vakils, Bombay Feffer & Simons Pvt Ltd, , 1964.
Fenwick, Charles.G, *International Law*, Allied Pacific Publishers, 1965.
Jennings Sir Robert, *Oppenheim's International Law Volume 1 &2,* U K Pearson Publication, 1996.
Kapoor, S.K, *International Law and Human Rights,* Allahabad, Central Law Agency, 2004.
Jessup, Phillip C, *A Modern Law of Nations –An Introduction*, New York, Macmillan Company, 1974.
Jennings, Sir Robert, *Oppenheim's International Law, Volume 1 and 2*, New Delhi, Pearson Education, 1996.
Rajagopal BalaKrishnan, *International Law From Below, Social Developments and Third World*, Oxford publication, UKShaw, Malcolm N,   International Law, U.K., Cambridge University Press, 2003.
Starke, J.G., *Introduction to International Law*, New Delhi, Aditya Books, 1994. Reus- Smit, Christian (ed), *The Politics of International Law*, UK, Cambridge University. Press, 2004

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 2 Essays Out Of 5 in about 1000 Words Each (20x2=40 Marks)
Sec B: Answer Any 1 Out Of 2 in about 300 Words Each (1x10=10 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case
studies/Simulation/Exhibitions/Documentaries/short films/Class tests

End- Semester Examinations:
Question Paper Pattern for End Semester Examination

- All Essay type questions
- 5 essays out of 10. (internal choice "Either or")
- Each essay will be of 1500 words.
- Each question will carry 20 marks (20x5=100)
- Time allotted : 3 hours

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INDIA'S FOREIGN POLICY

CODE:19IS/PC/IF24   **CREDITS:4**
                                                                L T P:4 1 0
                                              TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide a deeper understanding of the determinants of India's foreign policy.
- To comprehend the significance of leadership in formulation of foreign policy goals.
- To understand the scope of India's foreign relations

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- Trace the historical development of India's foreign policy since independence.
- Critically analyse the various determinants that influence foreign policy making in India.
- Make reasoned and informed arguments about events in Indian politics and foreign policy and critically evaluate them.
- Critically evaluate the role of the Prime Minister's Office in decision making and policy making.

Unit   1   **(13 Hours)**
   Determinants and Objectives of India's Foreign Policy
   1.1 Major Determinants of India's Foreign Policy
   1.2 Mission and Objective of India's Foreign Policy
   1.3 Institutional Frame work of India's Foreign policy-MEA, NSAB, MOD, CCS
   1.4 India's diplomacy

Unit   2   **(13 Hours)**
   Operational Milieu of India's Foreign Policy
   2.1 Regional Security environment-Threat perception and analysis
   2.2 India's Missile and Nuclear Programme
   2.3 Linkage between India's Foreign Policy and Defence Policy
   2.4 India and Multilateral Frameworks –ASEAN and SCO
   2.5 India and the International Order

Unit   3   **(14 Hours)**
   Personality factors and influence on India's foreign policy
   3.1 Nehru-Non Alignment, Kashmir, China
   3.2 Indira Gandhi – NPT, Pokhran I, Bangladesh Liberation War, Merger of Sikkim & Rajiv Gandhi – Operation Brasstacks, Military Intervention – Sri Lanka, Maldives

3.3 P.V. Narasimha Rao – Look East Policy, Economic Liberalization
3.4 A. B. Vajpayee- Pokhran II, Lahore Declaration, Kargil Crisis
3.5 Manmohan Singh –Indo- US Civilian Nuclear Deal
3.6 Narendra Modi – 'Neighbourhood First' ,'Act East' and Make in India, Digital India etc

Unit 4 (12 Hours)
Major Issues in India's Foreign Policy
4.1 India and China- Boundary and Bilateral issues
4.2 India and Pakistan- Boundary and Bilateral issues
4.3 India and her neighbours –Issues of convergence and divergence
4.4 India - USA strategic partnership

Unit 5 (13 Hours)
India's foreign relations
5.1 India USSR and Russia
5.2 India-West Asia
5.3 India-Central Asia
5.4 India –IOR

BOOKS FOR STUDY
J. Bandyopadhyaya, *The Making of India's Foreign Policy*, Allied publishers Pvt Lmt, New Delhi, 2006.
David Malone, C. Raja Mohan, Srinath Raghavan, *The Oxford Handbook of Indian Foreig Policy*, Oxford University Press, U.K.. 2015.

BOOKS FOR REFERENCE
Aparna Pande, *From Chanakya to Modi: Evolution of India's Foreign Policy*, HarperCollins, 2017.
Ashley J Tellis. *India's Emerging Nuclear Power and Posture*. U.K: Oxford University Press, 2001.
Asthana. V.*India's Foreign Policy and Sub Continental Politics*. New Delhi: Kanishka Publishers, 1999.
Chellaney, Brahma. *Securing India's Future In The New Millennium* New Delhi: Center for Policy Research, 1999.
Chris Ogden, *Indian Foreign Policy*, John Wiley & Sons, 2014.
Col. Ravi Nanda. *India And The Emerging Multipolar World New Delhi*: Lancer Books, 2001.
Dixit J N. *India's Foreign Policy and its Neighbors New Delhi*: Gyan Publishers, 2001.
Dixit J.N.*Across Borders: 50 years of India's Foreign Policy*. New Delhi: Picus Books, 1998.
Dixit, J.N., Omesh N. Saigal.*India's Foreign Policy: Challenge of Terrorism Fashioning New Interstate Equations,* New Delhi: Gyan Publishing House, 2002.
Dr. S K Shah, *India and Its Neighbours: Renewed Threats and New Directions*, Vij Books India Pvt Ltd, 2017.
Harsh V. Pant, *Indian Foreign Policy: An overview*, Oxford University Press, 2016.
Heimsath, Charles & Mansingh, Surjit. *A Diplomatic History of Modern India*. New Delhi: Longman, 1971.
Jayapalan N. *India And Her Neighbors*. New Delhi: Atlantic Publishers, 2000.
Nalinikant Jha. *Domestic Imperatives of India's Foreign Policy*. New Delhi: South Asian Publishers, 2000.

Paul T V and Baldev Raj. *India in the world Order: Searching for Major Power Status* .U.K: Cambridge University Press, 2003.
Publications, 2000.
Ramesh Trivedi, *India's Relations with Her Neighbours,* Gyan Publishing House, 2008.
Richard Sisson, Leo E., Ross. *Pakistan, India and Creation of Bangladesh*. USA: Berkeley press, 1991
Shivshankar Menon, *Choices: Inside the Making of India's Foreign Policy*, UK Penguin, 2018.
Shyam Saran, *How India Sees the World: Kautilya to the 21st Century*, Juggernaut Books, 2017.
Sumit Ganguly, *India's Foreign Policy: Retrospect and Prospect*, Oxford University Press, 2010.

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

RESEARCH METHODOLOGY

CODE:19IS/PC/RM24   **CREDITS:4**
L T P: 4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To prepare the students for research by making them aware of epistemology and ontology of research in International Relations.
- To acquaint them with the research methods, sources of data, and the methods of data analysis and social science research
- The outcome of the research course is a research proposal detailing their plan for research for writing a dissertation.

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- To demonstrate the knowledge on research various research paradigms
- To compare and contrast the qualitative and quantitative research paradigms
- Identify the components of a literature review process
- To develop foundational knowledge of key methods in International Relations

Unit   1   **(13 Hours)**
   Introduction to Research in International Relations
   1.1 International Relations as a social science: Positivist and Post-positivist approach
   1.2 Epistemology and Ontology of research in International Relations
   1.3 Developing research questions, Importance of research questions.
   1.4 Sources of data- primary, secondary, tertiary, internet, websites,
   1.5 Types of documents- archives, chronology,

Unit   2   **(13 Hours)**
   Review of Literature
   2.1 Meaning of review of literature
   2.2 Objectives of review of literature
   2.3 Sources of literature
   2.4 Methods of conducting literature review
   2.5 Writing a review of literature for a proposal

Unit   3
   Methods of data collection- Qualitative and Quantitative   **(13 Hours)**
   3.1 case study and survey methods
   3.2 Phenomenology
   3.3 Questionnaires and interviews
   3.4 Grounded theory and feminism
   3.5 Comparative and historical methods

Unit 4   (13 Hours)
        Hypothesis
        4.1 Nature and significance of hypothesis
        4.2 Testing of hypothesis
        4.3 Kinds of hypothesis
        4.4 Functions of hypothesis
        4.5 Hypothesis construction

 Unit 5   (13 Hours)
         Writing of a Research Proposal
        5.1 Selection of a problem
        5.2 Formulating research questions
        5.3 Methodology and research design-Theoretical and Measurement Model
        5.4 Data collection and analysis
        5.5 Styles of writing- bibliography

BOOKS FOR STUDY

Creswell, J. W. *Research design: Qualitative, Quantitative And Mixed Methods Approaches*, Thousand Oaks, CA: Sage, 2018
Kothari C R, *Research Methodology: Methods and Techniques*, New Age International limited, 2013
Gowan Peter, *Research methods in International Relations*, Routledge 2009
Roselle Laura & Sharon Spray, *Research & Writings in International Relations*, Routledge, 2016
APA *Citation Style - Quick Guide*. 6th edition. 2011

BOOKS FOR REFERENCE

Gibaldi, Joseph, MLA *Hand Book For Writers of Research Papers*. New Delhi, Affiliated East West Press Pvt Ltd, 2000
Kothari, H.C, *Research Methods in Social Sciences*, Wishwa Publications, 2000
Pennings, Paul, Hans Keman and Jan Kleinnijenhuis, *Doing Research in Political Science: An Introduction to Comparative Methods and Statistics.* London, Sage Publications, 2006.
Punch, Keith. F, *Introduction to Social Research: Quantitative and Qualitative Approaches*. London, Sage Publications, 2006
Neuman, Lawrence. W.. *Social Research Methods: Qualitative and Quantitative* New Delhi, Approaches. Pearson Education. 2006
Emerson, Robert M. *Contemporary Field Research: A Collection of Readings*. Illinois Waveland Press, Inc. Prospect Heights, 1983.

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Proposal Writing/Assignments/PPT presentations/Posters/Quiz/Case
studies/Simulation/Exhibitions/Documentaries/short films/Class tests

End-Semester Examinations

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- Time allotted : 3 hours

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M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
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SOFT SKILLS

CODE: 19IS/PK/SS22   **CREDITS: 2**
                                                                          L T P: 2 0 0
                                                     TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development.
- To instill confidence in students to face challenges.
- To manage emotions and resolve conflicts.
- Top organize activities and manage time.
- To set goals and plan ahead.

COURSE LEARNING OUTCOMES

- Communicate with confidence and poise.
- Accept themselves and improve on their weaknesses.
- Strengthen their relationships through confronting and solving problems.
- Work more effectively and complete activities on time.
- Plan their future with clarity and focus.

Unit   1
Behavioural Traits   **(6 Hours)**
1.1   Self Awareness
1.2   Communication Skills –Verbal and Non Verbal
1.3   Leadership Qualities
1.4   Etiquette and Good Manners
1.5   Experiential Learning –Based on activities

Unit   2
Team Work   **(5 Hours)**
2.1.   Interpersonal Skills
2.2.   People Management
2.3.   Creative Thinking
2.4.   Critical Thinking
2.5.   Experiential Learning – Based on activities

Unit   3
Time Management   **(5 Hours)**
3.1.   Importance of time management
3.2.   Planning and Prioritizing

3.3.   Organizing skills
3.4.   Action Plan
3.5.   Experiential Learning – Based on activities

Unit 4

Conflict Resolution   **(5 Hours)**
4.1.   Reasons for conflict
4.2.   Consequences of conflict
4.3.   Managing emotions
4.4.   Methods of resolving conflicts
4.5.   Experiential Learning – Based on activities

Unit 5

Career Mapping   **(5 Hours)**
5.1.   Goal Setting and Decision Making
5.2.   Career Planning
5.3.   Resume Writing
5.4.   Handling Interviews
5.5.   Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment:
Quiz / Group Presentation /Assignment

No End Semester Examination

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INTERNATIONAL ORGANISATIONS

CODE:19IS/PC/IO34   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide a perspective of the structure and functions of International Organizations
- To introduce the sphere of operations of International Organizations
- To critically analyze the changing function and role   of International Organizations

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- Define, understand, and use concepts and terms relevant to the study of international Organizations.
- Apply a body of factual knowledge directly relevant to understanding the impact of International organizations on domestic and international politics
- Analyse strengths and weaknesses of different international organisations.
- Explain the functions and roles of international organizations through case studies.
- Relate issues and processes to current affairs and present-day issues of significance

Unit   1   **(13 Hours)**
  Evolution and Types of International Organizations
  1.1 History and evolution of International Organizations
  1.2 Definition, Scope and Classifications
  1.3 Functional classification of International Organizations
  1.4 Typologies of International Organizations: Non-Governmental; Inter-
       Governmental: Trans-National Organizations/Corporations
  1.5 Regional Organizations

Unit   2   **(13 Hours)**
  United Nations Organization
  2.1 UN Structure and UN Specialized agencies
  2.2 The role of UN in Peace keeping, Disarmament, Conflict Resolution and
       Humanitarian Relief
  2.3 UN MDGs and SDGs
  2.4 Reforming the United Nations
  2.5 Changing role of UN in the Twenty-First century

Unit 3   **(13 Hours)**

Role of International Organizations in Development

3.1 International development and financial organizations

3.2 Role of World Bank and IMF in International Development

3.3 Role of OECD, ODA, ADB

3.4 Foreign Assistance, Technology Aid and Development Policy

3.5 Aid harmonization and coordination

Unit 4   **(13 Hours)**

Role and Significance of Regional, Inter Governmental and International Non-Governmental Organization and NGO's

4.1 Changing Scope of International Organizations

4.2 The Role of Regional Organizations –OAU, OAS, SCO, EU

4.3 The Role of International Non-Governmental Organizations

4.4 The Role of Inter Government Organizations

4.5 Role of NGOs in Development, Human Rights, Environment and Peace Building

Unit 5   **(13 Hours)**

Global Governance

5.1 Definition and meaning of Global Governance

5.2 State Power & Global Governance

5.3 Human security and Global Governance

5.4 Changing Perspectives of State and Civil Society

5.5 Governance in the twenty-first century

BOOKS FOR STUDY

Karns P Margret, Mingst Karen, Kendall W. Stiles. International Organisations: *The Politics and Process of Global Governance*, 3rd ed.USA: Lynne Rienner Publishers, Boulder, 2015.

Jacob Katz Cogan, Ian Hurd, Ian Johnstone, *The Oxford Handbook of International Organizations,* oxford University Press, U.K. 2016.

BOOKS FOR REFERENCE

Armstrong David, Lloyds Lorna and Redmond John. *International Organizations in World Politics.* 3rd ed. New York: Pal Grave, Macmillan, 2005.

Bennett, Le Roy A. *International Organizations: Principles & Issues.* 5th ed. New Jersey: Prentice Hall, 1991.

Bull, Benedicte and McNeill, Desmond. *Development Issues in Global Governance.* 1st ed. U.K: Routledge 2006.

Cedric De Coning, Mateja Peter, *United Nations Peace Operations in a Changing Global Order,* Springer, 2018.

Claude Inis L. Sword into Plowshare, *The Problem and Progress of International Organizations.* 3rd ed. New York: Random House, 1984.

Clive Archer, *International Organizations*. Routledge, 2014.

Clive Archer. *International Organizations*, 3rd ed. UK**:** Routledge, 2001**.**

David Armstrong, *International Organisation in World Politics*, Macmillan International Higher Education, 2017.

David, Lewis**.** *The Management of Non-Governmental Development Organizations: An Introduction*, UK: Routledge, 2001**.**

Froehlich, Manuel. *Political Ethics And The United Nation-Dag Hammarskjöld as Secretary-General,* U.K: Routledge, 2007**.**

Gordenker, Leon**.** *The UN Secretary-General and Secretariat*. UK: Routledge, 2005.

Joachim, Jutta**,** Reinalda, Bob and Verbeek, Bertjan**,** *International Organizations and Implementation: Enforcers, Managers, Authorities.* UK: Routledge, 2007**.**

John Trent, Laura Schnurr, *A United Nations Renaissance: What the UN is, and what it could be*, Verlag Barbara Budrich, 2017.

Maurizio Ragazzi, *Responsibility of International Organizations: Essays in Memory of Sir Ian Brownlie*, Martinus Nijhoff Publishers, 2013.

Michael Davies, Richard Woodward, *International Organizations: A Companion*, Edward Elgar Publishing, 2014.

Michael G. Schechter**.** *United Nations Global Conferences*.U.K: Routledge 2005**.**

Stephen Browne, *Sustainable Development Goals and UN Goal-Setting*, Taylor & Francis, 2017.

Steve Hughes**,** Rorden Wilkinson**.***Global Governance Critical Perspectives* UK**.** Routledge, 2002.

Taylor Paul. *International Organizations in the age of Globalisation continuum*, New York: Continuum International Publishing Group, 2005.

Thomas G. Weiss, Rorden Wilkinson, *International Organization and Global Governance*, Taylor & Francis, 2018.

United Nations Publications, *The Essential* UN, UN, 2018.

Wilkinson, Rorden Ed. *The Global Governance Reader.* UK: Routledge, 2005

JOURNALS:
International Organization
International Studies Quarterly
Journal Of European Public Policy
The Interdependence (United Nations Association Of The United States)
American Political Science Review
Reports and Papers (Academic Council On The United Nations System)
U N Chronicle
West European Politics
Journal of East Asian Affairs
Third World Quarterly

WEBSITES
International Committee Of The Red Cross : http://www.icrc.org (official home page.)
United Nations Peace Keeping Operation: http://www.un.org/depts/dpko (official U N home Page)
International Monetary Fund (IMF): http://www.imf.org
World Bank : http://www.worldbank.org
World Bank On Development: http://www.worldbank.org/html/extdr/thematic.htm

PATTERN OF ASSESSMENT:
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Question Paper Pattern for End Semester Examination

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

AMERICAN FOREIGN POLICY

CODE:19IS/PC/AF34   **CREDITS:4**
                                                                  L T P:4 1 0
                                                    TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE:
 • To create an understanding of American foreign policy in the past and the present.
 • To use IR theory to evaluate the US foreign policy
 • To familiarize the students with the influence of Presidents on US foreign relations

COURSE LEARNING OUTCOMES:
On successful completion of the course the student will be able to

 • The curriculum and testing prepare students to
 • Demonstrate the ability to tie theories and make coherent arguments on why US foreign policy takes the course that it does
 • Understand major debates and explain which inputs into US foreign policy are most influential
 • Learn the various factors which influence US foreign policy

Unit   1   **(11 Hours)**
   American Foreign Policy 1945 –End of Cold war
   1.1 Colony to Super power
   1.2 US Foreign Policy and World War II
   1.3 US Grand Strategy
   1.4 Cold War Politics and United States

Unit   2   **(12 Hours)**
   American Foreign Policy in the Post-Cold War Era
   2.1 Unipolarity and American Hegemony
   2.2 NATO
   2.3 American Dominance and Revolution in Military Affairs
   2.4 Gulf War I and II

Unit   3   **(12 Hours)**
    American Foreign Policy Making Institutions
   3.1 Presidency
   3.2 Bureaucracy
   3.3 Congress
   3.4 Interest groups and Public opinion
   3.5 Media and American Foreign Policy

Unit   4   **(15 Hours)**
        President and US Foreign Policy Making
          4.1 Containment of Communism and Korea-Harry S .Truman, Dwight D
            Eisenhower
          4.2 Berlin and Cuba- John F Kennedy
          4.3 Vietnam, Détente and China, Escalation and End of Cold war - Lyndon
            B.Johnson, Richard Nixon and Ronald Reagan
          4.4 Global War on Terror, Iran and Iraq -George .W. Bush
          4.5 US Rebalancing/ Strategic Pivot to Asia - Barack Obama

Unit   5   **(15 Hours)**
        America's policy towards the world
          5.1 US policy towards Latin America- Nicaragua, Venezuela and Chile
          5.2 US policy towards Russia
          5.3 US policy towards Middle East
          5.4 US policy towards China
          5.5 US policy towards India and Pakistan

BOOKS FOR STUDY

Cox Michael & Dug Stokes, *US Foreign Policy*, Oxford University Press, 2018
Hook, Steven W and Spanier John, *American Foreign Policy Since World War II,* Washington DC, CQ Press, 2016.
Chittick, William O, *American Foreign Policy: A framework for analysis*, Washington DC, CQ Press, 2006

BOOKS FOR REFERENCE

Bose Meena, Perotti Rosanna, *From Cold war to New World Order: The Foreign Policy of George H. W.* Bush, USA Greenwood press, 2002
Graber A Doris, *Mass Media and American Politics*, Washington DC, CQ Press,2009.
Hastedt Glenn P, *American Foreign Policy, Past, Present, Future,* USA, Prentice Hall, 2005
Hook Stephen W, *The US Foreign Policy:The Paradox of world power*, Washington DC, CQ Press, 2008
Hurst Steven, *Cold War Us Foreign policy: Key Perspectives*, UK, Edinburgh University Press, 2005.
Hybel Alex Roberto *US Foreign Policy Decision-Making from Kennedy to Obama: Responses to International Challenges*, Palgrave Macmillan 2014
Ikenberry John G, *American Foreign Policy: A Theoretical Essays*, Illinois, U.S.A, Scott Foresman & Co, Glenview, 1989
Malone, David M and Khong Yuen Foong, *Unilateralism and US Foreign Policy*, USA, Lynee Reinner Publication, 2002.
Milkis, Sidney M and Nelson Michael, *The American Presidency: Origins and Development 1776-2007*, Washington DC, CQ Press, 2007.
Nelson Michael, *The Presidency and the Political System*, Washington DC, CQ Press, 2005
Prefiti Bledar, *The US Foreign Policy in the Middle East: The Case for Continuity*, Palgrave Macmillan 2017
Paul Kennedy, *Rise and Fall of Great Powers,*USA Random House, 1987.
Vance C R), *Hard Choices: Critical Years in America's Foreign Policy*, USA, Simon & Schuster, 1983.

Alex Roberto Hybel, *US Foreign Policy Decision-Making from Kennedy to Obama: Responses to International Challenges*, Palgrave Macmillan 2014

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M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INTERNATIONAL LAW – II

CODE:19IS/PC/IL34   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To examine core concepts and key institutions in International Humanitarian Law
- To familiarize the students with concepts in maritime and environmental laws
- To highlight the importance of Intellectual Property Rights as an emerging field of study

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- Assess the working of International Humanitarian Law
- Understand the philosophy and logic underlying International Humanitarian Law norms
- propose constructive solutions in light of the evolution of the nature of armed conflicts and the legal norms applicable to them
- Awareness of the working of maritime law and institutions
- Can distinguish and identify different types of IPR

Unit   1
Laws of war and armed conflicts and humanitarian law   **(13 Hours)**
1.1 Hague conventions and conduct of hostilities-Jus in bello and jus ad bellum
1.2 Emergence of International Humanitarian Law-Geneva Conventions
1.3 Geneva convention III and the Treatment of Prisoners of War
1.4 Illegality of Nuclear warfare
1.5 Neutral States – Rights and Duties

Unit   2   **(13 Hours)**
Laws of the Sea
2.1 Changing concepts of maritime frontiers
2.2 Laws of the sea – UNCLOS I, II & III
2.3 Territorial Sea, Contiguous Zone, Continental Shelf, High Seas, EEZ
2.4 Archipelagic and Landlocked States, Deep-Sea Bed and Mining, ITLOS
2.5 Marine Environment and its Protections

Unit   3   **(13 Hours)**
 Laws of Outer Space
3.1 Outer Space and State Sovereignty

3.2 Outer space treaty and fundamental principles of Space Law
3.3 UN and other outer space conventions - Rescue Agreement, Liability
    Convention, Registration Convention, Moon Agreement
3.4 Demilitarization of Outer space
3.5 Uses and benefits of Outer space and space technology

Unit 4   **(13 Hours)**
International Environmental Law
3.1 Guiding Principles of International Environmental Law
3.2 History and evolution of International Environmental Law
3.3 Major International Environmental Legislations
3.5 State responsibility in Environmental Law

Unit 5   (**13 Hours**)
Intellectual Property Rights and Cyber law
4.1 The Intellectual Property Regime
4.2 WIPO and its treaty base
4.3 Copyright and Patents
4.4 Trademarks, Service Marks and Industrial Design
4.4 Geographical Indications
4.5 Data Protection Cyber Security

BOOKS FOR STUDY
Kapoor ,S.K *International Law And Human Rights* ,New Delhi ,Central Law Agency (2016)
Shaw,N. Malcolm. *International Law* 8th Edition Cambridge University Press2017
Brownlie, I, *Principles Of Public International Law*,UK, Oxford University Press, 2003.

BOOKS FOR REFERENCE
Agarwal, H.O, *International Law and Human Rig*hts**,** New Delhi, Central Law   Publishers, 2002.
Armstrong, David, *International Law and International Relations***,** London**,** Cambridge University Press, 2007.
Agius Emmanuel and Busuttil Salvino, *Future Generations & International Law*, Earthcscan Publications Ltd , 1998.
Birnie, P W & Boyle, A.E, *International Law And The Environment*, UK Oxford University Press, 2008.
Brownlie, I, *Principles Of Public International Law*,UK,Oxford University Press, 2003.
Cassese, Antonio, *International Law*, New York. Oxford University Press, 2001.
Chandra Satish, *Minorities In The National And International Law*, New Delhi, Deep and Deep Publications, 1993.
Chimni, B S, *International Law And World Order-A Critique of Contemporary Approaches*, London Sage Publications, 1993.
Collier John, , *The Settlement of Disputes in International Law*, London, Oxford University Press,1999.
Friedman, Wolfgang, *The Changing Structure Of International Law***,** Vakils, Bombay Feffer & Simons Pvt Ltd, , 1964.
Fenwick, Charles.G, *International Law***,** Allied Pacific Publishers, 1965.
Jennings Sir Robert, *Oppenheim's International Law Volume 1 &2*, U K Pearson Publication, 1996.

Ku, Charlotte, *International Law, Classic and Contemporary* Reading**,** New Delhi   Viva Books, 2004.

Jessup, Phillip C, *A Modern Law of Nations –An Introduction,* New York,   Macmillan Company, 1974.

Jennings, Sir Robert, *Oppenheim's International Law**,** Volume 1 and* 2, New Delhi, Pearson Education, 1996.

Rajagopal BalaKrishnan, *International Law From Below, Social Developments and Third World***,** Oxford publication, UK

Shahid, Mohd, *International Law and Politics of Intervention***,** New Delhi, Raj Publishing, 2003.

Shaw, Malcolm N, *International Law**,*** U.K., Cambridge University Press, 2003.

Starke, J.G., *Introduction to International Law*, New Delhi, Aditya Books, 1994.

Reus- Smit, Christian (ed), *The Politics of International Law***,** UK, Cambridge University. Press, 2004

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 2 Essays Out Of 5 in about 1000 Words Each (20x2=40 Marks)
Sec B: Answer Any 1 Out Of 2 in about 300 Words Each (1x10=10 Marks)

Other Components:
Proposal Writing/Assignments/PPT presentations/Posters/Quiz/Case studies/Simulation/Exhibitions/Documentaries/short films/Class tests

End-Semester Examinations
Question Paper Pattern for End Semester Examination

- All Essay type questions
- 5 essays out of 10. (internal choice "Either or")
- Each essay will be of 1500 words.
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- Time allotted : 3 hours

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

SUMMER INTERNSHIP

CODE:19IS/PN/SI32   **CREDITS:2**

OBJECTIVES OF THE INTERNSHIP
- To acquire the knowledge of the work culture in Research Agencies, Multi National Corporations, NGOs, IGOs and Embassies.
- To gain practical experience about the functioning of the organization
- To understand the importance of Research in International Relations
- To nurture a positive attitude to work in varied sectors like the government, research agencies, Multinational corporations
- To provide a hands-on work experience and to learn the importance of documentation, time management and report writing
- To inculcate self-confidence, work ethics and professionalism.

SUMMER INTERNHIP:
1. The entire process of identifying agencies for summer internship for students begin during the month of January every year and as a part of this process students are asked to submit a Statement of Purpose and their Curriculum Vitae.
2. Based on the Statement of Purpose and area of interest the department helps the students to identify appropriate agencies.
3. Students will work through summer (First week of May to Mid June-30 working days).
4. The department has signed Memorandum of Understanding with premier research agencies in India and every year a maximum of two or three students will be trained as interns.
5. Before the commencement of the internship the students will be briefed about their internship requirements to be fulfilled.
6. Every student will have to put in a minimum of 8 hours a day for 30 days.

The evaluation of the internship will be done as follows:
➢ External Evaluation will be based on confidential grading on the prescribed evaluation form by the designated supervisor and agency -75 marks
➢ Internal evaluation will be based on oral presentation & Detailed Report- 25 marks

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M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS

(Effective from the academic year 2019–2020)

HUMAN RIGHTS

CODE:19IS/PC/HR44   **CREDITS:4**
                                                         L T P:4 1 0
                                     TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To understand the relevance of Human Rights as a key determinant of international relations
- To provide the students with an understanding of the working of international human rights agencies.
- To familiarise the students with various human rights violations around the globe.

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- The student will be familiar with international instruments governing human rights
- The student will understand the functioning of international agencies and the UN in the field of Human rights
- The student will demonstrate knowledge about various human rights violations globally and within the country.

Unit   1   **(13 Hours)**
   Introduction
   1.1. Nature, Meaning and Concept of Human Rights
   1.2. Evolution of Human Rights-Magna Carta to UDHR
   1.3. Theoretical framework of human rights-Individual, Societal and Civic Theories
   1.4. Classification of Human Rights
   1.5. International instruments – UDHR, ICCPR ICSECR

Unit   2   **(13 Hours)**
   International Organizations – Monitoring, Enforcement and Protection
   2.1 United Nations – United Nations Commission on Human Rights, UN High
        Commissioner for Refugees, ILO
   2.2 Amnesty International, ICRC
   2.3 Role of INGO's, NGO's and Global Civil Society
   2.4 Effectiveness of International Protection and Enforcement
   2.5 Global governance and Human Rights

Unit   3   **(13 Hours)**
   Challenges To Human Rights
   3.1 Gender based discrimination and violence
   3.2 Crimes against Children
   3.3 Refugees, IDPs and Stateless persons

3.4 Prisoners of Conscience, Political prisoners
3.5 Racial discrimination, Genocide and Ethnic cleansing

Unit   4   **(13 Hours)**
Development Rights
4.1. Poverty and Illiteracy
4.2. Impact of Globalisation on human rights
4.3. Environmental refugees and forced displacement
4.4. Genetic issues and human rights
4.5. Human Development

Unit   5   **(13 Hours)**
Human Rights in India
5.1. Constitutional safeguards
5.2. Role and function of NHRC and SHRC
5.3. Minorities Commission, National Commission for Women
5.4. Condition of women and children in India
5.5. Dalits and socio-cultural issues

BOOKS FOR STUDY
 Das, Jatindra Kumar *Human Rights Law And Practice*,New Delhi 2016
Srikanth,Rajini and Elora Halim Chowdhury (Ed) *Interdisciplinary Approaches to Human Rights: History, Politics, Practice*,Routledge, New York, 2017

BOOKS FOR REFERENCE
Ahluwalia BK.*B.R. Ambedkar And Human Rights*. New Delhi: Vivek Publishing Company, 1981.
Alstar Philip (edited) *The UN AndHumanRights: ACriticalAppraisal. USA*: Oxford University Press, 1995.
Arsdale, Peter W. Van, *Global Human Rights: People, Processes, and Principles*, USA 2017
Aruna Aladi. *Defend On Rights*. ChennaI: Mathivanan Publications .1994.
Bajwa, G.S.*Human Rights In India - Implementation And Violence*. New Delhi: Anmol Publications Pvt. Ltd, 1997.
Baxi Upendra.*Inhuman Wrongs And Human Rights - Unconventional Essays*. New Delhi: Har Anand Publications,. , (1994),
Campell Tan. *Human Rights - Fran Rhetoric To Reality*. New York: Basil Blackwell INC, 1986
Chandra U .*Human Rights. Allahabad:* Allahabad Law Agency Publications, 1990.
Donnelly, Jack and Daniel J. Whelan, *International Human Rights* 5th Edition West view Press,2018
Fischlin,Daniel and Nandorfy, Martha ,*The Concise Guide to Global Human Rights*,Canada 2007
Garling Marguerite. *The Human Rights Hand Book*. London: the Macmillan Press Ltd., 1979
Gearty Conor, Tankins *A dam Human Rights in India - The Updates Amnesty International Report*. New Delhi Vistaar publications, 1993.
Iyer Krishna, Human Rights And the Law, Indore: Vedpal law house, 1986.
Kumar Aravind .*Encyclopedia of Human Rights Violence and Non Violence (3 volumes)* New Delhi. : Anmol Publications, 1998.
Marshall Burke *The Supreme Court And Human Rights*. New York: Forum Publications, 1979.

Mehartay Begum, S., *Human Rights In India - Issues And Perspectives*. New Delhi: A. P. H. Publishing Co-operation

Oberleitner, Gerd ,*Global Human Rights Institutions*,Polity Press,UK,2007

Parkes ,*Aisling Children and International Human Rights Law: The Right of the Child to be Heard*,Routledge ,2013

Shelton, Dinah, *The Oxford Handbook of International Human Rights Law(Ed)*,OUP 2013

Smith, Rhona K.M, *Textbook on International Human Rights*, Oxford University Press, 2014

Subramanian S. Human Rights -*International Challenges (2 volume*s). NewDelhi: Manas Publications: 1997.

JOURNALS

Human Rights Quarterly

U N Chronicle

Ethics and International affairs

American Journal of International Law.

WEB SITES

Amnesty International : http://www.amnesty.org

Human Rights Watch : http://www.hrw.org

The International Committee On The Red Cross : http://www.icrc.org

United Nations High Commissioner For Refugees : http://www.unher.ch

Universal Declaration of Human Right (text) - http://www.hrw.org/universal.html.

United Nations Commission On Human Rights: http://www.unhchr.ch/.

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M.A. DEGREE : BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INTRODUCTION TO PEACE AND CONFLICT STUDIES

Code:19IS/PC/PS44

CREDITS:4
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide an understanding on the basic nature and challenges of contemporary conflicts
- To familiarise the students with theoretical under-standings of the related fields of Conflict Transformation, Conflict Prevention, Conflict Management, Conflict Resolution and Peacebuilding
- To facilitate an in-depth knowledge about peacebuilding approaches in diverse conflict regions
- To create an interactive space for the building of a network of young people committed to constructive social change
- To build a synergy between the theory and practice of Conflict Transformation, Human Security and Development.

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- Describe general patterns in the causes, development and resolution of conflicts at various levels of analysis.
- Explain and discuss central questions and theories on causes, development and resolution of conflicts.
- Compare and critically evaluate different explanatory models for the onset and development of armed conflict and peace building efforts.
- Critically evaluate central obstacles and problems for conflict resolution, conflict management, and sustainable peace
- Analyse key issues and debates related to the theories of peace and practices of peacebuilding, state building, conflict management, resolution, and transformation.
- Evaluate the theory and policy tools in the context of the recent history of peacebuilding and state building since the end of the Cold War, in a range of examples, including across the Balkans, India and Pakistan, Palestine, Sri Lanka and the unrest in the Arab world.

Unit 1
Understanding Conflict (13 Hours)
1.1 Definition of conflict
1.2 Conflict theories and perspectives- Realism, Marxism, Liberalism,
1.3 Levels of Conflict in the international system
1.4 Types of conflict
1.5 conflict mapping

Unit   2

Conflict Resolution, Transformation and Management   (13 Hours)
2.1 Introduction to Conflict Management, Resolution and Transformation.
2.2 Conflict Resolution and Management- Kenneth Boulding, John Burton, Herbert
    C. Kelman
2.3 Conflict Transformation- Johan Galtung, John Paul Lederach
2.4 Justice and reconciliation
2.5 Mediation, negotiation

Unit   3

 Defining Peace   (13 Hours)
3.1 Defining Peace
3.2 Peace theories
3.3 Prevention of conflict and De-escalation
3.4 Types of peace
3.5 Building Sustainable Peace

Unit   4

Peace Building through State and International Institutions   (13 Hours)
4.1 Role of the State
4.2 Track I and Track II diplomacy
4.3 Role of the UN in conflict resolution and peace building
4.4 Role of the Media and Civil Society
4.5 Post War Reconstruction and Development.

Unit   5

Conflicts around the World   (13 Hours)
5.1 Europe –Balkans
5.2 Africa - Darfur and Sierra Leone
5.3 Middle East-Palestine
5.4 South Asia – Sri Lanka
5.5 South Asia – Kashmir

BOOKS FOR STUDY
Mial, Hugh. Ramsbotham, Oliver and Woodhouse Tom (2011). *Contemporary Conflict Resolution*. USA. Blackwell Publishing Inc.
Webel, Charles and Galtung, Johan. (2008). *Hand Book of Peace and Conflict Studies*. USA and Canada.

BOOKS FOR REFERENCE:
Burton, John, W. (1993). *Conflict Resolution as a Political Philosophy*. Manchester University Press.
Deutsch, Morton (1973). *Introduction to the Resolution of Conflict*. New Haven. CY: Yale University.
Frank G. Hoffman, "*Hybrid Threats: Reconceptualizing the Evolving Character of Modern Conflict", Strategic Forum, N° 24*0, (April 2009),
Gaya Best, Shedrack. (2006). *Introduction to Peace and Conflict Studies*. Ibadan, Nigeria.
Jeong, Ho-Won. (2000). *Peace and Conflict Studies: An Introduction*. London. Ash gate publishing Limited.

John Paul Lederach, "*Preparing for Peace : Conflict Transformation Across Cultures*", Syracuse University Press, 1996

Lederach, P., John. *Preparing for Peace: Conflict Transformation Across Culture*.

Moore, C. (2003). *The Mediation Process*. 3rd ed., San Francisco. Jossey- Bass.

Thomas Weber, "*Gandhi's Peace Army : The Shanti Sena and Unarmed Peacekeeping*", Syracuse University Press, 1995.

Thompson, L. (2004) *The Mind and Heart of the Negotiator*. 3rd ed. NJ: Prentice Hall.

Wallensteen, Peter (2002), *Understanding Conflict Resolution, War, Peace and the Global System.* London.

White, N., D. (1993). *Keeping the Peace: The United Nations and the Maintenance of International Peace and Security*. Manchester University Press.

WEBSITES:
1. The Conflict Resolution International Sources from http:/www.crinfo.org/index.jsp
2. Conflict Transformation by Peaceful Means, available at www.transcend.org/

PATTERN OF ASSESSMENT:
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M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019 – 2023)

GOVERNMENT AND POLITICS OF CHINA

CODE:19IS/PC/GP44   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide an in depth understanding of the theoretical and empirical approaches to the study of Chinese Politics
- To create an understanding on the government and politics of China
- To familiarize students on the history, politics, party system and political leadership in China

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- Understand and critically evaluate the main theoretical and empirical approaches to the study of Chinese politics
- Demonstrates knowledge of key themes of continuity and change in Chinese politics from the Republican period to the present
- Provide an understanding of the major issues in a state as large and complex as China

Unit   1
Political History of the PRC   **(13 Hours)**
1.1 Middle kingdom and Western influence
1.2 Imperial China
1.3 Republic of China
1.4 Communist revolution
1.5 Establishment & Consolidation of PRC

Unit   2
Political System and Structure of the PRC   **(13 Hours)**
2.1 Chinese Communist Party
2.2 Chinese Government
2.3 National People's Congress
2.4 People's Liberation Army
2.5 Leadership

Unit   3
Chinese Politics Under Mao   **(13 Hours)**
3.1 Emergence of Revolutionary China
3.2 Mao and Socialism
3.3 Great Leap Forward
3.4 Cultural Revolution
3.5 Foreign Policy Under Mao

Unit 4

Chinese Politics Under Deng Xiaoping   (13 Hours)
4.1 Chinese Society & Foreign Relations
4.2 Independent Policy of Peace- Origins and Implications
4.3 Reform era and Open Door Policy
4.4 China and the Super Powers
4.5 Foreign Policy under Deng Xiaoping

Unit 5

Chinese Politics in the Post-Cold War era   (13 Hours)
5.1 China since Tiananmen
5.2 Jiang Zemin and Three Represents Theory
5.3 Hu Jintao and Harmonious World
5.4 Xi Jinping and China's Grand Strategy
5.5 China and the World

BOOKS RECOMMENDED

Lucien Bianco, *Origins of the Chinese Revolution* (Stanford: Stanford University Press, 1971)
Henry Kissinger, *On China* (New York: Penguin Book, 2012)
David Lampton, *Following the Leader: Ruling China, from Deng Xiaoping to Xi Jinping* (Berkeley: University of California Press, 2014)
Jonathan D. Spence, *The Search for Modern China, 3rd Ed.* (W. W. Norton, 2012)
Fairbank, JK, ed. The Chinese World Order: Traditional China's Foreign Relations (1968)

BOOKS FOR REFERENCE

Bhattacharjea, Mira Sinha, *China, the world and India,* (2001) Part I, Chapter 2, "Foreign Policy:Spelling out the Maoist Vision".
Deng, Yong and WANG, Fei-ling, *China Rising: Power and Motivation in Chinese Foreign Policy* (2005) Chapters 4 and 5
Deng, Yong and WANG, Fei-ling, *China Rising: Power and Motivation in Chinese Foreign Policy* (2005) Chapters 8 and 9
Deshpande, G P, "The Maoist World-view", in K.P.Mishra and Richard Beal eds., *International Relations Theory: Western and Non-western Perspectives* (1980)
Deshpande, G.P. "Verbalities and Realities of Foreign Policy" in G.P. Deshpande and Alka Acharya eds., "*Crossing a Bridge of Dreams: 50 Years of India China* (2001)
Ding, Xinghao, "The US and China: Is a Stable Relationship Possible? in *The Post-Cold War World*, Shanghai Institute for International Studies (2000)
Ding, Xinghao, "The US and China: Is a Stable Relationship Possible? in *The Post-Cold War World*, Shanghai Institute for International Studies (2000)
(1988) Hu, Weixing et al., *China's International Relations in the 21st Century: Dynamics of Paradigm Shifts* (2000) Chapters 1, 6 and 7.
Hunt, Michael, *The Genesis of Chinese Communist Foreign Policy* (1996) pp. 3-28-I have
Liu, Xiaohong, *Chinese Ambassadors: The Rise of Diplomatic Professionalism since 1949* (2001) Ma, Jisen, *The Cultural Revolution in the Foreign Ministry of China* (2004)
Shambaugh, David, *Beautiful Imperialist: China Perceives America, 1972-1990* (1991
MacFarquhar ed., *China Under Mao: Politics Takes Command* (1966)
Qian, Qichen, *Ten Episodes in China's Diplomacy* (2005)
Zheng, Yongnian, *Discovering Chinese Nationalism in China: Modernization, Identity and International Relations* (1999)

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
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M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS

(Effective from the academic year 2019–2020)

DISSERTATION

CODE:19IS/PC/DI47   **CREDITS:7**

OBJECTIVES
- To appreciate the significance and the need for academic research
- To enable students to carry out research in related areas of IR
- To provide scope to further the students research capabilities and analytical skills.

RESEARCH WORK
- At the beginning of the fourth semester the student is expected to decide the research topic
- Topics will be approved by the Department based on the availability of research material and viability of the topic
- There will be a regular research proposal writing class for the student during the Dissertation hour
- Writing Index Cards is a part of the research work. It is mandatory that   the students write the bibliography details in the Index Cards.
- The Student at the end of the proposal writing class will submit the research proposal for approval
- Based on the research topic the student will be allotted a supervisor
- There will be a periodical assessment of the Research work by the supervisor
- Deadlines for the submission of chapters will be notified to the student and adhering to the same is must for the student
- Every student must have the   Research Manual prepared by the department. This will consist of Style, font, footnote, bibliography writing, and all other details required towards the completion of the dissertation.
- After the completion of the Dissertation the student will have to appear for a viva-voce (Thesis-75 marks & Viva Voce-25 marks)

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M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS

(Effective from the academic year 2019–2020)

INTERNATIONAL TERRORISM

CODE:19IS/PE/IT15   **CREDITS:5**
                                                          L T P:5 0 0
                                    TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce the concept of terrorism and its root causes
- To create an awareness about the increasing threats to human life and
  Property from terrorism.
- To discern the evolution of international terror networks

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- Understand and explain the evolution of terrorism through the different waves of
  terrorism.
- Describe the motivations and strategies of terrorist organizations
- analyze the causes and consequences of transformation of societies and polities based
  on conceptual and empirical knowledge
- Understand and identify the threats possessed by various terrorist organisations and
  counter- terrorism methods taken by State actors.
- Identify the norms that regulate the use of violence by state and non-state actors;

Unit   1   **(13 Hours)**
  History of Terrorism
  1.1 Origins and history of terrorism
  1.2 Definition of Terrorism
  1.3 Root causes of terrorism
  1.4 Psychology of terrorists
  1.5 Internationalisation of Terrorism

Unit   2   **(13 Hours)**
  Typology & Approaches to Terrorism
  2.1 Ideology & Religion based terrorism
  2.2 State Sponsored Terrorism
  2.3 Political Terrorism and Revolutionary Terrorism
  2.4 Ethno-Nationalist Terrorism
  2.5 Eco terrorism, Bio terrorism, Narco terrorism

Unit   3   **(13 Hours)**
  Terrorist Groups and Case Study
  3.1 FARC Columbia , ETA, IRA
  3.2 Al Qaeda, LeT, Hizb ul Mujahideen, LTTE
  3.3 Jemaah Islamiyah
  3.4 Hezbollah, HAMAS
  3.5 ISIS

Unit 4 (13 Hours)

State and Terrorism
4.1 Terrorism & Democracy
4.2 Counter Terrorism Measures
4.3 Control of Terrorist Financing
4.4 US and Homeland Security
4.5 New Dimensions of International Terrorism in the 21st century

Unit 5 (13 Hours)

India and Terrorism
5.1 Origins and Growth of   Terrorism in India
5.2 Cross Border Terrorism-Kashmir, North East India
5.3 Insurgency and Naxalism
5.4 Role of Security forces and Intelligence Agencies-RAW, IB, ATS
5.5 Terrorism as a challenge to internal security

BOOKS FOR STUDY

Acharya Amitav, *Age of Fear : Power Versus Principle in the War on Terror*, New Delhi, Rupa and Co, 2004
Bjorgo Tore, *Root causes of Terrorism: Myths, Reality and Ways Forward*, U K, Routledge Publication, 2005.

BOOKS FOR REFERENCE

Bruce Hoffman, Fernando Reinares , *The Evolution of the Global Terrorist Threat: From 9/11 to Osama bin Laden's Death*, coloumbia university press, U.S.2014
David Whittake J, *Terrorist and Terrorism in the contemporary world*, UK, Routledge Publication, 2004.
Enders Walter, *The Political Economy of Terrorism*, U K, Cambridge University Press, 2006.
Gopa Kumar G, *International Terrorism in the twenty-first century*, Kanishka New Delhi, Publishers,2003
Gupta, K. R, *Anti Terrorism Laws*, India, USA, the UK and Israel, Volume 1 and 2, New Delhi, Atlantic Publishers, 2002.
Hoffman Bruce, *Inside Terrorism*, Columbia, Columbia University Press,1983.
Jussi M. Hanhimäki, Bernhard Blumenau. *An International History of Terrorism: Western and Non-Western Experiences*, London, Routledge Publication, 2013.
Kumar, Varma Adarsh, *Prevention of Terrorism from TADA to POTA*, New Delhi, Sterling Publication, 2003.
Lutz, James. M, *Global Terrorism,* London, Routledge Publication, 2008.
Magnus Ranstorp, Magnus Normark. *Unconventional Weapons and International Terrorism: Challenges and New Approaches,* London, Routledge Publication, 2009.
Muni S.D, *Responding to Terrorism in South Asia*, New Delhi, Manohar Publishers, 2006.
Raphael F. Perl, *International Terrorism: Threat, Policy, and Response*, USA, Congressional Research Service, 2007
Reich Walter, Walter Laqueur, *Origins of Terrorism: Psychologies, Ideologies, Theologies, State of Mind*, Washington DC, Woodrow Wilson Center Press, 2000.
Satish Chandra Pandey. *International Terrorism and the Contemporary World*, New Delhi, Sarup & Sons, 2006.
Smith , Paul J, *Terrorism and Violence in South East Asia*, New York, M.E. Sharpe, 2005.
Subrmanyam, Raju Adluri *Terrorism in South Asia, View from India*, New Delhi, India Research Press, 2004.

Tricia Bacon. *Why Terrorist Groups Form International Alliances*, Philadelphia, University of Pennsylvania, 2018.

WEBSITES
U.S. Department of State: Counterterrorism Office ,http://www.state.gov/s/ct/
Centre for the Study of Terrorism and Political Violence at the University of St. Andrews
http://www.st-andrews.ac.uk/academic/intrel/research/cstpv/
Council on American-Islamic Relations, http://www.cair-net.org/
UN Action Against Terrorism, http://www.un.org/terrorism/
EUROPOL: Counter Terrorism Unit,
http://www.europol.eu.int/index.asp?page=publ_terrorism&language=
Rand Corporation: Terrorism and Homeland Security Research Area
http://www.rand.org/research_areas/terrorism
What Do We Know About Militant Muslims?
 http://www.eicds.org/english/publications/saadarticles/2004/whatdoweknow.ht

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 3 Essays Out Of 5 in about 300 Words Each (3x10 =30 Marks)
Sec B: Answer Any 1 Out Of 2 in about 1000 Words Each (1x20=20 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case
studies/Simulation/Exhibitions/Documentaries/short films/Class tests

Question Paper Pattern for End-Semester Examination
Section A
Answer any 5out of 8 in 300 words each   5x8=40
Section B
Answer any 3 out of 5 in1000 words each   3x20=60

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

GLOBALISATION

CODE:19IS/PE/GL15   **CREDITS:5**
                                                               LTP:5 0 0
                                              TOTALTEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To familiarise the meaning and conceptual approaches to globalization
- To understand how Globalisation affects the wealth and power of nations and the culture and societies of peoples around the globe.
- To assess the impact of globalisation on developed and developing countries

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- understands the working of The forces of globalisation
- interplay between globalisation and the State
- Deeper understand of the impact of globalisation on different sectors.

Unit   1   (13 Hours)
      Introduction to Globalisation
      1.1 Meaning and Concept of globalisation
      1.2 Theoretical approaches to Globalisation
      1.3 Nation States in a Globalising world
      1.4 Impact of Globalisation on Developed and developing countries

Unit   2   (13 Hours)
      Globalisation and the State
      2.1 State Sovereignty and Globalization
      2.2 Globalization and National Power
      2.3 Globalisation and Global governance

Unit   3   (13 Hours)
      Globalisation and the World Economy
      3.1 Emergence of the world economy
      3.2 Liberalisation Privatisation and Globalisation
      3.3 Economic Integration, Regionalism and regional trading regimes
      3.4 GATT and WTO

Unit   4   (13 Hours)
      Globalisation, Society and Culture
      4.1 Globalisation and Modernity
      4.2 Hybridization of culture and Deterritorialisation

4.3 Homogenisation and Polarization
　　　　4.4 Globalization and Gender
　　　　4.5 Globalization and ICT

Unit　5　　　　　　　　　　　　　　　　　　　　　　　　**(13 Hours)**
　　　　　　Globalization and India
　　　　5.1 Impact of Globalisation on India - Culture and Tradition
　　　　5.2 Impact on the Economy - Agriculture and Industry
　　　　5.3 Impact on Indigenous Communities
　　　　5.4 Resistance and Alternatives to Globalisation

BOOKS FOR REFERENCE
Ankie, Hoogvelt.*Globalisation and the Post Colonial World* .New Delhi: Macmillan, 1998.
Biplab Dasgupta. *Globalisation: India's Adjustment Experience*. New Delhi: Sage
Publications, 2005.
Gilpin, Robert. *Global Political Economy: Understanding the international economic order*.
U.K Orient Blackswan, (2003).
Grieco, Joseph M. and G. John Ikenberry, *State Power and World Markets: The International
Political Economy*. New York: W. W. Norton, 2003.
Goddard, C. Roe, Patrick Cronin, and Kishore C. Dash, *International Political Economy:
State-Market Relations in a Changing Global Order.* USA: Lynne Rienner Publishers, 2003
Holton R J. *Globalisation and the Nation State.* UK: Macmillan Press, 1998.
Kar Samit. *Globalisation.* New Delhi: Rawat Publication, 2005.
Lechner, Frank, J and Boli, John. *The Globalisation Reader*. UK: Blackwell Publishing
Oxford, 2008.
Nettl, J.P. and Roland Robertson, *International Systems and the Modernization of
Societies,*　New York .1968.
Roy Sumit. *Globalisation, ICT and developing nations: Challenges in the information age.*
New Delhi: Sage Publications,.2005
Shaw Martin. *Politics and Globalisation: Knowledge, ethics and agency*. UK: Routledge
Publications, 1999.
Suter, Keith. *Global Order and Global Disorder: Globalisation and the Nation State.* USA:
Greenwood Publishing House, 2008

PATTERN OF ASSESSMENT
Continuous Assessment Test:　　　　　　**Total Marks: 50**　　　　**Duration: 90 Minutes**
Sec A: Answer Any 3 Essays Out Of 5 in about 300 Words Each (3x10 =30 Marks)
Sec B: Answer Any 1 Out of 2 in about 1000 Words Each (1x20=20 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case
studies/Simulation/Exhibitions/Documentaries/short films/Class tests

Question Paper Pattern for End-Semester Examination
Section　A
Answer any 5out of 8 in 300 words each　　　　　　　　　　　　5x8=40
Section B
Answer any 3 out of 5 in1000 words each　　　　　　　　　　　3x20=60

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

LATIN AMERICAN: POLITY, ECONOMY AND SOCIETY

CODE:15IS/PE/LA15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To provide the students with a historical background to Latin America
- To comprehend the working of Latin American politics
- To understand the emergence of the contemporary social and economic order in Latin America

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- A critical understanding of the main issues in Latin American History
- Demonstrate the ability to tie theories and make coherent arguments on why Latin American foreign policy takes the course that it does
- Understand major debates and explain which inputs into foreign policy are most influential

Unit   1   **(13 Hours)**
   The Idea Of Latin America
   1.1 Historical Background of Latin America
   1.2 Modern History: Colonization and Imperialis
   1.3 Independence and State Formation
   1.4 Latin America in The 21st Century: Problems And Potential

Unit   2   **(13 Hours)**
   Revolutions And Regimes
   2.1 Revolutions In Latin America -1750-1914
   2.2 Marxism /Communist Revolutions And The Rise Of Leftism: Cuba
   2.3 Nationalism and Revolution: Mexico
   2.4 Autocracy and Military Dictatorship: Chile
   2.5 Transitions to Democracy: Brazil And Venezuela

Unit   3   **(13 Hours)**
   Economy Of Latin America
   3.1 Natural Resources, human resource and development
   3.2 Globalization Liberalization and Market reforms
   3.3 Economic crisis-Argentina

Unit   4   **(13 Hours)**
       Society In Latin America
       4.1 Demography and social structure
       4.2 Women and society- socio religious factors
       4.3 Crime and corruption
       4.4 Popular culture

Unit   5   **(13 Hours)**
       Latin America And The World
       5.1 Regional and transcontinental linkages: IBSA, BRICS
       5.2 Latin America and USA
       5.3 Latin America and China
       5.4 Latin America and India

BOOKS FOR STUDY

Holloway ,Thomas H**..**A *Companion to Latin American History* ,Wiley-Blackwell, 2010
Chasteen.John Charles *Americanos: Latin America's Struggle for Independence* Oxford
University Press, 2008
Drake. Paul W**.** *Between Tyranny and Anarchy: A History of Democracy in Latin*

BOOKS FOR REFERENCE

America, 1800-2006 Stanford University Press, 2009
Keen. Benjamin *Latin American Civilization: History and Society, 1492 to the
Present* Westview Press, 2000 (7th edition)
Ward. John *Latin America: Development and Conflict since 1945*,Routledge, 1997
Black. Jan Knippers *Latin America, Its Problems and Its Promise: A Multidisciplinary
Introduction* , Westview Press, 1998 (3rd edition)
Williamson,Edwin, *The Penguin Hiatory Of Latin America,1992*,London
Intervention:*The United States and the Mexican revolution 1913-17*
Guillermoprieto ,*Alma Looking for History: Dispatches from Latin America, ,2001*
Guillermoprieto *Alma,Dancing with Cuba, 2007*

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 3 Essays Out Of 5 in about 300 Words Each (3x10 =30 Marks)
Sec B: Answer Any 1 Out Of 2 in about 1000 Words Each (1x20=20 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case
studies/Simulation/Exhibitions/Documentaries/short films/Class tests

Question Paper Pattern for End-Semester Examination
Section A
Answer any 5out of 8 in 300 words each   5x8=40
Section B
Answer any 3 out of 5 in1000 words each   3x20=60

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

CONTEMPORARY ISSUES OF THE MIDDLE EAST

CODE:19IS/PE/ME15   **CREDITS:5**
                                                          L T P:5 0 0
                                        TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To familiarize the government and politics of Middle East
- To create an awareness about the geo strategic and geo economic imperatives of the region
- To provide an understanding about the Middle East peace process

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- locate the region and it's geopolitical significance
- become aware of the significance of oil and its importance in IR
- introduce students to the conflicts in the region and challenges to democratization.

Unit   1   (13 Hours)
   State & Society of Middle East
   1.1 Emergence of Modern Middle East
   1.2 The Society, Culture and Religion in the Middle East
   1.3 Authoritarianism vs. Democratisation
   1.4 The Economy in the Middle East – Oil Politics and OPEC
   1.5 Emergence of Arab Nationalism

Unit   2   (13 Hours)
   State and Polity in the Middle East
   2.1 Egypt -Nationalization and Politics of Modernization
   2.2 Iran and Theocracy
   2.3 Saudi Arabia and Wahhabism
   2.4 Israel and Modernisation
   2.5 Syria and Islamic extremism

Unit   3   (13 Hours)
   Extra Regional Actors in the Middle East
   3.1 Interests in the Middle East
   3.2 US engagement in the Middle East
   3.3 Russian involvement in the Middle East
   3.4 India and the Middle East

Unit 4   **(13 Hours)**

Conflict and Peace Process in the Middle East

4.1 Conflicts of the Middle East -Arab-Israeli Wars

4.2 Iran - Iraq War

4.3 Gulf War I & II

4.4 US and Middle East Peace Process

4.5 UN and other countries in the Middle East Peace Process

Unit 5   **(13 Hours)**

Stability & Change in the Middle East

5.1 Rise of Intifada

5.2 Arab Spring

5.3 Political reforms: Governments in transition

5.4 Challenges to Economic Growth and development

BOOKS FOR STUDY

Pappé,Ilan *The Modern Middle East: A Social and Cultural History*

Gelvin,James L ,*The Modern Middle East :A History*, 4th Edition Oxford University Press,2016

Cleveland, L William and Bunton,Martin,*A History of the Modern Middle East* ,Westview Press,Philadelphia USA ,2009

BOOKS FOR REFERENCE

Ali M Ansari, *Confronting Iran: The Failure Of American Foreign Policy And The Next Great Crisis In The Middle East*, New York , Persen Book Group, 2006

Freeman O Robert), *Soviet Policy towards the Middle Eat since 1970,* USA, Praeger,, 1975

Goldberg H David, Paul Marantz, *The Decline of the Soviet Union and the Transformation of the Middle East,* US, West View Press, 1994

Hamid Ansari, *Travelling through conflict: Essay on the Politics of West Asia,* New Delhi, Pearson Longman, 2008

Ivon Daalder, Nicole Gresotto, Philip Gordon (ed), Crescent of Crisis: *US-European Strategy for the Greater Middle East*, Washington DC, Brookings Institution Press, 2006.

Lesch W David, *The Middle East and the United States: A Historical & Political Reassessment*, USA, West View Press, 1999

Wells Jr., F Samuel, Mark A Bruzonsky, *Security in the Middle East: Regional Change and Great Power Strategies* USA*,* West View Press,   1987.

Gelvin,l James *The Arab Uprisings: What Everyone Needs to Know*

Lynch,Marc *The Arab Uprising: The Unfinished Revolutions of the New Middle East* , USA, Public affairs Perseus Book Group ,2013

Hudson, Michael C ,Arab Politics: *The Search for Legitimacy* Yale university Press, 1979

PATTERN OF ASSESSMENT:

Continuous Assessment Test :   **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 3 Essays Out Of 5 in about 300 Words Each (3x10 =30 Marks)
Sec B: Answer Any 1 Out of 2 in about 1000 Words Each (1x20=20 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case
studies/Simulation/Exhibitions/Documentaries/short films/Class tests

Question Paper Pattern for End-Semester Examination
Section A
Answer any 5out of 8 in 300 words each   5x8=40
Section B
Answer any 3 out of 5 in1000 words each   3x20=60

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

THE INTERNATIONAL ORDER IN THE ASIA-PACIFIC

CODE:19IS/PE/AP15   **CREDITS:5**
                                                          L T P:5 0 0
                                          TOTAL TEACHING HOURS:65

OBJECTIVE OF THE COURSE
- To create an awareness about the emerging issues in Asia Pacific region
- To familiarize the students with the geopolitics and geo-economics of the region
- To understand the emerging security dynamics of the region

COURSE LEARNING OUTCOMES:
On successful completion of the course the student will be able to

- The student will be familiar with the Geostrategic and geopolitical significance of the Asia Pacific region
- The student will demonstrate and understanding of the application of IR theories to the political system of the Asia Pacific and interactions amongst States
- The student will be aware of the various ethnic, security and economic issues of the region

Unit   1   **(12 Hours)**
Asia-Pacific in the International System
1.1 The contemporary historical profile of the Asia-Pacific
1.2 The Political-Geographical Profile of the Asia-Pacific
1.3 The Conflict spectrum of the Asia-Pacific
1.4 Cold War and Asia Pacific

Unit   2   **(14 Hours)**
Theoretical approaches in the Asia Pacific Region
2.1 Hegemonic Stability
2.2 Power Transition Theory
2.3 Regional Security Complex theory
2.4 Constructivism

Unit   3   **(13 Hours)**
Systemic Issues in the Asia-Pacific
3.1 Territorial & Boundary Disputes
3.2 Ethnic conflicts and Minority Issues
3.3 Environment and Energy Security issues in Asia Pacific
3.4 Challenges to democratisation in the region

Unit 4 (15 Hours)

       Security of the Asia Pacific in the twenty first century
       4.1 Security Dilemma in the Asia Pacific
       4.2 Nuclear Weapons and the Asia-Pacific- The Second Nuclear Age
       4.3 Maritime security issues in the Asia Pacific-Sea Lanes of Communication,
          Maritime Piracy & terrorism
       4.4 US and Asia Pacific
       4.5 China and Asia Pacific

Unit 5 (11 Hours)

       Geo-Economic Issues, Globalisation in the Asia-Pacific
       5.1.The Asia-Pacific Economic System: Issues and Challenges
       5.2 Regional economic cooperation
       5.3 ASEAN-ARF
       5.4 Asia-Pacific Economic Cooperation

BOOKS FOR STUDY

Alagappa Muthiah *Asian Security Order*, Stanford, California, Stanford University Press, 1998.
Yahuda Michael, The International Politics of the Asia Pacific, UK, Routledge, Curzon, 2006

BOOKS FOR REFERENCE

Acharya Amitav, *Constructing a Security Community in South East Asia: ASEAN & The Problem of Regional Order*, UK, Oxford University Press, 2001.
Abdollahian Mark, Carole Alsharabati, Brian Efird, Jacek Kugler, Douglas Lemke, A. F.K. Organski, Allan C. Stam III, Ronald L. Tammen, *Power Transition Strategies for the 21st Century*, UK, Chatham House Publishers, 2000.
Buzan Barry & Ole Waever, *Regions and Powers: The Structure of International Security,* UK, Cambridge University Press, 2003
Blackwill Robert D, Dibb Paul, *"America's Asian Alliances",* USA,MIT Press Massachusetts, 2000
Connors K. Michael, Remy Davison & Jorn Dosch, *The New Global Politics of the Asia-Pacific*, UK, Routledge ,2011
Gilpin Robert, *Global Political Economy*, Princeton, New Jersey, Princeton University Press, 2001.
Huxley, Tin William Choong, *Asia Pacific Regional security Assessment* ,IISS,UK ,2017
John Ikenberry G. and Michael Mastanduno, *International Relations Theory and the Asia-Pacific, Columbia*, Columbia University Press, 2003
Joshua Ho & C.Z. Raymond, *The Best of Times, the Worst of Times: Maritime Security in the Asia-Pacific*, World Scientific Publishers, Singapore, 2005
Keohane Robert O, *After Hegemony*, Princeton, Princeton University, 1984.
Lawrence Prabhakar, Joshua Ho & Sam Bateman, *The Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons At Sea*, Singapore, World Scientific Publishers, 2006
Mc Dougal,Derek , *Asia Pacific In World Politics*, Lynne Rienner Pub (October 30, 2006
Paul Dibb, *Towards a New Balance of Power in Asia Adelphi Pape No.295*, London, International Institute of Strategic Studies, 1995
Paul T.V., James J Writz and Michel Fortmann, *Balance of Power: Theory and Practice in the 21st Century*, Stanford, California, Stanford University Press, 2004

Paul Bracken, *Fire in the East: The Rise of Asian Military Power and the Second Nuclear Age,* New York, Harper Collins, 2000

Rothman Steven,Utpal Vyas and Yochiro Sato,Regional institutions, *Geopoliticsand Economics In the Asia Pacific:Evovlving Interests and Strategies*,Routledge,2017

Waltz N Kenneth, Man, State and War: *A Theoretical Analysis,* New York, Columbia University Press, 1954

William T. Tow, *Asia-Pacific Strategic Relations: Seeking Convergent Security Cambridge*, Cambridge Asia-Pacific Studies, Cambridge University, 2001

Yahuda Michael, *The International Politics of the Asia Pacific*, UK, Routledge, Curzon, 2006

Wilson, Jeffrey David *International Resource Politics in the Asia-Pacific: The Political Economy of Conflict and Cooperation*, Edward Elgar Pub,2017

PATTERN OF ASSESSMENT
Continuous Assessment Test:　　　　　**Total Marks: 50**　　　　　**Duration: 90 Minutes**
Sec A: Answer Any 3 Essays Out Of 5 in about 300 Words Each (3x10 =30 Marks)
Sec B: Answer Any 1 Out of 2 in about 1000 Words Each (1x20=20 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case studies/Simulation/Exhibitions/Documentaries/short films/Class tests

Question Paper Pattern for End-Semester Examination
Section A
Answer any 5out of 8 in 300 words each   5x8=40
Section B
Answer any 3 out of 5 in1000 words each   3x20=60

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS

(Effective from the academic year 2019–2020**)**

INTRODUCTION TO POLITICAL THOUGHT

CODE:19IS/PE/PT15   **CREDITS:5**
                                                                         LTP: 5 0 0
                                                          TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
 - To provide an understanding on the Ancient and Western Political thinkers
 - To comprehend the features of ancient and modern Indian Political thinkers
 - To learn their contribution to the society and to International Relations

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

 - The student will become aware of the historical evolution of political thought
 - Will become familiar with western political thinkers and their philosophies
 - Will become familiar with the evolution of Indian Political thought

Unit   1   (**13 Hours**)
       Greek Political Thought
       1.1 Features of Ancient Greek Political Thought
       1.2 Socrates
       1.3 Plato
       1.4 Aristotle
       1.5 Thucydides

Unit   2   (**13 Hours**)
       Medieval Political Thought
       2.1 St. Thomas Aquinas – Metaethics
       2.2 Machiavelli – The Prince
       2.3 Montesquieu – Separation of Powers
       2.4 David Hume -A Treatise of Human Nature

 Unit   3   (**13 Hours**)
       Modern Political
       3.1 G.W.F. Hegel   - Dialectics
       3.2 Jean Jacques Rousseau - Social Contract
       3.3 John Locke – Social Contract and Liberalism
       3.4 Thomas Hobbes – State of Nature

Unit   4   (**13 Hours**)
       Contemporary Political Thought
       4.1 Adam Smith - Wealth of Nations
       4.2 John Stuart Mill - Utilitarianism
       4.3 Hegel - Dialectic
       4.4 Karl Marx –Dialectical Materialism and Class struggle

Unit 5   **(13 Hours)**

Indian Political Thinkers

5.1 Manu and Kautilya

5.2 Mahatma Gandhi

5.3 Mohd Ali Jinnah

5.4 Dange and JayaPrakash Narayan

BOOKS FOR STUDY

Mukherjee, *A History of Political Thought: Plato to Marx,* Prentice Hall India Learning Private Limited; 2 edition (2011)

V. R. Mehta Manohar*, Foundations of Indian Political Thought: An Interpretation - From Manu to the Present Day Publications*,India; 2nd Revised edition, 1996

BOOKS FOR REFERENCE

Jean Jacques Rousseau**,** *The Social Contract (Penguin Great Ideas),* Penguin; Latest Edition (2004)

John Locke, *Two Treatises of Government*,Peacock; Edition edition (2017)

Karl Marx*, The Communist Manifesto*, Fingerprint! Publishing (2017)

Mahatma Gandhi, Mahatma Gandhi Autobiography: *The Story Of My Experiments With Truth by Fingerprint*! Publishing; First edition (2009)

Michael Lessnoff, *Political Philosophers of the Twentieth Century*, Wiley-Blackwell (1998)

Nelson, *Western Political Thought: From Socrates to the Age of Ideology*, Pearson Education India; 2 edition (2004)

Niccolò Machiavelli**,** *The Prince*, Fingerprint! Publishing; Latest edition (2015)

O.P. Gauba, *An Introduction to Political Theory*, 1st edition (2018)

Peter Singer, Hegel *(Very Short Introductions)*, OUP Oxford; 2 edition (22 March 2018)

Peter Singer, Marx: *A Very Short Introduction* (Very Short Introductions) OUP Oxford; 2nd edition (2018)

Plato, The Republic (Penguin Classics) Penguin; New edition (2007)

Tagore R, *Nationalism,* Niyogi Books Pvt. Ltd. (2012)

Y. Masih ,Motilal Banarsidass, *A Critical History of Western Philosophy: (Greek, Medieval and Modern)* 2017 Seventh edition (2017)

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**

Sec A : Answer Any 3 Essays Out Of 5 in about 300 Words Each (3x10 =30 Marks)

Sec B: Answer Any 1 Out of 2 in about 1000 Words Each (1x20=20 Marks)

Other Components: **Total Marks:50**

Assignments/PPT presentations/Posters/Quiz/Case studies/Simulation/Exhibitions/Documentaries/short films/Class tests

End-Semester Examination: **Total Marks:100**   **Duration: 3 hours**

Section A

Answer any 5out of 8 in 300 words each   5x8=40

Section B

Answer any 3 out of 5 in1000 words each   3x20=60

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS

(Effective from the academic year 2019–2020)

GOVERNMENTS AND POLITICS OF SOUTH ASIA

CODE:19IS/PE/SA15   **CREDITS:5**
                                                        L T P:5 0 0
                                              TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
 • To acquaint students with the discipline of South Asian Studies
 • To create an awareness about the politico-strategic importance of the region
 • To comprehend the complexity and dynamics of the region

COURSE LEARNING OUTCOMES
 On successful completion of the course the student will be able to

 • demonstrate knowledge of the discipline of South Asian Studies
 • Understand and evaluate historical and current events and developments that have
    shaped South Asia
 • Identify and critique the contemporary socio-cultural and political systems of South
    Asia
 • Analyse current debates relating to regional cooperation and unity, including regional
    groupings.

Unit   1
         Introduction to South Asia   **(10 Hours)**
         1.1 Geographic Location and Politico Strategic importance of South Asia.
         1.2 Economic Significance of South Asia.
         1.3 Colonial Heritage
         1.4 Post Colonial Problems of Development and Growth.
         1.5 Indo- Centricity in South Asia.

Unit   2
         Forms of Government in South Asia   **(12 Hours)**
         2.1 India- Democracy
         2.2 Pakistan & Bangladesh – Civil-Military Regimes
         2.3 Nepal & Bhutan – Constitutional Development
         2.4 Sri Lanka – Ethnic Conflict to Ethnic Reconciliation.
         2.5. Maldives and Afghanistan – Governments in transition

Unit   3
         Issues and Conflict in South Asia   **(20 Hours)**
         3.1 Ethnic Conflict and Secessionism – Sri Lanka
         3.2 Maoism and Insurgency – Nepal

3.3 Religion and Communalism – India
3.4 Terrorism in South Asia – India

Unit   4
   Economy and Development in South Asia   **(10 Hours)**
   4.1 SAARC – Major Achievements and Failure
   4.2 SAFTA and SAPTA
   4.3 Trade, Liberalisation and Investment in South Asia
   4.4 Regional Organization: BIMSTEC, SCO

Unit   5
   South Asia and External Powers   **(13 Hours)**
   5.1 USA and South Asia
   5.2 China and South Asia
   5.3 Russia and South Asia
   5.4 ASEAN and South Asia

BOOKS FOR STUDY
K.M.Sajad Ibrahim, *South Asia: Post-Nehruvian Dyanamics of Diplomacy*, New Century
Publications, New Delhi, 2013.
Maneesha Tikekar, *Constitutionalism and Democracy in South Asia*, Oxford University
Press, New Delhi, 2014.

BOOKS FOR REFERENCE
Amita Shastri & A. Jeyaratnam Wilson (ed), *The Post Colonial States of South Asia:
Democracy, Identity, Development and Security*, U.K, Curzon Press, 2001
Arjun Guneratne, Anita M. Weiss, *Pathways to Power: The Domestic Politics of South Asia
Rowman and Lttlefield*,USA, 2014.
B. Chakma, *South Asia in Transition: Democracy, Political Economy and Security*, Springer,
2014.
Constantine P. Danopoulos, Dhirendra Vajpeyi, Amir Bar, *Civil-Military Relations, Nation
Building, and National Identity: Comparative Perspectives,* U.K Praeger, 2004
Dr Bhumitra Chakma, *The Politics of Nuclear Weapons in South Asia,* Ashgate publishing,
England 2011.
Iftikhar A. Lodhi, National University of Singapore. Institute of South Asian Studies,
Foundation Books, 2010.
Kanti P. Bajpai, Stephen P. Cohen *South Asia After The Cold War: International
Perspectives*, Colorado, USA, Westview Press, 1993
Maya Chadda, *Building Democracy in South Asia:* India, Nepal, Pakistan, U.K,Lynne
Rienner, 2000.
P. R. Chari, Pervaiz Iqbal Cheema, Stephen Philip Cohen, *Perception, Politics, and Security
in South Asia: the Compound Crisis of 1990***,** Routledge, UK, 2003.
P. R. Chari, Pervaiz Iqbal Cheema, Stephen Philip CohenFour *Crises and a Peace Process:
American Engagement in South Asia,* Harper Collins, New Delhi,(2008).
Rajiv Kumar, Omita Goyal, *Thirty Years of SAARC: Society, Culture and Development*,
SAGE Publications India, 2016.
Ramesh Thakur, Oddny Wiggen (ed), *South Asia in the World: Problem Solving Perspectives
on Security, Sustainable Development, and Good Governance,* Tokyo, United Nations
University Press, 2004
Sadiq .Ahmed, *Explaining South Asia's Development Success* Washington, USA, 2006

Stephen Philip Cohen, *The Idea of Pakistan*, Washington DC, Brookings Institution Press, 2004

Stephen Philip Cohen,(ed), *The Security of South Asia:American and Asain Perspectives*, USA, University of Illinois Press, Urbana Champaign, 1987

Swarna Rajagopalan, *State and Nation in South Asia*, Boulder, Lynne Rienner, 2001

Veena Kukreja, *Civil Military Relations in South Asia: Pakistan, Bangladesh and India*, New Delhi, Sage Publications, 1990

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Sec A : Answer Any 3 Essays Out Of 5 in about 300 Words Each (3x10 =30 Marks)
Sec B: Answer Any 1 Out Of 2 in about 1000 Words Each (1x20=20 Marks)

Other Components:
Assignments/PPT presentations/Posters/Quiz/Case studies/Simulation/Exhibitions/Documentaries/short films/Class tests

Question Paper Pattern for End-Semester Examination
Section A
Answer any 5out of 8 in 300 words each   5x8=40
Section B
Answer any 3 out of 5 in1000 words each   3x20=60

TELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

GLOBAL ENVIRONMENTAL POLICY & ISSUES

CODE:19IS/PE/GE23   **CREDITS:3**
L T P:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To familiarize the student with the basic concepts of the environment
- To sensitize the students to emerging global environmental concerns
- To create an awareness on Environmental issues and legislations in India

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- The student will be familiar with environmental concepts and issues
- the Students will gain awareness about global environmental policy making and major conventions
- The student will be able to assess and analyse the consequences of environmental degradation and its impact on human life.

Unit   1   **(8 Hours)**
   Basic Components of the Environment
   1.1 Key Environmental Concepts
   1.2 Physical ,biological and social dimensions of the environment
   1.3 Environmental Degradation-Causes & Consequences
   1.4 Environmental pollution – Air, Water and Land

Unit   2   **(8 Hours)**
    International Instruments and Environmental Protection
   2.1 UNFCCC and Kyoto Protocol –Global Warming and Climate change
   2.2 Convention on Biological Diversity - Protection of Bio-Diversity.
   2. 3 UNCED the Earth Summit- Sustainable Development
   2.4 Montreal Protocol and Ozone Depletion

Unit 3   **(8 Hours)**
    Global Environmental Issues and Concerns
   3.1 Resource Conflicts
   3.2 Environmental Disasters –Natural and Man Made
   3.3 Environmental refugees and migration

Unit   4   **(8 Hours)**
The Environment and Public Policy – India
4.1 Environmental Issues and concerns in India
4.2 Growth and Relevance of Environmental Movements
4.3 Environmental Legislations

Unit   5   **(7 Hours)**
Contemporary Environmental issues in india
5.1 Public health and Environment
5.2 Public Interest Litigation & Environmental Activism
5.3 Development vs environmental protection

BOOKS FOR STUDY
Asthana D L and Asthana Meera, (1987), *Our Common Future; World Commission on Environment and Development*, Oxford University Press, New Delhi.
Asthana D L And Asthana Meera, *Environment Problems and Solutions*, Oxford University Press, UK
Asthana D K, Environment: *Problems and Solutions*, S. Chand, New Delhi(1998),

BOOKS FOR REFERENCE
Anna Huggins, *Multilateral Environmental Agreements and Compliance: The Benefits of Administrative and Procedures*. Routledge, New York, 2018.
Balakrishnan P.R, Bhattacharya Ajoy Kumar, ed, *Environmental Problems And Prospects In India*, Oxford, New Delhi(1993),
Hosetti B.B, *Environmental Impact Assessment And Management*, Daya Publishing, New Delhi(2000),
Joni Adamson, William A. Gleason, David N. Pellow, *Keywords for Environmental Studies,* New York University Press, New York, 2016.
Judith M. Bretthauer, *Climate Change and Resource Conflict: The Role of Scarcity, Routledge*, New York, 2016.
Kumar R *Environmental pollution and health hazards in India*, (1987),
M. Troy Burnett, *Natural Resource Conflicts: From Blood Diamonds to Rainforest Destruction*, ABC-CLIO, U.S, 2016.
Michael Klare, *Resource Wars: The New Landscape of Global Conflict, Henery Holt and Company*, New York, 2002.
Sunita Narain, *Conflicts of Interest: My Journey through India's Green Movement Penguin*
Porter G, J W Brown, PS *Chasek edGlobal Environmental Politics*, West view Press, Colorado USA, (2000),
Paul C. Stern, Oran R. Young, Daniel Druckman, ed, (1992),*Global Environmental Change: Understanding the Human Dimensions,* National Academic Press
Rajagopalan,R. *Environmental Studies: From Crisis to Cure*, Oxford University Press, 2016.
Srivastava P R*Environment Series 1 –5*,Common wealth Publishers, New Delhi,(1997),
Singh R,B. *Environmental Law in India*, Concept Publishing, New Delhi(1997),

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration 90 Minutes**
Sec A : Answer any 3 out of 5 (3x10=30 marks)
Sec B : Answer any one 1 of 2(1x20=20 marks)

Other Components:
PPT /POSTER presentation/Exhibitions/Assignments/Short film/Class test/Quiz

End-Semester Examination:
Sec A: Answer all the questions 2x10=20 marks
Sec B: Answer any 4 out 8 for 200 words each 4x10=40 marks
Sec C: Answer any 2 out of 4 for 500 words each 2x20=40 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019– 2020)

POLITICS, SOCIETY AND CINEMA

CODE:19IS/PE/SC23   **CREDITS:3**
L T P:30 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- Based on the contemporary student's affinity for visual stimulation the course uses the visual medium in class in order to facilitate the teaching and learning.
- The goal of the course is to facilitate an understanding of morality, justice, and power from a different perspective.
- The course is devised to utilize the medium of films to explain and discuss important topics in politics, society as well as global and national issues.
- The course will address the following themes like international relations, democracy, corruption, human rights, environment and terrorism.

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- The student will be able to appreciate the nuances of cinematic portrayal of various issues
- The student will be able to relate to the different themes portrayed in the film
- The student will be able to easily comprehend complex political and social problems through the visual medium.

Unit   1   **(8 Hours)**
Teaching through cinema
1.1 Cinema as a popular visual medium
1.2 The influence and impact of cinema on society
1.3 Cinema as a medium of social change
1.4 Film appreciation

Unit   II   **(8 Hours)**
World Cinema
2.1 Brief history of world Cinema
2.2 World Politics and Cinema (Schindler's List, JFK , Gandhi, Dr Strange Love)
2.3 Cinema in a globalising world: A cross section of visual cultures

Unit   III   **(8 Hours)**
Contemporary Global Issues and Trends
3.1 Human rights and cinema: Awareness and sensitisation

3.2 International Terrorism and organised crime through cinema (Fahrenheit 9/11,God Father)

3.3 War, Conflict and Cinema (Dunkirk, Saving Pvt Ryan, Blood Diamond, Hotel Rwanda)

3.4 Environmental issues and concerns and cinema: (RIO/ Before the Flood, Thaneer Thaneer)

Unit IV (8 Hours)

Politics and Cinema in India

4.1 History of Indian Cinema

4.1 Nationalism and freedom struggle – Mangal Pandey the Rising, Veerapandia Kattabomman, Siraichalai(Kala Pani)

4.2 Governance & Democracy (Ayudha Ezhuthu and Newton, Lal Salam)

4.4 Communalism, Conflict and Violence in cinema (Firaq and Bombay)

Unit V (7 Hours)

Social Issues and Cinema In India

5.1 Caste, Superstition and social backwardness (Parashakthi, Pariyerum Perumal, Ankur)

5.2 Gender and cinema: Gender Violence, Changing Perspectives on Gender (Karuthamma,36 Vayathiniley, Iraivi, Fire)

5.3 Cinema and sports – Chak De india, Dangal, Kana,Mary Kom,

BOOKS FOR STUDY

Mark A. Sachleben, *World Politics on Screen: Understanding International Relations through Popular Culture*, University Press of Kentucky, 2014
Vamsee Juluri, *Bollywood Nation: India through Its Cinema*, Penguin UK, 2013

BOOKS FOR REFERENCE

Alan Larson Williams, *Film and Nationalism*, Rutgers University Press, 2002
Anirudh Deshpande, Class, *Power & Consciousness in Indian Cinema & Television*, Primus Books, 2009
Ashvin Immanuel Devasundaram, *Indian Cinema Beyond Bollywood: The New Independent Cinema Revolution*, Routledge, 2018.
Brenda Werth, Florian Nikolas Becker, *Imagining Human Rights in Twenty-First Century Theater: Global Perspectives*, Palgrave Macmillan, 2013
Cyril Buffet, *Cinema in the Cold War: Political Projections*, Routledge, 2017
David J. Schaefer, Kavita Karan, *Bollywood and Globalization: The Global Power of Popular Hindi Cinema*, Routledge, 2013
Ian Stewart, Susan Lisa Carruthers, *War, Culture, and the Media: Representations of the Military in 20th Century Britain*, Fairleigh Dickinson Univ Press, 1996
James Chapman, *War and Film*, Reaktion Books,2008
Jeff Birkenstein, Anna Froula, Karen Randell, *Reframing 9/11: Film, Popular Culture and the "War on Terror"*, A&C Black, 2010

John A. Duvall, *The Environmental Documentary: Cinema Activism in the 21st Century*, Bloomsbury Publishing USA, 2017

Katarzyna Marciniak, Bruce Bennett, *Teaching Transnational Cinema: Politics and Pedagogy*, Routledge, 2016

Kelvin Shawn Sealey, *Film, Politics, & Education: Cinematic Pedagogy Across the Disciplines,* Peter Lang, 2008

Mark Gibney, Watching Human Rights: The 101 Best Films, Routledge, 2015

Paul Virilio, *War and Cinema: The Logistics of Perception*, Verso, 1989

Rachel Dwyer, *Filming the Gods: Religion and Indian Cinema*, Routledge, 2006

Raminder Kaur, Ajay J Sinha*, Bollyworld: Popular Indian Cinema Through A Transnational Lens*, SAGE, 2005

Rini Bhattacharya Mehta, Rajeshwari V. Pandharipande, *Bollywood and Globalization: Indian Popular Cinema, Nation, and Diaspora,* Anthem Press, 2011

Robert W. Glover, Daniel Tagliarina, *Teaching Politics Beyond the Book: Film, Texts, and New Media in the Classroom*, Bloomsbury Publishing, 2012

S. Perkowitz, Sidney Perkowitz, *Hollywood Science: Movies, Science, and the End of the World,* Columbia University Press, 2007

Sumita S. Chakravarty, *National Identity in Indian Popular Cinema, 1947-1987*, University of Texas Press, 2011

Terry George, Keir Pearson, *Hotel Rwanda: Bringing The True Story Of An African Hero To Film*, HarperCollins, 2005

Tony Shaw, *Cinematic Terror: A Global History of Terrorism on Film*, Bloomsbury Publishing USA, 2014

Yannis Tzioumakis, Claire Molloy, *The Routledge Companion to Cinema and Politics, Routledge*, London and New York, 2016.

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration 90 Minutes**

Sec A: Answer any 3 out of 5 (3x10=30 marks)

Sec B : Answer any one 1 of 2(1x20=20 marks)

Other Components:

PPT /POSTER presentation/Exhibitions/Assignments/Short film/Class test/Quiz/Film reviews and critique

No End-Semester Examination

Evaluation will be based on a term paper for 50 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
M.A. DEGREE: BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

INDIAN POLITY AND POLITICS FOR COMPETITIVE EXAMS

CODE:19IS/PE/PP23   **CREDITS:3**
L T P:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To familiarise the civil service aspirants with the basic concepts of Indian polity
- To provide an insight into the seminal concepts of Indian politics
- To create an awareness about political parties in India and their agenda

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- The student will be able to better prepare and write competitive exams
- The students will be familiar with the constitution and basic concepts of polity
- The students will be aware of the different political parties in India and how they function.

Unit   I   **(8 Hours)**
   Indian Nationalism
   1.1 Constitutionalism to mass Satyagraha
   1.2 Non-cooperation, Civil Disobedience
   1.3 Militant and Revolutionary movements

Unit   II   **(8 Hours)**
   Indian Constitution
   2.1 Making of the Indian Constitution: Legacies of the British rule
   2.2 Salient Features of the Indian Constitution: The Preamble, Fundamental Rights and Duties
   2.3 Directive Principles of State Policy
   2.4 Parliamentary System and Amendment Procedures
   2.5 Judicial Review and Basic Structure Doctrine

Unit   III   **(8 Hours)**
   Seminal Concepts in Indian Polity
   3.1 Federalism
   3.2 Democracy
   3.3 Secularism and Socialism

Unit IV (8 Hours)
  Parties and Politics
  4.1 Party System: National parties (Congress and BJP)
  4.2 Rise and growth of regional political parties (Dravidian parties)
  4.3 Ideological and social bases of parties(Communist Party of India)
  4.4 Coalition Politics
  4.5 Pressure groups and trends in electoral behaviour

Unit V (7 Hours)
  Issues In Indian Politics
  5.1 Casteism and Politics in India
  5.2 Religion and Politics
  5.3 Criminalisation of Politics in India

BOOKS FOR STUDY
M Laxmikanth, *Indian Polity,* McGraw Hill Education India ,New Delhi, 5th Edition (2016).
M P Jain, Justice Jasti Chelameswar, *Indian Constitutional Law*, Publisher: LexiNexis;
Eighth edition (2018)

BOOKS FOR REFERENCE
Magbook *Indian Polity & Governance 2019* Arihant Pulications; Sixth edition (2018)
Bipan Chandra*, History of Modern India Orient BlackSwan*; First edition (2009)
Bipan Chandra, *India's Struggle for Independence: 1857-1947* Penguin Random House India;
Reprint edition (2016)
Niraja Gopal Jayal and Pratap Bhanu Mehra, *The Oxford Companion to Politics in India:*
Student Edition, Oxford, (2011)
 V. R. Mehta, *Foundations of Indian Political Thought: An Interpretation - From Manu to the
Present Day*, Manohar Publications,India; 2nd Revised edition edition (1996)
Durga Das Basu, *Introduction to the Constitution of India*, Lexis Nexis; Twenty Second
edition (2015)
P.M. Bakshi, Constitution of India, Universal Law Publishing - *an imprint of LexisNexis;*
Fifteenth - Pocket edition (2018)
Pylee M.V*, India's Constitution*, S Chand & Company; 16th 2016 edition (2016)
*Parties and Party Politics in India: Themes in Politics, Oxford University Press; Edition
edition (2004)*
Rajni Khothri, *Caste in Indian Politics*, Orient BlackSwan; Second edition (2010)
Himanshu Roy, *Indian Political System*, Pearson Education; Fourth edition (2018)
Religion, *Power and Violence: Expression of Politics in Contemporary Times*, Sage India; 1
edition (2005)
B.L.Fadia, Kuldeep Fadia*, Indian Government and Politics* Sahitya Bhawan; Thirteenth
Revised Edition : 2017
Peu Ghosh, *Indian Government and Politics, PHI Learning*; 2nd Revised edition edition
(2017)
Sudha Pai, *Handbook of Politics in Indian States: Regions, Parties, and Economic Reforms*
(Oxford India Handbooks), Oxford University Press; 2013

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**

Sec A: Answer any 3 out of 5 (3x10=30 marks)

Sec B: Answer any one 1 of 2(1x20=20 marks)

Other Components:

PPT /POSTER presentation/Exhibitions/Assignments/Short film/Class test/Quiz

End-Semester Examination:

Sec A: Answer all the questions 2x10=20 marks

Sec B: Answer any 4 out 8 for 200 words each 4x10=40 marks

Sec C: Answer any 2 out of 4 for 500 words each 2x20=40 marks

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.A. DEGREE : BRANCH II (E) - INTERNATIONAL STUDIES

SYLLABUS
(Effective from the academic year 2019–2020)

ETHNICITY, CULTURE AND INTERNATIONAL RELATIONS

CODE:19IS/PI/EC24   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To understand the role of ethnic identities and nation formation
- To understand the causes,consequences and forms of ethnic conflicts
- To determine the role of ethnicity and ethnic conflicts in International Relations

COURSE LEARNING OUTCOMES
On successful completion of the course the student will be able to

- The student will be able to understand the role of ethnicity in nation formation
- An awareness about the causes and types of ethnic conflicts around the world
- Demonstrate an understanding of the link between culture and ethnicity

Unit   1   (**13 Hours**)
    Introduction to Ethnicity
    1.1 Ethnicity and Ethnic Identity
    1.2 Ethnic Groups and Ethnic Nationalities
    1.3 Ethnicity and Class
    1.4 Ethnicity and Gender
    1.5 Ethnic Political Parties: The Politics of Identity

Unit   2   (**13 Hours**)
    Theories of Ethnic Mobilization
    2.1 Primordial Theory
    2.2 Internal Colonialism Theory
    2.3 Modernization and Development Theory
    2.4 Competition Theory
    2.5 Resource Mobilization Theory

Unit   3   (**8 Hours**)
    Ethnic Mobilization and Conflict
    3.1 External and Internal Sources of Ethnic Conflict
    3.2 Separatism - Sri Lanka, Socialist Federal Republic of Yugoslavia, Kurds
    3.3 Irredentism (Bosnia- Herzegovina)
    3.4 Fundamentalism, Sectarianism
    3.5 Genocide, State Policy of Genocide- Rwanda and Darfur

Unit 4   **(8 Hours)**

      State and Ethnicity
      4.1 Ethnic revivalism
      4.2 Ethnicity and Nation Building
      4.3 Pluralism, regionalism and Ethnic Conflict
      4.4 Democracy and Devolution: Rights and welfare of ethnic minorities
      4.5 Diaspora Nationalism – Indian Diaspora in SE Asia.

Unit 5   **(10 Hours)**

      Ethnicity and Culture in International Relations
      5.1 Ethno Nationalism as an issue in International Politics
      5.2 Globalization, Homogenization and Ethnic resurgence
      5.3 Role of the international agencies in Ethnic conflicts
      5.4 Culture as soft power
      5.5 Cultural diplomacy

READING LIST

Birch Antony, *Nationalism And National Integration*, London, Unwin Hyman,1989

Brass, Paul R. *Ethnicity And Nationalism: Theory and Comparison*, Sage Publications, New Delhi,1991

Enloe, Cynthia *Ethnic Conflict And Political development*, Boston, Little Brown Company,1973

Gaymond Almond, *Understanding Political Development*

Ganguly Rajat, *Ethic Conflict And Secessionism In South and South East Asia : Causes, Dynamics and Solutions,* Sage Publications, New Delhi,2003

Huntington Samuel, *Clash Of Civilizations And The Remaking Of World Order*, Harper Collins, Boston, Massachusetts 1994

Phadnis, Urmila, *Ethnicity And Nation Building In South Asia*, Sage Publications, New Delhi 1989

Rothschild Joseph, *Ethno-Politics: A Conceptual Framework*, New York Columbia University Press, 1981

Smith, Antony D The Ethnic Revival, Cambridge University, 1981

Smith, Antony D *Theories Of Nationalism,* Harper and Row, New York 1971

Snyder, Lewis *Global Mini-Nationalism: Autonomy Or Independence*, Westport, Greenwood Press 1982

Stac, John F *The Primordial Challenge: Ethnicity In The Contemporary World*1986

Stack, John F *Ethnic Identities In A Transnational World,* Connecticut, Greenwood Press 1981

Tambiah, Stanley J.*Leveling Crowds : Ethnonationalist Conflicts And Collective Violence In South Asia*, Vistaar Publications, New Delhi.1996

Thompson, Denis L. and Dov Ronen *Ethnicity, Politics And Development*, Boulder, Colorado, Lynne Rienner Publishers 1986

Thompson, Richard R *Theories Of Ethnicity: A Critical Approach*, Greenwood Press 1989

Williams, Collin H *National Separatism*, Vancouver, University of British Columbia Press 1982

END-SEMESTER EXAMINATION

Section A

Answer any 5 out of 8   (in 200 words each)   5x8=40

Section B

Answer any 4 out of 7 (in 500 words each)   4x 10=40

Section C

Answer any one out of three (in 1000 words each)   1x20=20

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI
M.A. DEGREE: BRANCH II (E) – INTERNATIONAL STUDIES
SYLLABUS
(Effective from the academic year 2019-2020)
THIRD WORLD DEVELOPMENT CHALLENGES

CODE:19IS/PI/TW 24   **CREDITS:4**

OBJECTIVE OF THE COURSE

- To introduce the students to the challenges manifest in the Third World
- To familiarize the students with concepts such as poverty, underdevelopment, human security, terrorism and inter and intra State conflicts.
- To learn to compare and contrast the political, economic and social disparity that is prevalent in the world today.

COURSE LEARNING OUTCOME
On successful completion of the course the student will be able to

- understand the political, economic and social disparity that is prevalent in the world.
- become aware of conflicts and issues that confront developing nation
- become familiar with third world developmental challenges and solutions.

Unit 1   **(10 Hours)**
Emergence of The Third World
1.1 Definitions and Meaning of "Third World"
1.2.Historical context and the Evolution of the Third World
1.3 Nationalist Ideologies and Independence Movements
1.4 Decolonisation and the Third World
1.5 Building the Post-Colonial Nation-State

Unit 2   **(10 Hours)**
Conflicts In The Third World
2.1 Inter and Intra State conflict
2.2 Proxy wars- Kashmir
2.3 Insurgency and secessionist movements
2.4 Terrorism
2.5 Resource conflicts

Unit 3   **(12 Hours)**
Political Stability and Governance
3.1 Democratization vs. Authoritarianism
3.2 Corruption and Criminalisation of politics
3.3 The State and Marginalisation - Darfur, Rwanda, Cambodia
3.4 Political and ethnic violence
3.5 Good governance and Institution building- A Third World Experience

Unit   4   **(12 Hours)**
            Third World Economic challenge
            4.1 North- South
            4.2 NIEO, South –South Cooperation
            4.3 Globalization and Inequality, Rural - Urban divide
            4.4 Politics and Economics of Foreign aid
            4.5 Role of International Monetary institutions

Unit   5   **(10 Hours)**
            Development Issues and Challenges
            5.1 Human Development and human rights
            5.2 Women and development
            5.3 Developmental challenges: Poverty, Illiteracy, unemployment and health
            5.4 Demographic Issues- population growth, migrant and refugee population
            5.5 Environmental degradation and Sustainable Development

BOOKS FOR REFERENCE

George W. Shepherd Jr, Ved P. Nanda *Human Rights and Third World Development*, Greenwood Press (1985),

Haleh Afshar,), *Women and Politics in the Third World*, Rutledge,1996

Howard Handleman *The Challenge of Third World Development*, Pearson ,2008

Kempe Ronald Hope Sr, *Development in the Third World: From Policy Failure to Policy Reform* , M. E. Sharpe,1996

Mohammed Ayoob, *The Third World Security Predicament: State Making, Regional conflict and the International System, Boulde*r: L. Rienner Publishers,1995

Manochehr Dorraj, *The Changing Political Economy of the Third World* ,Lynne Rienner,1995

Pradip K Ghosh, *New International Economic Order: A Third World Perspective*, Greenwood Press,1984

Robert Pinkney *Democracy in the Third World*, Lynne Rienner, , 2004

JOURNALS:

Anantha K. Duraiappah, *Poverty and Environmental Degradation: A Review and Analysis of the Nexus, World Development,* Vol. 26, No. 12,1998

C.Allen, Warfare, endemic violence & State Collapse in Africa, Review of African Political Economy 1999

Cameron G Thies, State Building, Interstate and Intrastate Rivalry: A study of Post-Colonial Developing Country Extractive Efforts, 1975-2000, International Studies Quarterly (2004)

Gina Koczbersk, Women in development: A critical analysis, Thirld Word Quarterly, Volume 19,Issue 3 , 1998

Michael Manley, Third World Under Challenge: The Politics Of Affirmation, Third World Quarterly, Volume 2, Issue 1,January 1980

Thomas G Weiss, Governance, Good Governance and Global Governance: Conceptual and Actual Challenges, Third World quarterly, Vol.21, No.5, 2000

Thomas Pogge, World Poverty and Human Rights, Ethics of International Affairs 19, no. 1 (2005).

Question Paper Pattern for End-Semester Examination

Section A

Answer any 5 out of 8   (in 200 words each)   5x8=40

Section B

Answer any 4 out of 7 (in 500 words each)   4x 10=40

Section C

Answer any one out of three (in 1000 words each)   1x20=20

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

DEPARTMENT OF SOCIAL WORK

PROGRAMME DESCRIPTION

The Department of Social Work founded in 1953, offers an updated curriculum in M.S.W that covers global, national and local concerns and seeks to educate students on relevant, updated Social Work theories, approaches and responses to diverse challenges and complex human issues. This is done through concurrent theory and practical learning as important components of training, along with training in the specialisations in the profession of Social Work. Field instruction lies at the heart of Social Work education. The Department offers additional skill training and inputs on current issues and practices which go beyond the curriculum enhancing the capacities of the students. The departmental mission advocates a strong 'Rights Based Approach' in the curriculum trainging students with the knowledge, skills and attitude for professional commitment, employment and societal transformation.

PROGRAMME SPECIFIC LEARNING OUTCOMES

Graduates of a Master's Degree in Social work will have a comprehensive knowledge of their disciplines, with depth in the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

On successful completion of the postgraduate programme, it is intended that students will be able to

- Demonstrate an understanding and sensitivity to local, regional, national, and global issues with a strong commitment to address challenges of the poor and marginalised

- Develop attitudes, skills to interact with people from a range of cultural, linguistic, and religious backgrounds

- Imbibe the values, principles and ethics of the Social Work Profession for Practice

- Demonstrate knowledge and competencies in appropriate application of theories/models, tools and techniques in assessment and facilitation of solutions to social issues

- Draw on the methods of Social Work and the relevant/interrelated fields of practice to understand, analyse and address challenges encountered by individuals, groups and communities

- Exhibit expertise and utilise skills learnt through training to communicate social messages and transform society by addressing needs of different target groups
- Demonstrate capability to conduct research to develop and guide their own knowledge, learning, and practice
- Participate competently in social transformation and act in ways that uphold human dignity and the rights of people.
- Reflect and demonstrate personal capabilities as agents of social change and transformation
- Develop habits of self-directed learning that will extend beyond classroom learning
- Demonstrate career and leadership readiness to practice as a professional Social workers
- Create and manage their own organisations and social enterprises in response to needs of society

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

MASTER OF SOCIAL WORK

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

C-Credit, L-Lecture Hours, T-Tutorial Hours, P- Practical Hours, Ex-Exam Hours, CA- Continous Assessment Marks, ES-End Semester Marks, M-Maximum Marks									

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
SEMESTER-I									
19SW/PC/SP14	Social Work Profession	4	4	0	0	3	50	50	100
19SW/PC/WI14	Social Work with Individuals	4	4	0	0	3	50	50	100
19SW/PC/WG14	Social Work with Groups	4	4	0	0	3	50	50	100
19SW/PC/FW14	Field Work-I	4	0	0	9	1	50	50	100
19SW/PA/AM11	Alternative Media Skills Workshop	1	0	0	2	0	50	-	100
	Elective I								
	Elective II								
SEMESTER-II									
19SW/PC/CO24	Community Organisation and Social Action	4	4	0	0	3	50	50	100
19SW/PC/SR24	Social Work Research and Statistics	4	4	0	0	3	50	50	100
19SW/PC/MO24	Management of Development Organisations	4	4	0	0	3	50	50	100
19SW/PC/FW24	Field Work-II	4	0	0	9	1	50	50	100
	Elective III								
19SW/PK/PB22	Social Work for Peace Building and Conflict Transformation	2	2	0	0	-	50	-	100
19SW/PA/HI21	Health Information and Communication Workshop	1	0	0	2	-	50	-	100
CD / ET	Value Education	2	0	0	0	-	50	-	100
SEMESTER-III									
Stream A	**Specialisation - Social Work in Health Settings**								
19SW/PC/MS34	Medical Social Work	4	4	0	0	3	50	50	100
19SW/PC/MD34	Mental Disorders and Psychiatric Social Work	4	4	0	0	3	50	50	100
Stream B	**Specialisation - Social Work in Community Development**								
19SW/PC/DP34	Development Planning and Administration	4	4	0	0	3	50	50	100
19SW/PC/SE34	Social Entrepreneurship	4	4	0	0	3	50	50	100
Stream C	**Specialisation - Social Work in Family Settings**								
19SW/PC/WC34	Social Work with Children	4	4	0	0	3	50	50	100
19SW/PC/FS34	Family Social Work	4	4	0	0	3	50	50	100
19SW/PC/DS37	Dissertation	7	0	0	7	1	50	50	100
19SW/PC/FW34	Field Work-III	4	0	0	9	1	50	50	100
	Elective IV								
	Elective V								
SEMESTER-IV									
19SW/PC/CN44	Counselling-Theory and Practice	4	4	0	0	3	50	50	100
Stream A	**Specialisation - Social Work in Health Settings**								
19SW/PC/PD44	Social Work with Persons with Disability	4	4	0	0	3	50	50	100
19SW/PC/MH44	Mental Health Care Approaches and Practice	4	4	0	0	3	50	50	100
Stream B	**Specialisation - Social Work in Community Development**								
19SW/PC/CD44	Community Development-Urban and Rural	4	4	0	0	3	50	50	100
19SW/PC/PG44	Participatory Governance and Development Tools	4	4	0	0	3	50	50	100

MASTER OF SOCIAL WORK

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks									
Subject Code	**Title of Course**	**C**	**L**	**T**	**P**	**Ex**	**CA**	**ES**	**M**
Stream C	**Specialisation - Scoial Work in Family Settings**								
19SW/PC/YD44	Youth Development	4	4	0	0	3	50	50	100
19SW/PC/GR44	Gerontological Social Work	4	4	0	0	3	50	50	100
19SW/PC/FW44	Field Work-IV	4	0	0	9	1	50	50	100
	Elective VI								
	Elective VII								
19SW/PN/BF42	Block Field Work	2	0	0	0	-	50	-	100
CD / ET	Value Education	2	0	0	0	-	50	-	100
Postgraduate Elective Courses Offered to Parent Department									
19SW/PE/SY13	Fundamentals of Sociology	3	3	0	0	3	50	50	100
19SW/PE/PY13	Fundamentals of Psychology	3	3	0	0	3	50	50	100
19SW/PE/HR13	Human Rights and Social Work	3	3	0	0	3	50	50	100
19SW/PE/GS13	Gender and Social Work Practice	3	3	0	0	3	50	50	100
19SW/PE/ES13	Environmental Social Work	3	3	0	0	3	50	50	100
19SW/PE/AB13	Social Work with Addictive Behaviour	3	3	0	0	3	50	50	100
19SW/PE/DM13	Disaster Management	3	3	0	0	3	50	50	100
19SW/PE/CS13	Corporate Social Responsibility	3	3	0	0	3	50	50	100
19SW/PE/SA13	Social Audit	3	3	0	0	3	50	50	100
Postgraduate Elective Course Offered to Other Departments									
19SW/PE/IH23	Indian Constitution and Human Rights	3	3	0	0	-	50	50	100
Independent Elective Courses									
19SW/PI/DR24	Displacement, Migration and Refugee Issues	4	0	0	0	3	0	100	100
19SW/PI/QR24	Qualitative Research	4	0	0	0	3	0	100	100

STELLA MARIS COLLEGE (AUTOOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020**)**

SOCIAL WORK PROFESSION

CODE:19SW/PC/SP14   **CREDITS:4**
L T P:4 0 0
TOTAL TEACHING HOURS: 52

OBJECTIVES OF THE COURSE
- To acquire knowledge on the evolution of Social Work and its emergence as a profession
- To comprehend its underlying Ideologies, Philosophy, Theories and Approaches
- To gain an understanding of current trends in Social Work Education and Practice

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Become aware of the emergence, growth and development of Social Work as a Profession
- Consciously use Social Work knowledge and demonstrate professionalism as a trainee
- Gain wider knowledge on diverse approaches and be able to appropriately use theories and approaches in her field work placements
- Practice Social Work in an International context

Unit   1   **(10 Hours)**
   Social Work Profession, History and Growth
   1.1 Social Work Profession: Meaning and Definition; Goals, Functions, Methods, Fields, International and National Social Work Bodies/ Forums
   1.2 Basic Concepts: Social welfare, Social Service, Social Services, Social development, Social Change, Social Action, Human Rights, Social Exclusion (marginalization, exploitation, oppression), Empowerment
   1.3 History and Growth of Social Work: UK, USA., Evolution of Social Work Education, Levels of Training, Domains (core, supportive, elective and inter-disciplinary). Origin and growth in India, Scope, Challenges and current status. Field Work and importance of Supervision, Global Standards for Social Work Education
   1.4 Socio-cultural and Religious Foundations influencing Social Work: Constitutional Safeguards, Reform Movements in India, Contributions of Hinduism, Buddhism, Jainism, Islam, Christianity and Christian Missions

Unit   2
   Ideologies Influencing Social Work   **(10 Hours)**
   2.1 Philanthropy, Humanitarianism, Welfarism, Socialism, Democracy, Marxism
   2.2 Human Rights , Social Justice and Equality
   2.3 Gandhian, Nehruvian and Periyar's Philosophies relevant to Social Work

Unit 3 (12 Hours)
  Social Work Philosophy
  3.1 Values and Beliefs: Respect for the Person, respect for Differences, Self-Determination and expression, Respect for Democratic Values and Diversity, equality, Dignity of the Human Being, Uniqueness of Individuals, Groups and Community, Individual's Right to Fulfilment and Self-Actualization, Reciprocal Rights and Responsibilities of Individuals and Society, Capacity of Individuals and Communities to Change
  3.2 Principles**:** Acceptance, Individualization, Confidentiality, Client Participation, Non-Judgemental Attitude, Controlled Emotional Involvement
  3.3 Code of Ethics: Evolution of Code of Ethics, Declaration of Ethics for Social Workers (SWEF -1997). Ethics in Social Work, Statement of Principles (IFSW & IASSW-2004)

Unit 4 (10 Hours)
  Theoretical Approaches to Social Work Practice
  4.1 Social Work Theory: Definition, Need and Importance for Professional Practice. Important Theories that inform practice-Psychosocial, Psychodynamic, Eco-systems, Empowerment theories
  4.2 Practice Approaches: Remedial, Rehabilitative, Preventive and Promotive Approaches, Rights Based, Participatory, Indigenous and Advocacy Approaches
  4.3 Analysis of Social Work Practice: From Welfare and Development approaches to Rights Based and People Centred approaches

Unit 5 (10 Hours)
  International Social Work
  5.1 Definition and Meaning, Global Issues and Need for International Practice, Basic Concepts, Principles and Assumptions; Values, Beliefs and Goals; Practice Levels and Sectors; Global Forces Influencing International Practice
  5.2 Approaches: Personal, Social, Developmental, Global; Multicultural, International and Transnational Practice Models; Global Agenda; Global Standards
  5.3 Role of International Agencies: UN Agencies, INGOs and Human Rights Organisations; International Service-Delivery Programmes; Skills for International Practice; Dilemmas in International Practice; Role and function of International/National Bodies and Forums

BOOKS FOR STUDY
Dean, Hepworth. *Direct Social Work Practice:Theory And Skills*. Boston: Cengage Publiations, 2018.
Singh, Ram Shankar. *Professional Social Work: Best Practices and Innovations*. Rajasthan: ABD Publishers, 2017.
BOOKS FOR REFERENCE
Bhattacharya, Sanjay. *Social Work Interventions and Management*. New Delhi: Deep & Deep Publications, 2008.
Cox David, Manohar Pawar, *International Social Work; Issues, Strategies and Programmes*. New Delhi; Vistaar. 2006.
Cree Viviene. E., (Ed) *Social Work – A Reader*. New York. Routledge. 2011

Francis, Nicholas. *Handbook for Professional Practice and Career Development in Social Work*, Madurai: Francis, 2015

Healy, Lynne M. *Handbook of International Social Work* . United Kingdom : Oxford Publications , 2012.

Hugman, Richard. *Understanding International Social Work*. Los Angeles : Palgrave Macmillan, 2010.Patel, Chhaya. *Social Work Practice.* Jaipur: Rawat Publications, 1999.

Long, Dennis D. *Macro Social Work Practice*. United States: Cengage Learning, 2011.

NASW & Oxford University Press, *Encyclopaedia of Social Work,* London: Co-published by the NASW Press and Oxford University Press, 2008.

Payne, M., *Social Work Education: International Standards.* In Hessle, S. (Ed.), *International Standard Setting of Higher Social Work Education*, Stockholm University; Stockholm Studies of Social Work, 2001.

Roy Sanjoy., Social Work in a Globalizing World – Professional Challenges and Practices, Jaipur, Rawat Publications, 2018.

Trevithick, Pamela. *Social Work Skills and Knowledge*. Rawat publications, 2012.

University Grants Commission, *I and II Review Commission on Social Work Education.* New Delhi: University Grants Commission, 1992.

JOURNALS

Indian Journal of Social Work, Tata Institute of Social Sciences, Mumbai, India

Asia-Pacific Journal of Social Work and Development, National University of Singapore. Dept. of Social Work and Psychology, Singapore

International Social Work, Sage Publications, www.sagepub.com

WEB RESOURCES

isw.sagepub.com/content/51/6/847.citation

www.unv.org

www.un.org

www.worldbank.org

www.iassw-aiets.org: International Association of Schools of Social Work

www.icsd.info: International Consortium for Social Development

www.icsw.org: International Council on Social Welfare

www.ifsw.org: International Federation of Social Workers

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)

Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)

Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)

One Compulsory Continuous Assessment Test will be conducted.

Other Components: **Total Marks: 50**

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)

Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)

Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019–2020)

SOCIAL WORK WITH INDIVIDUALS

CODE:19SW/PC/WI14   **CREDITS:4**
                                                         L T P:4 0 0
                                       TOTAL TEACHINGHOURS:52

OBJECTIVES OF THE COURSE
- To understand Social Case Work as a method of Social Work and develop skills in Social Work practice
- To comprehend theory, models and approaches of Social Case Work
- To develop competencies and apply them in direct practice with Individuals and families
- To become aware of the scope of using the method in various settings

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Appreciate and practice the basic philosophy, principles and values of Social Case Work as a method of Social Work
- Learn the application of the theories and models in addressing the problems of individuals
- Demonstrate application of tools and techniques in enhancing practice in Social Work with individuals
- Acquire skills in recording and reflecting on work to grow professionally
- Understand the scope of Social Case Work in different settings

Unit 1   **(12 Hours)**
    Introduction to Social Casework
    1.1 Historical Development of Social Case Work as a Method of Social Work
        Practice – UK, USA and India, Concept and Definitions
    1.2 Philosophy, Values, Principles, Skills, Components of Social Case Work
    1.3 Indian Philosophical concepts of duty and Karma in Casework
    1.4 Case Work Relationship: Empathy, Skills in Building Relationship, Transference
        and Counter Transference
    1.5 Difference between Casework, Counselling and Psychotherapy

Unit 2   **(10 Hours)**
    The Helping Process
    2.1 Phase I- Psychosocial Study, Psychosocial Assessment
    2.2 Phase II- Intervention Plan and Goal Setting, Intervention
    2.3 Phase III- Termination, Evaluation and Follow up

Unit   3   **(12 Hours)**
Introduction to Models and Therapeutic Approaches of Case Work Practice
3.1 Psychoanalytic Approach, Psychosocial, Functional, Client Centred, Cognitive Behaviour Therapy, Transactional Analysis
3.2 Life Model, Task Centred, Family Centred Approach, Systems Approach, Strength Based, Evidence Based Approach. Use of Eclectic Approach in Practice

Unit   4   **(10 Hours)**
Tools and Techniques in Working with Individuals
4.1 Observation, Interviews, Home Visits, Collateral Contacts,
4.2 Resource Mobilization, Referrals, Environment Modification, Communication

Unit 5   **(8 Hours)**
Recording in Case Work
5.1 Uses and Types-Verbatim, Narrative, Condensed, Analytical, Topical, Summary Recording
5.2 Social Work Practice with Individuals in Different Settings and Limitations in Practice
5.3 Role of Casework in Hospital, School, Community, Institutional Setting and Workplace

BOOKS FOR STUDY
Upadhyay, R. K*., Social Case Work*. Rawat, 2003.
Vyas, A.A. *New Directions in Social Work- Social Work Competencies - Core Knowledge, Values and Skills.* Delhi: Sage, 1996.

BOOKS FOR REFERENCE
Banerjee, G.R. *Papers on Social Work*, Mumbai. TISS, 1986
Bhattacharya, Sanjay. *Social Work, An Integrated Approach*. Deep & Deep, 2004.
Datar Sudha, Ruma, Bawikar et al. *Skill Training for Social Workers- A Manual*. New Delhi: Sage, 2010.
Hamilton, Gordon, *Theory & Practice of Social Case Work 2nd Edition*. Jaipur: Rawat, Indian Reprint, 2013.
Hepworth, D.H., Rooney, Rooney, Strom-Gotterfried & J.A. Larsen. *Theory and Skills in Social Work.* Cengage Learning India Pvt Limited, New Delhi, 2010.
Holosko, Michael J. Dulmus, Catherine C. and Sowers, M. Karen. (Ed.) *Social Work Practice with Individuals and Families – Evidence Informed Assessments and Intervention.*John Wiley and Sons, 2013.
Mathew, Grace. *An Introduction to Social Casework.* Mumbai TISS, 1992.
Misra, P.D. & Beena Misra.*Social Work Profession in India.* Lucknow: New Royal Book, 2004.
Trevithick, Pamela. *Social Work Skills – A Practice Handbook.* 2nd Edition. Jaipur: Rawat, 2009.

JOURNALS
Families in Society. Journal of Contemporary Social Services https://us.sagepub.com/en-us/nam
Journal of Social Work Values & Ethics Open access journal published by White Hat Communications

Social Work. http://www.oxfordjournals.org
The Social ION. www.indianjournals.com

WEB   RESOURCES
https://archive.org/details/whatissocialcase00mary
www.socialworkers.org/practice/CaseManagementStandards2013.pdf
www.routledgesw.com/caseStudies

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted.

Other Components: **Total Marks: 50**
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination   **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019–2020)

SOCIAL WORK WITH GROUPS

CODE:19SW/PC/WG14   **CREDITS:4**
L T P:4 0 0
TOTAL TEACHINGHOURS:52

OBJECTIVES OF THE COURSE
- To understand Social Group Work as a method of Social Work and to develop skills in Social Work practice
- To comprehend theory and models and apply them in direct practice with groups
- To become aware of the scope of using the method in various settings

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Acquire knowledge, skills and values in practicing Social Work with Groups
- Plan interventions based on appropriate Group Work models
- Demonstrate skills in applying Social Group Work in different settings.
- Acquire skills in recording and documentation

Unit   1   **(10 Hours)**
Introduction to Group Work
1.1 Historical Development of Social Group Work as a Method
1.2 Definition and Meaning of Social Group Work
       1.2.1 Purpose, Objectives of Social Group Work
       1.2.2 Values, Skills of   Social Group Work
1.3 Principles of Social Group Work
1.4 The Use of Groups in Social Work

Unit   2   **(10 Hours)**
Types of Groups
2.1 Definition and Characteristics of Groups
2.2 Importance of Groups in Human Life
       2.2.1 Primary and Secondary Groups
       2.2.2 Formal and Informal Groups
       2.2.3 Open and Closed Groups
       2.2.4 Voluntary and Involuntary Groups
       2.2.4 Reference Groups
2.3 Treatment Groups: Educational, Growth, Remedial, T Groups, Group
     Psychotherapy, Group Counselling
2.4 Task Groups: Council, Committee and Team
2.5 Developmental Groups: Self-Help Groups, Support Groups

Unit   3   **(12 Hours)**
   Group Processes and Dynamics
   3.1 Stages of Group Development: Tuckman (1963) Trecker (1972), Klien
        (1972),Northern & Kurland (2001) Model
   3.2 The Influence of New Comers on Group Processes, Isolation, Rejection in
        Groups
   3.3 Group-Bond, Sub Groups, Clique, Gang, Dyad, Triad, Group Norms
   3.4 Group Membership, Group Cohesiveness, Group Pressure, Group Morale
   3.5 Leadership, Team Building, Decision Making, Problem Solving,
        Conflict Management
   3.6 Communication in a Group, Role Clarity in a Group, use of Sociometry

Unit   4   **(12 Hours)**
   Phases of Group Work Process
   4.1 The Planning Phase: Establishing Group Purpose, Assessing the Potential
        Membership of the Group, Recruiting Members, Composing the Group,
        Orienting Members to the Group, Contracting, Preparing the Group Environment
   4.2 The Beginning Phase: Introduction, Motivation, Member Feedback, Defining the
        Purpose, Objectives, Goal Setting, Assessment Process
   4.3 The Middle Phase: Preparing for Group Meetings, Structuring the Group Work,
        Intervention Strategies in Groups-Programme Planning and Implementation –
        Meaning and Principles of Programme Planning. Monitoring and Evaluating the
        Group Process
   4.4 The Ending Phase: Preparing for Termination; Evaluation and Feedback

Unit   5   **(8 Hours)**
   Group Work Models and Practice in different settings
   5.1 Social Goals Model, Remedial Model, Reciprocal Model
   5.2 Social Work Practice with Groups in different settings: Hospital, School
        Community, Industry and Institutional Setting
   5.1 Recording in Group Work: Principles of Recording Importance of Recording,
        Skills required for Recording in Group Work, Types of Recording in Group
        Work

BOOKS FOR STUDY
Charles D. Gravin, Lorraine M. Gutierrez, Maeda J Galinsky. *Handbook of Social Work with Groups*: Rawat Publications, 2004
Siddiqui. H. Y. *Group Work: Theories and Practices*: Rawat, Publications, 2008

BOOKS FOR REFERENCE
Corey, Schneider Marianne. Corey, Gerald. *Groups -Processes and Practice*. Brooks/Cole Thomson, 2002
Johnson & Johnson. *Joining Together: Group Theory and Group Skills.* New Delhi: Premier,1982
Konopka, G. *Social Group Work: A Helping Process*: Eaglewood Cliffs: Prentice, 1963
Toseland, R.W & Rivas, R. *An Introduction to Group Work Practice*. New York: MacMillian, 1984
Trecker, H.B. *Social Group Work: Principles and Practice*. New York: Association Press, 1972

JOURNALS
The Journal for Specialists in Group Work https://www.tandfonline.com/loi/usgw20
Group Work Journals https://www.iaswg.org/group-work-journals

WEB   RESOURCES
http://www.yourarticlelibrary.com/society/social-groups-the-meaning-characteristics-classification-and-other-details
https://study.com/academy/lesson/stages-of-group-development-forming-storming-forming-performing-adjourning.html

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted.

Other Components: **Total Marks: 50**
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

FIELD WORK I

CODE:19SW/PC/FW14   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To develop self as a professional through acquiring knowledge, skills, attitudes and values appropriate for Social Work practice
- To enhance understanding of the socio-economic-cultural –rural realities
- To be oriented to rural life, enhance group living and leadership through planning and organisation of the rural camp
- Understand the agency as a system –agency philosophy, thrust, objectives, structure and management of service/programmes
- To analyse the social system and its impact on individuals, groups, family, community and understand the role and functioning of organisations- Governmental and Non-Governmental

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Acquire knowledge, attitude and values for professional practice.
- Begin to develop skills to analyse socio –economic-cultural-rural realities and their impact on individuals, families, groups and communities
- Be initiated to acquiring skills in systematic observation, critical analysis, develop a spirit of inquiry and document learning through preparation of family and community profile/reports
- Understand the role of a Social Worker in an agency and in the community
- Enhance their ability to plan, organise programmes and contribute as a team member
- Develop a commitment to the profession, its ethics and be inspired to work for social change

Lab sessions
Lab sessions are conducted on Social Work related themes. The sessions are designed to encourage participation and exploration of self. Students begin to internalise values and principles through sessions on self- awareness, communication, societal analysis, professional behaviour and reflective practice which is developed in the process.

Observation Visits
Observation visits are arranged for students to select social service organisations – governmental and non-governmental providing services to children, the elderly, persons with mental illness and communities. At these agencies, students are provided an orientation to the

organisation, study application of Social Work methods, agency programmes and have an opportunity to interact with the beneficiaries and the staff.

Rural Camp
The objective of the camp is to sensitize students to rural realities and understand the issues and concerns of those living in the rural areas. Through community visits and interaction, students enhance skills and learn to use techniques for understanding various resources and systems in the rural area.

Visits are organised to Governmental and Non- Governmental organisations working in the rural areas, to enable students understand the role, functions and intervention of these organisations in rural development.

Through week long stay together, students learn to appreciate and adjust in a larger group and enhance interpersonal relationships.

By working together and organising a rural camp, students acquire skills in planning, managing and implementing day to day activities thereby enhancing leadership and organizational skills.

Concurrent Field Work
Objective of Concurrent Field Work I is to understand the placement agency, its philosophy and goals. The students identify the agency's geographical area(s) of intervention, prepare a profile of the community and analyse its problems through need based strategies. Interview schedules are circulated for students to study thirty families and prepare a family study report. In the course of work, they study the groups in existence in the area in preparation for group formation and intervention in the forthcoming semester.

Duration – 30 days

PATTERN OF ASSESSMENT
Continuous Assessment: **Total Marks – 50**

Regular submission of weekly reports and weekly conference with faculty supervisor and field supervisor to plan and fulfil requirements of concurrent field work.
 Oral and written evaluation by faculty and field supervisor of tasks accomplished in field work.

At the end of semester, individual oral presentation of work completed in the field in classroom.
Submission of completed records of work and consolidated report for evaluation

End-Semester Examination: **Total Marks - 50**
Viva Voce examination by two external examiners

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

ALTERNATIVE MEDIA SKILLS WORKSHOP

CODE:19SW/PA/AM11   **CREDIT:1**
                                                                        LTP:0 0 2
                                                  TOTAL TEACHING HOURS:26

OBJECTIVES OF THE COURSE
- To develop in students Alternative Media Skills through an understanding of theory and skills practice sessions
- To integrate Alternative Media Skills in Social Work practice
- To learn the different forms of folk art
- To learn the preparation and application of print, electronic, social media

COURSE LEARNING OUTCOMES
 On successful completion of the course, students will be able to

- Explore their potential through creative expression of self
- Appreciate and use the various forms of alternative media to effect social change
- Understand various techniques and skills for use of the various media
- Enhance confidence through stage and public performances, develop leadership and team skills using alternate media skills acquired.

Unit   1   **(4 Hours)**
Alternative Media Skills
1.1 Critic of Mainstream Media
1.2 Introduction to Alternative Media Skills
1.3 The Importance of Alternative Media Skills in Social Work Practice

Unit   2   **(12 Hours)**
Different forms of folk art
2.1 Street Theatre
2.2 Folk Songs
2.3 Folk Dances
2.4 Puppetry

Unit 3   **(8 Hours)**
Overview and Presentations
3.1 Print Media : News Letter, Posters, Flip Charts
3.2 Electronic Media: Documentary Films and Community Radio
3.3 Human Media: Inter personal Communication and Intra Personal
    Communication
 3.4 Digital and Social Media : Digital Videography, Websites, Digital Audio and e-
      books, Twitter, whatsapp, Instagram, facebook
3.5 Analysing Media Ethics

Unit 4   **(2 Hours)**
     Final performance in the Community

PATTERN OF ASSESSMENT

Internal Assessment
Participation and Performance-50 marks

End-Semester Examination Not applicable

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

DEPARTMENT OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

COMMUNITY ORGANISATION AND SOCIAL ACTION

CODE:19SW/PC/CO24   **CREDITS:4**
                                                        L T P:4 0 0
                                         TOTAL TEACHING HOURS: 52

OBJECTIVES OF THE COURSE

- To impart knowledge in terms of concept and principles of Community Organisation (CO) and Social Action
- To understand Community Organisation and Social Action as a method of Social Work
- To learn the strategies and tactics employed in Community Organisation and Social Action
- To understand the application of various models of Community Organisation and Social Action

COURSE LEARNING OUTCOMES
 On successful completion of the course, students will be able to

- Apply various approaches in community work along with the different steps to assess the community needs and to link them with the resources.
- Adapt strategies to solve social problems
- Bring changes in the social structure without violence and coercion.
- Modify the malfunctioning of the social and economic institutions

Unit   1   **(10 Hours)**
   Introduction to Community Organisation
   1.1 History of Community Organisation
   1.2 The Charity Organisation and Federation, Expansion and Professional
        Development
   1.3 Community Organisation in UK and Community Organisation in India
   1.4 Concepts and Definitions, Rationale, Philosophy, Principles and Goals of
        Community Organisation
   1.5 Community Organization as a Problem Solving Method

Unit 2   **(11 Hours)**
   Approaches and Models of Community Organisation
   2.1 Relevance of Community Organisation for Community Development
   2.2 Distinction between Community Organisation and Community Development
   2.3 Approaches to Community Organisation by Murry Ross(1955)
   2.4 Other Approaches to Community Organisation: Neighborhood Organizing,
        Social Work Approach, Political Activists Approach, Community Development
        Approach

2.5 Models of Community Organisation by Jack Rothman: Locality Development, Social Planning and Social Action

Unit 3   **(11 Hours)**

Strategies and Process of Community Organisation and Skills of Community Social Worker

3:1 Strategies: Unionization Strategies, Information Collection and Community Meetings, Social Movements, Capability Building, Collaboration and Coordination, Networking, Protests and Demonstrations

3.2 Tools for Community Organisation: Participatory Rural Appraisal (PRA): Trends & timeline, Social mapping, Resource mapping, Seasonality study, Wealth ranking, Chappathi (Venn diagram)

3:3 Processes: Analysis, Study, Assessment, Discussions, Organization, Action, Evaluation, Modification, Continuation

3.4 Skills of Community Social Worker (CSW) - Communication, Training, Consultation, Organizing, Enabling, Facilitating, Public Relations, Mobilizing, Participatory Skills, Liaisoning

Unit 4   **(11 Hours)**

Social Action as a Method of Social Work

4.1 Concept and Definition, Objectives and Process of Social Action

4.2 Principles and Approaches to Social action

4.3 Social Action as a Method of Social Work

4.4 Types of Social Action; Elitist & Popular

4.5 Models of Social Action: Conscientization Model by Paulo Freire, Rural Reconstruction Model by Gandhi, Civil Rights Model by Martin Luther King, Radical Model by Saul Alinsky

Unit 5   **(9 Hours)**

Strategies of Social Action- Case Studies

5.1 Social Action in Relation to Case Work, Group Work, Community Organisation

5.2 Social Action in Relation to Social Welfare Administration, Social Work Research,

5.3 Social Action in Relation to Social Structure, Social Disagreement, Social Change

5.4 Social Action in Relation to Ideology and Consciousness, Community Development and Social Movements

BOOKS FOR STUDY

http://www.bahaistudies.net/neurelitism/library/community-organization.pdf

Christopher A.J. Thomas William .A, *Community Organisation and Social Action*, Himalaya Publishing House, 2009

BOOKS FOR REFERENCE

Alan Twelvetrees, Community Development Social Action And Social Planning Palgrave Macmillan,2017

Cox. M. Fred and Erlich L. John, *Strategies of Community Organisation*, F.E. Peacock Publishers, Inc. Illinois,1987

Lakshmipathi Raju, Community Organization And Social Action, Regal

Murray G. Ross, *Community Organisation*, Harper and Row Publishers, New York. 1955 Publication, 2012

Zander Alvin, Effective Social Action by Community Group, Jossey-bass, 1991

WEB RESOURCES
http://Community Organisation: Concepts and Principles - IGNOU

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based
Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019–2020)

SOCIAL WORK RESEARCH AND STATISTICS

CODE:19SW/PC/SR24   **CREDITS:4**
                                                        L T P:4 0 0
                                        TOTAL TEACHINGHOURS:52

OBJECTIVES OF THE COURSE

- To understand the nature, principles and methods of Social Work Research
- To develop the skills of independently conceptualizing a problem and executing a research study
- To understand the nature, tools and process of qualitative research
- To understand and learn the application of appropriate statistical techniques in Social Work Research

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Demonstrate understanding and mastery of the knowledge, values, skills relevant to research competencies
- Efficiently execute research studies independently
- Demonstrate knowledge and skills of application of qualitative research
- Appropriately apply statistical techniques in Social Work Research

Unit   1   **(10 Hours)**
Social Work Research – An Introduction
1.1 Basic Elements of Scientific Method
1.2 Social Work Research – Definition, Objectives, Scope and Limitations
1.3 Scientific Attitude, Ethics in Social Work Research
1.4 Quantitative and Qualitative Research
1.5 Planning a Research Project: Problem Formulation, Framing Objectives, Defining Concepts, Use of Theorization in Review of Literature, Variables: Definition and Function; Assumptions – Hypotheses, Types of Hypotheses

Unit   2   **(12 Hours)**
Design of Research
2.1 Definition and Functions
2.2 Types of Designs: Survey, Case Study, Exploratory, Descriptive, Explanatory, Experimental, Evaluative (single case evaluation) Census Study, Ex-Post Facto, Action and Participatory Designs

2.3 Applications and Limitations of Various Designs

2.4 Sampling Methods –Definition. Types of Sampling: Probability Sampling

2.5 Non-Probability Sampling – Purposive, Quota, Cluster, Snowball
   Simple, Systematic, Stratified, Multi- Stage

2.6 Sampling Error

Unit   3   **(10 Hours)**

Methods and Tools of Collecting Data

3.1 Observation – Participant, Non-Participant, Process of Observation

3.2 Interview Schedule, Interview Guide

3.3 Questionnaire, Scaling Techniques and Types

3.4 Reliability and Validity of Tools

      3.4.1 Concept of Reliability, Factors Affecting Reliability of an Instrument, Methods of Determining Reliability of a Tool

      3.4.2 Concept of Validity, Types of Validity

3.5 Data Processing

      3.5.1 Manual and Computerised Data Presentation and Analysis

      3.5.2 Editing, Coding, Preparation of Master Sheet, Tabulation and Interpretation

      3.5.3 Report Writing, Research Abstracts

Unit   4   **(8 Hours)**

Overview of Qualitative Research

4.1 Nature of Qualitative Research, Assumptions, Characteristics

4.2 Tools of Data Collection – Key Informant, Focus Group Discussion, Participatory and Rapid Appraisal Techniques

4.3 Process of Qualitative Research; use of computerized software for analysis

Unit   5   **(12 Hours)**

Application of Statistics in Social Work

5.1 Statistics in Social Work: Normal Distribution, Characteristics of a Normal Curve

5.2 Levels of Measurement – Nominal, Ordinal, Interval and Ratio

5.3 Measures of Central Tendency – Mean, Median, Mode and their Uses

5.4 Measures of Dispersion – Range, Quartile Deviation, Mean Deviation, Standard Deviation

5.5 Use of Graphs in Presentation of Data

5.6 Tests of Significance: Need, Merits and application

      5.6.1 Hypothesis Testing, Type I and II Error

      5.6.2 Level of Confidence, Degrees of Freedom, Chi Square and t-Test

BOOKS FOR STUDY

Kumar, Ranjit. *Research Methodology*. New Delhi: Pearson Education, 2005

Kothari, C. R. *Research Methodology: Methods & Techniques*. New Age International Pvt Ltd, 2009

BOOKS FOR REFERENCE

Alston, M. Bocoles, W. *Research for Social Workers: An Introduction to Methods*. Jaipur: Rawat Publications, 2003

Chawla, D. & Sodhi, N. *Research Methodology: Concepts and Cases*. New Delhi: Vikas Publishing House PVT Ltd, 2011

Goode, W.J., Hatt, P.K. *Methods in Social Research*. Singapore: McGraw Hill, 1981

Gupta, S. P. *Statistical Methods*. New Delhi: Sultan Chand and Sons, 2003

Laldas, D. K. *Practice of Social Research.* Jaipur: Rawat, 2000

Laldas,D.K. *Designs of Social Research*. Jaipur: Rawat, 2005

Rubin,Allen and Babbie, Earl. *Research Methods for Social Work*. New Delhi: Cengage Learning, 2011

JOURNALS

Social Work Research https://academic.oup.com/swr

Journal of Social Work https://journals.sagepub.com/home/jsw

Research on Social Work Practice https://journals.sagepub.com/home/rsw

WEB RESOURCES

https://research-methodology.net/research-methodology/research-types/

https://www.youtube.com/watch?v=bQ5_PPRPjG4

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)

Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)

Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)

One Compulsory Continuous Assessment Test will be conducted.

Other Components   **Total Marks: 50**

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination   **Total Marks: 100**   **Duration: 3 hours**

Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)

Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)

Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

DEPARTMENT OF SOCIAL WORK

SYLLABUS

(Effective from the academic year 2019-2020)

MANAGEMENT OF DEVELOPMENT ORGANISATIONS

CODE:19SW/PC/MO24   **CREDITS:4**
                                                       L T P:4 0 0
                                    TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To understand procedures and policies in establishing and maintaining development organisations
- To understand the administrative structure of the development organisations
- To acquire skills to participate positively in the management of resources, physical, financial and human and management of programmes as part of the team.
- To understand the role of development organisations in the development field.
- To develop skills to formulate and prepare projects.

COURSE LEARNING OUTCOMES
On successful completion of the course, the students will be able to

- Apply procedures and policies in establishing and maintaining development organisations
- Apply skills to manage administrative structures of the development organisations
- Demonstrate aptitude and skills to participate positively in the management of resources, physical, financial and human and management of programmes as part of the team.
- Exhibit skills to prepare project proposals and apply tools for management of development organisations

Unit   1   **(11 Hours)**
   Introduction to Management
   1.1 Management: Meaning, Definition, Nature of management,
   1.2 Management: Basic Concepts and Principles; Goals of Management;
      Approaches to Management – Behavioral Approach, Human Relation
      Approach of Social Work Principles in Management of Welfare Organization
   1.3 Management as a profession, Historical perspectives, Henry Fayol, Principles
      of Scientific Management, F. W. Taylor, Management Vs. Administration,
   1.4 Approach to Management: Human Resource approach, System approach.

Unit   2   **(11 Hours)**
   Management Functions
   2.1 Management Functions: Concept and Principles of Management Planning,
      Policy Making, Goal Setting, Organization, Staffing, Coordination,
      Communication, Supervision and Control, Public Relations and Publicity;
      Reporting and Evaluation.

2.2 Planning: Meaning Definition, Features of Planning, Planning process, Types of planning, Strategic planning and Management

2.3 Managerial Role, Functions and skills: Managerial Role, levels of management, functions, managerial skills of an effective manager

2.4 Conflict Management: Meaning, types of Conflict, impact of Conflict on organizationa performance, Conflict management and strategies

Unit 3 (11 Hours)

Management of Organisation

3.1 Organization of NGOs: Board, Trustee Committees, Executives and their roles and functions Laws related to NGO

3.2 Society Registration Act 1976s, Trust Act Of 1912, Cooperative Societies Act 1912 FCRA, FERA and related issues.

3.3 Organisational Management; Mission and Vision; Governance, Delegation, decentralization, coordination, collaboration, authority, responsibility accountability; Organisational design of Partnerships between private and public spaces, collaborations

Unit 4 (11 Hours)

Policies and Programmes

4.1 Projects and Programmes: Ministry of Social Welfare Board, State Social Advisory Board, Social Defence and SC/ST Department.

4.2 Donor Agencies: National and International agencies Action Aid, CARITAS and World Vision

4.3 Concepts of CSR, its principles, CSR through NPOs

4.4 Planning of Project Proposals – Types, Steps, Format, Fund Raising and Evaluation of Projects; Project Management.

Unit 5 (8 Hours)

Tools for Management and Organisation

5.1 Organizational Development.

5.2 Tools for Management and Planning: PERT, CPM, Social Audit

BOOKS FOR STUDY

Jayasankar. J, *Principles of Management,* Margham Publications, Chennai, 2013

BOOKS FOR REFERENCE

Prasad L.M., *Organisational Behaviour*, 4th edition, New Delhi, Sultan Chand and Sons Publisher, 2004

Anand Sirohi, *Encyclopedia of Social Welfare Modern Perspective on Social Welfare*, Domain Publishes and Distribution Publication, New Delhi,2003

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)

Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)

Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)

One Compulsory Continuous Assessment Test will be conducted.

Other Components **Total Marks: 50**

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total marks: 50** **Duration: 3 hours**

Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)

Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)

Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

FIELD WORK II

CODE:19SW/PC/FW24   **CREDITS:4**

OBJECTIVES OF THE COURSE

- To enable the student to understand the social realities and factors influencing community life.
- To understand the application of methods of Social Work – Social Case Work, Social Group Work Community Organisation and Social Action
- To analyse the needs and problems of individuals, groups and communities
- To apply skills of Social Case Work, Social Group Work, Community Organisation and Social Action and utilise the appropriate method to address the needs
- To consciously practice Social Work values, beliefs and principles in working with agency, community and related agencies
- To identify and mobilise resources to fulfil needs of individuals, groups and communities
- To mobilise the community to participate in the programmes of the agency
- To learn and apply the skills of planning, implementing and evaluating one's work
- To understand the importance of recording and practice the different types of recording
- To become aware of personal resources and potential to develop the professional self

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Demonstrate ability to analyse the social situations of individuals, groups and communities
- Understand the role of organisations
- Practice the principles of Social Work
- Identify and apply the different methods of Social Work appropriately
- Identify and facilitate solutions of individual, group and community problems through the application of Social Work knowledge, attitudes, practice and skills
- Demonstrate skills in planning, identifying and mobilising resources to organise programmes and meet needs of different groups
- Identify and utilise one's potential for personal and professional growth
- Demonstrate the skills in recording and evaluating work

Duration – 30 days - 2 days per week, 15 hours per week — 750 hours per semester

CONCURRENT FIELD WORK
- Apply the Methods of Social Case Work, Social Group Work, Community Organisation and Social Action in the field

- Identify and complete five case work in the community.
- Identify, form, mobilize and/or strengthen existing groups in the community and organise an appropriate programme in keeping with group needs
- Organise a community programme/campaign/ awareness drive etc. using community organisation principles and programme planning skills.

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks - 50**
Regular submission of weekly reports and weekly conference with Faculty supervisor and Field Supervisor to plan and fulfil requirements of concurrent field work.

At the end of semester, individual oral presentation in the classroom of work completed in the field

Submission of completed records of work and a consolidated report to be submitted

Oral and a written evaluation of the student to be submitted both by Faculty and Field Supervisor

End-Semester Examination: **Total Marks - 50**
Viva Voce examination by two external examiners

MASTER OF SOCIAL WORK

SYLLABUS

(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19SW/PK/SS22   **CREDITS: 2**
                                                          L T P: 2 0 0
                                      TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development.
- To instill confidence in students to face challenges.
- To manage emotions and resolve conflicts.
- Top organize activities and manage time.
- To set goals and plan ahead.

COURSE LEARNING OUTCOMES

- Communicate with confidence and poise.
- Accept themselves and improve on their weaknesses.
- Strengthen their relationships through confronting and solving problems.
- Work more effectively and complete activities on time.
- Plan their future with clarity and focus.

Unit   1
   Behavioural Traits   **(6 Hours)**
   1.1   Self Awareness
   1.2   Communication Skills –Verbal and Non Verbal
   1.3   Leadership Qualities
   1.4   Etiquette and Good Manners
   1.5   Experiential Learning –Based on activities

Unit   2
   Team Work   **(5 Hours)**
   2.1.   Interpersonal Skills
   2.2.   People Management
   2.3.   Creative Thinking
   2.4.   Critical Thinking
   2.5.   Experiential Learning – Based on activities

Unit   3
   Time Management   **(5 Hours)**
   3.1.   Importance of time management

3.2.	Planning and Prioritizing	
3.3.	Organizing skills	
3.4.	Action Plan	
3.5.	Experiential Learning – Based on activities	

Unit 4

Conflict Resolution   **(5 Hours)**

4.1.	Reasons for conflict
4.2.	Consequences of conflict
4.3.	Managing emotions
4.4.	Methods of resolving conflicts
4.5.	Experiential Learning – Based on activities

Unit 5

Career Mapping   **(5 Hours)**

5.1.	Goal Setting and Decision Making
5.2.	Career Planning
5.3.	Resume Writing
5.4.	Handling Interviews
5.5.	Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment:
Quiz / Group Presentation /Assignment

No End Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

HEALTH INFORMATION AND COMMUNICATION WORKSHOP

CODE:19SW/PA/HI21   **CREDIT:1**
                                                          L T P:0 0 2
                                        TOTAL TEACHING HOURS:26

OBJECTIVES OF THE COURSE
- To provide basic health information and education to the students
- To understand the need for communication in health education
- To learn the use and preparation of health education aids
- To acquire skills in health education

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Demonstrate knowledge of illness conditions and treatment services to address the conditions
- Demonstrate knowledge of methods of communication in health education
- Display skills in educating the community through field practice
- Display skill of preparation and presentation of low cost nutritive food

Unit 1   **(9 Hours)**
   Health Information
   1.1 Concept of Public Health – Epidemiology, Vital Statistics – Birth Rate, Death Rate, IMR, MMR
   1.2 Symptoms, Causes, Prevention, Treatment and Control of Major Communicable Diseases –Leprosy, TB, STD, Poliomyelitis, Malaria, Cholera, Typhoid, Diarrhoea , HIV/AIDS
   1.3 Major Non Communicable Diseases- Cancer, Diabetes, Hypertension, Asthma, Cardiac Disorder, Mental Disorders
   1.4 Clinical Manifestation of Mental Retardation, Alcohol and Drug Dependence
   1.5 Basics in First Aid
   1.6 Menstrual health and Hygiene

Unit 2   **(2 Hours)**
   Health Education
   2.1 Concept, Objectives, Principles of Health Education; Need in the Indian context
   2.2 Models and Methods of Health Education
   2.3 Planning, Implementation, Evaluation and Promotion of Health Education Programmes
   2.4 Role of Health Educator

Unit 3 (2 Hours)

Communication in Health Education

3.1 Concept of Health Communication as a Process, Principles and Barriers in Communication

3.2 Behaviour Change Communication and Information Education and Communication

Unit 4 (13 Hours)

Use and Preparation of Educational Aids

4.1 Audio Aids – Megaphone

4.2 Visual Aids – Blackboard, Pictures, Cartoons, Photographs, Posters, Charts, Flashcards, Flannel Boards, Printed Materials – Books, Booklets, Pamphlets, Brochure

4.3 Electronic Media, Social Media

4.4 Traditional Media – Folk Songs, Folk Dance, Drama

4.5 Demonstration of Low-Cost Nutritive Food

BOOKS FOR STUDY

Park, K., *Preventive and Social Medicine*, Jabelpur: Banarasidas, 2015

BOOKS FOR REFERENCE

Gopal, Rukmani. *Health Education for Teachers from a Doctor's Perspective*. Neelkamal Publications Pvt. Ltd. 2011

Nanda, V.K., *Health Education.* New Delhi: Anmol, 1997.

Prakash Ramachandran, L, & Dharmalingam, *Health Education – A New Approach.* New Delhi: Vikas, 1993.

Rao, Prakasa MVSS. *Health Education and Health Care*. The Associated Publishers. 2013

Goel, S.L., *Health Care System and Management.* (Vol. 2), New Delhi: Deep & Deep, 2001

JOURNALS

International Journal of Health Education

Journal of Human Nutrition

WEB RESOURCES

https://who.int/topics/health_education/en

www.imedpub.com/scholarly/health-education-journals-articles-ppts-list.php

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total: 50 marks**

Seminar Presentation using educational aids prepared by student – 25 marks

Demonstration- Preparation of low cost nutritious food- 25 marks

End-Semester Examination- Not Applicable

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020**)**

MEDICAL SOCIAL WORK

CODE:19SW/PC/MS34   **CREDITS:4**
L T P:4 0 0
TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To trace the history and development of Medical Social Work and understand its current status
- To develop a holistic and integrated approach to Social Work practice in the field of health
- To have an understanding of common diseases and associated psychosocial and economic problems
- To apply knowledge of Social Work in the field of health

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Understand the various dimensions of health to help people with illness manage the psycho-social impact of the same on their lives
- Acquire skills to contribute in a multidisciplinary team to provide the psycho- social dimension of the medical condition affecting the patient and his/her family
- Enhance their ability to identify and arrange community supports and resources to facilitate discharge from hospital/transfer to alternate care
- Provide support to patient and family during grief, mourning and be able to counsel patients facing death

Unit   1   **(10 Hours)**
        Concepts of Health
        1.1 Concepts - Health, Hygiene, Disease, Illness
             Health Indicators, Determinants of Health
        1.2 Medicine through the Ages; Changing Concept of Health; Concept of
             Patient as a Whole
        1.3 Historical Development of Medical Social Work in the West and in India

Unit   2   **(10 Hours)**
        Changing Phase of Health Care
        2.1 Sustainable Development Goals and Health
        2.2 Levels of Health Care, Models of Health Care- Medical, Health Prevention and
             Promotion Model, Integrative Model and Developmental Model. Primary health
             Care- components and principles . Medicalisation.

2.3 Holistic Approach to Health; Indigenous Systems of Health – Ayurveda, Siddha, Unani, Homeopathy. Alternative Systems of Health – Yoga, Naturopathy
2.4 Concept of Stem Cell Therapy
2.5 Medical Tourism, Commercialisation of health care

Unit 3 **(10 Hours)**
Organisation and Administration of Medical Social Work in Hospitals
3.1 Multi- Disciplinary Approach and Team Work
3.2 Medical Ethics
3.3 Patient's Rights in Health Care, PNDT Act, MTP Act, COPRA, Organ Transplantation Act, Euthanasia, ESI Scheme, National Health Policy (2017) , Health Insurance
3.4 Public Relations in Hospitals

Unit 4 **(12 Hours)**
Clinical Manifestations and Psycho- Socio and Economic Problems
4.1 Major Communicable Diseases – Tuberculosis, STD/ HIV/AIDS, Malaria, Dengue, Cholera, Typhoid, Leptospirosis, Influenza
4.2 Major Non-Communicable Diseases – Diabetes, Hypertension, Kidney Disorders, Cardiac Disorders, Gynaecological disorders Asthma, Cancer
4.3 Problems of Individuals and Family during Hospitalisation
4.4 Problems of Patients Undergoing Surgery
 4.5 Palliative Care, Bereavement Counselling

Unit 5 **(10 Hours)**
Medical Social Work Practice in Different Settings
5.1 Hospitals, Out-Patient Departments, Emergency / Crisis Intervention and   Care, Pain Management Clinics, Special Clinics. Convalescent Care, Acute Health Care Settings, Restorative Health Care Settings, Long Term Health Care, Community Health care, Public Health services
5.2 Application of Social Work Methods in the Field of Health
5.3 Discharge Planning
5.4 Documentation and Record Keeping in Health Care
5.5 Role, Functions and Skills of Medical Social Workers. Challenges of Medical Social Workers in the field.
Role of the Social Worker in extending health services to the community.

BOOKS FOR STUDY
Bhattacharya S. *Social Work: Psychosocial Health Aspects*. New Delhi: Deep & Deep, 2008.
Park, K., *Preventive and Social Medicine*, Jabelpur: Banarasidas, 2015

BOOKS FOR REFERENCE
Anderson R & Bury M. (Eds). *Living with Chronic Illness- The Experience of Patients and Their Families.* London: Un-win Hyman, 1988.
Bajpai, P.K. (Ed). *Social Work Perspectives in Health*. New Delhi: Rawat, 1997.
Dhaar, G.M., Robboni.I *Foundation of Community Medicine*. New Delhi: Elsevier, 2006.
Field ,M. *Patients Are People- A Medico- Social Approach to Prolonged Illness*. New York: Columbia University Press, 1963.

Goldstein, D. *Expanding Horizons in Medical Social Work*. Chicago: University of Chicago, 1955.

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Pokarno, K.L. *Social Beliefs, Cultural Practices in Health and Disease*. New Delhi: Rawat, 1995.

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JOURNALS
The British Medical Journal

WEB RESOURCES
www.planningcommission.nic.in/reports/genrep
https://sustainabledevelopment.un.org/
https://www.nhp.gov.in/nhpfiles/nationalhealth policy 2017
https://www.nhp.gov.in/health-programmes

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted.

Other Components: **Total Marks: 50**
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory
The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020**)**

MENTAL DISORDERS AND PSYCHIATRIC SOCIAL WORK

CODE:19SW/PC/MD34   **CREDITS:4**
                                                               L T P:4 0 0
                                          TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To understand Psychiatric Social Work in the context of changing trends in mental health care
- To learn and understand the concept of mental health, acquire knowledge of mental disorders and their management
- To equip the students with skills to assess and identify mental disorders
- To develop knowledge, skills and attitude in managing mental disorders in health settings through Psychiatric Social Work approaches

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Understand the context of practice of Psychiatric Social Work
- Learn and understand the concept of mental disorders and their management
- Acquire skills to identify, understand and assess mental disorders
- Gain competencies in knowledge, skills and attitude in managing mental disorders through understanding and practice of Psychiatric Social Work approaches

Unit   1   **(8 Hours)**
   Concept of Mental Health and Mental Illness
   1.1 Mental health and Mental illness. Definition and concept -Models of Mental Illness, Status of Mental Health – Global and National Perspectives; General and Epidemiological perspectives
   1.2 Changing Perspectives from Illness to Well-Being
   1.3 Emerging context and Trends in Mental Health Care
   1.4 Indian View of Mental Health and Well Being
   1.5 Psychiatric Social Work: Definition, History and Scope

Unit   2   **(12 Hours)**
   Common Mental Disorders and their Treatment Modalities
   2.1 Classification of Mental Disorders – ICD 10, ICF, DSM (Overview)
   2.2 Clinical Signs and Symptoms of Mental Disorders
   2.3 Organic Mental Disorders
   2.4 Mental and Behavioural Disorders due to Psychoactive Substance Use
   2.5 Technology Addiction
   2.6 Schizophrenia, Delusional Disorders, Mood Disorders

Unit   3   **(12 Hours)**
Neurotic, Stress-related and Somatoform Disorders
3.1 Behavioural Syndromes Associated with Physiological Disturbances,
3.2 Disorder of Psychological Development, Behaviour and Emotional Disorders
   -Onset in Childhood and Adolescence.
3.3 Disorders of Adults- Personality Disorders and Behaviour
3.4 Sexual Disorders
3.5 Mental Retardation
3.6 Suicide

Unit   4   **(10 Hours)**
Psychiatric Assessment and Mental Health Laws
4.1 History Taking and Mental Status Examination, Psychosocial and
   Multidimensional Assessment of Persons with Mental Disorders in Psychiatry
   from a Clinical and Strengths Based Perspective
4.2 Assessment of Family as a System
4.3 Use of Mental Health Scales in Assessment and Intervention of individuals and
families
4.4 Legislations with Regard to the Mentally Ill – Mental Health Care Act 2017,
   Narcotics Drugs and Psychotropic Substances Act 1985

Unit 5   **(10 Hours)**
Psychiatric Social Work in the Management of Mental Disorders
 5.1 Mental Health Institution as a Social System, Psychosocial aspects of
    hospitalisation, Multidisciplinary approach, Role of Psychiatric Social Worker in
    a multidisciplinary team in inpatient and outpatient settings, General Hospital
    Psychiatry
5.2 Psychiatric Social work approaches with Individuals and Groups Client Centred
    Approach, Strengths Based Approach, Cognitive Behaviour Therapy;
    Mindfulness
     Approach; Life Model; Task Centred Approach, Resilience Theory, Recovery
     Model, Social Skills Training, Play therapy
5.3 Family Interventions – Psychoeducation, Family therapy; Integration of
     spirituality and religion in the care of patients
5.4 Group Therapeutic Approaches in Management of Mental disorders – Group
     therapy for patients, Group Therapy for Caregivers, Self-help groups , Therapeutic
     Communities
5.5 Challenges and limitations in Psychiatric Social Work Practice

BOOKS FOR STUDY
Ahuja, Niraj.*A Short Textbook of Psychiatry.7*th Edition. Jaypee Brothers, 2011.
Francis, Abraham P. (Ed.) *Social Work in Mental Health – Contexts & Theories for
Practice.* Sage, 2014.
Sekar, K. Parthasarathy, R. Muralidhar,D. Chandrasekhar Rao. *Handbook of Psychiatric
Social Work.* NIMHANS, 2007.

BOOKS FOR REFERENCE
Bhattacharya, Sanjay. *Social Work Interventions and Management.* Deep & Deep, 2008.
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Corey, Schneider Marianne, Corey, Gerald. Groups – Processes and Practice. Brooks/Cole
 Disorders.

Francis, Abraham P. (Ed.) *Social Work in Mental Health – Areas of Practice, Challenges & Way Forward.* Sage, 2014.

Herman, Helen. Saxena, Shekhar. Moodie, Rob. (Eds.) *Promoting Mental Health – Concepts Emerging Evidence – Practice*, WHO, 2005.

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Mane P. & Gandevia K. (Eds.) *Mental Health in India Issues and Concerns*. Tata

Pritchard, Colin. *Mental Health Social Work.* Routledge, 2006.

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Roberts, Albert R. & Greene, Gilbert J. *Social Workers' Desk Reference*. Oxford

Schwitzer, Alan M. *Diagnosis and Treatment Planning Skills for Mental Health*

Thomson, 2002.

Trenowith, Steve. *Psychosocial Assessment in Mental Health.* Sage, 2017.

University,2001.

Verma, Ratna. *Psychiatric Social Work in India*. Sage, 1991.

World Health Organisation. *The ICD 10 Classification of Mental and Behavioural*

JOURNALS

Social Work in Health & Social Work

International Journal of Mental Health Systems

Indian Journal of Social Work

Indian Journal of Psychiatry

Mental Health Weekly. https://onlinelibrary.wiley.com

Psychiatry Today. http://www.imh.org.rs/en/publications/psychiatry today/

WEB RESOURCES

nursing*planet.com/pn*

http://www.casw-acts.ca/en/role-social-work-mental-health

http://www.communitycare.co.uk/mental-health/

http://www.who.int/features/factfiles/mental_health/mental_health_facts/en

http://www.medicinenet.com/mental_health_psychology/article.htm

World Health Organisation. *The International Classification of Functioning, Health.* Geneva: 2002. https://www.who.int/classifications/icf/en/

www.psychologytoday.com/us/blog/five broad models of mental illness

www.mdpi.com/2077-1444/2/4/549/pdf

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)

Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)

Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)

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Other Components: **Total Marks: 50**

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

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End-Semester Examination   **Total Marks: 100**   **Duration: 3 hours**

Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)

Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)

Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

DEVELOPMENT PLANNING AND ADMINISTRATION

CODE:19SW/PC/DP34   **CREDITS:4**
                                                           L T P:4 0 0
                                          TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To enable students gain an understanding of the administrative machinery involved in development
- To provide knowledge on various methods, strategies theories of development and Development initiatives
- To understand the concept of social policy, process, approaches and programmes

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Demonstrate an understanding about the importance of planning for development
- Critically analyse the relevance of rural /urban/tribal administration in the context of development
- Understand the relevance of participation and the tools for enhancing development
- Demonstrate knowledge of various schemes available for development for the people
- Appreciate the importance and role of social policies in development

Unit 1   **(10 Hours)**
   Planning and Development
   1.1 Introduction to Planning: Concept, Types of Planning, Planning Process and Importance of Planning for Development. Participatory Planning, factors promoting and hindering participation. PRA Tools
   1.2 Development: introduction to development –urban .rural ,tribal Concept, Concept: Social Development and Sustainable Development
   1.3 Indicators; Human Development Index, Physical Quality of Life Index, Human Poverty Index
   1.4 Development paradigm: from conventional to people centered development

Unit   2   **(12 Hours)**
   Development Strategies Models, Theories of Development
   2.1 Development Strategies with reference to balanced & unbalanced approach to development
   2.2 Models of Development with specific reference to Nehru, Gandhi and PURA Model
   2.3 Theories of Development (Amartya Sen)
   2.4 Sustainable Development Goals, Concept and objectives

Unit 3 (10 Hours)
An Overview of Rural, Urban and Tribal Administration
3.1 Over view of Rural, Urban and Tribal Administration, Scheduled Caste and Scheduled Tribe Subplan

3.2 Related policies of rural, tribal, urban and development policies; Implications of 73rd and 74th Amendment Act.

3.3 Development planning in India: Local Self Governance; Structures and levels of administration and planning.

3.4 Changing Trends in Social Work Practice. Application of Social Work Methods in Development Practice.

Unit 4 (10 Hours)
Concept; Social Policy, Process, Approaches and Structures
4.1 Concept : introduction to social policy

4.2 Process involved in policy formulation and structures.

4.3 Approaches specific reference to unified sectoral and integrated approach

4.4 Niti Aayog

4.5 Budgeting

Unit 5 (10 Hours)
Government Programmes for Development
Overview of Rural, Urban and Tribal Administration

5.1 Rural Community Development Programmes: NABARD, MNREGA, NRLM, RKVY, Vazhundhu Kaatuvom, NRHM, IAY

5.2 Urban Community Development Programmes: RSBY, RAY, JNNURM, UIDSSMT, AUWSP

5.3 Tribal Community Development Programmes: NSTFDC, STFDCs, VKJ, ITDP, TRIFED

BOOKS FOR STUDY

Agarwal, A.N, *India Economy: Nature, Problem & Progress,* New Delhi: Vikas , 1998

Dubhashi P.R, *Rural Development, Administration in India,* Bombay: Popular Press 1994

Fernandes Walter. *Development, displacement and rehabilitation,* New Delhi: ISI, 1989

Saxena,D.P. *Rural urban migration in India,* Bombay: Popular Prakashan , 1977

BOOKS FOR REFERENCE

Bhat, Anil, *Development & Social Justice: Micro Action by Weaker Sections,* New Delhi: Sage, 2001

Bosco B.C. *Introduction to Disaster Management,* New Delhi: Rajat , 2007

Datt & Sundaram K.P.M., *Indian Economy.* New Delhi: S. Chand, Company 2007

Desai A.R, *Rural Sociology,* Bombay: Popular Press, 1978

Desai Vasanth, *Rural Development, Vol. 1& 2,* New Delhi: Himalaya, 1998

Dhingra C.Ishwari, *The Indian Economy,* New Delhi: Sultan Chand and Sons, 1988

Fritz C.E Sills, D., D*isaster;* (Ed) International Encyclopaedia of Social Science, Vol. 4, U.S.A.: The MacMillan Company and the Free Press,202-208

Gangrade, K.D. & Dhadde, S. *Challenge and Response,* Delhi: Rachna , 1973

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Jain S.C. *Community Development & Panchayati Raj in India,* Chennai: Allied, 1985

Jain S.C. *Rural Development Institutions & Strategies*, Jaipur: Rawat, 1985

Jain L.C. *Grass without Roots: Rural Development under Government Auspices,* New Delhi: Rawat , 1985

Joint Assistant Centre *Natural Disaster*; New Delhi: Adhyatma Sadhana Kendra, 1980

Kapila Uma, *India's Economic Development since 1947,* New Delhi: Academic Foundation, 2007

Kulkarni P.D. *Social Policy and Social Development in India*, Associations of Schools of Social Work in India

Puri V.K. & Misra S.K. *Indian Economy* New Delhi: Himalaya ,1988

Sharma, Kampa Prassad, *Participation Planning at the Grass Roots,* New Delhi: Sterling 1993

Sudarsen V. *The uprooted displacement resettlement development,* New Delhi: Gian 1991

Schenk-Sandbergen Loes., *Women and Seasonal Labour Migration,* New Delhi: Sage, 1995.

WEB RESOURCES

http://planningcommission.nic.in/plans/stateplan/shdr.php

http://www.historydiscussion.net/economics/economic-policies-and-the-planning-process-of-india/686

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)

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Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)

One Compulsory Continuous Assessment Test will be conducted

Other Components: **Total Marks: 50**

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

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End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

SOCIAL ENTREPRENEURSHIP

CODE:19SW/PC/SE34   **CREDITS:4**
                                                                                                               L T P:4 0 0
                                                                          TOTAL TEACHING HOURS: 52

OBJECTIVES OF THE COURSE
- To understand the basic concept of Social Entrepreneurship
- To understand issues of Entrepreneurship and Social Entrepreneurship
- To understand the nature and dimensions of Social Entrepreneurship and Enterprises
- To understand strategies and tactics employed in assessing and promoting Social Enterprises

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Develop analytical skills to understand social issues and concerns
- Promote entrepreneurial skills to craft innovative responses to social problems
- Recognise opportunities, explore innovative approaches, mobilize resources, manage risks, and build viable social enterprises
- Apply social entrepreneurship to both profit and non-profit firms to create social value
- Build the knowledge, skills, and attitudes necessary for responding successfully to the national and global challenges in combating social problems

Unit   1   **(10 Hours)**
    Introduction to Social Entrepreneurship
    1.1 Concept of Social Entrepreneurship: History of Social Enterprises, Role of Social Entrepreneurs, Social Entrepreneurship Relevance to today's Society
    1.2 Evolution of Entrepreneurship; Commercial Entrepreneurship, Intra-preneurship, Social Entrepreneurship
    1.3 Issues and Concerns of Social Enterprises: Voluntarism vs. Privatisation, Partnership vs. Individualism, Internal sourcing vs. Outsourcing, Centralisation vs. Decentralisation, Conflict vs. Consensus, Intimidation vs. Inquisitiveness
    1.4 Social Entrepreneurship Skills and Competencies
     Entrepreneurial Process: Innovation and Creativity**,** Enterprise Plan, Legal Issues: Constitution of the enterprises, Regulatory Mechanism

Unit 2 (11 Hours)

Models and Dimensions of Social Entrepreneurship

2.1 Models of Social Enterprises: Entrepreneur Support Model, Market Intermediary Model, Employment Model, Market Linkage Model, Fee-for-Service Model, Low-Income Client as Market, Service Subsidization Model, Cooperative Model, Organisational Support Model, Empowerment Model, Networking Model

2.2 Dimensions: Energy Sector, Clean and Green Environment, Education, Heath, Health, Human Rights and civic responsibilities, Women in Development

2.3 Social Entrepreneurship Movement, Addressing neglected community, Micro Credit Movement, Cooperative Movement, Public Private Partnership, Corporate Social Responsibilities

2.4 Institutional support: District Industries Centre(DIC) , National Small Industries Corporation (NSIC), Small Industries Development Organisation (SIDO), Small Industries Development Bank of India (SIDBI), National Bank for agriculture and Rural Development (NABARD) , National Scheduled Caste Finance and Development Corporation (NSFDC), Tamil Nadu- TAHDCO

Unit 3 (11 Hours)

Social Entrepreneurship Natures and Ventures

3.1 Service Enterprises – Welfare, Basic Education, Agriculture, Community Health, Women Rights, De-addiction

3.2 Empowerment Enterprises – Drinking Water, Sanitation, Income Generation, Adult Education, Empowering marginalised sections through education and training

3.3 Supporting Enterprises – Social Movements of people, preservation of ancient tradition and culture, Indigenous Technical Knowledge, Promoting Ethics and Values, Counselling and Guidance

3.4 Networking Enterprises – Need and Importance, Process of Networking, Power of Networking, Strengths and Values of Networking

Unit 4 (11 Hours)

Social Entrepreneurship – Tools and Techniques

4.1 Community Assessment Techniques: Shared Visual representations: Logical Frame Work an PRA

4.2 Semi structured interviews: Village group meetings, Indigenous Technical Know-how (ITK)

4.3 Observation methods – Triangulation, Transect walk, Village visit, House visit

4.4 Needs assessment: Identification of emerging needs, Market Segment, Testing Innovation

Unit 5 (9 Hours)

Social Marketing and Social Enterprises (Case Studies)

5.1 Social Marketing: Concepts and Definitions

5.2 Social Audit: Methods and Importance

5.3 Social Advertising and Alternate Marketing Techniques

5.4 Case Studies: Amul Experience, SEWA, Vision Spring, Industrial Cooperatives

BOOKS FOR STUDY
Indu Varshney, *Women Entrepreneurship And Economic Development,* Kunal Books - New Delhi,2017

BOOKS FOR REFERENCE
Burns, Paul, *Corporate Entrepreneurship; Building an Entrepreneurial Organization*, Palgrave,2005
Gupta C.B., *Entrepreneurship and Small Business Management*, Sultan Chand, New Delhi,2000
Jegadeesan G, *Entrepreneurship and rural development in India,* The ICFAI University Press,2008
Kanitkar, Ajit, *Grassroots Entrepreneurship; Entrepreneurs and Micro-Enterprises in Rural India*, Wiley Eastern,1996
Kaushik Dinanth, *Understanding Entrepreneurship* Vol - 1 Cyber Tech, 2013
Lynskey Michael J, *Entrepreneruship and Organization*. The role of the Entrepreneur in Organizational Innovation, OUP .2002
Verma S B, *Entrepreneurship and employment*, Deep & Deep, 2005

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory
The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019–2020)

SOCIAL WORK WITH CHILDREN

CODE:19SW/PE/WC34   **CREDITS:4**
                                                                     L T P:4 0 0
                                                 TOTAL TEACHINGHOURS:52

OBJECTIVES OF THE COURSE
- To create awareness on the situation of children in India
- To understand the legal provisions and rights of children
- To acquire knowledge of the services and programmes and skills to work for the rights of children

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Explore the core values, key issues, practical and theoretical concepts underpinning integrated working practices in education, health and social work for children.
- Develop positive working relationship with Children
- Demonstrate essential skills necessary to work with children.

Unit   1   **(10 Hours)**
   Understanding Children in India
   1.1 Demographic Profile of Children in India
   1.2 Situational Analysis of the Rights of Children in India – Survival, Health,
        Nutrition, Education and with Specific Reference to the Girl Child
   1.3 Constitutional Safeguards Assuring the Rights of Children in India
   1.4 UNCRC, Sustainable Development Goals.
   1.5 Changing Context of Work with Children – Charity to Rights Approach

Unit   2   **(10 Hours)**
   Overview of Problems of Children
   2.1 Children in Special Circumstances
           2.1.1 Children in Conflict with Law
           2.1.2 Children in Need of Care and Protection: Street Children – Definition
                   Causes, Effects, Services and Prevention
           2.1.3 Child Labour, Child Beggary, Child Abuse, Child Trafficking
           2.1.4 Child Prostitution – Definition, Nature/Characteristics, Causes, Effects,
                   Services, Prevention
   2.2 Children in Need of Special Care
           2.2.1 Differently Abled (Physically and Mentally Challenged), Emotionally
                   Disturbed, Learning Disabled
           2.2.2 Children Living with HIV/AIDS, Children of Prisoners
           2.2.3 Problems of Children in Disaster Situations and Conflicts

Unit 3 (12 Hours)

Legislations and Services for Children

3.1 Pre- conception and Pre-natal Diagnostic Techniques Act, 1994

3.2 The Rights of Persons with Disability Act, 2016

3.3 Child Labour (Prohibition and Regulation) Act, 1986

3.4 The Juvenile Justice (Care and Protection of Children) Act, 2015

3.5 The Commissions for Protection of Child Rights Act, 2005

3.6 The Prohibition of Child Marriage Act, 2006

3.7 The Right of Children to Free and Compulsory Education, Act, 2009

3.8 The Protection of Children from Sexual Offences Act, 2012 (POCSO)

Unit 4 (10 Hours)

Child Protection Services

4.1 Mechanisms

    4.1.1 National Commission for Protection of Child Rights/ State Commission for Protection of Child Rights Act

    4.1.2 District Child Protection Unit, Child Welfare Committee, Juvenile Justice Board

4.2 Structure and Function of Government Programmes

    4.2.1 Programmes: Child Survival, ICDS Programme, School Health Programme, Health and Nutrition Programmes, Sarva Shiksha Abhiyan, Integrated Child Protection Scheme

    4.2.2 Beti Bachao Beti Padhao, Dr. Muthulakshmi Reddy Maternity Benefit Scheme

    4.2.3 National Policy for Children 2013, Optional Protocols

4.3 Initiatives by GOs, NGOs and INGOs in Promotion of Child Rights

    4.3.1 Ministry of Women and Child Development, National Institute of Public Cooperation for Child Development (NIPCCD)

    4.3.2 UNICEF, CRY, Action Aid, Christian Children's Fund of Canada Childline 1098, ICCW, WHO, Plan International, BBA (Bachpan Bachao Andolan)

Unit 5 (10 Hours)

Social Work with Children

5.1 Approaches to Working with Children – Institutional Settings, SOS Children's Villages

5.2 Non-Institutional Settings: Adoption –In Country and Inter-Country Adoption, Sponsorship and Foster Care

5.3 Multi-Disciplinary Approach – Sustainable/Developmental Approach

5.4 Participatory Approach, Preventive Model, Rehabilitative Models, Convergence Approach

5.5 Rights Based Approach in Working with Children, Networking and Advocacy for Child Rights

5.6 Skills and Role of Social Work with Children in Special Circumstances, Sexually Exploited and Oppressed Children. Children in Need of Special Care and in Disasters and Conflict Situations

5.7 Research, Training and Documentation on Child Issues and Rights, Child Budgeting

BOOKS FOR STUDY

Bhatia, Vinita. *Social Laws & Child Rights*. New Delhi: Alfa, 2011.
Devi, Laxmi. *Child and Family Welfare*. New Dehi: Anmol, 1998.
Fernandez. B., Alex. *Social Work for Women and Children*. New Delhi: Pacific Books International, 2014.
Kennoson, Peter. *Children as Victims*. Learning Matters, 2008.

BOOKS FOR REFERENCE

Bajpai, Asha. *Child Rights In India: Law, Policy and Practice*. India: Oxford, 2006.
Brotherton Graham Cronin Mark. *Working with Vulnerable Children, Young people and Families*. UK:Routledge,2013
Sarada,D., Rajini. N. *Child Rights and Young Lives: Theoretical Issues & Empirical Studies*. India: Discovery, 2009
Tandon, R.K. & Sudarshan, K.N. *Directory & Handbook on Children*. New Delhi: Ashish, 1998.
Theis, Joachim. *Promoting Rights- Based Approaches, Experiences and Ideas from Asia and the Pacific*. Sweden: Save The Children, 2004.
Wal, S. *International Encyclopedia of Child Development Priorities for 21 Century. Vol. I- V.* New Delhi: Sarup and Sons, 1999.
Webb Boyd Nancy. *Social Work Practice with Children*. New York: The Guilford Press, 2003

JOURNALS

Journal of Family Social Work, http://www.tandfonline.com/
Child & Family Social Work, http://www.wiley.com/WileyCDA/
Journal of Social Work Practice, http://www.tandfonline.com/

WEB   RESOURCES

http://www.wcd.nic.in/act
http://nipccd.nic.in/
childlineindia.org.in/CP-CR-Downloads/ICPS.pdf

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
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Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS

(Effective from the academic year 2019-2020)

FAMILY SOCIAL WORK

CODE:19SW/PC/FS34   **CREDITS:4**

L T P:4 0 0

TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE

- To develop an understanding on marriage and family, its emerging types and current challenges
- To gain knowledge, understand theoretical application and acquire appropriate skills for effective practice
- To gain an understanding on existing policies/programmes and family life education and its importance in Family Social Work.

COURSE LEARNING OUTCOMES

On successful completion of the course the students will be able to

- Gain conceptual understanding on marriage, family and emerging forms
- Gain knowledge on family life and family life education, policies/programmes for Family Social Work practice
- Demonstrate knowledge, skills and theoretical approaches to practice
- Appropriately apply Social Work practice approaches in Government programmes for Family Welfare

Unit   1   **(8 Hours)**

Families in Society

1.1 Family: as a social institution, characteristics, types, family ecology, family life cycle, members and households; norms, family dynamics, family myths

1.2 Understanding the Family – Global and Indian perspectives, structure and functions, changing features of family

1.3 Emerging family patterns - single parent families, female headed households, dual earner families, reconstituted families, surrogate families; Interaction patterns: love, power, decision making, conflicts

Unit   2   **(10 Hours)**

Marriage and Family Life

2.1 Marriage: Definition and meaning, Forms, Functions, Changing Situations in Marital Relationships, Types of relationships: Live-In Relationships; Gay, Lesbian and Bisexual, Transgender and Queer Relationships, Dowry as a social issue, Separation and Divorce

2.2. Challenges in Marriage and Family Life: Marital Discord, Impact of Migration, Industrialisation, Urbanisation – Changing Functions, Impact of development, globalization, displacement, war and conflicts, poverty

2.3 Equity and Equality in Family: Role and functions of members; Patriarchy and family, equal opportunity in the family; reproductive rights, decision making;

Role of caste, religion and cultural inequalities in marriage and family life, values and beliefs influencing equity and equality in family

Unit   3   **(10 Hours)**
   Theoretical Applications for Family Social Work:
   3.1 Life Span Approach, Family Systems Theory; Communication theory,
       Structural Family Therapy, Strengths-based approach; Family Counselling
   3.2 Family Assessment: Steps in needs assessment and goal setting; Intervention
       stages and process
   3.3 Tools for family assessment – narratives, genograms, eco-maps and timelines,
       resource assessment, guidelines for family study.

Unit   4   **(12 Hours)**
   Role of Government and NGOs in Family Development
   4.1 Legislations and Laws on Family and Marriage, Family Courts Act 1984;
       Mediation and Conciliation, Lok Adalats
   4.2 Ministry of Health and Family Welfare: RCH Programme under NRHM, All
       India Post-Partum Programme, Janani Suraksha Yojana (JSY), Socio Economic
       and Welfare Programmes of the Central and State Social Welfare Board
   4.3 Role and Contributions of NGOs, Self Help and Support Groups, Family
       Counselling Centres, Changing concept of Institutionalisation; Assisted Living
       Centres and Communities for Senior Care

Unit   5   **(10 Hours)**
   Family life Education
   5.1 Family Life Education: Definition, meaning and purpose, principles, plans,
       procedures, positive parenting techniques, parents as role models
   5.2 Family Life Education for Children, Adolescents, and Adults; Challenges in
       Family Life Education, content and context of programmes
   5.3. Sex and sexuality education, reproductive health and family planning methods;
       advantages and disadvantages

BOOKS FOR STUDY
Cocker, C. *Advanced Social Work with Children and Families*. Exeter: Learning Matters, 2011.
Dean, H. *Direct Social Work Practice: Theory and Skills*. Boston: Cengage Publications, 2018.

BOOKS FOR REFERENCE
Ambrosino, R. Hefferman, J. and Shuttlesworth, G. *Social Work and Social Welfare-Introduction,* ed. 5, New York: Brooks /Cole Thomson Learning, 2005.
Bhatlavande, P. Gangakhedkar, R. *On the Horizon of Adulthood*, India: UNICEF, 2001.
Brooks / Cole Thompson Learning, 2005.
Brown, H. C. *Social Work with Lesbians and Gay Men*. London: Sage Publications, 2011.
Compton, Beulah R. Galaway, B. Cournoyer, Barry R. *Social Work Processes*, ed 7, New York
Holosko, Michael J. *Social Work Practice with Individuals and Families*. New York: John Wiley & Sons, 2013.
Indira T Rani, *Adjustment of Senior Citizens*, New Delhi: Discovery, 2010.
Mckie Linda, *Understanding Families*, London: Sage, 2012.

Nagarajan N. *Adolescence and Family Life Education*. New Delhi: Shipra Publications. 2010.
Saleebey, Dennis, *The Strengths Perspective in Social Work Practice*. ed 4, New York: Pearson Education, 2006.
Suneetha K, *Social Support for the Elderly*, New Delhi: Sonali, 2010.
Timonen Virpi, *Ageing Societies*, New York: Tata McGraw Hill, 2008.

JOURNALS
Indian Journal of Social Work, Tata Institute of Social Sciences, Mumbai, India
Asia-Pacific Journal of Social Work and Development, National University of Singapore. Dept. of Social Work and Psychology, Singapore

WEB RESOURCES
http://shodhganga.inflibnet.ac.in/bitstream/10603/76560/9/09_chapter%201.pdf
https://www.researchgate.net/publication/272895506_The_Family_and_Family_Structure_Classification_Redefined_for_the_Current_Times
https://www.researchgate.net/publication/277955266_Social_Work_Theory_and_Application_to_Practice_The_Students'_Perspectives
https://www.genopro.com/genogram/family-systems-theory/
http://www.durham-lscb.org.uk/wp-content/uploads/sites/29/2017/04/Guidance-for-Genograms-Ecomaps.pdf
http://niilmuniversity.in/coursepack/humanities/Insight_to_Family_Education.pdf

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted.

Other Components: **Total Marks: 50**
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory
The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)
DISSERTATION

CODE:19SW/PC/DS37   **CREDITS:7**

OBJECTIVES OF THE COURSE
- To understand application of Social Work research
- To apply learning of research methodology, tools , techniques
- To undertake a research study on relevant social issues applying ethics and principles
- To consolidate, analyse and interpret data collected
- To understand and apply statistics where appropriate
- To apply skills in report writing in research
- To use findings of the study to provide workable solutions and effect social change

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Undertake a research study independently
- Apply research tools, techniques and statistics to conduct research
- Develop skills in analysing the data collected.
- Enhance scientific writing skills through completion of a research report

GUIDELINES FOR DISSERTATION REPORT

Page Limit: The Dissertation can have minimum 50 to 100 pages typed in Times New Roman font style, size 12, with 1½ line spacing in A4 Size Paper.
Cover Page- should include
Logo of the College and Title of the Dissertation
Dissertation submitted to Stella Maris College (Autonomous) in partial fulfillment of the requirement for the Degree of Master of Social Work by *Name of the candidate, Department No., Department of Social Work, Month, Year*

The dissertation report includes
- Contents Page
- Certificate of the Research Guide and Head of the Department and Acknowledgement by the Candidate
- Chapter I – Includes Introduction to the Study; Review of Literature, Research Methodology and Scope and Significance of the Study; Chapterisation
- Chapter II- Includes the Analysis and Interpretation of Data
- Chapter III– includes the Summary of the Study, Findings, Suggestions and Conclusion

- Bibliography / References shall be given in the alphabetical order according to MLA Format 7th edition
- Appendix will include the tool of data collection and other secondary information

SUBMISSION
- Each student shall submit two copies of the dissertation to the Head of the Department on the date specified by the Controller of Examinations. One copy of the dissertation will remain in the College

GUIDELINES FOR ASSESSMENT

S.No	Continuous Assessment	Marks
1	Research Proposal	5
2	Formulating a research problem, Review of Literature	5
3	Conceptualising a research design Concepts, Variables, Hypothesis and Research Questions	5
4	Constructing an instrument/s for data collection	5
5	Selecting a sample	5
6	Collection of data	5
7	Processing of data	5
8	Analysis and Interpretation	5
9	Research Report	5
10	Regularity and Punctuality	5
	Total Marks	**50**

END-SEMESTER EXAMINATION

S.No.	Assessment and Guide for Viva Voce	Marks
1	Formulating a research problem, Review of Literature	5
2	Methodology & data collection	5
3	Analysis & Processing of data	10
4	Style format & Neatness in presentation	5
5	Viva Voce	25
	Total Marks	**50**

The dissertation will be valued by the Research Guide and an External Examiner. Each Examiner will evaluate the dissertation for a maximum of 50 marks each. The External Examiner will conduct the Viva Voce. An aggregate of the two marks will be the final marks awarded for the dissertation out of a total of 100 marks.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

FIELD WORK III

CODE:19SW/PC/FW34   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To enable the student to analyse and understand the social realities and factors influencing individuals in the contexts of the fields of specialisation.
- To understand the application of methods of Social Work – Case Work, Group Work, Community Organisation, Research and administration
- To develop competence in analysing the needs and problems of individuals, groups and communities and utilise the appropriate Social Work methods and approaches to address the needs
- To apply the knowledge and skills of the methods according to the fields of specialisation
- To develop attitudes appropriate to the practice of Social Work in different situations.
- To practice Social Work values, principles and ethical standards in working with agency, community and related agencies
- To identify and mobilise resources to fulfil needs of people in agencies and communities
- To mobilise the community people to participate in the programmes of the agency
- To learn the skills of planning, implementing and evaluating one's work
- To critically analyse, identify a social need/issue and undertake a mini research study
- To learn and apply the different types of recording
- To become aware of personal resources and potentials and use it to develop oneself professionally
- To equip the students with the knowledge, skills and attitude in becoming a professional social worker

COURSE LEARNING OUTCOMES
On successful completion of the course the students will be able to

- Demonstrate ability to analyse the social situations of individuals, groups and communities
- Understand the role of organisations in the fields of Social Work
- Practice the values, principles and ethics of Social Work
- Develop competency in identifying and applying the different methods of Social Work appropriately
- Identify and facilitate solutions of individual, group and community problems through the application of Social Work skills
- Demonstrate competency in planning, identifying and mobilising resources to organise programmes and meet needs of different target groups
- Undertake mini research according to the needs identified
- Identify and utilise one's potential for personal and professional growth
- Demonstrate skills in recording and evaluating their work

Duration – 30 days - 2 days per week, 15 hours per week — 750 hours per semester

CONCURRENT FIELD WORK
Apply the knowledge, approaches and skills according to the special requirements of each field of specialisation and setting of placement

Development Issues and Social Work Practice
Social Work in Health Settings
Social Work with Children and Families

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**
Regular submission of weekly reports and weekly conference with faculty supervisor and field supervisor to plan and fuflfil requirements of concurrent field work.

Oral and written evaluation by Faculty and field supervisor of tasks accomplished in field work.

At the end of semester, individual oral presentation of work completed in the field in classroom.

Submission of completed records of work and consolidated report for evaluation

End-Semester Examination   **Total Marks: 50**
Viva Voce examination by two external examiners

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

COUNSELLING - THEORY AND PRACTICE

CODE:19SW/PC/CN44   **CREDITS:4**
                                                                                                     L T P:4 0 0
                                                                      TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To develop in students basic knowledge of counselling and counselling skills through an understanding of theory and skills
- To integrate counselling skills in Social Work Practice
- To understand the application of counselling in different settings
- To learn the different approaches to counselling and develop a holistic approach to counselling

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Acquire basic knowledge of counselling and the requisites for counselling
- Demonstrate knowledge and understanding of theory and practice in counselling
- Demonstrate competency in counselling and integrate it in the practice of Social Work
- Identify the need for counselling and the type of counselling required in different settings

Unit   1   **(8 Hours)**
      Concept and Foundation of Counselling
      1.1 Evolution of Counselling, Definition, Elements and Characteristics of
            Counselling, Counselling Ethics
      1.2 Profile of the Counsellor and the Client, the Counselling Relationship
      1.3 Difference between Counselling and Psychotherapy

Unit   2   **(6 Hours)**
      Counselling - Expectations and Goals
      2.1 Achievement of Positive Mental Health, Resolution of Problems, Improving
            Personal Effectiveness, Change, Decision Making, Modification of Behaviour
      2.2 Burn out and Stress Management
      2.3 Recording in Counselling: Importance of Recording, Skills required for
            Recording, Types of Recording in Counselling

Unit   3   **(18 Hours)**
      Egan Model of Counselling – the Skilled Approach
        3.1 Stage – 1 Reviewing the Current Scenario
        3.2 Stage – 2 Developing the Preferred Scenario
        3.3 Stage-3 Getting There
        3.4 Practical Sessions

Unit   4   **(10 hours)**
      Different Approaches and Types of Counselling
        4.1 Client centred Approach, Cognitive Behavioural Approach
        4.2 Gestalt Counselling, Transactional Analysis,
        4.3 Solution focused Counselling, Crisis Intervention
        4.4 An Overview of Alternate Approaches: Yoga, Meditation, Storytelling, Art
            Therapy, Psychodrama, Medical Clowning, Laughter Therapy, Movement
             Therapy, Neuro- linguistic Programming
        4.5 Directive Counselling, Non-Directive Counselling
        4.6 Individual Counselling, Group Counselling, Community Counselling
        4.7 Integrative and Eclectic Approach to Counselling

Unit   5   **(10 hours)**
      Counselling in Different Settings
        5.1 Family Counselling/Marital Counselling, School Counselling, Career
            Counselling
        5.2 Counselling at Workplace, De-addiction Counselling
        5.3 Counselling in Disaster situations, Grief Counselling
        5.4 Counselling Clients with Suicidal Ideation
        5.5 Gerontological Counselling
        5.6 Counselling sexual minorities

BOOKS FOR STUDY

Egan Gerard. *The Skilled Helper. A Problem Management Approach to Helping*. California:
Brooks: Cole, 1994.

Jones Nelson, Richard. Theory and Practice of Counselling and Psychotherapy, 6 Edition.
New Delhi: Sage, 2015.

BOOKS FOR REFERENCE

Colin, Feltham. *Brief Counselling*, New Delhi: *Tata McGraw Hill* , 2010.

Corey, Gerald. *Theory and Practice of Group Counselling*. 6ᵗʰ Edition. USA: 2004.

Dalaganjan Naik. *Fundamentals of Guidance and Counselling*. Delhi: Adhyayan , 2004.

Eugene, Kennedy. *Crisis Counselling*. Dublin: Gill & Macmillan, 1981.

Gibson.L.Robert & Mitchell. *Introduction to Counselling and Guidance*.
New Delhi: Prentice Hall, 2008.

Tolbert, E.L. *An Introduction to Guidance*. Boston: Little Brown, 1982.

Rao S. Narayana. *Counselling Psychology*. New Delhi:Tata Mc GrawHill, 1981.

Reeves, Andrew. *Counselling and Psychotherapy*. New Delhi: SAGE, 2013.

Sharma Ramnath and Sharma Rachana.*Guidance and Counseling in India*. New Delhi:
Atlantic, 2004

Thomas, Edwin J. *Designing Interventions for the Helping Professions*. New Delhi: Sage,
1984.

William, Worden , J. *Grief Counseling & Grief Therapy*. London: Tavistock, 1986.

JOURNALS
International Journal of Psychology and Counselling
British Journal of Psychotherapy
Psychiatry, Psychotherapy and Clinical Psychology http://recipe.by/
Counsellor. http://cassonnigeria.org/index.html
Psychotherapy Letter. http://www.wiley.com
Counselling Psychology Quarterly. http://www.tandfonline.com

WEB RESOURCES
 http://www.slideshare.net/praveensureshpai/counseling-process
 http://www.counselling-directory.org.uk/counselling.html

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted.

Other Components: **Total Marks: 50**
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based
Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination   **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

SOCIAL WORK WITH PERSONS WITH DISABILITY

CODE:19SW/PC/PD44   **CREDIT:4**
                                                                                                  LTP:4 0 0
                                                                  TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To develop understanding to disability concepts, types, causes, prevention, rehabilitation and organisations working in the field
- To examine the social construct of disability and identify areas of Social Work intervention and practice
- To analyse needs and study challenges faced by persons with disability in their systemic and structural contexts
- To study the theoretical framework and different approaches to disability, paradigm shift from the medical to the social to the rights model
- To study legislation, efforts in policy formulation and the role of society in including persons with disability

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Enhance knowledge, skills, sensitivity to issues, needs and concerns of persons with disability
- Ability to use a rights and strengths based approach for working towards ensuring equal opportunities, participation, protection of dignity, rights, inclusive environments based on the philosophy and legal mandates for working with the differently abled
- Understand Legislation,Policy and Programmes in the field of Disability
- Use acquired skills for creating awareness to the general public, persons with disability and organisations working with persons with disability, on services, legislation and policy

Unit 1   **(10 Hours)**
Concepts, overview of types, causes, prevention, rehabilitation of persons with disability
1.1 Concepts: impairment, disability, rehabilitation, handicap
1.2 Types of disability, Causes, Prevention, Rehabilitation- Blindness, Low Vision, Leprosy Cured, Locomotor disability, Dwarfism, Intellectual Disability, Mental Illness, Cerebral Palsy, Specific Learning Disability, Hearing Impairment
1.3 Types of disability, causes, prevention, rehabilitation- Muscular dystrophy, acid attack victims, Parkinsons, Multiple Sclerosis, Thalassemia, Haemophilia, Sickle Cell, Autism Spectrum Disorder, Chronic Neurological conditions, Multiple Disabilities

Unit 2   **(10 Hours)**

Issues and Concerns of Persons with Disabilities

2.1 The social construct of disability. Magnitude, disability- attitude, stigma and discrimination towards persons with disability

2.2 Education, Employment, Marriage, Parenting

2.3 Access to barrier free services

2.4 Political participation

2.5 Case studies- violation of human rights of persons with disability

2.6 Disability and Poverty

Unit 3   **(12 Hours)**

Intervention and Approaches to working with Persons with Disabilities

3.1 Levels of Intervention: Rehabilitation- Medical, Educational, Psychological, Social, Adjustment, Vocational , Prevention and Promotion.

3.2 The Medical Model, the Social Model of Disability and the Medicalisation of Impairment. Rights of persons with disability

3.3 Community Based Rehabilitation-   concept, matrix

3.4 Counselling, Self Help Groups, Support Groups, Forums

Unit 4   **(10 Hours)**

Policy and Programmes

4.1 Biwako Millenium Framework, Rights of Persons with Disability Act 2016, Rehabilitation Council of India Act, National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act (1999)

4.2 Disability Schemes, Certification processes and procedures

4.3 Sustainable Development Goals and Disability

Unit 5   **(10 Hours)**

Institutions- Role, Structure and Functions

5.1 Ministry of Social Justice and Empowerment, Government of India, State Commission for the Disabled, Rehabilitation Council of India, National Institute of Mental Health and Neuro Sciences

5.2 National Institute for the Visually Handicapped, National Institute for the Orthopaedically Handicapped, Ali Yavar Jung National Institute for the Hearing Handicapped, National Institute for the Mentally Handicapped and National Institute for Empowerment of Persons with Multiple Disabilities

5.3 Role of a Social Worker in the field of disability and as a vital part of the multidisciplinary team.

BOOKS FOR STUDY

Heller, T. Harris, S. *Disability Through the Life Course- Disability Key Issues and Future Directions*. New Delhi: Sage , 2012

Park, K., Park J.E ., *Preventive and Social Medicine*, Jabelpur: Banarasidas.2015

Quinn Peggy, *Understanding Disability.* New Delhi: Sage, 1999

BOOKS FOR REFERENCE

Albrecht Donna G, *Raising a Child with Physical Disability.* New York: John Wiley 1997

Bhattacharya S. *Social Work: Psychosocial Health Aspects*. New Delhi: Deep & Deep, 2008

Ed. Campling, J. *Anti Discriminatory Practice-Practical Social Work*. London: MacMillan, 1997

Ed. Rana, N. *Children with Special Needs*. Hyderabad: Neelkamal, 2013

Goodley, D. Disability Studies, New Delhi: Sage, 2011

Oliver, M., Sapey, B. *Social Work with Disabled People*. New York: Palgrave Macmillian, 2006

Prasad, J., Prakash, R. *Education of Handicapped Children- Problems and Solutions*. New Delhi: Kanishka, 2012

Rehabilitation Council of India. Ed. Theresia Kutty. *Community Work for Vocational Training and Employment of Persons with Mental Retardation*. New Delhi: Kanishka, 2012

JOURNALS
Journal of Social Work in Disability and Rehabilitation

WEB RESOURCES
https://www.researchgate.net/profile/Bill_Hughes4/publication/248912416_
https://sustainabledevelopment.un.org/

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration : 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted.

Other components   **Total Marks: 50**
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory
The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks:100**   **Duration : 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

MENTAL HEALTH CARE APPROACHES AND PRACTICE

CODE:19SW/PC/MH44   **CREDITS:4**
                                                                                    L T P:4 0 0
                                                              TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To understand the vulnerability of persons with mental disorders and issues that arise from the experience of mental disorders
- To understand the policies and programmes for mental health care
- To learn the practice of the approaches to mental health care in different settings
- To appreciate the roles of organisations in mental health care
- To acquire knowledge, skills and attitudes relevant for practice of mental health

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Understand and analyse the issues that arise due to mental illness
- Demonstrate awareness of measures to redress mental health issues and its application
- Gain knowledge and a critical understanding of the functioning of policies and programmes
- Understand and become competent to apply the different approaches to mental health care according to the settings
- Learn and evaluate the role of organisations in mental health care, training and research

Unit 1   **(10 Hours)**
   Vulnerability and Mental Health Issues
   1.1 Mental Health issues - Stigma; discrimination, marginalisation, homelessness, violation of rights of persons with mental disorders
   1.2 Vulnerability and Vulnerable populations –Disabled, persons seeking alms, prisoners, children in difficult circumstances, sexual minorities, war, refugee, disaster, displaced, migratory populations
   1.3 Measures to address vulnerability and issues in mental health. Role of mental health social worker

Unit 2   **(8 Hours)**

Global and National Mental Health Care Perspectives

2.1   Mental Health Care – concept. Mental Health and Sustainable Development Goals, WHO Comprehensive Mental Health Action Plan 2013 – 2020

2.2   National Mental Health Policy and Programmes – National Health Policy - Mental Health Aspects, National Mental Health Policy 2014, National Mental Health Programme, District Mental Health Programme, National Health Mission.

2.3   Analysis of the Implementation of the Policies and Programmes

Unit 3   **(12 Hours)**

Social Work Approaches to Mental Health Care

3.1   Psychosocial Rehabilitation – Concept, definition, goals and principles of psychosocial rehabilitation, process of psychosocial rehabilitation

3.2   Levels of Care – Primary, Secondary and tertiary, Integrated Care Approach, Assertive Community Treatment, Preventive and Promotive approaches

3.3   Manuals on Mental Health Care, (Problem Management Plus, Suicide Prevention, Sustainable mental health care after emergencies)

3.4. Legislative and Rights Based Approaches to mental health care, networking, lobbying and advocacy

Unit 4   **(12 Hours)**

Mental Health Care Settings

4.1   Child and Adolescent Mental Health, School Mental health, Gender and Mental Health, Addictive behaviours and Mental Health, Geriatric Mental Health, Family Psychiatry, Community Mental Health Outreach Services

4.2   Mental Health Care in Non Institutional Settings – Rehabilitation Settings, Community Based Care, Mental Health at Workplace, School Mental Health, Emergency Settings, Disaster Mental Health

4.3   Role of Social Work in mental health care settings. Care of caregivers.

Unit 5   **(10 Hours)**

Organisations in Mental Health Care, Training, Research and Evaluation of Mental Health Care

5.1   Role of Organisations in Mental Health Care **-** Governmental – State and National Institutions, Private Institutions, Non- governmental organisations - Models of Mental Health Care – Schizophrenia Research Foundation (SCARF, India), BANYAN, Bapu Trust, International Organisations, Support groups for mental health - National Alliance on Mental Illness, Movement for Global Mental Health, self-help groups

5.2   Training, Research and Evaluation in Mental Health Care – Training of personnel in delivery of mental health services – Psychiatric Social Work, Community health workers, Volunteers. Online training courses

5.3   Role of research in Mental Health Care, Evidence Based Approach

5.4   Evaluation in Mental Health Care

BOOKS FOR STUDY

Francis, Abraham P. (Ed.) *Social Work in Mental Health – Areas of Practice, Challenges & Way Forward.* New Delhi: Sage, 2014.

Sekar,K. Parthasarathy,R. Muralidhar,D. Chandrasekhar Rao. *Handbook of Psychiatric Social Work.* Bangalore: NIMHANS, 2007.

BOOKS FOR REFERENCE

Bogg, Daisy. *Values and Ethics in Mental health Practice.* UK: Learning Matters. 2010

Collins, Eve, Drake, Mandy and Deacon Maureen. *The Physical Care of People with Mental Health Problems – A Guide for Best Practices.* Sage, 2013

Francis, Abraham P. (Ed.) *Social Work in Mental Health – Contexts & Theories for Practice.* New Delhi: Sage, 2014.

Herman, Helen. Saxena, Shekhar. Moodie, Rob. (Eds.) *Promoting Mental Health – Concepts Emerging Evidence – Practice.* Geneva:WHO, 2005.

Palmer, Sharon Duca (Ed.) *Social Work in Mental Health and Substance Abuse.* Canada: Apple Academic Press, 2011.

Palmer, Sharon Duca (Ed.) *Social Work and Community Practice.* Canada: Apple Academic Press, 2011.

Pritchard, Colin. *Mental Health Social Work.* London: Routledge, 2006

Ranganathan, Shanthi. Treatment of Alcoholism. The Community Approach. Chennai: TTR Clinical Foundation

Srinivasa Murthy & Burns B. (Eds). *Community Mental Health – Proceedings of the Indo-US Symposium.* Bangalore: NIMHANS, 1992.

Webber, Martin. *Evidence Based Policy and Practice in Mental Health Social Work.* UK: Learning Matters. 2008

JOURNALS

Indian Journal of Psychiatry

Mental Health Weekly. https://onlinelibrary.wiley.com

Psychiatry Today. http://www.imh.org.rs/en/publications/psychiatry today/

Psychiatric Rehabilitation Journal. http://www.bu.edu/cpr/prj/

WEB RESOURCES

https://www.who.int/classifications/icf/en/

www.nami.org

www.niepmd.tn.nic.in

www.nimhans.kar.in

www.scarfindia.org

www.thebanyan.org

https://www.who.int/mental_health

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)

Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)

Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)

One Compulsory Continuous Assessment Test will be conducted.

Other Components   **Total Marks: 50**

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination   **Total Marks: 100**   **Duration: 3 hours**

Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)

Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)

Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

COMMUNITY DEVELOPMENT – URBAN AND RURAL

CODE:19SW/PC/CD44   **CREDITS:4**
                                                                                        L T P:4 0 0
                                                            TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To impart knowledge in terms of
- Rural, Urban and Tribal Community Organization and Development practices
- Enhancing critical understanding of the models and strategies for Community Development practice.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Make the micro-macro connections between the range of complex issues in Development practices
- Develop attitudes conducive to participatory activities through field practice
- Include a critical and holistic analysis of development issues

Unit 1   **(10 Hours)**
 Introduction to Development Practices
 1.1 The Concept and Characteristics of Rural Community and Development
 1.2 The Concepts and Characteristics of Urban Community and Development
 1.3 The Concepts and Characteristics of Tribal Community and Development
 1.4 Historical review of rural, tribal and urban community development in India
 1.5 Indicators of Development and Development Issues

Unit 2   **(11 Hours)**
 Theories, Indicators, Objectives and Approaches of R.C. D.
 2.1 Theories of Rural Development: Lewis' Model of Economic Development with Unlimited Supplies of Labour. Human Capital Model of Development, Gandhian Model of Rural Development
 2.2 Indicators of Rural Development: Education, Employment, Infrastructure creation
 2.3 Objectives of Rural Development:
 2.4 Approaches to Rural Development: Multi-purpose Approach, Sectoral Approach. Target Group Approach, Area Development Approach, Basic Need Approach, Employment oriented integrated approach , Participatory Approach

Unit 3   **(11 Hours)**
 Theories, Indicators, Objectives and Approaches of T. C.D.
 3.1 Theories of Tribal Development: Constitutional Provisions of India(Art:46, 275(1), 335,244-1&2,330,332,234-D,

3.2 Indicators of Tribal Development: Assimilation, Integration, Scheduling of Tribes and Area

3.3 Objectives of Tribal Development

3.4 Approaches to Tribal Development: Isolationist approach, Political Approach, Administrative Approach, Anthropological Approach, Tribal sub-plan as an Approach, Environmental Approach, Gandhian and Nehurian approach

Unit 4 **(11 Hours)**

Theories, Indicators, Objectives and Approaches of U. C.D

4.1 Theories of Urban Development: Modernization Theory, Migration Theory, Urban Bias theory, Dependency Theory, Con-centric zone Theory

4.2 Indicators of Urban Development: Economic growth and efficiency, Ecological and infrastructural construction, Environmental protection, Social and welfare progress

4.3 Objectives of Urban Development:

4.4 Approaches to Urban Development: Stakeholder partnerships, Formulation of city development strategies, Inter-local cooperation, Cities as ecosystems, City leaders as economic managers

Unit 5 **(9 Hours)**

Development Policies and Programmes an Overview

5.1 Areas for Social Development: Poverty Eradication, Employment and Decent work, Economic Development, Health and Sustainable Development, Trade & Technology, Science and Education

5.2 Rural Development Policies and Programmes

5.3 Tribal Development Policies and Programmes

5.4 Urban Development Policies and Programmes

5.5 Need and importance of Social Work intervention; Social Research and Documentation; Role and Contribution of NGOs in Influencing the Policy, Planning and Development

BOOKS FOR STUDY

http://www.bahaistudies.net/neurelitism/library/community-organization.pdf

Pawar Manohar, *Social and Community Development Practice*, Sage Publications, 2014

Bhatia Kunal, *Social Work and Community Development*, Sonali publications New Delhi,2012

Ledwith Margaret, *Community Development*, Rawat publications, 2005

BOOKS FOR REFERENCE

Arya R P, *Training for Social Work and Rural Development*, Manglam,2007

Jain,Rashmi, *Communicating Rural Development*, Rawat Publications, 2003

Narayan,Sachindra, *The Dynamics of Tribal Development, Issues and Challenges,* Gyan Publications, 2002

Prasad B.K, *Rural Development: Concept, Approach and Strategy*, Sarup & Sons, 2003

Rajbir Singh, *Rural Development Administration*, Anmol Publications,2004

Sahu B. K., *Rural Development in India*, Anmol Publications,2003

Sharma A.N., *Tribal Development in Andaman Islands*, Sarup & Sons,2003

JOURNAL

Journal of Education for sustainable development, Sage Publications, ISSN :0973-4082

WEB RESOURCES

http://guide2socialwork.com/social-action/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)

Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)

Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)

One Compulsory Continuous Assessment Test will be conducted

Other Components: **Total Marks: 50**

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)

Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)

Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

PARTICIPATORY GOVERNANCE AND DEVELOPMENT TOOLS

CODE:19SW/PC/PG44   **CREDITS:4**
                                               L T P:4 0 0
                                 TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To help students to understand the importance of Participatory Governance and its functions
- To prepare students with an in-depth knowledge of frameworks, protocols and methods, for development through local self-governance
- To equip students with knowledge of select tools and analytical methods for assessing participation for development.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Effectively participate in local self-governance and observe development interventions.
- Apply skills to enhance participation of people in local self-governance
- Critically evaluate and appropriately use a number of participatory development tools.
- Apply knowledge and skills required of a development professional and be an effective facilitators of participatory development.

Unit   1
  Introduction   **(12 Hours)**
  1.1 Participatory Governance: Governance, World Bank View on Governance, Dimensions of governance, Good Governance,
  1.2 Participatory governance, Partnerships and Modes of Engagement, Multi-actor (participatory) policy making, Participatory budgeting. The role of public servants, Significant Commissions and Committees
  1.3 Balwant Rai Mehta Committee, The Ashok Mehta Committee 73rd Amendment, 74th Constitutional Amendment

Unit   2
  Participatory Governance: Urban and Rural   **(12 Hours)**
  2.1 Urban Local Bodies,   Composition, Function of Urban Local Bodies, Financial Resources of Urban Local Bodies
  2.2 Municipal Governance, Municipal council, Executive committee, Executive Powers of Municipal Council, Council committees
  2. 3 Ward Committees, The powers and functions of Wards Committee, Community Participation, Area Ward Sabha, Functioning of the Ward Committee, Allocation of Funds
  2.4 Rural Local Bodies, Panchayati Raj Institutions, Importance of Panchayati Raj,

Three-tier Structure of Panchayati Raj, Functions of Gram Panchayat, Functions of Panchayat Samiti, Functions of Zila Parishad, Sources of Income of Panchayats; Gram Panchayat, Panchayat Samiti, Zila Parishad, Role of Sarpanch/Panchayat president in Gram Sabha, role of Panchayat Secretary, SHG and members of Gram Sabha,

Unit 3

Approaches/Strategies of Participation for Development   (12 Hours)
3.1 Introduction: Participation, Quality of Participation, Types of Participation
3.2 Participation at Policy Levels, Typology of Participation in Policy-making,
3.3 Planning for Participation in Strategies, Approaches and Strategies of Participation, Benefits of Participation in Social Action
3.4 Rights based strategies: Right To Information, Right to Service, Public Interest Litigation
3.5 Role of Panchayati Raj Institutions in Development Programmes-(WSDP): State Watershed Development Committee (SWDC), District Watershed Development Committee (DWDC), Project Implementation Agencies (PIA), Watershed Development Team (WDT), Self-Help Group (SHG), User Group (UG) Watershed Association (WA), Watershed Committee (WC) Watershed Secretary (WS) and Volunteers

Unit 4

Participatory Tools   (12 Hours)
4.1 Current Development Thinking: Challenges to Development theories and methods; current development issues; problem analysis in the logical framework approach
4.2 Social Assessment: definition; social assessment process, designing a social Assessment
4.3 Stakeholder analysis: need and importance of stakeholder analysis, stakeholder analysis process, methods for stakeholder analysis; stakeholder analysis matrices Project Matrix: Elements of the Project Matrix, social audit.
4.4 Participatory Monitoring and Evaluation: Key principles, the Monitoring and Evaluation cycle; key stages in participatory monitoring and evaluation, participatory methods and techniques, significance of people's participation in development
4.5 Tools for Evaluating Development: Concept of Evaluation in the development context; purpose of evaluations, a basic evaluation model, processes of Evaluation, organization of evaluations; the evaluation report; using evaluations.

Unit 5

Role of Development Practitioners   (4 Hours)
5. 1 Techniques required for a Social Worker: Use of tools and techniques; how to facilitate; ethics for facilitators; qualities of good facilitators and project evaluators, factors creating participatory environment, discussion techniques.

BOOKS FOR STUDY

Chambers Robert, (1994), *Participatory Rural Appraisal (PRA); Challenges, Potentials and Paradigms; in World Development*; Vol. 22, No 10.
MYRADA, (2000), *A Review Workshop on Participatory Learning Methods*, Bangalore; PRA-PALM Series No 4 Report on the Workshop

BOOKS FOR REFERENCE

Chambers Robert; *Rural Development: Putting the Last First*, Harlow; Longman; New Delhi, 1983

DANIDA, Handbook on Logical Framework Approach, LFA, for Project Preparation Vol 1 and 2; Copenhagen,1990

Freire Paulo, *The Pedagogy of the Oppressed, Herder and Herder*, New York, 1970

McCracken, Narayan, *Participation and Social Assessment – Tools and Techniques*, The International Bank for Reconstruction; World Bank; Washington. 1998

Mikkelsen Britha, *Methods for Development Work and Research – A guide for Practitioners*, Sage publications; New Delhi, 1995

Slocum, Wichhart, Rocheleau, Slayter, *Power, Process and Participation: Tools for Change*, Intermediate Technology Publications, London, 1995.

WEB RESOURCES

http://www.capacity.org/ is a platform for exchange and access to information on capacity development.

http://www.worldbank.org/oed/ie is a World Bank Operations Evaluation Department resource on impact evaluation.

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50   Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)

One Compulsory Continuous Assessment Test will be conducted.

Other Components   Total Marks: 50

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: Total Marks: 100   Duration:3 hours

Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086
MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019 – 2020)

YOUTH DEVELOPMENT

CODE:19SW/PC/YD44   **CREDITS:4**
                                                          L T P:4 0 0
                                          TOTAL TEACHINGHOURS:52

OBJECTIVES OF THE COURSE
- To acquire knowledge of the concept of Youth Development, the need and importance of working with youth
- To develop the ability to understand the issues confronting youth in the changing socio-economic, political and cultural scenario
- To gain an understanding of different governmental/nongovernmental programmes working for the development of youth
- To develop an understanding of the different methods of working with youth groups

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Gain knowledge about the status of youth
- Understand the policies, techniques and models of youth work
- Acquire the skills of working with youth
- Become a professional Youth Worker in designing, organizing and delivering services for youth, especially the socially and economically disadvantaged categories
- Serve as social facilitators in facilitating transformation in the lives of youth

Unit 1   **(8 Hours)**
   Introduction
   1.1 Youth: Concept - Youth as age category, as transitional stage, as social construct.
   1.2 Youth Development: Concept, Definition, Aims and Objectives,Youth Development Index based on Human Development Index dimensions
   1.3 Demographic Profile of the Youth in Rural, Tribal and Urban India
   1.4 Status of Youth – Global Situation. National Youth Policy – 2014

Unit 2   **(14 Hours)**
   2.1 Needs of Youth
      2.1.1 Physical, Intellectual, Emotional, Social and Religious Needs of Youth Socialization of Youth
      2.1.2 Influence of Family, Peer, Neighbourhood, Reference Groups, Religion and Media

2.2 Impact of Westernisation, Modernisation, Urbanisation and Globalisation Socio-Economic, Political and Cultural Challenges faced by Youth, Youth and Poverty

2.3 Specific Problems of Youth

2.3.1 Behavioural Problems: Substance Abuse, Sexually Transmitted Diseases, HIV/AIDS, Sexual Problems, Eating Disorders and Obesity.

2.3.2 Emotional Problems: Identity Crisis, Alienation, Low Self-esteem and Suicide, Career Conflict, Conflicts in Selecting a Partner

2.3.3 Youth and Terrorism

Unit 3   **(12 Hours)**

Approaches and Models of Youth Work

3.1 Nature and definition of Youth Work. Approaches to Youth Work – Relief based approach, Welfare based approach, Development based approach and Policy Development based approach.

3.2 Models of Youth work –Treatment model, Reform model, Advocacy model, Conscientization model.

Unit 4   **(12 Hours)**

Youth and Social Development

4.1 Involvement of Youth in Social Development

      4.1.1 Initiating Youth in Politics, Youth in Conflict Situations

      4.1.2 Social Entrepreneurship - Meaning, Definition, Competencies and Characteristics of an Entrepreneur, Youth for Leadership, Ministry of Skill Development and Entrepreneurship, Green Skill Development Programme

4.2   Welfare Programmes for Rural/Urban Youth

      4.2.1 National Programmes - NCC, NSS, Scouts and Guides, Sports, Youth Festivals, Career Counselling.

4.3   Youth Organisations and Movements in India

      4.3.1. Ministry of Youth Affairs and Sports- National Programme for Youth & Adolescent Development (NPYAD) of Government of India

      4.3.2 Rajiv Gandhi National Institute for Youth Development

      4.3.3 Nehru Yuva Kendra Sangathan, Vishwa Yuva Kendra

      4.3.4 Students Federation of India, National Students Union of India, Democratic Youth Federation of India, All India Catholic Universities Federation

Unit 5   **(6 Hours)**

Training and Application of Social Work Methods in Working with Youth and Youth Groups

5.1 Training, Capacity Building, Research, Networking, Volunteering, Peer Counselling and Advocacy

5.2 Designing and Implementing Community Based Youth Development Programmes/Projects

BOOKS FOR STUDY
Channana, Geetaj & others, *Children, Youth and Development.* Routledge, 2017
Kehily, M.J. ed, *Understanding youth: Perspectives, Identities and Practices. Youth: Perspectives and Practice*. London: Sage Publications Ltd, 2007

BOOKS FOR REFERENCE
Dugan, Laird. *Approaches to Training and Development.* Jaipur.: Rawat , 2007
Kuriakose P.T Vishwa. *Youth Work in India: Scope and Strategy* New Delhi: Vishwa Yuva Kendra, 1985.
Landis H. Paul, *Adolescence and Youth: The Process of Maturing*. New Delhi: Sarup Book Publishers Pvt. Ltd., 2011
Ruhela. S.P. *Sociology of the Youth Culture in India*. Delhi: Indian, 2001.
Verma.M.L, *Youth and Revolutionary Upsurge*. New Delhi: Sarup Book Publishers Pvt. Ltd., 2010

JOURNALS
Journal of Youth Development https://jyd.pitt.edu/ojs/jyd
Academic Journals http://www.youthpolicy.org/academic-journals/
Youth & Society http://www.youthpolicy.org/academic-journals/

WEB   RESOURCES
http://www.rgniyd.gov.in/sites/default/files/pdfs/scheme/nyp_2014.pdf
https://yas.nic.in/
http://www.rgniyd.gov.in/
gsdp-envis.gov.in
www.msde.gov.in/nationalskilldevelopmentcorporation.html

PATTERN OF ASSESSMENT

Continuous Assessment Test:	Total Marks: 50	Duration: 90 minutes
Section – A 5 x 2 = 10 marks	(All questions to be answered in 50 words each)	
Section – B 2 x 10 = 20 marks	(2 out of 3 questions to be answered in 600 words each)	
Section – C 1 x 20 = 20 marks	(1 out of 2 questions to be answered in 1200 words each)	

One Compulsory Continuous Assessment Test will be conducted.

Other Components   Total Marks: 50
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory
The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination	Total Marks: 100	Duration: 3 hours
Section – A 10 x 2=20 marks	(All questions to be answered in 50 words each)	
Section – B 4 x 10 = 40 marks	(4 out of 6 questions to be answered in 600 words each)	
Section – C 2 x 20 = 40 marks	(2 out of 4 questions to be answered in 1200 words each)	

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS

(Effective from the academic year 2019-2020)

GERONTOLOGICAL SOCIAL WORK

CODE:19SW/PC/GR44   **CREDITS:4**
                                                                              L T P:4 0 0
                                                        TOTAL TEACHING HOURS:52

OBJECTIVES OF THE COURSE
- To enable students understand the socio-economic, physical and psychological aspects of ageing and challenges faced by older adults
- To gain knowledge on various policies, legislations and programmes available for older adults
- To gain an understanding on the theoretical perspectives and approaches and necessary skills in Gerontological Social Work

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Gain understanding of the concepts of ageing, challenges and issues related to ageing
- Acquire knowledge on health care, policies, legislations and programmes for older adults
- Apply appropriate theories, approaches and skills of Social Work in practice with older persons
- Identify and work with INGOs and NGOs

Unit   1   **(10 Hours)**
   Concepts and Issues in Ageing
   1.1 Ageing: Definition, meaning, characteristics, ageing differentials, demography of ageing, projections, generation gap; longevity of life; Geriatrics and Gerontology: meaning, definitions, role in Social Work
   1.2 Challenges of Older Adults: social identity and stigma, neglect, abuse, violence, isolation, destitution, financial exploitation, insecurity, loss of dignity
   1.3 Situational analysis with respect to age, gender, roles, place of residence, cultural and socio-economic factors, urban/rural life, companion status, beliefs and attitudes, impact of urbanization and migration on ageing

Unit   2   **(10 Hours)**
   Health Care for Older Adults
   2.1 Diseases and Disabilities: Neurological, Musculoskeletal, Vision and Hearing impairments, Respiratory, Gastrointestinal complaints, Injuries, Malnutrition, dietary and nutritional requirements, specific challenges of health in older women. Insomnia
   2.2 Mental disorders: Depression, Anxiety disorders, Dementia, Delirium
   2.3 Preventive measures and cure of diseases, disabilities and disorders; Awareness and access to geriatric treatment and gerontological health care.

Unit 3   **(11 hours)**

Policies, Legislations and Programmes:

3.1 Constitutional Provisions for Older Persons; Policies of Ministries/ Departments/ Inter-Ministerial Committee and Nodal Agency (Ministry of Social Justice and Empowerment); National Policy for Older Persons 1999; Maintenance and Welfare of Parents and Senior Citizen Act, 2007; National Council for Senior Citizens; Nation Policy on Senior Citizens 2011

3.2 International Protocols: UN Principles for Older Persons – Independence, Participation, Care, Self-fulfilment, Dignity; The Madrid International Plan of Action on Ageing and the Political Declaration 2002, WHO Policy Framework on Active Ageing 2002; International Day of Older Persons

3.3 Elder Rights and Entitlements: Integrated Programme for Older Persons (IPOP), Indira Gandhi National Old Age Pension Scheme (IGNOAPS), National Programme for the Health Care of Elderly, Insurance schemes, Antyodaya Scheme, Annapurna Scheme, Reverse Mortgages, Retirement schemes

Unit 4   **(10 hours)**

Social Work Practice with Older Adults

4.1 Theoretical Foundations and applications for working with older persons: Life course perspective, Age stratification, Social constructionist, Social exchange, Feminist theories

4.2 Role of Social Worker in Empowering Older Persons; Principles guiding Social Work with senior citizens; Fighting isolation, poverty and neglect, Care giving roles in family - parents, spouses, children, in-laws, grandchildren and other caregivers; bereavement, Adaptation and stress management for caregivers

4.3 Needs assessments for older persons, identifying special needs, building intergenerational relationships, life transition needs – living arrangements, monetary needs, employment and livelihood support, second careers, social relations, retirement, social security, recreation and leisure time, active ageing, creative art programmes, spiritual discourses, physical aids

Unit 5   **(11 Hours)**

Role of INGOs and NGOs

5.1 Institutional, Non-institutional and Community services: Role and contributions of INGOs and NGOs: Little Sisters of the Poor Home for the Aged, Helpage International, Dignity Foundation

5.2 Other Services: Assisted living centres/ homes; Active Senior Living: Day care, mobile medicare, Helplines, magazines, Identity Cards (AdvantAge Card), Apps and digital inclusion for older adults

5.3 Counselling Services: Support groups for older persons, coping with loss of partner and other crisis events, grief counselling and preparation for death. Advocacy for Older Adults - Pension Parishad

BOOKS FOR STUDY

Desai Murali. Siva Raju. S. *Gerontological Social Work in India, Some Issues and Perspectives*, B.R. Publishers, Delhi. 2000

Kulkarni PM. *Demographic-Transition in India*. CSRD SSS, J.N. University. New Delhi. 2014.

BOOKS FOR REFRENCE

Central Statistics Office. *National Sample Survey Organization*, Ministry of Statistics and Programme Implementation, Government of India. New Delhi. 2006.

Central Statistics Office. *Situation Analysis of the Elderly in India. Central Statistics Office Ministry of Statistics and Programme Implementation, Government of India*; New Delhi 2011.

Ministry of Health and Family Welfare. Director General of Health Services MOHFW, Government of India; National Programme for Health Care of the Elderly (NPHCE): Operational Guidelines New Delhi. 2011.

Nancy Hooyman. Colette V. Browne. Ruth Ray DA & Virginia Richardson. *Feminist Gerontology and the Life Course*, Gerontology & Geriatrics Education, 2002

National Sample and Survey Office. Morbidity, Health Care and the Condition of the Aged. NSSO (64th round). 2004.

Premi, Mahendra K. *Population of India 2011*. B.R.Publishing, 2012.

Vert. B. *Aging*. Ivy Publishing. 2011

JOURNALS

Journal of Family Social Work, Taylor and Francis

Child and Family Social Work, Wiley

Families in Society, Sage

WEB RESOURCES

https://pdfs.semanticscholar.org/2984/2fbb6581263b58639af7cafde623899f7218.pdf

https://www.apadivisions.org/division-20/publications/newsletters/adult-development/2017/10/women-aging

https://journals.sagepub.com/doi/pdf/10.1177/0886109908323998

http://www.health.bih.nic.in/Docs/Guidelines-NPHCE.pdf .

http://www.indiacurrentaffairs.org/

http://www.socialjustice.nic.in/ipop.php?pageid=4 .

 http://www.mospi.nic.in/mospi_new/upload/elderly_in_india.pdf

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
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One Compulsory Continuous Assessment Test will be conducted.

Other components   **Total Marks: 50**

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks:100**   **Duration:3 hours**

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MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020**)**

FIELD WORK IV

CODE:19SW/PC/FW44   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To enable the student to analyse and understand the social realities and factors influencing individuals in the contexts of the fields of specialisation.
- To understand the application of methods of Social Work – Case Work, Group Work, Community Organisation, Research and administration
- To develop competence in analysing the need and problems of individuals, groups and communities and utilise the appropriate Social Work methods and approaches to address the needs
- To apply the knowledge and skills of the methods according to the fields of specialisation
- To develop attitudes appropriate to the practice of Social Work in different situations.
- To practice Social Work values, principles and ethical standards in working with agency, community and related agencies
- To identify and mobilise resources to fulfil needs of people in agencies and communities
- To mobilise the community people to participate in the programmes of the agency
- To learn the skills of planning, implementing and evaluating one's work
- To critically analyse, identify a social need/issue and undertake a mini research study
- To learn and apply the different types of recording
- To become aware of personal resources and potentials and use it to develop oneself professionally
- To equip the students with the knowledge, skills and attitude in becoming a professional social worker

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Demonstrate ability to analyse the social situations of individuals, groups and communities
- Understand the role of organisations in the fields of Social Work
- Practice the values, principles and ethics of Social Work
- Develop competency in identifying and applying the different methods of Social Work appropriately
- Identify and facilitate solutions of individual, group and community problems through the application of Social Work skills
- Demonstrate competency in planning, identifying and mobilising resources to organise programmes and meet needs of different target groups
- Undertake mini research according to the needs identified

- Identify and utilise one's potential for personal and professional growth
- Demonstrate skills in recording and evaluating their work

Duration – 30 days - 2 days per week, 15 hours per week — 750 hours per semester

CONCURRENT FIELD WORK

Apply the knowledge, approaches and skills according to the special requirements of each field of specialisation and setting of placement

Development Issues and Social Work Practice

Social Work in Health Settings

Social Work with Children and Families

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**

Regular submission of weekly reports and weekly conference with faculty supervisor and field supervisor to plan and fuflfil requirements of concurrent field work.

Oral and written evaluation by Faculty and field supervisor of tasks accomplished in field work.

At the end of semester, individual oral presentation of work completed in the field in classroom.

Submission of completed records of work and consolidated report for evaluation

End-Semester Examination   **Total Marks: 50**

Viva Voce examination by two external examiners

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

BLOCK FIELD WORK

CODE: 19SW/PN/BF42

CREDITS: 2

OBJECTIVES OF THE COURSE

- To enable the students to understand and analyse the social realities and factors influencing individuals in the contexts of the fields of specialisation.
- To understand the application of theories and approaches of Social Work
- To apply the knowledge and skills of the methods of Social Work – Case Work, Group Work, Community Organisation, Research and administration appropriately in the fields of practice
- To develop attitudes appropriate to the practice of Social Work in different situations.
- To practice Social Work values and principles in working with different stakeholders
- To identify and mobilise resources to fulfil needs of people in agencies and communities
- To learn and apply the role of a Social Worker according to the context of placement
- To mobilise the community people to participate in the programmes of the agency
- To understand the policies and programmes relevant to different target groups
- To learn the skills of planning, implementing and evaluating one's work
- To learn and apply the different types of recording
- To become aware of personal resources and potentials and use it to develop oneself professionally
- To equip the students with the knowledge, skills and attitude in becoming a professional social worker

COURSE LEARNING OUTCOMES
On successful completion of the course, the students will be able to

- Demonstrate ability to analyse the social situations of individuals, groups and communities
- Understand the role of organisations in the application of the profession of Social Work
- Practice the principles and ethics of Social Work
- Identify and apply the different methods of Social Work appropriately
- Identify and facilitate solutions of individual, group and community problems through the application of Social Work skills
- Demonstrate skills in planning, identifying and mobilising resources to organise programmes and meet needs of different target groups
- Identify and Utilise one's potential for personal and professional growth
- Demonstrate the skills in recording and evaluating their work

- Demonstrate the role of a Social Worker in keeping with the organisational context
- Practice the skills of Social Work and develop confidence in working independently
- Competence in taking leadership in initiating change and transformation

Duration – 45 days

BLOCK FIELD WORK

Apply the knowledge, principles, approaches, ethics and skills according to the special

requirements of each field of specialisation and setting of placement

PATTERN OF EVALUATION

Continuous Assessment
Total Marks - 100

Regular submission of weekly reports to faculty supervisor describing the tasks undertaken

towards fuflfilment of requirements of Block Field Work.

Regular reporting and conferences with Field Supervisor

Written evaluation by field supervisor/agency of tasks accomplished in Block Field Work.

certifying the performance of the student during the placement.

Submission of completed record of work and consolidated report for evaluation

Evaluation by faculty supervisor on submission of reports by student

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

FUNDAMENTALS OF SOCIOLOGY

CODE:19SW/PE/SY13   **CREDITS:3**
                                                              LT P:3 0 0
                                            TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To gain an understanding of the basic sociological and economic concepts relevant to Social Work practice
- To develop analytical skills to social issues and concerns
- To sensitize students to the role played by the socio-economic political systems in reinforcing discrimination and marginalization of vulnerable groups
- To develop the capacity for application of these concepts to the Indian situation

COURSE LEARNING OUTCOMES
On successful completion of the course students will be able to

- Learn the basic concepts of society
- Understand the importance of social change and the role of social processes
- Demonstrate and understand the role of S.D.G's to make India a developed nation
- Expose knowledge on the relevance of social movements
- Understand the concept of globalisation and its impact on the poor and thereby work towards empowering the poor

Unit   1   **(8 Hours)**
   Society
   1.1 Elements of Society: Internal Strength of Society – Unity in Diversity,Democracy, Groups, Types of Groups, Associations and Institutions,   Socialization, Social Processes
   1.2 Culture-Concept, Material and Non- Material Culture, Culture,   Cultural Lag- Application to the Indian Setting
   1.2 Social Structural: Approaches to the Study of Society: an Introduction to Structural/Functionalist Perspective, Conflict Perspective

Unit   2   **(9 Hours)**
   Social Inequality and Exclusion
   2.1 Meaning of Social Inequality and its Forms: Social Differentiation, Social Stratification, Social Hierarchy and Social Exclusion and Inclusion
   2.2 Institutional Basis of Social Inequality
   2.3 Theoretical Perspective: Social Inequality or Social Stratification: Weberian and Functionalist Perspectives

Unit 3 (7 Hours)

Social Stratification

3.1 Understanding the Concept of Caste: Hierarchy and Differences in Caste
   Inequality and Exploitation, Dominant Caste

3.2 Historical Evolution of Caste System – Critical Analysis

3.3 Class-and Related Processes, Class as Power

Unit 4 (7 Hours)

Social Movements and Social Change

4.1 Definition of social movement causes and types, specific reference to civil rights
   movement backward class movement and labour movement.

4.2 Concept, Theories, Agents of Social Change, Factors and Processes of
   Social Change

4.3 Urbanization, Industrialization, Modernisation, Westernisation, Sanskritisation
   and Secularisation - Analysis of Their Impact on Indian Society

4.4 Social Control and Agents of Social Control

4.5 Social Organisation and Disorganisation

Unit 5 (8 Hours)

Development

5.1 Characteristics of Indian Economy, India as the Developing Economy

5.2 Amartya Sen's Concepts of Development

5.3 Globalisation, Liberalisation, and Privatisation - its Impact on the
   Indian Society

BOOKS FOR STUDY

Bilton Tony, Kevin Bonnet, Pipjones, Tony Lawson, David Skinner, Michelle Stanworth, Webster Andrew. *Introductory Sociology*. New York: Palgrave Macmillan,2016.

Ferrante Joan. *Sociology a Global Perspective*. Wadsworth, Cengage Learning, 2011.

Kuper Adam and Jessica Kuper. *The Social Science Encyclopedia*. Routledge Taylor & Francis Group, 2009.

BOOKS FOR REFERENCE

Ahuja, Ram. *Indian Social System.* New Delhi: Rawat, 1993.

Anderson, Parker. *Society- its Organization & Operation*. East West, 1966.

Anthuvan ,Victor Louis M. *Global Debt Crisis-A Perspective for the Third Millennium* New Delhi: CBCI and Labour Commission, 1999.

Basu, Amrita, Kohli, Atul. *Community Conflicts and the State in India.* New Delhi: Oxford University Press, 1998.

Channa, Subhatra. *Understanding Society, Culture and Change,* New Delhi: Blaze, 1993

Chris Yuill. *Sociology for Social Work.* New Delhi: Sage, 2011

Conklin, John E .*Sociology- An Introduction.* New York: Macmillan, 1984

Dalva A.K, *Environmental Impact of Large Reserviour Projects on Human Settlements,* New Delhi: Ashish, 1993.

Datt, Rudder, Sundaram. *Indian Economy.* 39th edition, Delhi: S.Chand, 1998

Horton, Hunt. *Sociology.*5th Edition, International student edition*,* Tokyo: McGraw Hill, 1980.

Karpagam M .*Environmental Economic- A Text book,* New Delhi: Sterling.

Lena, Dominelli. *Sociology for Social Work*. Palgrave, 1977

Mac Iver, Page C.H. *Society: An Introduction Analysis.* Madras: Macmillan, 1990.

JOURNAL
Social Change – Quarterly

WEB RESOURCES
http://www.amazon.co.uk/Sociology-Social-Work-An-Introduction/dp/1848606516

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted.

Other Components: **Total Marks: 50**
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

FUNDAMENTALS OF PSYCHOLOGY

CODE:19SW/PE/PY13   **CREDITS:3**
L T P:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To understand concepts of Psychology relevant for Social Work practice
- To develop a holistic understanding of human growth and development in the life span using the systems approach
- To develop an understanding of personality theories in the psycho social context
- To sensitise students on the impact of life events on an individual during the lifespan and understand the concept of mental health

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Understand the psychological bases and processes involved with cognition, learning, behaviour and personality development
- Understand human growth and development across the life-span, life –events, relationships and mental health issues for effective practice
- Obtain an insight to factors contributing to development of personality
- Apply the theoretical perspectives in Psychology to Social Work practice

Unit   1   **(5 Hours)**
  Introduction to Psychology
  1.1 Definition of Psychology. Schools of Psychology: Structural, Functional, Behaviourist
  1.2 Fields of Psychology- General, Developmental, Abnormal, Social, Counselling, Clinical, Educational, Industrial, Community Psychology
  1.3 Relevance of Psychology for Social Work Practice

Unit   2   **(8 Hours)**
  Human Growth and Development
  2.1 Life Span Perspective (Conception to Old Age) Using the Systems Approach: Needs, Tasks, Challenges, and Hazards in the Life Span
  2.2 Role of Various Systems – Family, Significant Others, Neighbours, Peers, School, Community, Society in Influencing Behaviour
  2.3 Biological, Psychological and Environmental Determinism

Unit 3   **(10 Hours)**

        Personality

        3.1 Definition**.** Personality Traits and Dimensions to describe Personality

        3.2 Theories Related to Structure and Development of Personality. Psychoanalytic (Freud), Cognitive Development (Piaget), Psychosocial Development (Erickson), Moral Development (Kohlberg), Social Learning (Bandura), Humanistic (Rogers)

        3.3 Factors influencing and affecting Personality Development

Unit 4   **(10 Hours)**

        Psychological Processes for Understanding Behaviour

        4.1 Sensation, Perception and Learning (Classic and Operant Learning Theories)

        4.2 Motivation- Motivation Process, Human Needs, Maslow's theory- Hierarchy of Needs

        4.3 Emotions- Common Emotions

        4.4 Attitude- Attitude Formation, Attitude Change, Prejudice and Discrimination

        4.5 Intelligence, Commonly Used Tests for Measurement of Intelligence (Binet-Kamat, Weschler Scales), Overview of Mental Retardation- Definition, Causes, Rehabilitation, Prevention

Unit 5   **(6 Hours)**

        Life Events During the Lifespan and their Impact on Behaviour

        5.1 Life Events, Stress, Stressors, Conflicts, Frustrations and Coping

        5.2 Concept of Mental Health, Common Mental Disorders (Overview)

BOOKS FOR STUDY

Mangal, S K., *General Psychology.* New Delhi: Sterling, 2010

Vankhede, A N., *Handbook of Psychology.* New Delhi: Wisdom Press, 2012

BOOKS FOR REFERENCE

Chaube S.P, Chaube .A, *Essentials of General Psychology (An Analytical Study for the Fundamentals for UG and PG Classes).* Hyderabad: Neelkamal, 2011

Coleman, James, *Abnormal Psychology and Modern Life.* Ed 5, Mumbai: D.B. Taraporewala & Sons, 1976.

Compton, Beulah. Galaway, Cournoyer, *Social Work Processes.* Ed 7, USA: Brooks Cole Learning, 2005

Corner Ronald, J . *Abnormal Psychology.* New Delhi: Wisdom Press, 2012

Engler, Barbara, *Personality Theories-An Introduction.* Ed3, Boston: Brooks Cole Learning, 1991.

Hurlock, Elizabeth, *Child Development.* Ed 6, USA: Tate McGraw Hill, 1989.

Hurlock, Elizabeth, *Developmental Psychology-A Life Span Approach.* Ed 5, New Delhi:Tata McGraw Hill, 1995.

Robinson, Lena, *Psychology for Social Workers.* Routledge, 1995

Spect, Riva. Craig, Grace J., *Human Development-A Social Work Perspective.* New Jersey: Prentice Hall, 1982

Zimbardo, Philip. *Psychology.* New Jersey: Pearson, 2012

JOURNALS

Journal of Applied Psychology

Journal of Personality and Social Psychology

Child and Adolescent Social Work Journal

Indian Journal of Social Work

WEB RESOURCES

Josh Gerow (2012). Basic Psychology. 3 ed. Boston: Pearson Learning Solutions.
http://opus.ipfw.edu/psych_facpubs/215
http://dbjz9dcly1fbw.cloudfront.net/1z9wr8_study-guide-for-morgan-and-king-introduction-to-psychology-fifth-edition.pdf

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
Section – B   2 x 10 = 20 marks   (2 out of 3 questions to be answered in 600 words each)
Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
One Compulsory Continuous Assessment Test will be conducted.

Other Components: **Total Marks: 50**
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory
The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

HUMAN RIGHTS AND SOCIAL WORK

CODE:19SW/PE/HR13   **CREDITS:3**
                                                                                          L T P:3 0 0
                                                              TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To provide a perspective and foundation for a human rights culture among students
- To create awareness on the Indian legal system in relation to human rights
- To enable students to work for the promotion and protection of rights of marginalized groups

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Understand the concept, evolution of human rights.
- Demonstrate knowledge of status of rights of different marginalized populations
- Display knowledge of organization, strategies adopted to ensure Human rights
- Develop attitude and skills to advocate for human rights
- Understand the laws safeguarding human rights and become ambassadors of human rights

Unit   1   **(6 Hours)**
        Introduction to Human Rights
        1.1 Concepts of Human Rights
        1.2 Categories of Human Rights
        1.3 Foundation of Human Rights
        1.4 Evolution of Human Rights
        1.5 International Human Rights Law and its Application

Unit   2   **(8 Hours)**
        Understanding Law and the State
        2.1 Indian Constitution: Preamble, Fundamental Rights, Directive Principles
        2.2 Human Rights Protection and Enforcement
        2.3 Writ Jurisdiction and Public Interest Litigation
        2.4 The Indian Legal System, Indian Penal Code, Criminal Procedure Code and
             Civil   Procedure Code
        2.5 The Relationship between Human Rights, Democracy, Sustainable Development,
             Equality, Sovereignty, Secularism , Non-Discrimination, Economic and Political
             Systems
        2.6 Human Rights in Relation to Illegal Detention

Unit 3   **(7 Hours)**
Globalisation and Poverty
3.1 Globalisation and its Impact on the Poor
3.2 Business Corporations and Human Rights Standards, Science, Technology and Human Rights
3.3 TRIPS, WTO and SEZ

Unit 4   **(8 Hours)**
Social Policy, Law and Strategies.
4.1 Concept of Social Policy, Definition, Approaches to Social Policy, Overview of Social Policies in India
4.2 Consumer Protection, Local Governance,Right to Information
4.3 Human Rights Struggles and the Human Rights Movement in India
4.4 Statutory Commissions
4.5 Human Rights Courts for Protection of Rights

Unit 5   **(10 Hours)**
Human Rights and Social Work Activism
5.1 Sectoral Rights: Rights of Children, Women, Marginalised Groups, Coastal Communities, Domestic Workers
5.2 Minority, Unorganised Labourers, Urban Poor
5.3 Transgender Persons and Rights of the Displaced, Disabled and Elderly
5.4 Strategies and Skills for Human Rights Advocacy

BOOKS FOR STUDY
Ashwani Peetush and Jay Drydyk. *Human Rights India and West*. New Delhi: Oxford University Press, 2015
Patel. V. T. *Human Rights Developments in South Asia*. New Delhi: Authorspress, 2003

BOOKS FOR REFERENCE
Chandra, U. *Human Rights, India.* Allahabad Law Agency, 2000.
Eugene Karneka. *Human Rights.* London: Edward, 1978.
Grenne, Lorraine. *Social Policy for Social Work*. New Delhi: Rawat Publications, 2016
Jean-Marc Coicaud, Michael W. Doyle and Anne- Marie Gardener. *The Globalization of Human Rights.* Rawat Publications, 2003.
Krishna V.R. Iyer. *Human Rights and Inhuman Wrongs.* United Kingdom: B.R., 2001.
Kumar Arvind. *Encylopaedia of Human Rights, Violence and Non Violence, Vol.1.*Human Rights and Social Movements. New Delhi: Anmol, 2001
Nandita Dutta and Sumitra Jha. *Women's Human Rights*. New Delhi: Pacific Books International, 2014
ParmarLalit. *Human Rights.* New Delhi: Anmol, 1998.
Samit Kar. *Globalization, One World, Many Voices*. Rawat Publication, 2005.
Sharma R.S. *Human Rights Development.* New Delhi: Common Wealth, 1997.
Subramaninam S. *International Challenges, Vol 1 and Vol 2*. Mumbai: Manas, 1997.
Waghmare B.S. *Human Rights: Problem and Prospects.* New Delhi: Kalinga, 2001.

JOURNALS
 The International Journal of Human Rights ISSN 1364 - 2987

WEB RESOURCES

www.troniefoundation.org
www.humanrights.com/
www.youthforhumanrights.org
www.humanrights.gov
www.amnesty.org
http://www.ohchr.org/EN/Issues/Pages/WhatareHumanRights.aspx
http://nhrc.nic.in/
http://www.ipc.in/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)

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Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)

One Compulsory Continuous Assessment Test will be conducted.

Other Components: **Total Marks: 50**

Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory

The second component will be a Seminar Presentation/ case study/ group presentation etc.

End-Semester Examination   **Total Marks: 100**   **Duration: 3 hours**

Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)

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Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

GENDER AND SOCIAL WORK PRACTICE

CODE:19SW/PE/GS13   **CREDITS:3**
LTP:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To gain a deeper understanding of gender as a social construct, gender relations and gender issues in society
- To understand the protective measures, policies and programmes for women
- To obtain knowledge in Feminist Social Work practice and skills in applying frameworks for gender analysis

COURSE LEARNING OUTCOMES
On successful completion of the course, the student is able to

- Understand basic concepts relevant to Gender and Development
- Gain a broader understanding of the Global perspective, Protective Measures, Policies and Programmes for Women in India
- Demonstrate knowledge and skill in applying Feminist Social Work and Gender Frameworks for Practice
- Train and build capacities of women at different levels

Unit   1   **(8 Hours)**
   Gender Concepts
   1.1 Sex and Gender, Gender as a Social Construct, Gender Identity; Gender Relations, Men and Masculinity; Gender Division of Labour, Gender Roles and Responsibilities, Gender Stratification, Gender Stereotyping, Productive Work, Reproductive Work, Differential Access and Control Over Resources
   1.2 Practical and Strategic Gender Interests; Equity and Equality; Gender Mainstreaming; Gender Sensitization
   1.3 Patriarchal and Ideological Constructs That Govern Status of Women; Status of Women in India; Sex Ratio in India, Women in Difficult Circumstances, Feminization of Poverty; Discrimination Against the Girl Child

Unit   2   **(8 Hours)**
   Feminism and Empowerment of Women
   2.1 Feminism: Concept, Meaning and Definition; Types of Feminism – Liberal, Social, Radical and Post-Modern Feminism
   2.2   Women's Movements: Pre and Post-Independence Perspectives in India, Landmarks of Women's Movement in India

2.3 Women Empowerment: Concept, Meaning and Definition, Types of Empowerment, Gender Development Indicators - GDI, GEM

Unit 3 (8 Hours)
Protective Measures, Policies and Programmes for Women in India
   3.1 Constitutional and Legal Provisions; Rights of Women with Reference to Entitlements, Political Participation, Education, Employment, Health, Inheritance, Marriage, Adoption, Divorce, Maintenance
   3.2 Protective Laws: Hindu Succession Act- 1956 with Amendment in 2005; Prohibition of Child Marriage Act- 2006, Protection of Women From Domestic Violence Act – 2005; Sexual Harassment of Women at Workplace Act-2013
   3.3 Special Initiatives: National and State Commissions for Women; Ministry for Women and Child Development; National Plan of Action for the Girl Child (1991-2000); National Policy for the Empowerment of Women-2001; Reservation for Women in Local Self Government; Five Year Plans, Gender Budgeting

Unit 4 (6 Hours)
Global Perspectives in Women's Development
   4.1 Convention on Elimination of All Forms of Discrimination against Women; and Girls (CEDAW) 1982 – Implementation in India; Global Impact of CEDAW.
   4.2 Role of UN-WOMEN; UN Timeline in Women's Progress; INGOs and NGOs in Women's Development
   4.3 Policy Approaches for Women; UN Agenda on Post Development and Sustainable Development Goals; Women as Agents of Peace and Security

Unit 5 (9 Hours)
Feminist Social Work and Frameworks for Practice
   5.1 Feminist Social Work Practice: Meaning, Concept and Definition, Feminist Perspectives in Social Work Practice; Women's Agenda for Social Work; Principles in Women Centred Practice
   5.2 Gender Analysis: Meaning and Goals, Appropriate Usages; Types - Gender Planning Framework, Empowerment Framework, Harvard Framework, Social Relations Framework
   5.3 Education, Training and Agency for women; Capacity Building; Women's Participation; Micro Finance and Self-Help Groups (SHGs), Other Support Groups for Women's Wellbeing

BOOKS FOR STUDY
Pangannavar, Arjun yallappa. *Self - Help Groups (SHGs) And Women Empowernment*. New Delhi: New Century Publications, 2017.
Vanka, Sita. *Gender And Management : International Perspectives*. Jaipur : Rawat publications, 2017.

BOOKS FOR REFERENCE
Bal, Gurpreet. *Contemporary Gender Issues*. Jaipur: Rawat Publishers , 2016.
Chaudhary, Reena. *Sexual Harassment* . New Delhi: Deep & Deep Publications, 2011.
Cronin, Aidan A. *Gender Issues in Water and Sanitation Programmes*. New Delhi : Sage publications , 2015.
Evans Kathy M, Introduction to Feminist Therapy, New Delhi: Sage, London, 2011.

Kumar, Chattopadhyay Sujit. *Gender Socialization And The Making Of Gender In The Indian Context*. Delhi: Sage Publications , 2018.

L, Furr Allen. *Women, Violence And Social Stigma : A Sociology Of Burn Attacks*. Jaipur: Rawat publications, 2018.

Marchbank, Jennifer. *Introduction To Gender*. New York : Routledge, 2014.

Pangannavar, Arjun yallappa. *Self - Help Groups (Shgs) And Women Empowernment*. New Delhi: New Century Publications, 2017.

Varshney, Indu. *Women Entrepreneurship And Economic Development*. New Delhi: Kunal Books , 2017.

Visvanathan Nalini, *The Women, Gender and Development Reader*, Canada: Fernwood Pub, 2011.

JOURNALS
Indian Journal of Gender Studies, Sage Publications
Journal of Gender Studies, Taylor and Francis
International Journal of Gender and Women's Studies, Metropolitan College of New York, USA

WEB RESOURCES
www.unwomen.org
www.un.org/womenwatch/daw/cedaw
www.ncw.nic.in
www.wcd.nic.in/wdcact.pdf
www.censusindia.gov.in

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50   Duration: 90 minutes**
Section – A   5 x 2 = 10 marks   (All questions to be answered in 50 words each)
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Section – C   1 x 20 = 20 marks   (1 out of 2 questions to be answered in 1200 words each)
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Other Components   Total Marks: 50
Two components will be conducted for 50 marks (25 marks each) – of which 1 field based Assignment will be given which is compulsory
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End-Semester Examination   Total Marks: 100   Duration: 3 hours
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Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

ENVIRONMENTAL SOCIAL WORK

CODE:19SW/PE/ES13   **CREDIT:3**
LTP:300
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
• To apply existing skills to include concepts, theory, values for incorporating study of the environment in Social Work education and practice
• To enhance abilities to work towards ensuring sustainable environments for people
• To understand the various perspectives on the environment for Social Work practice
• To adopt a renewed stance to change by valuing the environment and ensuring ecological justice
• To enable students to create awareness, mobilise and initiate community action withregard to the environment

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

• Develop commitment to environment protection and sustainability through increased knowledge and skills
• Initiate programmes to protect the environment across levels and persons
• Involve persons and their communities to promote environmentally viable processes and products

Unit   1   **(9 Hours)**
     Concepts and Perspectives on the Environment
     1.1 Concepts: Ecology, Environment, Ecosystem, Ecological Pyramid
     1.2 Natural Resources: Types of Resources: Air, Water, Land,
     1.3 Renewable and Non Renewable Resources
     1.4 Resources depletion: meaning, types, causes, effects, solutions
     1.5 Perspectives on the Environment –, Gandhian thought on Environment; Eco-
         centric perspective- Environment in the person theory for Social Work education
         and practice, Eco-Spirituality

Unit   2   **(8 Hours)**
     **Natural and Man Made Environmental Disasters, impact on Populations and
     disaster mitigation**
     2.1 Natural disasters in India - Famine, Drought, floods, earthquake, cyclone, fire
     2.2 Man Made disasters -Chernobyl, Hiroshima and Nagasaki Bombing, Bhopal Gas
         Tragedy, Kuwait Oil Wells , Love Canal, The Aral Sea, Seveso Doxin Cloud,
          Minamata disease
     2.3 Emerging Environmental   Problems- Antibiotic usage, Radiation, Genetically
         Modified Organisms (GMOs), Genome Edited Crops (GEC)

2.4 Social Work response, recovery and mitigation in disaster situations

Unit 3   **(8 Hours)**
Environmental Issues and Impact
3.1 Global Warming, Climate Change, Pollution, Waste disposal and Sanitation, Over-Population, Ground Water Depletion, Deforestation, Ozone Layer Depletion, Loss of Bio-diversity
3.2 Industrialisation, Globalisation and Urbanisation and their impact on the environment
3.3 Displacement, relocation and rehabilitation issues due to construction of dams and infrastructure
3.4 Role of a Social Worker in creating awareness, intervening, networking, advocacy, research, policy formulation and social action for change

Unit 4   **(9 Hours)**
Social Work Approaches for Environment Conservation
4.1 Environment Conservation -definition and importance for sustainable development
4.2 Conservation Methods- Solar energy, Promotion of alternate energy resources, Tree Planting, Composting Waste, Seed Banks, Organic Farming, Water Conservation through restoration of water bodies, Rain Harvesting, Sacred Grove Conservation, Waste Segregation and Recycling
4.3 Overview of Social-Ecological movements in India- Chipko Movement, Silent Valley, Narmada Bachao Andolan, Kundankulam Movement, Pallikarnai Marsh Reserve, Ban on Plastic
4.4 Environment Consciousness- Concept, Environmental education for public, schools and colleges.

Unit 5   **(5 Hours)**
Environmental Policies and Programmes for a Safe and Sustainable Environment
5.1 Sustainable Development Goals for Protecting the Environment
5.2 Role and Function of the Ministry of Environment, Forest and Climate Change, Central Pollution Control Board (CPCB)
5.3 National Environment Policy (2006)

BOOKS FOR STUDY
Dominelli, L. *Green Social Work- From Environment Crisis to Environmental Justice*. Jaipur: Rawat, 2018
Gupta, S. *Environment and Social Issues:* New Delhi: Swarup & Sons, 2000
Kumar, A. *Environmental Challenges of the 21 Century*. New Delhi: APH, 2003
Ed. Singh, R.B. *Natural Hazards and Disaster Management- Vulnerability and Mitigation.* Jaipur: Rawat, 2015

BOOKS FOR REFERENCE
Chakrabarti, P.G. Ed. *Global Sustainable Development – Assessing Progress of Regions and Countries.* New Delhi: Oxford University, 2015
Ghosh, M.K, Sustainable Development -Environment, Energy and Water Resources.Ed1. New Delhi: Ane Books, 2015

Kapila, R., Kapila, Uma. Ed. *Indian Agriculture in the Changing Environment*. Ghaziabad: Academic Foundation, 2002

Padke, V.S., Banerjee, S. *Urbanisation, Development and Environment*. New Delhi: Rawat

Prasad, A. Ed. *Environment, Development and Society in Contemporary India- An Introduction*. Delhi: Macmillan India, 2008

Sinha, P. *Disaster Mitigation, Preparedness, Recovery and Response.* New Delhi: SBS, 2006

Sinha, P. *Disaster Vulnerabilities and Risks- Trends, Concepts, Classification and Approaches.* New Delhi: SBS, 2006

Siva, Vandana. *Talking Environment.* New Delhi: Oxford University Press, 2013

UNESCO. *Global Education Monitoring Report: Education for People and Planet- Creating Sustainable Futures for All*. UNESCO, 2016

JOURNALS
Social Work Research and Global Environmental Change
The British Journal of Social Work, Volume 47, Issue 1, 1 January 2017
Journal of Social Service Research 28(2):47-68 · April 2002

WEB RESOURCES
https://sustainabledevelopment.un.org/
https://www.indiacelebrating.com/environmental-issues/natural-resources-depletion/
https://www.researchgate.net/publication/241748223
www.moef.gov.in/sites/default/files/introduction-nep2006e.pdf
www.cpcb.nic.in/
 http://www.envfor.nic.in/

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
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Other Components: **Total Marks: 50**
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

SOCIAL WORK WITH ADDICTIVE BEHAVIOUR

CODE:19SW/PE/AB13   **CREDITS:3**
L T P:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To enable the students to understand the various perspectives of addictive behaviours
- To learn the impact of addictive behaviours on individuals, families and societies
- To develop skills in students to envisage, plan and work out Social Work intervention strategies in working with persons with addictive behaviour
- To understand the basic concepts of Rehabilitation, 'After Care'. 'Relapse', Activities of Daily Living (rescheduling) with specific reference to addiction
- To learn the application of preventive strategies

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Understand the basic concepts and perspectives of addictive behaviours
- Develop skills in planning Social Work intervention strategies to address different types of addictive behaviours
- Demonstrate knowledge and competence in addressing deeper issues related to addiction
- Demonstrate ability to plan appropriate preventive interventions for different target groups

Unit   1   **(8 Hours)**
Addictive Behaviours
1.1 Concept and nature of addictive behaviours. Global and National Scenario
1.2 Common addictions – substances of abuse – alcohol, drugs, technology addiction, pathological gambling, race driving
1.3 Drug Dependence: Concept of drugs, Use and abuse of drugs. Legal and illegal drugs (NDPS Act) Kinds of drugs – classification, Meaning of substance abuse, tolerance, withdrawal state, drug dependence

Unit   2   **(8 Hours)**
Alcohol Dependence, Treatment, Relapse, follow up of substance dependence
2.1 Alcohol Dependence – its different stages - Causative factors of addiction
2.2 Personality of the alcohol dependent person, Individual and group psychological assessment scales, Consequences of dependence

2.3 Treatment - Medical and psychosocial treatment– Identifying goals for treatment,
Treatment related issues, Psychoeducation
Individual, group and family therapy, Role of self-help groups, therapeutic
communities follow up

2.4 Relapse and recovery - definition, characteristics of relapse. Relapse prevention
Need for continued follow up.

Unit   3   **(8 Hours)**
After Care, Rehabilitation and Prevention of addiction
3.1 Community Based Rehabilitation - Concept of 'After Care' and 'Rehabilitation'.
Setting goals of after care and rehabilitation. Half way homes, day care centres.
Camp approach, self - employment and vocational rehabilitation
3.2 Role of Governmental and Non – governmental organisations - TTK
3.3 Prevention of substance abuse – Primary, Secondary, Tertiary levels of
prevention.
3.4 Role of Social Worker

Unit   4   **(7 Hours)**
Technology Addiction
4.1 Concept, Compulsive Internet use, Excessive Mobile phone use, Social Media
Addiction, Cybercrime. Consequences of unsafe use of technology, - Physical,
psychological and social.
4.2 Overcoming technology addiction, preventing technology addiction, responsible
use of technology
4.3 Role of Social Worker

Unit   5   **(8 Hours)**
Gambling Disorder
5.1 Pathological Gambling, Shopping addiction and other addictions
5.2 Pathological Gambling, Shopping addiction – nature, causes, consequences.
Dealing with pathological gambling and shopping addiction.
5.3 Role of Social Work
5.4 Laws relating to addiction – NDPS ACT 1985

BOOKS FOR STUDY
Palmer, Sharon Duca (Ed.) *Social Work in Mental Health and Substance Abuse*. Apple
Academic Press, 2011
Schuckit, Marc, A. *Drug and Alcohol Abuse – A Clinical Guide to Diagnosis and Treatment.*
Springer. 2006

BOOKS FOR REFERENCE
Ahuja,Niraj. *A Short Textbook of Psychiatry.7*th Edition. Jaypee Brothers, 2011.
Corey, Schneider Marianne, Corey, Gerald. *Groups – Processes and Practice*. Brooks/Cole
Thomson, 2002.
Ranganathan, Shanthi. *Treatment of Alcoholism. The Community Approach*. TTR Clinical
Foundation

JOURNALS
Indian Journal of Psychiatry
Mental Health Weekly. https://onlinelibrary.wiley.com
Psychiatry Today. http://www.imh.org.rs/en/publications/psychiatry today/
Psychiatric Rehabilitation Journal. http://www.bu.edu/cpr/prj/
Counsellor. http://cassonnigeria.org/index.html

WEB RESOURCES
http://www.counselling-directory.org.uk/counselling.html
http://www.ncbi.nlm.nih.gov/books/NBK64342/Chapter5-Theraputic Communties

PATTERN OF ASSESSMENT

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTERS OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019–2020)

DISASTER MANAGEMENT

CODE:19SW/PE/DM13   **CREDITS:3**
LTP:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To develop an understanding of eco system equilibrium and disequilibrium
- To develop skills to analyze the factors leading to disaster
- To develop an understanding of the process of Disaster Management
- To understand the role of the Social Worker in Disaster Management

COURSE LEARNING OUTCOMES
On successful completion of the course students will be able to

- Understand the various types of disasters
- Equip themselves to work in disaster situations
- Expose knowledge on the impact of disaster on individual and community

Unit 1   **(8 Hours)**
       Disasters – An Introduction
       1.1 Concept: Definition; Basic Disaster Aspects, Types of Disasters-Natural,
             Instantaneous, Creeping, Technological Disasters and Their Interaction
       1.2 Refugees/Repatriates
       1.3 Sustainable Development Goals and Disaster Mangement.

Unit 2   **(8 Hours)**
       Disaster Management Cycle
       2.1 Disaster Management Cycle: Prevention, Mitigation, Preparedness, Response,
             Recovery and Rehabilitation.
       2.2 Stages in Disaster-Pre, During and Post Disaster
       2.3 Psychosocial Aspects of Disaster – Post Traumatic Stress Disorder and
             Psychosocial care.

Unit 3   **(7 Hours)**
       Disaster Mitigation
       3.1 Mitigation-Guiding Principles of Mitigation
       3.2 Problem Area-Mitigation Measures, Risk Management, Vulnerability
             Analysis,Cost- Effective Analysis, Risk Reducing Measures – Sendai Framework
             for Disaster Risk Reduction
       3.3 Formulation and Implementation of Mitigation Programmes

Unit   4   **(8 Hours)**
      Disaster Management and Policies and Interventions
      4.1 Disaster Management Act, 2005
      4.2 National Disaster Management Authority, State Disaster Management Authority, National Disaster Response Force
      4.3 National Institute of Disaster Mangement, NIMHANS – Nodal Centre for Psychosocial Care
      4.4 Paris Climate Conference 2015, COP 21.
      4.5 INGO's working in Disasters – Action Aid, Oxfam, UNICEF, CARE

Unit   5   **(8 Hours)**
      Role of Social Work in Disasters
      5.1 Role of the Social Worker in Disaster Management
      5.2 Utilisation of Resources/Training and Public Awareness

BOOKS FOR STUDY
Bose, B., C. *Disaster Management in India.* New Delhi :Rajat, 2007.
Goel, S., L. *Encyclopedia of Disaster Management*. New Delhi: Deep & Deep, 2007.

BOOKS FOR REFERENCE
Goel, S., L. *Disaster Management Organisations and Management, Health Management of Human Being and Animals.* New Delhi: Deep & Deep, 2001.
Newburn, Tim. *Disaster & After*. London: Jessica Kingsley, 1993.
Prabhas, Chandra, Sinha. *Disaster Management Process, Law, Policy & Strategy*. New Delhi: SBS, 2006.
Prabhas, Chandra, Sinha. *Disaster Relief, Rehabilitation & Emergency Humanitarian Assistance.* New Delhi: SBS, 2006.
Prabhas, Chandra, Sinha. *Disaster Vulnerabilities & Risks*. New Delhi: SBS, 2006.
Prabhas, Chandra, Sinha. *Disaster Mitigation, Preparedness, Recovery & Response*. New Delhi: SBS, 2006.
Sanjay, K., Roy. *Refugees and Human Rights.* Jaipur: Rawat, 2001.
Singh, R., B. *Disaster Management*. Jaipur: Rawat, 2000.
Smita. *Locked Homes Empty Schools*. New Delhi: Zubaan, 2007.
Verma, K. Manish. *Development, Displacement and Resettlement.* Jaipur: Rawat, 2004.

WEB RESOURCES
  www.disasterready.org/
  http://preventionweb.net/go/9640
  https://iwhw.boku.ac.at/.../references/.../E__risk-management-applications_*8062*.*pdf*

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019–2020)

CORPORATE SOCIAL RESPONSIBILITY

CODE:19SW/PE/CS13   **CREDITS:3**
                                                                    L T P:3 0 0
                                                       TOTAL TEACHINGHOURS:39

OBJECTIVES OF THE COURSE
- To learn the concept of Corporate Social Responsibility (CSR) and its application in Social Work/ in the community.
- To appreciate the role of CSR in social change and transformation.
- To learn to create CSR initiatives

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Understand the concept of CSR and its role in industries.
- Familiarise with the most common theoretical perspectives for understanding CSR and plan innovative CSR initiatives
- Develop models related to CSR/ Sustainability
- Understand the political, social and economic drivers behind CSR

Unit   1   **(10 Hours)**
   Introduction to Corporate Social Responsibility
   1.1 Social Responsibility- Meaning, Definition, Corporate Social Responsibility – Meaning, definition and scope of CSR, History & evolution of CSR. Concept of Charity, Corporate philanthropy, Corporate Citizenship, CSR-an overlapping concept. Concept of sustainability & Stakeholder Management.
   1.2 Chronological evolution of CSR in India; models of CSR in India, Carroll's model;
   1.3 Concepts of Sustainability, Responsible Corporate, Triple Bottom Approach.
   1.4 Foundations of CSR - National - Indian Constitution,   International Context – Sustainable Development Goals.

Unit   2   **(7 Hours)**
   International framework for Corporate Social Responsibility
   2.1 Sustainable development goals, Relationship between CSR and SDGs.
   2.2 United Nations (UN) Global Compact 2011. UN guiding principles on business and human rights.
   2.3 ILO tri-partite declaration of principles on multinational enterprises and social policy.

Unit 3   **(7 Hours)**

CSR-Legislation in India

3.1 Section 135 of Companies Act 2013.

3.2 Scope for CSR Activities under Schedule VII

3.3 Appointment of Independent Directors on the Board, and Computation of Net Profit's Implementing Process in India.

Unit 4   **(7 Hours)**

Tools and Techniques for CSR

4.1 Phase I - Planning – Project Proposal Writing, Financial Management Risk and Resource Assessment Tools

4.2 Phase II - Implementation & Monitoring

4.3 Phase III - Evaluation - Process & Tools; Documentation

Unit 5   **(8 Hours)**

CSR – Current Context

5.1 CSR Norms, Policies and Ethics

5.2 Models of CSR and Types – Corporate Models of CSR, NGO as Partners in CSR

5.3 Case Studies -. Murugappa Group, India Cements, Larsen and Toubro, Vikatan Group, Tech Mahindra, Indian Oil, Reliance Industries, TATA, ITC.

5.4 Challenges in CSR

5.5 Application of CSR- Scope of CSR in Social Work, CSR Skills, Role of Social Workers in CSR

BOOKS FOR STUDY

Agarwal. K. Sanjay, *Corporate Social Responsibility in India*. New Delhi: Sage Publications, 2008

Soundarapandian M, *Corporate Social Responsibility and Sustainable Development Vol I & II*.New Delhi :Concept Publishing Company, 2014

BOOKS FOR REFERENCE

Benn and Bolton, *Key concepts in Corporate Social Responsibility*. Australia: Sage Publications Ltd, 2011

Bradshaw, T. and D. Vogel, *Corporations and their critics: Issues and answers to the problems of Corporate Social Responsibility*. New York: McGraw Hill Book Company, 1981

Crane, A. et al., *The Oxford handbook of Corporate Social Responsibility*. New York: Oxford University Press Inc., 2008

Panda. K. Sanjay, *Corporate Social Responsibility in India- Past, Present and Future*. Hyderabad: The ICFAI University Press, 2008

JOURNALS

International Journal of Corporate Social Responsibility

Journal of Corporate Social Responsibility and Environmental Management

The Journal of Corporate Citizenship

WEB RESOURCES

https://blog.ipleaders.in/csr-laws-india/

http://www.fiinovation.co.in/corporate-social-responsibility/

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

MASTER OF SOCIAL WORK

SYLLABUS

(Effective from the academic year 2019-2020)

SOCIAL AUDIT

CODE: 19SW/PE/SA13   **CREDITS: 3**
                                                          LTP: 3 0 0
                                    TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
To impart knowledge in terms of:

- Assessing the physical and financial gaps between needs and resources
- Creating awareness among student about local social and productive services.
- Increasing efficacy and effectiveness of local development programmes.
- Scrutinizing various policy decisions, keeping in view priorities of the poor.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Understand and explain the meaning, scope and objectives of social audit
- Emphasize the need and importance for social audit in practice
- Identify different types of social audit and its applicability
- highlight key developments in social transparency and reporting

Unit   1   **(8 Hours)**
Social Audit: Introduction and Concept**,** Definition, Social Audit Vs Other Audits, History of Social Audit, Principles: Foundation values, Pillars of Social Audit, Universal values; Purpose, Functions, Benefits and Scope, Stakeholders; Sectors for application; Salient features of Social Audit

Unit   2   **(8 Hours)**
Social Audit Design and Methodology: Designing Social Audit, Salient features - Designing the Data Collection, Traditional Social Indicators, Core values linked to indicators, Identifying and selecting indicators, role of stakeholders, Report preparations; Key characteristics of a social auditor

Unit   3   **(8 Hours)**
Social Audit Process: Key components of an audit process- Social, Economic, Political, Environmental, Health and Education. Steps in auditing- Preparatory Activities, Defining Audit Boundaries and Identifying Stakeholders, Social Accounting and Book-keeping, Preparing and Using Social Accounts, Social Audit and Dissemination, Feedback and Institutionalisation of Social Audit, Checklists, Social Audit Cycle

Unit   4   **(5 Hours)**
Good Governance and Social Audit: Accountability Mechanisms: Government Initiatives, Citizens' Charters, Civil Society Initiatives, Right to Information Movement (Cases from India), Social Auditing and Performance Evaluation

Unit   5   **(10 Hours)**
Social Audit Frameworks and Tools: Social Process Audit, Financial Statements Format Social Audit, Macro-Micro Social Indicator Audit, Social Performance Audit, Partial Social Audit – Environment, Energy, Human Resource Auditing, comprehensive audit, Questionnaire, Survey, Interview guide; Problems encountered in Social Auditing

BOOKS FOR STUDY

Free Spreckely, *Social Audit Toolkit* - 3rd Edition, Social Entreprise Partnership - Local Livelihoods, (2000)
John Pearce, *Social Audit and Accounting*: Community Business Scotland (CBS) Network (2001)

BOOKS FOR REFERENCE

John Pearce, Peter Raynard, and Simon Zadek *Social Auditing for Small Organisations: A Workbook for Trainers and Practitioners*, New Economics Foundation, London (1996)
Johnson, Gerry and Scholes, Kevan. *Exploring Corporate Strategy*, Sixthedition, Prentice-Hall of India, New Delhi (2004)
Rao, V S P and Hari, Krishna V. *Strategic Management*, Texts and Cases, FirstEdition, Excel Books New Delhi (2003)
Jr. Thompson A Arthur, III Strickland, A.J. *Strategic Management, Concept sand Cases,* Thirteenth edition, 2003, Tata McGraw Hill Publishing, New Delhi, (2003)
Centre for Good Governance, Hyderabad, Social Audit: A Tool for Performance Improvement and Outcome Measurement. (2005)
Velasquez, G. Manuel. *Business Ethics, Concepts and Cases,* Fifth edition, Prentice Hall of India, New Delhi, (2002).

WEB RESOURCES
http://egyankosh.ac.in/bitstream/123456789/16061/1/Unit-16.pdf
http://www.fao.org/docrep/006/ad346e/ad346e09.htm

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

INDIAN CONSTITUTION AND HUMAN RIGHTS

CODE:19SW/PE/IH23

CREDITS:3
L T P:3 0 0
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To provide a perspective and foundation for a human rights culture among students
- To create awareness on the Indian legal system, rule of law, human rights
- To create awareness on the Indian legal system in relation to human rights
- To enable students to work for the promotion and protection of rights of the marginalized groups

COURSE LEARNING OUTCOMES
On successful completion of the course, the students will be able to

- Understand the concept and evolution of human rights.
- Demonstrate knowledge of human rights laws and its application in safeguarding human rights
- Appreciate the role of governance in enforcing Human rights
- Develop attitude and skills to advocate for and work for the promotion and protection of human rights of the marginalised groups

Unit 1 (7 Hours)
Introduction to Human Rights
1.1 Concept of human rights
1.2 Categories of human rights
1.3 Foundation of human rights.
1.4 Evolution of human rights
1.5 International Human Rights Law and its application.

Unit 2 (8 Hours)
Understanding Law and the State
2.1 Indian Constitution: Significance of the Preamble, Fundamental Rights, Directive Principles
2.2 Human rights protection and enforcement.
2.3 Writ jurisdiction and Public Interest Litigation.
2.4 The Indian Legal System, Indian Penal Code, Criminal Procedure Code and Civil Procedure Code.

2.5 The relationship between human rights, democracy, sustainable development, equality, sovereignty, secularism and non-discrimination.
2.6 Human rights in relation to illegal detention.

Unit 3 (8 Hours)
Union Government and State Government
3.1 President- Election, Election powers and functions
3.2 Cabinet-Parliament- composition, Powers and functions of both the houses
3.3 Process of lawmaking-speakers and Committees
3.4 Supreme Court of India –compositions, powers
3.5 State Government-Role of Governor –state Cabinet, State Legislature
3.6 High Courts-Amendment to Indian Constitution

Unit 4 (8 Hours)
Law and Strategies
4.1 Protection of the environment, consumer protection, local governance Empowerment, Right to Information.
4.2 Human Rights struggles and the Human Rights Movement in India.
4 .3 Statutory Commissions
4.4 Human Rights Courts for protection of rights, advocacy for human rights

Unit 5 (8 Hours)
Human Rights of various groups
5.1 Sectoral Rights: Rights of Children, Women, Transgender, Marginalised Groups, Coastal Communities, Domestic Workers
5.2 Minorities, Unorganised Labourers, Urban Poor
5.3 Transgender Persons and Rights of the Displaced, Disabled and Elderly
5.4 Strategies and skills for Human Rights Advocacy

BOOKS FOR STUDY
Chandra, U. *Human Rights, India.* Allahabad Law Agency, 2000.
Krishna V.R. Iyer. *Human Rights and Inhuman Wrongs.* United Kingdom: B.R., 2001.

BOOKS FOR REFERENCE
Kumar Arvind. *Encylopaedia of Human Rights, Violence and Non Violence, Vol.1*.Human Rights and Social Movements. New Delhi: Anmol, 2001
Parmar Lalit. *Human Rights.* New Delhi: Anmol, 1998.
Sharma R.S. *Human Rights Development.* New Delhi: Common Wealth, 1997.

JOURNALS
The International Journal of Human Rights ISSN 1364 - 2987
WEB RESOURCES
www.troniefoundation.org
www.humanrights.com/
ww.youthforhumanrights.org
www.humanrights.gov
www.amnesty.org
http://www.ohchr.org/EN/Issues/Pages/WhatareHumanRights.aspx
http://nhrc.nic.in/
http://www.ipc.in/

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MASTER OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019–2020)

DISPLACEMENT, MIGRATION AND REFUGEE ISSUES

CODE:19SW/PI/DR24   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To understand the issues related to displacement, migration and refugees
- To comprehend the key principles (legal, political and ethical) related to displacement, migration and refugee issues
- To understand and apply theory and models in the direct and indirect practices while working in such issues

COURSE LEARNING OUTCOMES
On successful completion of this course, students will be able to

- Appreciate the complexity of contemporary processes of displacement, migration and refugee issues from different perspectives
- Engage in contemporary debates on forced migration and humanitarian responses from an inter-disciplinary perspective, drawing on insights from historical experiences and current cases
- Think critically and creatively about policies related to displacement, migration and refugees
- Engage in planning Social Work interventions at all levels
- Engage in policy- oriented research

Unit   1   **(8 Hours)**
Introduction
1.1 Basic Concepts and Definition: Displacement, Migration, Refugees, Causes and Consequences.
1.2 Historical overview- Migration, The Global Population Movements in Historical Retrospect
1.3 Causes, Types, Issues and Challenges

Unit   2   **(11 Hours)**
Displacement Issues
2.1 Problems of Displacement – Social, Economic, Psychological, Cultural,
2.2 UNHCR Global Trends; Forced Displacement 2015, IDPs
2.3 Legislations – The Displaced Persons Claims and Other Laws Repeal Bill (2004), Programmes, Services,
2.4 Rehabilitation, Problems of Rehabilitation – Awareness, Resources, Opportunities, Issues and Challenges

Unit 3   **(12 Hours)**

Migration Issues

3.1 Globalisation and Migration; Trends in International Migration; Skill and Gender Composition of Migration Flows - India Diaspora – Remittances – Socio Cultural Implications

3.2 UN Convention 1990- UN International Migration Policies, Role and Functions of Ministry of Overseas Affairs, IOM (International Organisation for Migration), International Migration Law

3.3 Migration and Human Security- Meaning and Concept, Need and Importance Multi-Lateral Protection and Migration Issues, Colombo Process, Indian Emigration Policy, Indian Passport Act 2008, the Inter- State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979

Unit 4   **(12 Hours)**

Refugee Issues

4.1 Seeking asylum, refugee status determination and the rise of restrictionism- The development of asylum policies, Deterrence and interdiction policies, Refugee status determination

4.2 Humanitarian responses to refugees: Institutions and obligations, Major actors and agencies- UNHCR, Intergovernmental Organisations, Governmental organisations, NGOs

4.3 Introduction to Laws and Legislations: International Refugee Law, Regional Refugee Protection Frameworks

Unit 5   **(9 Hours)**

Case Studies

5.1 Displacement- Development Induced Displacement in Chennai, the case of Jammu and Kashmir

5.2 Migration-   Migration Issues in South Asia

5.3 Refugee Issues- Rohingya Refugee Crisis, Syria, Srilankan Refugee issues

BOOKS FOR STUDY

Amal Datta, *Human Migration. A Social Phenomenon.* India: Mittal, 2003.

Caroline B. Brettel, James F. Hollifield, *Migration Theory: Talking Across Disciplines*, Routledge, 2000.

Devesh Kapur. *Diaspora, Development, and Democracy: The Domestic Impact of International Migration from India*. India: Princeton University Press, 2010.

BOOKS FOR REFERENCE

David.J.Siddle. *Migration, Mobility and Modernisation.*Liverpool: Routledge, 2012

R. Mansell Prothero and Murray Chapman. *Circulation in Third World Countries.* London: Routledge and Kegan Paul, 1983.

JOURNALS

Internal Migration in India, Workshop Compendium Vol 1 & 2, UNICEF in collaboration with ICSSR, SDTT.

Ethnicity, Identity and Migration Studies, Routledge, Taylor & Francis Group.

Migration and Development, Routledge, Taylor & Francis Group.

Migration Studies is an international refereed journal, Oxford University Press.

Journal of International Migration and Integration, Population Studies, Springer

Journal of Immigrant & Refugee Studies, Routledge, Taylor & Francis Group.

Crossings: Journal of Migration and Culture, Intellect Publishers, USA
Internal Migration in India- Initiative for a better Inclusion of Internal Migration in India-
Policy Briefs.

WEB   RESOURCES
http://www.unhcr.org/50f94cd49.pdf.
http://www.unhcr.org/research/RESEARCH/3ae6a0d08.pdf
https://www.fmreview.org/unhcr-convention-50/abrar

PATTERN OF ASSESSMENT
End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

DEPARTMENT OF SOCIAL WORK

SYLLABUS
(Effective from the academic year 2019-2020)

QUALITATIVE RESEARCH

CODE:19SW/PI/QR24   **CREDITS:4**

OBJECTIVES OF THE COURSE
To impart knowledge in terms of
- qualitative research and approach for social science research
- to understand qualitative research designs and its application
- to learn the various tools of data collection
- to develop skill in writing research proposal for qualitative research

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Apply and undertake qualitative research activities
- Apply various tools and matrix in research related exercises
- Formulate research problems and research questions
- Write research proposal and undertake qualitative research

Unit   1
   Introduction
   1.1 Introduction to Qualitative Research
   1.2 Difference between Qualitative and Quantitative Research
   1.3 Basic Definitions & Types of Qualitative Research
   1.4 Qualitative Research relevance to contemporary Social work Research

Unit   2
   Approaches to Qualitative Research
   2.1 Different Approaches to Qualitative Research – Phenomenology, Grounded
         theory, Ethnography, Historical, Narrative and Case study
   2.2 Literature Review: Systematic Review, Review of Literature, Paraphrasing,
   2.3 Reference citation Methods – Examples of online reference software.
   2.4 Ethics involved in conducting Qualitative Research

Unit   3
   Tools of Data Collection
   3.1 Qualitative Research Cycle – Step by Step Guide – Design Cycle, Ethnographic
        cycle, Analytic cycle
   3.2 Data Collection Methods and Tools– Indepth Interview, Focus Group Discussion
         and Observation
   3.3 Data Collecting and Recording – Primary Data and Secondary Data
   3.4 Data Editing, Data Coding, Interpretation and Analysis

Unit   4
   Research Designs and Methodology
   4.1 Concept, Scope and Relevance of Mixed Method Research with relevance to
       current Social work research
   4.2 Mixed Methods Research Design – Convergent, Sequential, Embedded and Multi-
       factorial.
   4.3 Data Analysis and Interpretation
   4.4 Data Collection, Transcription of Data, Data Cleaning, Coding, Editing and Data
       Interpretation and Analysis

Unit   5
   Qualitative Research Proposal
   5.1 Formulating a sample Qualitative Research Proposal (Assignment)
   5.2 Identifying a Research Problem
   5.3 Identifying Research Questions and Research Variable
   5.4 Formulating a Qualitative Research Design and proposal
   5.5 Data Analysis Introduction to Software - Atlas T , R- QAM Software

BOOKS FOR STUDY

Practical social investigation. (2002) Pole Christopher Qualitative and quantitative methods
in social research Prentice-Hall international
Roger Gomm, (2008) Social Research Methodology, Palgrave macmillan
Sarantakos S (2005) Social research, Harvard Business School Press **-**
Lal D K Das (2005), Designs of Social Research, Rawat publications, Jaipur
Jaspal Singh , (2001) Methodology and techniques of social research, Kanishka publishers

PATTERN OF ASSESSMENT

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section – A   10 x 2=20 marks   (All questions to be answered in 50 words each)
Section – B   4 x 10 = 40 marks   (4 out of 6 questions to be answered in 600 words each)
Section – C   2 x 20 = 40 marks   (2 out of 4 questions to be answered in 1200 words each)

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
DEPARTMENT OF MATHEMATICS
PROGRAMME DESCRIPTION

The M.Sc. Mathematics Degree programme lays equal emphasis on motivating and training students towards higher education in the discipline and employability. With the focus on imparting quality education, the students are exposed to pure, applied and applicable Mathematics. Introduction of a scientific computing environment based on mathematical approach caters to the needs of teaching, learning and research and helps students acquire effective professional writing and communication skills and equips the students with enhanced employability skills. Intercollegiate competitions are organised and interclass competitions in Mathematics taps the potentials of the students. Participation are offered to students to widen the horizon of knowledge with a focus on research. The programme offers opportunity for research, and students are encouraged to publish original work in peer reviewed journals.

PROGRAMME SPECIFIC LEARNING OUTCOMES

On completion of this programme, students will be able to

- demonstrate proficiency in logical thinking, analytical reasoning and problem solving skills
- exhibit proficiency in wide array of mathematical approaches in a scientific computing environment to cater to the needs of teaching, research & industrial applications
- demonstrate technical and technological skills based on Mathematical methods to meet the growing demand in the industrial, marketing, communication sectors.
- demonstrate enhanced employable skills
- demonstrate proficiency in pure, Applied and Applicable Mathematics
- manage a wide range of knowledge focussed on research

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Sc. DEGREE : BRANCH I-MATHEMATICS

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, **L-**Lecture Hours, **T-**Tutorial Hours, **P-** Practical Hours, **Ex-**Exam Hours, **CA-** Continous Assessment Marks, **ES-**End Semester Marks, **M-**Maximum Marks									
SEMESTER-I									
19MT/PC/AA14	Abstract Algebra	4	4	2	0	3	50	50	100
19MT/PC/RA14	Real Analysis	4	4	1	0	3	50	50	100
19MT/PC/GT14	Graph Theory	4	4	1	0	3	50	50	100
19MT/PC/OD14	Ordinary Differential Equations	4	4	1	0	3	50	50	100
	Department Elective I								
	SAP / SL	2	2	0	0	-	50	-	100
SEMESTER-II									
19MT/PC/LA24	Linear Algebra	4	4	1	0	3	50	50	100
19MT/PC/MI24	Measure Theory and Integration	4	4	1	0	3	50	50	100
19MT/PC/TO24	Topology	4	4	1	0	3	50	50	100
19MT/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
	Department Elective II								
	Common Elective I								
SEMESTER-III									
19MT/PC/PD34	Partial Differential Equations	4	4	1	0	3	50	50	100
19MT/PC/FA34	Functional Analysis	4	4	1	0	3	50	50	100
19MT/PC/PS34	Probability and Stochastic Processes	4	4	1	0	3	50	50	100
19MT/PC/RT34	Research Methods and Tools	4	2	1	4	3	50	50	100
19MT/PN/SI32	Summer Internship	2	0	0	0	-	50	-	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
	Common Elective II								
SEMESTER-IV									
19MT/PC/CA44	Complex Analysis	4	4	1	0	3	50	50	100
19MT/PC/DG44	Differential Geometry	4	4	1	0	3	50	50	100
19MT/PC/CF44	Continuum and Fluid Mechanics	4	4	2	0	3	50	50	100
19MT/PC/DS47	Dissertation	7	0	0	9	-	-	100	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19MT/PE/NC15	Number Theory and Cryptography	5	5	0	0	3	50	50	100
19MT/PE/CI15	Calculus of Variation and Integral Equations	5	5	0	0	3	50	50	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086
M.Sc. DEGREE : BRANCH I-MATHEMATICS
COURSES OF STUDY
(Effective from the academic year 2019-2020)
CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, L-Lecture Hours, T-Tutorial Hours, P- Practical Hours, Ex-Exam Hours, CA- Continous Assessment Marks, ES-End Semester Marks, M-Maximum Marks									
19MT/PE/AL15	Analysis of Algorithms	5	5	0	0	3	50	50	100
19MT/PE/FT15	Fuzzy Set Theory and Applications	5	5	0	0	3	50	50	100
19MT/PE/ME15	Mechanics	5	5	0	0	3	50	50	100
19MT/PE/MS15	Mathematical Statistics	5	5	0	0	3	50	50	100
Postgraduate Elective Courses Offered to Other Departments									
19MT/PE/ED23	Essentials of Discrete Mathematics	3	3	0	0	3	50	50	100
19/MT/PE/AM23	Elements of Applicable Mathematics	3	3	0	0	3	50	50	100
Independent Elective Courses									
19MT/PI/MM24	Mathematical Modeling	4	0	0	0	3	-	100	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I - MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

ABSTRACT ALGEBRA

CODE:19MT/PC/AA14   **CREDITS: 4**
                                                                                                    L T P: 4 2 0
                                                                 TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- ➤ To introduce the general concepts in Advanced Abstract Algebra
- ➤ To give developments in various algebraic structures

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- ➤ explain the fundamental concepts of advanced algebra and demonstrate accurate and efficient use of advanced algebraic techniques
- ➤ discuss the field extension, algebraic extensions and the relation between the solvability of polynomial and the Galois group
- ➤ understand the base of the coding theory as an application of finite fields

Unit   1   **(17 Hours)**
Group Theory
1.1 Counting Principle
1.2 Cauchy's Theorem
1.3 Sylow's Theorem (second proof only)
1.4 Direct Products
1.5 Finite Abelian Groups

Unit   2   **(13 Hours)**
Ring Theory
2.1 Euclidean Rings
2.2 Unique Factorization Theorem
2.3 A particular Euclidean ring
2.4 Fermat's Theorem

Unit   3   **(14 Hours)**
Ring Theory (contd.)
3.1 Polynomial Rings
3.2 Polynomials over the Rational Field
3.3 Polynomial Rings over Commutative Rings

Unit   4   **(17 Hours)**
Fields
4.1 Extension Fields
4.2 Roots of Polynomials
4.3 More about Roots

Unit 5   **(17 Hours)**

Fields (contd.)
5.1 The Elements of Galois Theory
5.2 Solvability by Radicals
5.3 Galois Groups over the Rationals

BOOK FOR STUDY

Herstein, I. N. *Topics in Algebra.* 2nd Ed. New Delhi: Wiley Eastern Limited, 2017.

Chapter 2	Sections 2.11 – 2.14 (omit Lemma 2.12.1, Lemma 2.12.2)
Chapter 3	Sections 3.7 - 3.11
Chapter 5	Sections 5.1, 5.3, 5.5 - 5.8

BOOKS FOR REFERENCE

Clive Reis. *Abstract Algebra – An Introduction to Groups, Rings and Fields*. Singapore: World Scientific Printers, 2012.

John B. Fraleigh. *A First Course in Abstract Algebra*, Seventh Edition. New Delhi: Pearson Education in South Asia, 2012.

Michael Artin. *Algebra*. Delhi: Pearson Education in South Asia, 2007.

Saunders MacLane, Garrett Birkhoff. *Algebra*, Third Edition. Kolkata: American Mathematical Society – Indian Edition, 2013.

WEB RESOURCES
http://cs.jsu.edu/~leathrum/Mathlets/polyroots.html
http://www.akiti.ca/PolyRootRe.html

PATTERN OF ASSESSMENT
Theory: 80%   Problems: 20%

Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
Section A: $2 \times 2 = 4$ (Two questions to be set)
Section B: $2 \times 6 = 12$ (Three questions to be set)
Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components: Total Marks: 50
Seminars/Quiz/Open book tests/Assignments/Problem Solving

End-Semester Examination: **Total Marks: 100   Duration: 3 hours**
Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

REAL ANALYSIS

CODE : 19MT/PC/RA14   **CREDITS: 4**
L T P: 4 1 0
TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

> ➢ To introduce the general concepts of Analysis in the Euclidean space $\Re^n$
> ➢ To impart knowledge on the concepts of double sequences and double series
> ➢ To impart knowledge on the concepts of Infinite Series and Infinite Products

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

> ➢ acquire knowledge on concepts of Analysis in the Euclidean space $\Re^n$
> ➢ understand the concepts of double sequences and double series
> ➢ obtain knowledge on the concepts of Infinite Series and Infinite Products
> ➢ realize that this course had laid the foundation for a variety of courses

Unit 1   **(14 Hours)**
Elements of point set Topology
1.1 Euclidean Space $\Re^n$
1.2 Open Balls and Open Sets in $\Re^n$
1.3 Closed Sets – Adherent and Accumulation points
1.4 Bolzano-Weierstrass Theorem
1.5 Cantor Intersection Theorem
1.6 Lindelöf Covering Theorem
1.7 Heine–Borel Covering Theorem
1.8 Compactness in $\Re^n$

Unit 2   **(10 Hours)**
Functions of Bounded Variation
2.1 Properties of Monotonic Functions
2.2 Functions of Bounded Variation
2.3 Total Variation
2.4 Additive Property of Total Variation
2.5 Total Variation on $[a, x]$ as a function of x
2.6 Functions of bounded variation expressed as the difference of increasing functions
2.7 Continuous functions of Bounded Variation
Riemann-Stieltjes Integral
2.8 Linear Properties
2.9 Integration by Parts

2.10 Change of Variable in a Riemann- Stieltjes Integral

Unit 3 (13 Hours)
Riemann-Stieltjes Integral(contd.)
3.1 Reduction to a Riemann Integral
3.2 Step Functions as Integrators
3.3 Reduction of a Riemann-Stieltjes Integral to a Finite Sum
3.4 Monotonically Increasing Integrators - Upper and Lower Integrals
3.5 Additive and Linearity Properties of Upper and Lower Integrals
3.6 Riemann's Condition
3.7 Comparison Theorems
3.8 Integrators of Bounded Variation
3.9 Necessary and Sufficient Condition for Existence of Riemann-Stieltjes Integrals
3.10 Mean Value Theorems for Riemann-Stieltjes Integrals
3.11 The Integral as a Function of the Interval
3.12 Change of Variable in a Riemann Integral
3.13 Riemann-Stieltjes Integrals depending on a Parameter
3.14 Differentiation under the Integral Sign
3.15 Interchanging the order of Integration

Unit 4 (14 Hours)
Multivariable Differential Calculus
4.1 The directional derivative
4.2 Directional derivative and continuity
4.3 Total Derivative - Total Derivative expressed in terms of Partial Derivatives
4.4 Jacobian matrix
4.5 Chain rule – Matrix Form
4.6 Mean Value Theorem
4.7 Sufficient Condition for Differentiability
4.8 Equality of Mixed Partial Derivatives
4.9 Taylor's formula for functions from $\Re^n$ to $\Re^1$

Unit 5 (14 Hours)
Implicit Functions and Extremum Problems
5.1 Functions with non-zero Jacobian determinant
5.2 The inverse function theorem
5.3 Implicit function theorem
5.4 Extrema of real valued functions of one variable
5.5 Extrema of real valued functions of several variables

BOOK FOR STUDY

Apostol, Tom M. *Mathematical Analysis*. 2nd Edition, New Delhi: Addison – Wesley / Narosa Indian Student Edition, 1981 20th Reprint, 2003.

Chapter 3	Sections	3.1 – 3.3; 3.5 – 3.12
Chapter 6	Sections	6.1 – 6.8
Chapter 7	Sections	7.1 – 7.9, 7.11 – 7.19, 7.21, 7.23 – 7.25
Chapter 12	Sections	12.1 - 12.5, 12.7 - 12.14
Chapter 13	Sections	13.1 - 13.6

BOOKS FOR REFERENCE

Charles G Denlinger, Sorensen Harry A, *Elements of Real Analysis*, New Delhi: Jones & Bartlett Learning, 2011.

Malik S C., *Principles of Real Analysis*. Third edition. New Delhi: New Age international Publishers, 2011.

Nader Vakil, *Real Analysis through Modern Infinitesimals*. New York: Cambridge University Press, 2011.

Terrance J Quinn, *Pathways to Real analysis*. New Delhi: Narosa Publishing House, 2009.

WEB RESOURCES

http://www.maa.org/sites/default/files/images/upload_library/47/StemkoskiStorm/TaylorApprox.html
http://www.maa.org/sites/default/files/images/upload_library/47/StemkoskiStorm/MVT.html

PATTERN OF ASSESSMENT
Theory: 80%; Problem: 20%.

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
    Section A: $2 \times 2 = 4$ (Two questions to be set)
    Section B: $2 \times 6 = 12$ (Three questions to be set)
    Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components: **Total Marks: 50**
    Seminars
    Quiz
    Assignments
    Theorem Writing Technique
    Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
    Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
    Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
    Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

GRAPH THEORY

CODE: 19MT/PC/GT14   **CREDITS: 4**
                                                                          L T P: 4 1 0
                                                       TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
 ➢ To give a broader view of concepts in basic graph theory
 ➢ To emphasize on application aspect of graph theory
 ➢ To introduce interconnection networks and to study some networks and its topological properties

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

 ➢ understand advances in graph theory
 ➢ have acquired fundamental knowledge of finding shortest paths in networks using algorithms
 ➢ have learnt a clear perspective of solving real life problems using advanced graph theory
 ➢ understand the concept of networking and select an appropriate and adequate topological structure of interconnection networks while applying it in network communication problems

Unit   1   **(13 Hours)**
         Graphs and Subgraphs
         1.1 Classification and properties of Graphs
         1.2 Shortest Path Problem
         1.3 Dijkstras Algorithm
         1.4 Trees
         1.5 Cut Edges and Bonds
         1.6 Cut Vertices
         1.7 Directed graphs

Unit   2   **(13 Hours)**
         Connectivity
         2.1 Connectivity
         Matchings
         2.2 Matchings
         2.3 Matchings and Coverings in Bipartite Graphs
         Independent sets
         2.4 Independent Sets

Unit 3   **(14 Hours)**

Vertex Colourings

3.1 Chromatic Number

3.2 Brooks' Theorem

3.3 Chromatic Polynomials

Edge Colorings

3.4 Edge Chromatic Number

3.5 Vizing's Theorem

3.6 The Timetabling Problem

Unit 4   **(15 Hours)**

Planar Graphs

4.1 Plane and Planar Graphs

4.2 Euler's Formula

4.3 Kuratowski's Theorem

4.4 Five-Colour Theorem

Domination Number

4.5 Dominating Sets

4.6 Minimal Domination Number

4.7 Independent Dominating Sets

Unit 5   **(10 Hours)**

Interconnection Networks and Graphs

5.1 Graphs and Interconnection Networks- Interconnection Networks, Adjacency Matrices and other Concepts, Trees and k-ary Trees, Embedding of Graphs, Diameter of Graphs

5.2 Basic Principles of Network Design

5.3 Cayley Method, Vertex-Transitive Graphs

Well-known Topological Structures of Interconnection Networks

5.4 Hypercube Networks

5.5 De Bruijn Networks

5.6 Kautz Networks

5.7 Circulant Networks

BOOKS FOR STUDY

Bondy J.A., Murty U.S.R. *Graph Theory with Application*. London: The Macmillan Press Ltd., 1982.

Chapter 1	Sections 1.1 - 1.8
Chapter 2	Sections 2.1 - 2.3
Chapter 3	Sections 3.1
Chapter 5	Sections 5.1, 5.2
Chapter 6	Sections 6.1 – 6.3
Chapter 7	Section 7.1
Chapter 8	Sections 8.1, 8.2, 8.4
Chapter 9	Sections 9.1, 9.3, 9.5 (Theorem 9.10 statement only), 9.6 (Omit Theorem 9.12)
Chapter 10	Sections 10.1

M. Murugan. *Topics in Graph Theory & Algorithms.* Chennai: Muthali Publishing House, 2003.

       Chapter 11   Sections 11.1 – 11.3

Xu Junming. *Topological Structure and Analysis of Interconnection Networks*. U.S.A.: Kluwer Academic Publishers, 2001.

       Chapter 1   Sections 1.1, 1.1.1, 1.1.2, 1.2.4, 1.3.1, 1.3.2, 1.4.1 (definitions only), 1.6, 1.6.1 & 1.6.2
       Chapter 2   Sections 2.2, 2.2.1 (Theorem 2.2.2 – statement only)
       Chapter 3   Sections 3.1, 3.1.1 & 3.1.2, 3.2, 3.2.1, 3.2.6, 3.3, 3.3.1, 3.4.5 (Theorem 3.4.12 - statement only); (Omit Theorems 3.2.1, 3.4.13)

BOOKS FOR REFERENCE

    Aldous Joan M. and Robin J. Wilson. *Graphs and Applications: An Introductory Approach*. New York: Springer International Edition, 2007.

    Arumugam S. and Ramachandran S. *Invitation to Graph Theory*. Chennai: Scitech Publications India Pvt. Ltd., Reprint 2013.

    Balakrishnan R, Sethuraman G and Wilson R.J. *Graph Theory and it's Applications*. New Delhi: Narosa Publishing House, 2004.

    Diestel Reinhard. *Graph Theory*. New York: Springer, 2006.

    Geir Agarnarsson, Raymond Greenlaw. *Graph Theory: Modeling, Applications and Algorithms.* New Delhi: Pearson Education, 2012.

    Parthasarathy K.R. *Basic Graph Theory*. New Delhi: Tata McGraw-Hill Publishing Company Limited, 1994.

WEB RESOURCES
http://world.mathigon.org/GraphTheory
http://press.princeton.edu/titles/10314.html
http://www.open-graphtheory.org
http://www.math.nsysu.edu.tw/~zhu/papers.html
http://www.worldscientific.com/worldscinet/join

PATTERN OF ASSESSMENT
Theory: 70%; Problems: 30%
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
      Section A: $2\times2 = 4$ (Two questions to be set)
      Section B: $2\times6 = 12$ (Three questions to be set)
      Section C: $2\times17= 34$ (Three questions to be set)
Other Components: **Total Marks: 50**
      Seminars/Quiz/Open Book Tests/Group Discussion/Assignments/Project/
      Theorem Writing Technique/Problem Solving
End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
    Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
    Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
    Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS
SYLLABUS
(Effective from the academic year 2019 – 2020)

ORDINARY DIFFERENTIAL EQUATIONS
CODE: 19MT/PC/OD14   CREDITS: 4
                                                                          L T P: 4 1 0
                                                          TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
  ➢ To inculcate the concept of the existence, uniqueness and continuous dependence of
    the solution of initial and boundary value problems
  ➢ To introduce mathematical techniques for solving higher order ordinary differential
    equations using special functions

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

  ➢ have in-depth knowledge of mathematical techniques for solving higher order
    ordinary differential equations
  ➢ understand the conditions for the existence and uniqueness of solutions for Initial and
    Boundary value problems
  ➢ demonstrate the ability to integrate knowledge and ideas of differential equations by
    analyzing their solution to explain the underlying physical processes.

Unit   1   **(12 Hours)**
      Higher Order Linear Differential Equations
      1.1 Higher Order Equations
      1.2 A Mathematical Model
      1.3 Linear Dependence and Wronskian
      1.4 Basic Theory for Linear Equations

Unit   2   **(13 Hours)**
      System of Linear Differential Equations
      2.1 Existence and Uniqueness Theorem
      2.2 Fundamental Matrix
      2.3 Non – Homogeneous Linear Systems
      2.4 Linear Systems with Constant Coefficients
      2.5 Linear Systems with Periodic Coefficients

Unit   3   **(13 Hours)**
      Solutions in Power Series
      3.1 Second – Order Linear Equations with Ordinary Points
      3.2 Legendre Equation and Legendre Polynomials
      3.3 Second – Order Equations with Regular Singular Points
      3.4 Bessel's Functions

Unit 4   **(14 Hours)**

Existence and Uniqueness of Solutions
4.1 Picard's Successive Approximations
4.2 Picard's Theorem – Some Examples
4.3 Continuation and Dependence on Initial Conditions
4.4 Existence of Solutions in the Large
4.5 Existence and Uniqueness for Systems

Unit 5   **(13 Hours)**

Boundary – Value Problems
5.1 Sturm – Liouville Problem
5.2 Green's Functions
5.3 Application of BVPs

BOOKS FOR STUDY

Deo, S. G., Ragavendra V., Rasmita Kar and Lakshmikantham V. Textbook of *Ordinary Differential Equations.* New Delhi: McGraw Hill Education (India) Private Limited, 2015.

                        Chapter 2   Sections 2.1 – 2.8
                        Chapter 4   Sections 4.1 – 4.5
                        Chapter 5   Sections 5.4 – 5.8
                        Chapter 6   Sections 6.1 – 6.5
                        Chapter 8   Sections 8.1 – 8.4

BOOKS FOR REFERENCE

Ahmed Shair and Rao Rama Mohana M, *Theory of Ordinary Differential Equations with Applications in Biology and Engineering*. New Delhi: Affiliated East – West Press Pvt. Ltd.,1999.

Coddington, Earl A., *An Introduction to Ordinary Differential Equations*. New Delhi: Prentice – Hall of India Pvt. Ltd., 1998.

Raisinghania M.D., *Advanced Differential Equations*. 18th Edition, New Delhi: S.Chand & C0. Ltd., 2015.

Simmons George F., and Robertson John S. *Differential Equations with Applications and Historical notes.* New Delhi: Tata McGraw – Hill Publishing Company Ltd., 1991.

WEB RESOURCES
www.physics.nus.edu.sg/~phylimhs/SeriesODE7.pdf
https://www.ias.ac.in/article/fulltext/reso/022/05/0491-0507
https://nptel.ac.in/courses/111104031/2

PATTERN OF ASSESSMENT

Theory: 50%   **Problems: 50%**
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
        Section A: $2\times2 = 4$ (Two questions to be set)

Section B: 2×6 = 12 (Three questions to be set)
Section C: 2×17= 34 (Three questions to be set)

Other Components: **Total Marks: 50**
     Seminars
     Quiz
     Open Book Test
     Assignments
     Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
    Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
    Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
    Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

\STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE : BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

LINEAR ALGEBRA

CODE : 19MT/PC/LA24 **CREDITS: 4**
L T P: 4 1 0
TOTAL TEACHING HOUR: 65

OBJECTIVES OF THE COURSE
➢ To introduce the canonical forms for linear transformations on vector spaces
➢ To introduce the forms on inner product spaces

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ understand, interpret and apply the concepts of canonical transformations
➢ compute with the characteristic polynomial, eigenvectors, eigenvalues and eigenspaces, as well as the geometric and the algebraic multiplicities of an eigenvalue and apply the basic diagonalization result
➢ identify self-adjoint transformations and study the orthogonal decomposition of inner product spaces

Unit 1 (13 Hours)
Linear Transformations
1.1 Canonical Forms: Triangular Forms
1.2 Canonical Forms: Nilpotent Transformations

Unit 2 (13 Hours)
Linear Transformations (contd.)
2.1 Canonical Forms: A Decomposition of *V*: Jordan Form
2.2 Canonical Forms: Rational Canonical Form

Unit 3 (15 Hours)
Elementary Canonical Forms
3.1 Characteristic Values
3.2 Annihilating Polynomials
3.3 Invariant Subspaces
3.4 Simultaneous Triangulation; Simultaneous Diagonalization

Unit 4 (13 Hours)
Inner Product Spaces
4.1 Linear Functionals and Adjoints
4.2 Unitary Operators
4.3 Normal Operators

Unit   5   **(11 Hours)**
Operators on Inner Product Spaces
5.1 Forms on Inner Product Spaces
5.2 Positive Forms
5.3 More on Forms

BOOKS FOR STUDY

Herstein I. N. *Topics in Algebra.* 2nd Edition, New Delhi: Wiley, 2007 Reprint 2017.

Chapter 6   Sections   6.4 – 6.7

Hoffman, Kenneth and Ray Kunze. *Linear Algebra.* 2nd Edition, New Delhi: Prentice-Hall of India, Private Ltd., 1971, Reprint 1997

Chapter 6   Sections   6.2 - 6.5
Chapter 8   Sections   8.3 - 8.5
Chapter 9   Sections   9.1 - 9.4

BOOKS FOR REFERENCE

Artin Michel. *Algebra.* New Delhi: Prentice Hall of India Private Ltd., 2007. Reprint 2017.

Chenay Ward, David Kincaid. *Linear Algebra – Theory and Applications.* 2nd Edition: Jones & Bartlett Student Edition, 2014.

Lang Serge. *Algebra.* 3rd Revised Edition New Delhi: Springer International Edition, 2004.

Strang Gilbert. *Linear Algebra and its Applications.* 4th Edition. New Delhi: Cengage Learning India Pvt. Ltd., 2006.

Thomas S. Shores. *Applied Linear Algebra and Matrix Analysis.* New York: Springer Science + Business Media, 2007.

WEB RESOURCES

http://abacus.bates.edu/acad/depts/math/linearalgebra/
https://homepages.warwick.ac.uk/staff/D.Maclagan/Classes/551/Jordan.pdf

PATTERN OF ASSESSMENT
Theory: 80%   Problems: 20%

Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
Section A: 2×2 = 4 (Two questions to be set)
Section B: 2×6 = 12 (Three questions to be set)
Section C: 2×17= 34 (Three questions to be set)

Other Components: **Total Marks: 50**

    Seminars/Quiz/Open book tests/Assignments/Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

    Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)

    Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)

    Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS

(Effective from the academic year 2019 – 2020)

MEASURE THEORY AND INTEGRATION

CODE: 19MT/PC/MI24   **CREDIT: 4**
                                                             L T P: 4 1 0
                                            TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

 ➢ To introduce the concept of non-negative measures on the real line
 ➢ To introduce the concept of abstract measures and abstract measurable functions
 ➢ To develop the theory of integration via: measure, the knowledge of which is essential for working in most branches of modern Analysis
 ➢ To introduce the concept of signed measures and decomposition theorems
 ➢ To introduce the concept of product of measures

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

 ➢ understand the concept of non-negative measures on the real line
 ➢ understand the concept of abstract measures and abstract measurable functions
 ➢ understand the theory of integration via: measure, and its application
 ➢ understand the concept of signed measures and related properties
 ➢ understand the concept of product of measures

Unit   1   **(12 Hours)**
         Measure on the Real Line
         1.1 Lebesgue Outer Measure
         1.2 Measurable Sets
         1.3 Regularity
         1.4 Measures and Outer Measures

Unit   2   **(12 Hours)**
         Abstract Measure Spaces
         2.1 Measurable Functions
         2.2 Borel and Lebesgue Measurability
         2.3 Completion of a Measure
         2.4 Measure Spaces

Unit   3   **(15 Hours)**
         Integration of Functions
         3.1 Integration of Non-negative Functions
         3.2 The General Integral
         3.3 Riemann and Lebesgue Integrals

3.4 Integration with respect to a Measure

Unit 4   **(13 Hours)**

Signed measures and their Derivatives

4.1 Signed Measures

4.2 Hahn, Jordan Decompositions

4.3 The Radon- Nikodym theorem

4.4 Some Applications of the Radon-Nikodym Theorem

Unit 5   **(13 Hours)**

Measure in Product Space

5.1 Measurability in a product space

5.2 The Product Measure and Fubini's Theorem

5.3 Lebesgue Measure in Euclidean Space

BOOK FOR STUDY

G. De Barra. *Measure Theory and Integration.* New Delhi: New Age International Pvt. Limited, 2nd Edition 2013, Reprint 2017

Chapter 2	Sections	2.1 – 2.5
Chapter 3	Section	3.1, 3.2, 3.4
Chapter 5	Section	5.1, 5.4 – 5.6
Chapter 8	Sections	8.1 - 8.4
Chapter 10	Section	10.1 – 10.3 (omit Theorem 11)

BOOKS FOR REFERENCE

Ganapathy Iyer, V. *Mathematical Analysis*. New Delhi : Tata McGraw Hill Publishing Company Ltd., 1977.

Munroe, M.E. *Introduction to Measure and Integration*. (Second Printing), USA : Addison Wesley, Publishing Company, Inc., 1959.

Rana, I.k. *An introduction to Measure and Integration*. New Delhi : Narosa Publishing House, 1997., 3rd Reprint 2000.

Royden, H.L. *Real Analysis*. 3rd ed. 9th Indian Reprint. New Delhi: Prentice- Hall of India Private Limited, 2003.

WEB RESOURCES

http://www.maa.org/sites/default/files/images/upload_library/47/StemkoskiStorm/RiemannSums.html

PATTERN OF ASSESSMENT

Theory : 80%; Problem : 20%.

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A: $2\times2 = 4$ (Two questions to be set)

Section B: $2\times6 = 12$ (Three questions to be set)

Section C: $2\times17= 34$ (Three questions to be set)

Other Components: **Total Marks: 50**

    Seminars/Quiz/Open Book Tests/Assignments/Theorem Writing Technique
    Problem Solving

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

    Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
    Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
    Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

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M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

TOPOLOGY

CODE: 19MT/PC/TO24   **CREDITS: 4**
                                                                L T P: 4 1 0
                                              TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE

➤ To introduce the structural study of topology
➤ To introduce the concepts of compactness, connectedness, countability and separation axioms in a topological space

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

➤ demonstrate an understanding of the concepts of metric spaces and topological spaces and their role in mathematics
➤ demonstrate familiarity with a range of examples of these structures
➤ prove basic results about completeness, compactness and connectedness within these structures
➤ demonstrate skills in communicating mathematics orally and in writing

Unit   1   **(13 Hours)**
    Topological Spaces
    1.1 Topological Spaces
    1.2 Basis for a Topology
    1.3 The Product Topology on $X \times Y$
    1.4 The Subspace Topology
    1.5 Closed Sets and Limit Points

Unit   2   **(12 Hours)**
    Connectedness
    2.1 Connected Spaces
    2.2 Connected Subspaces of the Real Line
    2.3 Components and Local Connectedness

Unit   3   **(12 Hours)**
    Compactness
    3.1 Compact Spaces
    3.2 Compact Subspaces of the Real Line
    3.3 Limit Point Compactness

Unit 4   **(15 Hours)**

Countability and Separation Axioms

4.1 The Countability Axioms

4.2 The Separation Axioms

4.3 Normal Spaces

4.4 The Urysohn Lemma

4.5 The Urysohn Metrization Theorem

4.6 The Tietz Extension Theorem

Unit 5   **(13 Hours)**

Continuous Functions

5.1 Continuous Functions

5.2 The Product Topology

5.3 The Tychonoff Theorem

BOOK FOR STUDY

James R. Munkres. *Topology.* New Delhi : Pearson New International Edition, Pearson India Education Services Pvt. Ltd., 2nd ed. 2015, 3rd Reprint 2018

        Chapter 2   Sections 12, 13, 15 – 19

        Chapter 3   Sections 23 – 28

        Chapter 4   Sections 30 – 35

        Chapter 5   Section 37

BOOKS FOR REFERENCE

Croom Fred H. *Principles of Topology.* New Delhi: 1st Indian Reprint 2008.

Kumaresan S. *Topology of Metric Spaces.* Ed. 2 New Delhi: Narosa Publishing House, 2011, 9th Reprint 2017

Simmons, G.F. *Introduction to Topology and Modern Analysis*. New-York : McGraw Hill Book Co. Inc., 2004 18th Reprint 2012.

Viro O Ya , et. al. *Elementary Topology.* American Mathematical Society, 2008.

Wayne C Patty. *Foundations of Topology,* Ed. 2, New Delhi: Jones & Bartlett Learning, New Delhi, 2010, Reprint 2012.

WEB RESOURCES

http://math.nie.edu.sg/wkho/Talks_files/topappl.pdf

http://www.msc.uky.edu/droyster/courses/fall99/math4181/classnotes/notes5.pdf

PATTERN OF ASSESSMENT

Theory: 80%; Problem: 20%

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**
 Section A: $2\times2 = 4$ (Two questions to be set)
 Section B: $2\times6 = 12$ (Three questions to be set)
 Section C: $2\times17= 34$ (Three questions to be set)

Other Components: **Total Marks: 50**
 Seminars
 Assignments
 Theorem Writing Technique
 Problem Solving

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**
 Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
 Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
 Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

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M.Sc. DEGREE: BRANCH I - MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19MT/PK/SS22   **CREDITS: 2**
                                                                    L T P: 2 0 0
                                                        TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development.
- To instill confidence in students to face challenges.
- To manage emotions and resolve conflicts.
- Top organize activities and manage time.
- To set goals and plan ahead.

COURSE LEARNING OUTCOMES

- Communicate with confidence and poise.
- Accept themselves and improve on their weaknesses.
- Strengthen their relationships through confronting and solving problems.
- Work more effectively and complete activities on time.
- Plan their future with clarity and focus.

Unit   1
  Behavioural Traits   **(6 Hours)**
  1.1   Self Awareness
  1.2   Communication Skills –Verbal and Non Verbal
  1.3   Leadership Qualities
  1.4   Etiquette and Good Manners
  1.5   Experiential Learning –Based on activities

Unit   2
  Team Work   **(5 Hours)**
  2.1.   Interpersonal Skills
  2.2.   People Management
  2.3.   Creative Thinking
  2.4.   Critical Thinking
  2.5.   Experiential Learning – Based on activities

Unit   3
  Time Management   **(5 Hours)**
  3.1.   Importance of time management

3.2.	Planning and Prioritizing
3.3.	Organizing skills
3.4.	Action Plan
3.5.	Experiential Learning – Based on activities

Unit 4

Conflict Resolution   **(5 Hours)**

4.1.	Reasons for conflict
4.2.	Consequences of conflict
4.3.	Managing emotions
4.4.	Methods of resolving conflicts
4.5.	Experiential Learning – Based on activities

Unit 5

Career Mapping   **(5 Hours)**

5.1.	Goal Setting and Decision Making
5.2.	Career Planning
5.3.	Resume Writing
5.4.	Handling Interviews
5.5.	Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment:
Quiz / Group Presentation /Assignment

No End Semester Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS
SYLLABUS
(Effective from the academic year 2019 – 2020)

PARTIAL DIFFERENTIAL EQUATIONS

CODE: 19MT/PC/PD34   CREDITS: 4
                                                        L T P: 4 1 0
                                        TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
- ➢ To introduce mathematical techniques for solving first order partial differential equations
- ➢ To inculcate the concept of the classification of second order partial differential equations
- ➢ To impart the knowledge of occurrence and finding solutions of second order partial differential equations

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- ➢ have in-depth knowledge of mathematical techniques for first and second order partial differential equations
- ➢ identify geometrical representation of integral surfaces of first order PDE
- ➢ demonstrate the classification and canonical forms of second order PDE
- ➢ analyze the behavior of dynamical problems of practical interest using partial differential equations

Unit 1   **(14 Hours)**
  Partial Differential Equations of the First Order
  1.1 Cauchy's Problem for First-order Equations
  1.2 Linear Equations of the First Order
  1.3 Integral Surfaces Passing through a Given Curve
  1.4 Surfaces Orthogonal to a given System of Surfaces
  1.5 Nonlinear Partial Differential Equations of the First Order
  1.6 Cauchy's Method of Characteristics

Unit 2   **(13 Hours)**
Partial Differential Equations of the First Order(Contd.)
2.1 Compatible Systems of First-order Equations
2.2 Charpit's Method
2.3 Solutions Satisfying Given Conditions
2.4 Jacobi's Method
Partial Differential Equations of the Second Order
2.5 Classification of Second Order PDE
2.6 Canonical Forms

Unit 3   **(13 Hours)**

Elliptic Differential Equations

3.1 Occurrence of the Laplace and Poisson Equations
3.2 Derivation of Laplace and Poisson Equations
3.3 Separation of Variables
3.4 Dirichlet Problem for a Rectangle
3.5 The Neumann Problem for a Rectangle
3.6 Interior Dirichlet Problem for a Circle
3.7 Exterior Dirichlet Problem for a Circle
3.8 Interior Neumann Problem for a Circle

Unit 4   **(12 Hours)**

Parabolic Differential Equations

4.1 Occurrence of the Diffusion Equation
4.2 Boundary Conditions
4.3 Elementary Solutions of the Diffusion Equation
4.4 Dirac Delta Function
4.5 Separation of Variables

Unit 5   **(13 Hours)**

Hyperbolic Differential Equations

5.1 Occurrence of the Wave Equation
5.2 Derivation of One-dimensional Wave Equation
5.3 Solution of One-dimensional Wave Equation by Canonical Reduction
5.4 The Initial Value Problem; D'Alemberts Solution
5.5 Vibrating String – Variables Separable Solution
5.6 Forced Vibrations – Solution of nonhomogeneous Equation

BOOKS FOR STUDY

Sneddon, Ian N. *Elements of Partial Differential Equations*. New York: McGraw-Hill Book Company, Inc., 1957.
        Chapter 2 Sections 3 –10, 12, 13
K. Sankara Rao. *Introduction to Partial Differential Equations.* New Delhi: Prentice-Hall of India Pvt. Ltd., 2003.
        Chapter 1 Sections 1.1 – 1.3
        Chapter 2 Sections 2.1, 2.5 – 2.10
        Chapter 3 Sections 3.1 – 3.5
        Chapter 4 Sections 4.1 – 4.6

BOOKS FOR REFERENCE

Donald Greenspan, *Introduction to Partial Differential Equations*, New Delhi: Tata McGraw – Hill Publishing Co. Ltd., 1961

Pinchover Y and Rubinstein J. *An Introduction to Partial Differential Equations*. New York: Cambridge University Press, 2005

Raisinghania M.D. *Advanced Differential Equations*. 18th Edition, New Delhi: S.Chand & Co. Ltd., 2015.

Sharma J.N and Singh Kehar, *Partial Differential Equations for Engineers and Scientist.* New Delhi: Narosa Publishing House, 2000

Tyn Myint-U and Lokenath Debnath. Linear Partial Differential Equations for Scientists and Engineers, Boston: Birkhauser, 2007

WEB RESOURCES
http://tutorial.math.lamar.edu/Classes/DE/SeparationofVariables.aspx
https://nptel.ac.in/courses/111107063/
http://faculty.uml.edu/spennell/Teaching/PDE/classification.pdf
https://www.math.psu.edu/tseng/class/Math251/Notes-PDE%20pt1.pdf

PATTERN OF ASSESSMENT
Theory: 50%   Problems: 50%

Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
    Section A: $2 \times 2 = 4$ (Two questions to be set)
    Section B: $2 \times 6 = 12$ (Three questions to be set)
    Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components: Total Marks: 50
    Seminars
    Quiz
    Open Book Test
    Assignments
    Problem Solving

End-Semester Examination: Total Marks: 100   Duration: 3 hours
    Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
    Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
    Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS

(Effective from the academic year 2019 – 2020)

FUNCTIONAL ANALYSIS

CODE:19MT/PC/FA34   **CREDIT: 4**
                                                        L T P: 4 1 0
                                        TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
  ➢ To highlight the interplay between algebraic structures and distance structures
  ➢ To introduce Operator theory and its application to finite dimensional
     Spectral Theory

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
  ➢ understand an abstract approach to analysis
  ➢ understand the interplay between algebraic structures and distance structures
  ➢ understand Operator Theory and its application to finite dimensional Spectral Theory

Unit   1   **(15 Hours)**
       Fundamentals of Normed Spaces
       1.1 Normed Spaces
       1.2 Continuity of Linear Maps
       1.3 Hahn-Banach Theorems
       1.4 Banach Spaces

Unit   2   **(15 Hours)**
       Bounded Linear Maps on Banach Spaces
       2.1 Uniform Boundedness Principle
       2.2 Closed Graph and Open Mapping Theorems
       2.3 Bounded Inverse Theorem
       2.4 Spectrum of a Bounded Operator

Unit   3   **(10 Hours)**
       Spaces of Bounded Linear Functionals
       3.1 Duals and Transposes
       3.2 Weak and Weak * Convergence
       3.3 Reflexivity

Unit 4   **(15 Hours)**

Geometry of Hilbert Spaces

4.1 Inner Product Spaces

4.2 Orthonormal Sets

4.3 Projection and Riesz Representation Theorems

Unit 5   **(10 Hours)**

Bounded Operators on Hilbert Spaces

5.1 Bounded Operators and Adjoints

5.2 Normal, Unitary and Self- Adjoint Operators

BOOK FOR STUDY

Balmohan V. Limaye. *Functional Analysis*. New Delhi: New Age International(P) limited, 1996, Third Edition 2014.Reprint:2016

Chapter II :	Sec. 5 – 8	(omit Pages 117 -124)
Chapter III :	Sec. 9 – 12	(omit Pages 144 – 161; 203 – 215)
Chapter IV :	Sec. 13 – 16	(omit Pages 226 – 260; 272 – 280; 284 - 301)
Chapter VI :	Sec. 21, 22, 24	(omit Pages 392-399; 431-436)
Chapter VII:	Sec. 25 – 26	(omit Pages 450-459 ;474 – 479)

BOOKS FOR REFERENCE

Chandrasekhara K Rao, Ander Paul, *Functional Analysis*. New Delhi: Narosa Publishing House, 2nd Edition 2006

Coffman Casper and George Pedrick, *First Course in Functional Analysis*. New Delhi Prentice Hall of India Private Limited, 1974

Kesavan S., *Functional Analysis*. New Delhi: Hindustan Book Agency, 2009.

Nair Thamban and Abrams Charles, *Functional analysis – A first course*. New Delhi: Prentice-hall, 2002.

Siddiqi, A.H. and Manchanda P., *Introduction to Functional Analysis with Application*. New Delhi: Anamaya, 2006.

WEB RESOURCES

http://www.mth.kcl.ac.uk/staff/eb_davies/printmaster.pdf

http://math.univ-lyon1.fr/~attal/Op_and_Spect.pdf

PATTERN OF ASSESSMENT

Theory: 80%; Problems: 20%

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A: 2×2 = 4 (Two questions to be set)
Section B: 2×6 = 12 (Three questions to be set)
Section C: 2×17= 34 (Three questions to be set)

Other Components: **Total Marks: 50**

Seminars
Quiz
Assignments
Theorem Writing Technique
Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

PROBABILITY AND STOCHASTIC PROCESSES

CODE:19MT/PC/PS34   **CREDITS: 4**
                                              L T P: 4 1 0
                                   TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
  ➢ To introduce essential concepts of probability, moment generating and characteristic functions
  ➢ To impart extended knowledge of Poisson processes, Markov Chains and Martingales

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

  ➢ identify and characterize the classes of states in Markov chains
  ➢ derive differential equations for time continuous Markov processes with a discrete state space.
  ➢ use martingales and related tools to study the behavior of stochastic processes.

Unit   1   **(12 Hours)**
      Probability
      1.1 Borel – Cantelli Lemma
      1.2 Random Variables
      1.3 Expected Value
      1.4 Moment Generating Functions
      1.5 Characteristic Functions and Laplace Transforms
      1.6 Conditional Expectations

Unit   2   **(14 Hours)**
      Stochastic Processes
      2.1 Examples of Stochastic Processes
      2.2 The Poisson Process
      2.3 Inter arrival and Waiting Time Distributions
      2.4 Conditional Distribution of the Arrival Times
      2.5 The M/G/1 Busy Period

Unit   3   **(13 Hours)**
      Markov Chains
      3.1 Chapman – Kolmogorov Equations and Classification of States
      3.2 Limit Theorems
      3.3 Transitions Among Classes, the Gambler's Ruin Problem, and Mean Times in Transient States
      3.4 Branching Process

3.5 Applications of Markov Chains
    3.5.1 A Markov Chain Model of Algorithmic Efficiency
    3.5.2 An Application to Runs – A Markov Chain with a Continuous State Space
    3.5.3 List Ordering Rules – Optimality of the Transposition Rule

Unit 4   **(13 Hours)**
Continuous – Time Markov Chain
4.1 Continuous – Time Markov Chain
4.2 Birth and Death Processes
4.3 The Kolmogorov Differential Equations
4.4 Limiting Probabilities

Unit 5   **(13 Hours)**
Martingales
5.1 Stopping Times
5.2 Azuma's Inequality for Martingales
5.3 Submartingales, Supermartingales and the Martingale Convergence Theorem

BOOK FOR STUDY

Sheldon M. Ross. Stochastic *Processes.* Second Edition, Singapore: John Wiley & Sons Pvt. Ltd., 2004.

Chapter 1	Sections 1.1 – 1.5
Chapter 2	Sections 2.1 – 2.3
Chapter 4	Sections 4.1 – 4.6
Chapter 5	Sections 5.1 – 5.5
Chapter 6	Sections 6.1 – 6.4

BOOKS FOR REFERENCE

Medhi J. *Stochastic Processes*. New Delhi: New Age International (P) Ltd., Publishers, 2006.

Mehata K.M. *Stochastic Processes.* New Delhi : Tata McGraw-Hill, 1976.

Parikh Jitendra C. *Stochastic Processes and Financial Markets.* New Delhi: Narosa Publishing House Private Limited, 2003.

WEB RESOURCES

https://web.ma.utexas.edu/users/gordanz/notes/introduction_to_stochastic_processes.pdf
https://www.coursera.org/learn/stochasticprocesses
https://nptel.ac.in/courses/111102014/

PATTERN OF ASSESSMENT

Theory: 60%; Problems: 40%

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
    Section A: $2\times2 = 4$ (Two questions to be set)
    Section B: $2\times6 = 12$ (Three questions to be set)
    Section C: $2\times17= 34$ (Three questions to be set)

Other Components: **Total Marks: 50**

    Seminars/Quiz/Assignments/Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

    Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)

    Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)

    Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

RESEARCH METHODS AND TOOLS

CODE:19MT/PC/RT34   **CREDITS: 4**
                                                    L T P: 2 1 4
                            TOTAL TEACHING HOURS: 91

OBJECTIVES OF THE COURSE
  ➢ To inculcate research curiosity
  ➢ To acquaint with research methodology
  ➢ To provide the necessary tools for research and presentation of the project

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

  ➢ understand various types of research and the procedure involved in research design
  ➢ write mathematical documents via LaTeX, create tables, draw graphs, include figures, labels and references to prepare an article
  ➢ plot curves and surfaces in various formats both in LaTeX and Matlab
  ➢ use the beamer package to create presentations
  ➢ write program scripts and functions in Matlab for interactive computations and demonstrations

Unit   1   **(15 Hours)**
Research Methodology
1.1 Introduction – Motivation
1.2 Formulating a Research Problem
1.3 Data Collection – Analyzing and Processing
1.4 Report Writing – Content – Format – Text Layout – Style – Packaging and Presentation, Characteristics of Good Reporting, Suggestions and Recommendations

Unit   2   **(18 Hours)**
Creating a Document Using LaTeX
2.1 Simple Typesetting – Font – Document – Document Class – Page Style – Page Numbering – Parts of a Document – Dividing the Document
2.2 Displayed Text and Tables
2.3 Typesetting Mathematics and Typesetting Theorems
2.4 Floats – the Figure Environment – Creating Floating Figures – Figure Placement – Customizing Float Placement
2.5 Bibliography, Foot notes and Cross References in Math

Unit 3   **(20 Hours)**

Drawing, Plotting and Presentation in LaTeX

3.1 Drawing: *tikzpicture* Environment - Grids – Paths - Coordinate Labels - Colour - Drawing the Path - Line Width - Dash Patterns - Arrows - Filling a Path - Nodes and Node Labels - Node Options - Connecting Nodes - Coordinate Systems - Coordinate Calculations - The \foreach Command

3.2 Plotting: pgfplots environment

    3.2.1 Two Dimensional Plot Types: Linear Plots - Smooth Plots - Bar Plots - Histograms - Stacked Plots - Area Plots - Closing Plots (Filling the Area Under Plots)

    3.2.2 Three Dimensional Plot Types: Line Plots - Scatter Plots - Mesh Plots - Surface Plots - Contour Plots - Parameterized Plots

3.3 Beamer Presentations: Frames - Incremental Presentations - Visual Alerts - Adding Some Style

Unit 4   **(18 Hours)**

Mathematical Software: MATLAB

4.1 Introduction to MATLAB

4.2 Constants, Variables and Expressions

4.3 Vectors and Matrices: Matrix and Array Operations, Matrix Manipulation, Functions with Array Inputs

4.4 Polynomials – Polynomial Evaluation, Roots of a Polynomial, Characteristic Equation of a Matrix, Polynomial Differentiation & Integration, Polynomial Curve Fitting

Unit 5   **(20 Hours)**

Mathematical Software: MATLAB (contd.)

5.1 Input – Output Statements: Interactive Inputs – input, menu, pause, Output Commands – format, disp commands

5.2 Two Dimensional Plots – plot, polar, area, bar, barh, hist, pie functions

5.3 Three Dimensional Plots – plot3, bar3, bar3h, pie3, meshgrid, mesh, surf, contour functions

5.4 Writing Programs and Functions

BOOKS FOR STUDY AND REFERENCE

Kirani Y Singh, B.B. Chaudhuri. MATLAB programming. New Delhi: Prentice-Hall Of India, 2007.

Kothari C R. *Research Methodology.* New Delhi: New Age International Publishers Ltd, 2004.

Leslie Lamport. *LaTeX : A Documentation Preparation System User's Guide and Reference Manual*. USA: Addison Wesley Profession, 1994.

Raj Kumar Bansal, Ashok Kumar Goel, Manoj Kumar Sharma. MATLAB and its Applications in Engineering. New Delhi: Dorling Kindersley Pvt. Ltd., 2015.

Steven G. Krantz. *Mathematical Publishing – A Guide book.* USA : AMS Publication, 2005.

Suresh Chandra, Mohit Kr. Sharma. *Research Methodology*. New Delhi: Narosa Publishing House, 2013.

Tobin A Driscoll, Aaker D.A. *Learning MATLAB*. U.S.A.: SIAM, 2009.

WEB RESOURCES

https://in.mathworks.com/
www.ctex.org/documents/shredder/src/texbook.pdf
http://sourceforge.net/projects/pgf - The TikZ and PGF Packages: Manual for version 2.10

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
     Theory (10 marks): 1×10=10 (Two questions to be set from Unit 1)
     Practical (40 marks): 2×20=40 (Three questions to be set)

Other Components: **Total Marks: 50**
     Project

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
(Question paper to be prepared jointly by one course teacher and one internal–external examiner)
  Theory (20 marks) : 2×10=20 (Three questions to be set from Unit 1)
  Practical(80 marks) :
               Section – A   2×20 =40 (Three questions to be set from Units 2 & 3)
               Section – B   2×20 =40 (Three questions to be set from Units 4 & 5)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

SUMMER INTERNSHIP

CODE : 19MT/PN/SI32   **CREDIT : 2**

OBJECTIVE OF THE COURSE

To provide opportunity to gain experience in various fields

COURSE LEARNING OUTCOME

To have understood opportunity to gain experience in field of choice

FIELD WORK : (3 Weeks)

Summer Internship: a minimum period of three weeks during the summer holidays between the second and third semesters

EVALUATION:

SUMMER INTERSHIP : 50 Marks

(Mathematical work: 20 + Presentation: 20 + Report: 10)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

COMPLEX ANALYSIS

CODE: 19MT/PC/CA44   **CREDITS: 4**
                                                         L T P: 4 1 0
                                          TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
➢ To introduce a modern treatment to classical Complex analysis
➢ To develop clear thinking and analyzing capacity for research

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

➢ appreciate the application of classical Complex analysis to Fluid Dynamics
➢ apply the theory learnt in the course to solve a variety of problems
➢ demonstrate an understanding of the application of the theory both to other mathematical areas and to Physics and Engineering

Unit   1   **(12 Hours)**
Complex Integration
1.1 Fundamental Theorems: Line Integrals as Functions of Arcs
1.2 Cauchy's Theorem for a Rectangle
1.3 Cauchy's Theorem in a Disk
1.4 Cauchy's Integral Formula: The Index of a Point with respect to a Closed Curve
1.5 The Integral Formula
1.6 General Form of Cauchy's Theorem: Chains and Cycles

Unit   2   **(14 Hours)**
Complex Integration (continued)
2.1 Simple Connectivity
2.2 Homology
2.3 General Statement of Cauchy's Theorem
2.4 Proof of Cauchy's Theorem
2.5 Harmonic Functions: Definition and Basic Properties
2.6 The Mean Value Property
2.7 Poisson's Formula
2.8 Schwarz's Theorem
2.9 The Reflection Principle

Unit   3   **(13 Hours)**
Series and Product Development
3.1 Partial Fractions and Factorization: Partial Fractions
3.2 Infinite Products

3.3 Canonical Products
3.4 Gamma Function
3.5 Entire Functions: Jensen's Formula
3.6 The Riemann Zeta Function: The Product Development
3.7 Extension of $\zeta(z)$ to the Whole Plane
3.8 The Functional Equation
3.9 The Zeros of the Zeta Function

Unit   4   **(14 Hours)**
Series and Product Development (contd.)
4.1 Normal Families**:** Equicontinuity
4.2 Normality and Compactness
4.3 Arzela's Theorem
4.4 Families of Analytic Functions
4.5 The Riemann Mapping Theorem: Statement and Proof

Unit   5   **(12 Hours)**
Conformal mapping
5.1 Boundary Behavior
5.2 Use of the Reflection Principle
5.3 Analytic Arcs
5.4 Conformal Mapping of Polygons: The Behaviour at an Angle
5.5 The Schwarz Christoffel Formula
5.6 Application to Fluid Dynamics: Fluid Flow in a Channel through a Slit
5.7 Application to Fluid Dynamics: Flow in a Channel with an Offset

BOOKS FOR STUDY

Ahlfors, Lars V. *Complex Analysis*. 3rd ed. International Series in Pure and Applied Mathematics, New Delhi: McGraw Hill International Book Co., 12th reprint 2017.

Chapter 4   Section 1: 1.3 – 1.5
                 Section 2: 2.1, 2.2
                 Section 4: 4.1– 4.5
                 Section 6: 6.1 – 6.5
Chapter 5   Section 2: 2.1 – 2.4
                 Section 3: 3.1
                 Section 4: 4.1 – 4.4
                 Section 5: 5.1 – 5.4
Chapter 6   Section 1: 1.1 – 1.4
                 Section 2: 2.1 – 2.2.

Brown J.W. and R.V. Churchill. *Complex Variables and Applications*. New York: McGraw Hill Education, International Edition 1990, Eleventh reprint 2018.

        Chapter 11   Sections 120, 121

BOOKS FOR REFERENCE
   Conway John B. *Functions of one complex variable*. New Delhi. : Narosa Publishing House, 1973.

Howie M. John. *Complex Analysis*. London: Springer-Verlag, 2003.

Gamelin W. Theodre. *Complex Analysis*. New York : Springer-Verlag, 2006.

Palka P. Bruce, *Introduction to Complex Function Theory*. New York : Springer-Verlag, 2012.

Ponnusamy S. and Herb Silverman, *Complex Variables with Applications*. United States of America: Birkhäuser Boston , 2006

WEB RESOURCES
http://www.math.ucla.edu/~tao/java/Ftoc.html
http://fermi.la.asu.edu/ccli/applets/confmap/conform.html

PATTERN OF ASSESSMENT

Theory : 70%; Problem : 30%

| **Continuous Assessment Test:** | **Total Marks: 50** | **Duration: 90 minutes** |

Section A: $2 \times 2 = 4$ (Two questions to be set)
Section B: $2 \times 6 = 12$ (Three questions to be set)
Section C: $2 \times 17 = 34$ (Three questions to be set)

| **Other Components:** | **Total Marks: 50** |

Seminars/Assignments/Theorem Writing Technique/Problem Solving

| **End Semester Examination**: | **Total Marks: 100** | **Duration: 3 hours** |

Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019-2020)

DIFFERENTIAL GEOMETRY

CODE : 19MT/PC/DG44   **CREDIT: 4**
                                                                          L T P: 4 1 0
                                                   TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
➢ To introduce advanced concepts in differential geometry of space curves and fundamental forms
➢ To lay the foundation for study of surfaces leading to advanced courses in geometry

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ comprehend the intrinsic nature of plane curves and space curves
➢ understand the different techniques involved in measuring curves
➢ demonstrate competency in analyzing the nature of the surfaces through the tools they learn in Differential Geometry

Unit   1   **(14 Hours)**
   Curves in the Plane and in Space
   1.1 Curve, Arc-Length, Re-parameterization
   1.2 Curvature, Plane Curves, Space Curves

Unit   2   **(12 Hours)**
   Surfaces in Three Dimensions
   2.1 Surface, Smooth Surface
   2.2 Tangents, Normal and Orientability, Examples of Surfaces

Unit   3   **(15 Hours)**
   The First Fundamental Form
   3.1 Lengths of Curves on Surfaces
   3.2 Isometrics of Surfaces
   3.3 Conformal Mappings of Surfaces
   3.4 Surface Area

Unit   4   **(12 Hours)**
   Curvature of Surfaces
   4.1 The Second Fundamental Form
   4.2 The Curvatures of Curves on a Surface
   4.3 The Normal and Principle Curvatures

Unit   5   **(12 Hours)**

     Gaussian Curvature
     5.1 The Gaussian and Mean Curvatures
     5.2 The Pseudosphere
     5.3 Flat Surfaces
     Geodesics
     5.4 Definition and Basic Properties
     5.5 Geodesic Equation
     Gauss's Theorema Egregium
     5.6 Gauss's Remarkable Theorem

BOOK FOR STUDY

Pressley Andrew. *Elementary Differential Geometry*. London: Springer – Verlag, 2001, Reprint 2004.

        Chapter 1 : Sec. 1.1 – 1.3
        Chapter 2 : Sec. 2.1 – 2.3
        Chapter 4 : Sec. 4.1 – 4.4
        Chapter 5 : Sec. 5.1 – 5.4
        Chapter 6 : Sec. 6.1 – 6.3
        Chapter 7 : Sec. 7.1 – 7.3
        Chapter 8 : Sec. 8.1 – 8.2
        Chapter 10 : Sec. 10.1

BOOKS FOR REFERENCE

Ethan D. Bloch. *A First Course in Geometric Topology and Differential Geometry*. Boston: Birkhäuser, 1997.

Struik, Dirk J. *Lectures on Classical Differential Geometry*. 2nd Edition, London: Addison Wisely Publishing Co., 1961.

Wardle, K.L. *Differential Geometry*. London: Routledge and Kegan Paul, 1965.

Weatherburn, C.E. *Differential Geometry of Three Dimensions*. London: The Syndics of the Cambridge University Press, 1971.

Willmore, T.J. *An Introduction to Differential Geometry*. London: Oxford University Press, 1972.

WEB RESOURCE

http://dga.math.muni.cz/

PATTERN OF ASSESSMENT

Theory: 60%   Problems: 40%

Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
     Section A: 2×2 = 4 (Two questions to be set)

Section B: 2×6 = 12 (Three questions to be set)
Section C: 2×17= 34 (Three questions to be set)

Other Components: **Total Marks: 50**
    Seminars/Quiz/Open Book Tests/Group Discussion/Assignments/Theorem Writing Technique/Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
    Section A: 5 × 2 = 10 (Five questions to be set, selecting one question per unit)
    Section B: 5 × 6 = 30 (Seven questions to be set, without omitting any unit)
    Section C: 3 × 20 = 60 (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

CONTINUUM AND FLUID MECHANICS

CODE:19MT/PC/CF44   **CREDITS: 4**
                                                    L T P: 4 2 0
                                    TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- ➢ To teach the concept of Tensors
- ➢ To introduce the concept of stress and strain analysis
- ➢ To introduce the concept of fluids in motion, equation of motion of a fluid
- ➢ To study two and three dimensional viscous flow

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- ➢ have learnt general and Cartesian tensors
- ➢ have learnt the concept of stress and strain in Continuum Mechanics
- ➢ have learnt fluid motion and related characterizations
- ➢ have learnt three dimensional and two dimensional concepts of a viscous flow
- ➢ apply concepts of Fluid Dynamics in relevant areas

Unit   1   **(16 Hours)**
Cartesian Tensors and Algebra of Tensors
1.1 Introduction to Tensor
1.2 Suffix Notation
1.3 The Symbol δ_{ij}
1.4 The Symbol ε_{ijk}
1.5 Algebra of Tensors
1.6 Coordinate Transformations
1.7 Cartesian Tensors
1.8 Properties of Tensors
1.9 Isotropic Tensors
1.10 Invariants of a Tensor

Unit   2   **(17 Hours)**
Stress and Strain
2.1   Continuum Concept
2.2   Homogeneity, Isotropy, Mass-Density
2.3   Body Forces, Surface Forces
2.4   Cauchy's Stress Principle, The Stress Vector
2.5   State of Stress at a Point, Stress Tensor
2.6   The Stress Tensor-Stress Vector Relationship
2.7   Force and Moment, Equilibrium, Stress Tensor Symmetry
2.8   Stress Transformation Laws

2.9   Stress Quadric of Cauchy
2.10 Particles and Points
2.11 Continuum Configuration, Deformation and Flow Concepts
2.12 Position Vector, Displacement Vector
2.13 Lagrangian and Eulerian Descriptions
2.14 Deformation Gradients, Displacement Gradients
2.15 Deformation Tensors, Finite Strain Tensors

Unit   3   **(14 Hours)**
Kinematics of Fluid Motion
3.1 Real Fluids and Ideal fluids – Velocity of a Fluid at a Point
3.2 Stream Lines and Path Lines – Velocity Potential – Vorticity
3.3 Local and Particle Rates of Change
3.4 Equation of Continuity
3.5 Acceleration of a Fluid – Conditions at a Rigid Boundary
3.6 Sources, Sinks and Doublets
            .

Unit   4   **(16 Hours)**
Equations of Motion of a Fluid
4.1 Pressure at a Point in a Fluid at Rest
4.2 Pressure at a Point in a Moving Fluid – Conditions at a Boundary of Two
      Inviscid Immiscible Fluids
4.3 Euler's Equation of Motion – Bernoulli's Equation
4.4 Steady Motion under Conservative Body Forces
4.5 Meaning of Two-Dimensional Flow
4.6 Use of Cylindrical Polar Coordinates
4.7 The Stream Function
4.8 The Complex Potential for Two Dimensional, Irrotational, Incompressible Flow

Unit   5   **(15 Hours)**
Viscous Flow
5.1 Properties of the Rate of Strain Quadric
5.2 Stress Components in a Real Fluid – Coefficient of Viscosity and Laminar Flow
5.3 Navier – Stokes Equation of Motion of a Viscous Fluid
5.4 Some Solvable Problems in Viscous Flow
5.5 Steady Viscous Flow in Tubes of Uniform Cross-section
5 .6 Dimensional Analysis, Reynolds Number

BOOKS FOR STUDY

D.S.Chandrasekhraia and Loknath Debnath. *Continuum Mechanics.* New York:
Academic Press, 1994
          Chapter 1   Sections 1.1 - 1.3, 1.6, 1.7
          Chapter 2   Sections 2.1 - 2.5, 2.11

Mase George E. *Schaum's Outline of Theory and Problems of Continuum Mechanics.*
New Delhi: Tata McGraw Hill, 2005
          Chapter 1   Sections 1.1, 1.2, 1.6- 1.9, 1.11 – 1.13, 1.15 – 1.19

Chapter 2   Sections 2.1 - 2.9
Chapter 3   Sections 3.1 - 3.6

Chorlton.F. *Text book of Fluid Dynamics*. 1st ed. New Delhi: CBS. Publishers & Distributors, Shadara, 1985, Reprint 2004

Chapter 2   Sections 2.1 - 2.9
Chapter 3   Sections 3.1 - 3.7
Chapter 4   Sections 4.2
Chapter 5   Sections 5.1 - 5.6
Chapter 8   Sections 8.5, 8.8 - 8.11

BOOKS FOR REFERENCE

Duncan W.J., Thom. A.S. and Young A.D. *Mechanics of Fluids*. Great Britain : The English Language Book Society, 1975.

Garry E, Boroman. *Essential Quantum Mechanics*. New York: Oxford University Press, 2011.

Joseph H. Spurk. *Fluid Mechanics: Problems and Solutions*. USA: Springer-Verlag, 2003.

Mukherjee B.N, B.C Das. *Dynamics.* Kolkata: U.N. Dhur & Sons Private Ltd., 2010.

Thomson Milne L.M. *Theoretical Hydro Dynamics*. 4th Edition, New York. : Macmillan and Co., 1960.

Temam Roger M , Srivastava,R.J. *Mathematical Modeling in Continuum Mechanics*, London: Cambridge University Press, 2005.

WEB RESOURCES

winpal.pw/m/articles/view/Stress-and-Strain-2015-03-20
https://web.iit.edu/sites/web/files/departments/...resource.../pdfs/Navier_Stokes.pdf
http://www.continuummechanics.org/continuityequation.html
http://andrew.gibiansky.com/blog/physics/fluid-dynamics-the-navier-stokes-equations/

PATTERN OF EVALUATION

Theory: 50%; Problem: 50%

Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes

Section A: $2 \times 2 = 4$ (Two questions to be set)
Section B: $2 \times 6 = 12$ (Three questions to be set)
Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components: **Total Marks: 50**

      Seminars/Quiz/Assignments/Problem Solving/Project

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

      Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)

      Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)

      Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE : BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

DISSERTATION

CODE : 19MT/PC/DI47   **CREDITS : 7**

PREPARATION OF DISSERTATION

The dissertation shall contain at around 40 pages and shall be typed with double spacing. The format for the dissertation is as follows:

1.   Cover page shall contain
   a) Title of the dissertation
   b) Dissertation submitted at the core level for the M.Sc. degree course in the IV semester
   c) Name of the Candidate
      Department number
   d) Department of Mathematics
      Stella Maris College (Autonomous), Chennai – 600 086
   e) Month, Year

2.   The dissertation shall contain
   a) Contents page
   b) i. Certificate page
      ii. Acknowledgement page
   c) At least 3 chapters including an introductory chapter (comprising motivation, basic concepts needed / used in the dissertation and outline of the dissertation)
   d) Conclusions / interpretations arrived at may be given at the end of each problem / each chapter concerned
   e) List of figures / list of abbreviations (if needed) shall be given as an appendix
   f) Bibliography shall be given in alphabetical order at the end in MLA format

3.   Each candidate may prepare 3 copies of the dissertation using LaTeX, one copy for her and submit 2 copies to the Head of the department 15 days before the commencement of the fourth semester examination.

4.   The candidate may be advised that the dissertation will be valued and given credit on the criteria of
   a) Motivation towards the chosen area / formulation of the problem
   b) Methodology, analysis, logic and reasoning
   c) Capacity to interpret the results obtained

5.   The Controller of Examination is requested to arrange for the valuation of the Dissertation as well as the conduct of the Viva – Voce at the college where the

candidates take examinations, within two weeks of the last date of examination for M.Sc. degree. The panel of examiners will consist of an external examiner and the guide.

The guidelines for the Viva-Voce examiners would be that

a) They will satisfy themselves that this is a work of the candidate as certified by the department
b) The dissertation is in the given form and
c) The candidate has clear understanding of the concepts, discussed in the dissertation.

The department should certify as follows:

This is to certify that the dissertation in the broad area _____ titled _____ is submitted by _____ at the core level for the degree of Master of Science (Mathematics) during the year_____

   sd/   sd/

Head of the Department   Guide

6.   A) Guidelines for evaluation

The maximum mark for the dissertation is 75 divided into four components

i.	Style, format and neatness in presentation	10
ii	Chapterisation, logic and reasoning	10
iii	Methodology – analysis and interpretation	25
iv)	Content	30

B) There will be double valuation for the dissertation by the guide and an external examiner who will conduct the viva – voce.

PATTERN OF ASSESSMENT

Dissertation   :   75 marks
Viva-Voce   :   25 marks

SYLLABUS
(Effective from the academic year 2019-2020)

NUMBER THEORY AND CRYPTOGRAPHY

CODE: 19MT/PE/NC15   **CREDITS: 5**
                                                                                    L T P: 5 0 0
                                                        TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
> ➢ To provide an introductory course in Number Theory
> ➢ To introduce the fast growing and relevant topic of Cryptography as an application of Number Theory

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
> ➢ acquire the skill to solve simultaneous congruences
> ➢ demonstrate competency in encrypting and decrypting messages through different methods
> ➢ comprehend the role of prime numbers in cryptography

Unit   1   **(15 Hours)**
Elementary Number Theory
1.1 Time Estimates for doing Arithmetic
1.2 Divisibility and the Euclidean Algorithm
1.3 Congruences
1.4 Some Applications to Factoring

Unit   2   **(13 Hours)**
Finite Fields and Quadratic Residues
2.1 Finite Fields
2.2 Quadratic Residues and Reciprocity

Unit   3   **(13 Hours)**
Cryptography
3.1 Some Simple Cryptosystems
3.2 Enciphering Matrices

Unit   4   **(12 Hours)**
Public Key
4.1 Public Key Cryptography
4.2 RSA

Unit   5   **(12 Hours)**
Primality and Factoring
5.1 Pseudoprimes
5.2 The Rho Method
5.3 Fermat factorization and factor bases

BOOK FOR STUDY

Koblitz, Neal. *A Course in Number Theory and Cryptography*. 2nd Edition, New York: Springer – Verlag, 2002.

> Chapter 1: Sec. 1 – 4
> Chapter 2: Sec. 1, 2
> Chapter 3: Sec. 1, 2
> Chapter 4: Sec. 1, 2
> Chapter 5: Sec. 1, 2, 3

BOOKS FOR REFERENCE

Christof Paar, Srivastava R.J. *Understanding Cryptography*. New York: Springer, 2010.

Delfs Hans, Srivastava R.J. *Introduction to Cryptography, Principles and applications.* New York: Springer, 2003.

Ireland K. and Michael Rosen. *A Classical Introduction to Modern Number Theory*. 2nd Edition, New York: Springer Verlag, 2004.

M. A. Herkommer. *Number Theory: A Programmer's Guide*. New York: McGraw-Hill, 1999.

WEB RESOURCES

http://www.math.utk.edu/~finotti/papers/grad.pdf
http://www.cse.iitd.ernet.in/~bagchi/courses/discrete-book/ch2.pdf
http://almuhammadi.com/sultan/crypto_books/Koblitz.2ndEd.pdf

PATTERN OF ASSESSMENT
Theory 60%; Problem 40%

Continuous Assessment Test:　　　**Total Marks: 50**　　　　　**Duration: 90 minutes**
> Section A: $2 \times 2 = 4$ (Two questions to be set)
> Section B: $2 \times 6 = 12$ (Three questions to be set)
> Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components:　　　　　　**Total Marks: 50**
> Seminars/Quiz/Open Book Tests/Group Discussion/Assignments/Project
> Theorem Writing Technique/Problem Solving

End-Semester Examination:　　　**Total Marks: 100**　　　　**Duration: 3 hours**
> Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
> Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
> Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

CALCULUS OF VARIATION AND INTEGRAL EQUATIONS

CODE: 19MT/PE/CI15   **CREDITS: 5**
                                                                                                    L T P: 5 0 0
                                                                         TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
  ➢ To introduce the methods for finding the extrema of a functional defined over a class of functions
  ➢ To inculcate the concept of different types of integral equations and converting initial and boundary value problems as integral equations

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

  ➢ have acquired in-depth knowledge in finding the extrema of a functional defined over a class of functions
  ➢ distinguish the separable and symmetric kernels and identify different types of Integral Equations
  ➢ convert initial and boundary value problems to integral equation and analyze its behavior

Unit   1   **(13 Hours)**
Variational Problems with Fixed Boundaries
1.1 The Concept of Variation and its Properties
1.2 Euler's Equation
1.3 Variational Problems for Functionals of the form
$$\int_a^b F(x, y_1(x), y_2(x), \ldots, y_n(x), y'_1(x), y'_2(x), \ldots, y'_n(x))dx$$
1.4 Functionals Dependent on Higher Order Derivatives
1.5 Functionals dependent on Functions of Several Independent Variables

Unit   2   **(13 Hours)**
Variational Problems with Moving Boundaries
2.1 Functional of the Form $I[y(x)] = \int_{x_1}^{x_2} F(x, y, y')dx$
2.2 Variational Problem with a Movable Boundary for a Functional Dependent on Two Functions
2.3 One- Sided Variations
2.4 Reflection and Refraction of Extremals

Unit   3   **(13 Hours)**
Integral Equations
3.1 Basics of Linear and Non-linear Integral Equations
3.2 Fredholm Integral Equations, Volterra Integral Equations, Singular Integral

Equations
3.3 Regularity Conditions
3.4 Special Kinds of Kernels
3.5 Eigenvalues and Eigen functions
3.6 Convolution Integral

Unit 4   **(13 Hours)**

Integral Equations with Separable Kernels
4.1 Reduction to a System of Algebraic Equations
4.2 Fredholm Alternative
Method of Successive Approximations
4.3 Iterative Scheme
4.4 Volterra Integral Equations

Unit 5   **(13 Hours)**

Applications to Ordinary Differential Equations
5.1 Initial Value Problems
5.2 Boundary Value Problems
5.3 Dirac Delta Function
5.4 Green's Function approach

BOOKS FOR STUDY

Gupta A.S. *Calculus of Variations with Applications*. New Delhi: Prentice Hall of India Pvt., Ltd., 1997.

                         Chapter 1   Sections 1.1 – 1.5
                         Chapter 2   Sections 2.1 – 2.4

Kanwal, Ram P. *Linear Integral Equations Theory and Technique,* New York: Academic Press, 1971. ebook link: http://www.burhantiryakioglu.com/wp-content/uploads/2015/06/Ram_P._Kanwal_Auth._Linear_Integral_Equations.BookZZ.org_.pdf

                         Chapter 1   Sections 1.1 – 1.5
                         Chapter 2   Sections 2.1 – 2.4
                         Chapter 3   Sections 3.1 – 3.4
                         Chapter 5   Sections 5.1 – 5.6

BOOKS FOR REFERENCE

Raisinghania M.D. *Advanced Differential Equations*. 18th Edition, New Delhi: S.Chand & Co. Ltd., 2015.

Sharma R. K. *Calculus of Variation*. India: Medtech Publishers, 2017.

Gelfand I.M. *Calculus of Variation.* New York: Dover Publications, 1991.

WEB RESOURCES

PATTERN OF ASSESSMENT

Theory: 50%;   Problems: 50%

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
        Section A: $2 \times 2 = 4$ (Two questions to be set)
        Section B: $2 \times 6 = 12$ (Three questions to be set)
        Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components: **Total Marks: 50**
        Seminars/Quiz/Open Book Tests/Group Discussion/Assignments/Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
      Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
      Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
      Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE : BRANCH I - MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

ANALYSIS OF ALGORITHMS

CODE : 19MT/PE/AL15   **CREDIT : 5**
                                                          L T P : 5 0 0
                                          TOTAL TEACHING HOURS : 65

OBJECTIVES OF THE COURSE
  ➢ To introduce different algorithms to solve problems in an abstract setup
  ➢ To analyze algorithms in order to choose the better algorithm
  ➢ To impart knowledge of growth rate and order of algorithms

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to

  ➢ have learnt iterative and recursive algorithms for searching and sorting
  ➢ have learnt appropriate algorithms for matching problems
  ➢ create data structures for graphs and to have learnt traversals and searches in graphs
  ➢ acquire skills to write an algorithm in order to check a potential solution to an NP problem

Unit   1   **(10 Hours)**
Analysis of Algorithm
1.1 Input Classes
1.2 Space Complexity
1.3 Cases to Consider
1.4 Rates of Growth
1.5 Divide and Conquer Algorithms
1.6 Recurrence Relations

Unit   2   **(13 Hours)**
Searching and Selection Algorithms
2.1 Sequential Search – Case Analysis
2.2 Binary Search – Case Analysis
2.3 Selection

Unit   3   **(14 Hours)**
Sorting Algorithms
3.1 Insertion Sort – Case Analysis
3.2 Heap Sort – Case Analysis
3.3 Merge Sort – MergeLists Analysis, MergeSort Analysis
3.4 Quick Sort – Case Analysis

Unit 4   **(15 Hours)**

Matching Algorithm
4.1 String Matching
4.2 Finite Automata
4.3 Knuth-Morris-Pratt Algorithm
Graph Algorithms
4.4 Data Structures for Graphs
4.5 Depth First and Breadth First Traversal Algorithms
4.6 Minimum Spanning Tree Algorithms
4.7 The Dijkstra-Prim Algorithm
4.8 The Kruskal Algorithm

Unit 5   **(13 Hours)**

Nondeterministic Algorithms
5.1 NP-Complete Problems
5.2 Conditions for NP
5.3 Job Scheduling – Graph Coloring

BOOK FOR STUDY

Jefferey J McConnell. *Analysis of Algorithms: An Active Learning Approach.* New Delhi: Narosa Publishing House, 2002.

Chapter 1	Sections 1.1, 1.2, 1.4 -1.6
Chapter 2	Sections 2.1 – 2.3
Chapter 3	Sections 3.1, 3.5 – 3.7
Chapter 5	Sections 5.1, 5.1.1, 5.1.2
Chapter 6	Sections 6.1 – 6.4
Chapter 8	Sections 8.1 – 8.4

BOOKS FOR REFERENCE

Gajavelli S.S., Bhishma Rao. *Discrete Structures and Graph Theory*. Chennai: Scitech Publications Pvt. Ltd., 2005.

Horowitz Ellis, Sahni Sartaj and Rajasekaran Sanguthevar. *Fundamentals of Computer Algorithms*. 2nd Edition, New Delhi: Galgotia Publication Pvt. Ltd., 2007.

Lee R.C.T, SS. Tseng, R.C. Chang, Y.T.Tsai. *Introduction to the Design and Analysis of Algorithms A Strategic Approach.* New Delhi: Tata McGraw-Hill Edition, 2012.

Richard Neapolitan, Kumarss Naimipour. *Foundations of Algorithms using C++ Pseudocode*. New Delhi: Narosa Publishing House, 2005.

WEB RESOURCES

https://www.tutorialspoint.com/data_structures_algorithms/sorting_algorithms.htm
https://codeburst.io/algorithms-i-searching-and-sorting-algorithms-56497dbaef20
https://interactivepython.org/courselib/static/pythonds/Graphs/DijkstrasAlgorithm.html

PATTERN OF ASSESSMENT

Theory: 30%; Algorithm: 40%; Problem: 30%

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
      Section A: 2×2 = 4 (Two questions to be set)
      Section B: 2×6 = 12 (Three questions to be set)
      Section C: 2×17= 34 (Three questions to be set)

Other Components: **Total Marks: 50**
      Seminars/Quiz/Open Book Tests/Assignments/Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
      Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
      Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
      Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

FUZZY SET THEORY AND APPLICATIONS

CODE: 19MT/PE/FT15   **CREDIT: 5**
                                                             L T P: 5 0 0
                                            TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
  ➢ To introduce the concept of Fuzzy Mathematics
  ➢ To cite the applications of Fuzzy Mathematics in various fields

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

  ➢ gain an in-depth knowledge in the concept of Fuzzy Set Theory
  ➢ acquire knowledge in Fuzzy Logic
  ➢ understand the applications of Fuzzy Mathematics in various fields

Unit 1   **(12 Hours)**
Fuzzy Sets and Operations
1.1 Fuzzy Sets – Basic Concepts
1.2 Characteristics and Significance of the Paradigm Shift
1.3 Operations on Fuzzy Sets
1.4 Types of Fuzzy Sets
1.5 Properties of α – cuts

Unit 2   **(14 Hours)**
Properties of Fuzzy Sets
2.1 Decomposition Theorems
2.2 Extension Principle for Fuzzy Sets
2.3 Crisp and Fuzzy Relations – Binary Relations
2.4 Fuzzy Relational Equations

Unit 3   **(14 Hours)**
Operations on Fuzzy Sets
3.1 Fuzzy Complements
3.2 Fuzzy Union
3.3 Fuzzy Intersection
3.4 Combination of Operations

Unit 4   **(13 Hours)**
Fuzzy Arithmetic
4.1 Fuzzy Numbers
4.2 Linguistic Variables
4.3 Arithmetic Operation of Fuzzy Intervals
4.4 Arithmetic Operation of Fuzzy Numbers

4.5 Lattice of Fuzzy Numbers
4.6 Fuzzy Equations

Unit   5   **(12 Hours)**
    Applications
    5.1 Concept of Fuzzy Logic
    5.2 Fuzzy Controllers
    5.3 Application of Fuzzy Logic to Engineering, Medicine, Industry, Pattern Recognition and Electronics (current applications)

BOOKS FOR STUDY

Klir George J. and Yuan Bo. *Fuzzy Sets & Fuzzy Logic Theory and Applications***.** New Delhi: Prentice Hall India, 2009.

Chapter 1	Sections 1.3 – 1.5
Chapter 2	Sections 2.1 – 2.3
Chapter 4	Sections 4.1 – 4.6
Chapter 12	Sections 12.2 - 12.3

Klir George J. and Folger Tina A. *Fuzzy Sets, Uncertainty and Information***.** New Delhi : Prentice Hall India, 2004.

Chapter 1	Sections 1.6
Chapter 2	Sections 2.2 – 2.5
Chapter 3	Sections 3.1, 3.2, 3.8

BOOKS FOR REFERENCE

Ahmad M. Ibrahim, *Introduction to Applied Fuzzy Electronics***,** New Delhi : Prentice Hall India, 1997.

Cengiz Kahraman and Estronge P.H. *Fuzzy applications in Industrial engineering.* Studies in Fuzziness and Soft Computing, Springer, 2006.

Huaguang Zhang. *Fuzzy modeling and Fuzzy control*. Control Engeering, Birkhauser, 2006.

John Harris and Nix Eileen. *An Introduction to Fuzzy Logic Applications.* Netherland: Springer, 2010.

Lotfi A.Zadeh. *Fuzzy Sets and Their Applications to Cognitive and Decision Processes.* New York: Academic Press, 1975.

Michael Hanss, Deshmukh S.K. *Applied Fuzzy Arithmetic.* Netherland: Springer, 2005.

Terano Toshiro Asai Kiyoji, Sugeno Michio. *Applied Fuzzy Systems***.** New York: A.P. Professional, 1994.

WEB RESOURCES
https://www.sbi.uni-rostock.de/files/Students/Materials/SBI_Materials_Fuzzy-Mathematics.pdf

PATTERN OF ASSESSMENT

Theory 30%; Problems 40% Applications 30%

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
        Section A: $2 \times 2 = 4$ (Two questions to be set)
        Section B: $2 \times 6 = 12$ (Three questions to be set)
        Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components: **Total Marks: 50**
        Seminars/Quiz/Group Discussion/Assignments/Problem Solving

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
        Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
        Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
        Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019 – 2020)

MECHANICS

CODE: 19MT/PE/ME15   CREDITS: 5
                                                                                              L T P: 5 0 0
                                                                        TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
➢ To introduce various principles in dynamical systems
➢ To teach the techniques involved in calculus of variations

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ understand various principles in dynamical systems
➢ be proficient in techniques involved in calculus of variations
➢ have learnt to work with equations of motion using different principles

Unit   1   **(12 Hours)**
Elementary Principles of Mechanics
1.1 Mechanics of a Particle
1.2 Mechanics of a System of Particles – Constraints
1.3 D'Alembert's Principle and Lagrange's Equations
1.4 Simple Applications of the Lagrangian Formulation
1.5 Hamilton's Principle

Unit   2   **(14 Hours)**
Variational Principles
2.1 Some Techniques of the Calculus of Variations
2.2 Derivation of Lagrange's Equations from Hamilton's Principle
2.3 Extension of Hamilton's Principle to Non-holonomic systems
2.4 Advantages of a variational principle formulation
2.5 Conservation Theorems and symmetry properties

Unit   3   **(13 Hours)**
The Kinematics and Equations of Motion of a Rigid Body
3.1 Independent Coordinates of a Rigid Body
3.2 Euler Angles – Euler's Theorem on the Motion of a Rigid Body
3.3 Rate of Change of a Vector
3.4 Coriolis Force
3.5 Angular Momentum and Kinetic Energy of Motion about a Point
3.6 Eigen Values of the Inertia Tensor and the Principal Axes Transformation

Unit   4   **(13 Hours)**
The Hamilton Equations of Motion

4.1 Legendre Transformations and the Hamilton Equations of Motion
4.2 Routh's Procedure
4.3 Derivation of Hamilton's Equations from a Variational Principle
4.4 The Principle of least action

Unit   5   **(13 Hours)**
Canonical Transformations
5.1 The Equations of Canonical Transformations - Examples
5.2 Symplectic Approach to Canonical Transformations
5.3 Poisson brackets and other canonical invariants

TEXT BOOK

Goldstein H. *Classical Mechanics.* Reprint 2001, London: Addison – Wesley Publishing Company, 1980.
Chapter 1	Sections 1.1 -1.4, 1.6
Chapter 2	Sections 2.1 - 2.6
Chapter 4	Sections 4.1, 4.4, 4.6, 4.9, 4.10.
Chapter 5	Sections 5.1,5.4,5.5.
Chapter 8	Sections 8.1- 8.3, 8.5, 8.6
Chapter 9	Sections 9.1 - 9.4

BOOKS FOR REFERENCE

Corben, H.C., Stehle Philip. *Classical Mechanics.* 2nd Edition, New York: Robert E. Krieger Publishing Co., 1960.

Greenwood Donald, T. *Classical Dynamics.* New Delhi: Prentice Hall of India, 1979.

Starzhinskii, V.M. *An Advanced Course of Theoretical Mechanics.* Moscow: MIR Publishers, 1982.

Synge John, L., Byron Griffith, A. *Principles of Mechanics.* 3rd Edition, New York: McGraw Hill Book Co., 1970.

Venkatachalapathy S.G. *Classical Mechanics.* Chennai: Margham Publications, 2006.

WEB RESOURCES

https://aip.scitation.org/canonicaltransofrmationinquantummechanics

PATTERN OF AAESSMENT

Theory : 70%; Problem : 30%

Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
Section A: $2\times2 = 4$ (Two questions to be set)
Section B: $2\times6 = 12$ (Three questions to be set)
Section C: $2\times17= 34$ (Three questions to be set)

Other Components: Total Marks: 50

Seminars/Quiz/Assignments/Problem Solving

End Semester Examination:　　　**Total Marks:　100**　　　**Duration: 3 hours**

Section A:　$5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)

Section B:　$5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)

Section C:　$3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019-2020)
MATHEMATICAL STATISTICS

CODE: 19MT/PE/MS15   **CREDITS: 5**
                                                   L T P: 5 0 0
                                                   TOTAL TEACHING HOURS: 65

OBJECTIVES OF THE COURSE
➢ To impart extended knowledge of characteristic function and its properties in the theoretical statistical distributions
➢ To introduce essential concepts of convergence for statistical distributions and estimation theory

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

➢ acquire knowledge of Probability Distributions and Limit theorems
➢ familiarize with sampling distribution and to find estimators for the parameters
➢ determine the estimators for the parameters

Unit 1
Characteristic functions   **(12 Hours)**
1.1 Properties of Characteristic Functions
1.2 The Characteristic Function and Moments
1.3 The Characteristic Function of the sum of independent random variables
1.4 Determination of the Distribution Function by the Characteristic Function

Unit 2
Probability Distributions   **(12 Hours)**
2.1 One Point and Two Point Distribution
2.2 The Gamma Distribution
2.3 The Beta Distribution
2.4 The Cauchy & Laplace Distribution.

Unit 3
Limit theorems   **(14 Hours)**
3.1 Stochastic Convergence
3.2 Bernoulli's Law of Large Numbers
3.3 The Convergence of Sequence of Distribution Function
3.4 The Levy – Cramer Theorem
3.5 The de-Moviers – Laplace Theorem
3.6 The Lindberg – Levy Theorem
3.7 Poisson's, Chebyshev's and Khintchin's Law of Large Numbers

Unit 4

Sample Moments and their Functions   **(14 Hours)**

4.1 The Notions of Sample & Statistic

4.2 The Distribution of Arithmetic Mean of Independent Normally Distributed Random Variables

4.3 The Chi-Square Distribution

4.4 The Distribution of the Statistic ($\overline{X}$, S)

4.5 Student's – t Distribution

4.6 Fisher's Z – Distribution

Unit 5

The Theory of Estimation   **(13 Hours)**

5.1 Point estimation

5.2 Consistent Estimates

5.3 Unbiased Estimates

5.4 The Sufficiency of an Estimate

5.5 The Efficiency of an Estimate

5.6 Asymptotically Most Efficient Estimate

5.7 Methods of Finding Estimates

BOOK FOR STUDY

Marek Fisz. *Probability Theory and Mathematical Statistics.* Third Edition, New York: John Wiley and Sons. Inc., 1963**.**

Chapter 4	Section 4.1, 4.2, 4.4, 4.5
Chapter 5	Section 5.1, 5.8, 5.9, 5.10
Chapter 6	Section 6.2 – 6.4, 6.6 – 6.8, 6.11
Chapter 9	Section 9.1 – 9.7 (omit 9.6E.)
Chapter 13	Section 13.2 – 13.7 (omit 13.7 C & D)

BOOKS FOR REFERENCE

David Freedman, Robert Pisani, Roger Purves. *Statistics.* 4th Edition New Delhi: Vinod Vaistha for Viva Books, 2009.

Freund. E. John. *Mathematical Statistics.* 2nd Edition, New Jersey: Prentice Hall Inc., 1971.

Ramdas Bhat B. *Modern Probability Theory. An Introductory Text Book***.** New Delhi: New age international, 1999.

Gupta O. P. and Vishal Sharma. *Mathematical Statistics*. Meerut: Mohan Print Media (P) Ltd., 2019.

WEB RESOURCES

http://www.randomservices.org/random/point/index.html
https://www.kean.edu/~fosborne/bstat/05samp.html
https://newonlinecourses.science.psu.edu/stat500/node/27/
https://kurser.math.su.se/mod/resource/view.php?id=2807

PATTERN OF ASSESSMENT

Theory: 80%   **Problem: 20%**

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

     Section A: $2 \times 2 = 4$ (Two questions to be set)
     Section B: $2 \times 6 = 12$ (Three questions to be set)
     Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components: **Total Marks: 50**

     Seminars/Quiz/Group Discussion/Assignments/Problem Solving

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

     Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
     Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
     Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

Postgraduate Elective Course Offered by Department of Mathematics to students of M.A. / M.Sc./ M.S.W. Degree Prgramme

SYLLABUS

(Effective from the academic year 2019-2020)

ESSENTIALS OF DISCRETE MATHEMATICS

CODE: 19MT/PE/ ED23   **CREDITS : 3**
                                                                     L T P : 3 0 0
                                                                     TOTAL TEACHING HOURS : 39

OBJECTIVES OF THE COURSE
➢ To augment knowledge into mathematical logic and to introduce basic concepts of Lattices
➢ To impart the knowledge of Boolean algebra in computer science for its wide applicability in switching theory, demonstrating basic electronic circuits

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to
➢ construct and recognise truth tables for logic gates and simple combinations of them
➢ minimise the Boolean expression using Boolean algebra and design it using logic gates
➢ understand basic structure study of lattice
➢ model real world problems involving basic electronic circuits

Unit   1   **(9 Hours)**
       Mathematical Logic
       1.1 Introduction
       1.2 Propositions
       1.3 Compound Proposition
       1.4 Propositions and Truth Tables
       1.5 Logical Equivalence
       1.6 Algebra of Propositions
       1.7 Conditional Proposition
       1.8 Converse, Contrapositive and Inverse
       1.9 Biconditional Statement
       1.10 Negation of Compound Statements

Unit   2   **(8 Hours)**
       Mathematical Logic (contd.)
       2.1 Tautologies and Contradictions
       2.2 Normal Forms
       2.3 Logic in Proof
       2.4 Method of Proof
       2.5 Fallacies
       2.6 Mathematical Induction
       2.7 Predicate Calculus

Unit   3   **(8 Hours)**

       Lattices
       3.1 Lattice
       3.2 Properties of lattices
       3.3 Lattices as Algebraic System
       3.4 Bounded, Complemented and Distributive lattices

Unit   4   **(9 Hours)**

       Boolean Algebra and Logic Circuits
       4.1 Boolean Algebra
       4.2 Unique Features
       4.3 Basic Operations
       4.4 Boolean Function
       4.5 De-Morgan's Theorem
       4.6 Logic Gate
       4.7 Sum of Products and Product of Sums Form
       4.8 Normal Form

Unit   5   **(5 Hours)**

       Project
       5.1 Applications of Boolean Algebra
       5.2 Logic Circuits
       5.3 Graph Theory in Real life

BOOKS FOR STUDY

Arumugam S. and Ramachandran S. *Invitation to Graph Theory*. Chennai: Scitech, 2013.

Lipschutz Seymour, Marc Lars Lipson. *Schaum's outline of Theory and Problems of Discrete Mathematics*. Second edition, Eleventh reprint 2002, New Delhi: Tata McGraw-Hill Publishing Company Limited, 1999.

Swapan Kumar Sarkar. *A Textbook of Discrete Mathematics*. New Delhi: S. Chand & Company Ltd., 2003.

BOOKS FOR REFERENCE

Norman, L.Biggs. *Discrete Mathematics*. 2nd Edition**,** India: Oxford, 2003.

Raju Solai, Chandrasekar, Krishnamoorthy and Ganesh. *Discrete Mathematical Structure*. Kumbakonam: Anuradha Agencies, 2003.

Santha S. *Discrete Mathematics with Combinatorics and Graph Theory*. New Delhi: Cengage Learning India, 2010.

WEB RESOURCES

http://world.mathigon.org/Graph_Theory
http://www.open-graphtheory.org/
http://www.mathily.org/dm-rw.html
https://www.electrical4u.com/some-common-applications-of-logic-gates/

PATTERN OF ASSESSMENT

Theory: 20% Problems: 80%

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
   Section A: $2 \times 2 = 04$ (Two questions to be set)
   Section B: $2 \times 6 = 12$ (Three questions to be set)
   Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components: **Total Marks: 50**
    Seminars/Quiz/Assignments/Project/Problem Solving

End-Semester Examination:

Total Marks: 100   **Duration: 3 hours**
Section A : $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
Section C : $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
Postgraduate Elective Course Offered by Department of Mathematics to students of
M.A. / M.Sc./ M.S.W. Degree Prgramme

SYLLABUS
(Effective from the academic year 2019 – 2020)

ELEMENTS OF APPLICABLE MATHEMATICS
CODE:19MT/PE/AM23   **CREDIT: 3**
                                                            L T P: 3 0 0
                                          TOTAL TEACHING HOURS: 39

OBJECTIVES OF THE COURSE

  ➢ To impart knowledge of the applications of graph theory in various fields
  ➢ To acquire the ability to solve problems through OR models

COURSE LEARNING OUTCOMES

On successful completion of the course, students will be able to
  ➢ have learnt a clear perspective of solving real life problems using graph theory
  ➢ understand the logic of optimization that comes into play in real life
  ➢ comprehend the relations between loss and gain through Game Theory
  ➢ have improved knowledge in Decision Making

Unit   1   **(8 Hours)**
       Graph Theory
       1.1   Introduction to Graph theory
       1.2   Basic Concepts – definition of a graph – degrees – regularity –
             paths and cycles –   matching - coloring
       1.3   Personnel Assignment Problem
       1.4   Optimal Assignment Problem
       1.5   Stereo matching in Autonomous Mobile Robot(AMR)
       1.6   Time Table Problem
       1.7   Applications in Chemistry and Social Psychology

Unit   2   **(8 Hours)**
       Graph Theory (contd.)
       2.1   Eulerian Graphs
       2.2   Hamiltonian Graphs
       2.3   Application to Physics
       2.4   Konigsberg Bridge Problem
       2.5   Chinese Postman problem
       2.6   Travelling Salesman problem
       2.7   Hamiltonian's around the World Game

2.8 Knight's Tour in Chessboard

Unit   3   (7 Hours)
Sequencing Problems
3.1 Introduction
3.2 Processing *n* Jobs through Two Machines
3.3 Processing *n* Jobs through Three Machines
3.4 Processing *n* Jobs through *k* Machines
3.5 Processing *2* Jobs through *k* Machines

Unit   4   (8 Hours)
Game Theory
4.1   Zero-sum game
4.2   Gambling and games
4.3 Financial and stock market decisions
4.4 Predation behavior model
4.5 Prisoner's dilemma
4.6 Military battle strategy
4.7 Politics and social issues

Unit   5   (8 Hours)
Decision Theory
5.1 Introduction
5.2 Decision-Making Environment
5.3 Decision under Uncertainty

BOOKS FOR STUDY AND REFERENCE

Aldous Joan M. & Robin J. Wilson, *Graphs and Applications An Introductory Approach*. New York: Springer International Edition, 2007.

Arumugam S. and Ramachandran S. *Invitation to Graph Theory*. Chennai: Scitech Publications India Pvt. Ltd., Reprint 2013.

Balakrishnan. R and K. Ranganathan, *A textbook of graph theory,* New York: Springer-Verlag, 2012.

Bondy J.A., Murty U.S.R. *Graph Theory with Application*. London: The Macmillan Press Ltd., 1982.

Kalavathy S, *Operations Research*, Vikas Publishing House Pvt. Ltd., New Delhi, Fourth Edition 2013, Reprint 2015

Panneerselvam, R. *Operations Research*, New Delhi: Prentice-hall, 2002.

Richard Bronson, Govindaswami Naadimuthu, *Schaum's Outlines Operations Research*, New Delhi, Tata McGraw Hill, 2011.

Swarup Kanti, Gupta P.K., Man Mohan, *Operations Research*, New Delhi: Sultan Chand, 2009.

WEB RESOURCES

http://www.universalteacherpublications.com/univ/ebooks/
https://www.youtube.com/watch?v=t9Lo2fgxWHw
https://nptel.ac.in/courses/110106062/
http://world.mathigon.org/GraphTheory
http://www.open-graphtheory.org

PATTERN OF ASSESSMENT

Theory: 20%   Problems: 80%

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

    Section A: $2 \times 2 = 04$ (Three questions to be set)
    Section B: $2 \times 6 = 12$ (Three questions to be set)
    Section C: $2 \times 17 = 34$ (Three questions to be set)

Other Components: **Total Marks: 50**
    Seminars
    Quiz
    Assignments
    Project/ Models
    Problem Solving

End Semester Examination

(Question paper to be set by an internal- external Examiner)

Total Marks: 100   **Duration: 3 hours**
Section A: $5 \times 2 = 10$ (Six questions to be set, selecting one question per unit)
Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

M.Sc. DEGREE: BRANCH I – MATHEMATICS

SYLLABUS
(Effective from the academic year 2019-2020)

MATHEMATICAL MODELING

CODE: 19MT/PI/MM24   **CREDITS: 4**

OBJECTIVES OF THE COURSE
  ➢ To translate real life situations into mathematical models
  ➢ To solve problems using mathematical tools

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
  ➢ translate natural phenomena into mathematical model
  ➢ reduce the complexity of a real life problem and represent through abstraction
  ➢ solve simple problems through Mathematical techniques

Unit   1
Traffic Flow Model
1.1 Freeway Traffic
1.2 Macroscopic Traffic Flow Models
1.3 Conservation of Cars
1.4 Traffic Density
1.5 Microscopic Traffic Flow Model
1.6 Linear Car following Model

Unit   2
Image Compression: Iterated functions
2.1 Introduction
2.2 Affine Transformation in the Plane
2.3 Iterated Function Systems
2.4 Iterated Contractions and Fixed Points
2.5 The Hausdorff Distance
2.6 Fractal Dimension
2.7 Photographs as Attractions

Unit   3
The DNA computer
 3.1 Introduction
3.2 Adlemans Hamiltonian Path Problems
3.3 Turing Machines and Recursive Functions
3.4 Turing Machines and Insertion Deletion Systems
3.5 NP – Complete Problems
3.6 DNA Computers

Unit 4

Nonlinear Difference Equations

4.1 Recognizing a Nonlinear Difference Equation
4.2 Steady State Stability and Critical Parameters
4.3 The Logistic Difference Equation
4.4 Beyond $r = 3$

Unit 5

Application of nonlinear difference equation to population

5.1 Density Dependence in Single Species Population
5.2 Two Species Iterations: Host – Parasite Systems
5.3 The Nicholson – Bailey Model
5.4 Modifications of the NB Model

BOOKS FOR STUDY

Clive L. Dym. *Principles of Mathematical Modeling*. Second Edition, Elsevier, India Pvt Ltd, 2006.

Leah Edelstein – Keshet. *Mathematical Models in Biology*. SIAM, Random House, New York, 2005.

Christiane Rousseau and Yvan Sain – Aubin. *Mathematics and Technology*. Translator: Chris Hamilton, Springer science and Business media, L.L.C, 2008

BOOKS FOR REFERENCE

Gershenfeld Neil. *The Nature of Mathematical Modeling*. New York: Cambridge University Press, 1999, 6th Reprint 2006.

Kapur, J. N. *Mathematical Modeling*. New York: John Wiley & Sons, 1988.

Temam Roger M., Miranville Alain M. *Mathematical Modeling in Continuum Mechanics*. 2nd Edition, New York: Cambridge University Press, 2005.

WEB RESOURCES

http://www.sfu.ca/~vdabbagh/Chap1-modeling.pdf
http://www.maths.bris.ac.uk/~madjl/course_text.pdf

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A: $5 \times 2 = 10$ (Five questions to be set, selecting one question per unit)
Section B: $5 \times 6 = 30$ (Seven questions to be set, without omitting any unit)
Section C: $3 \times 20 = 60$ (Five questions to be set without omitting any unit)

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
DEPARTMENT OF PHYSICS
PROGRAMME DESCRIPTION

The Master's degree in Physics seeks to prepare the students for a career in Physics research or in education at the research level. Physics students gain practical experience through hands-on projects in classes, as well as a senior capstone research project or professional internship. Facilities are available for student research in Nonlinear Optics, Condensed-matter Physics, and Nuclear Physics.

The Master programme in Physics consists of the following specialisations:

- Mathematical Physics
- Electronics
- Statistical Mechanics
- Classical Mechanics
- Quantum Mechanics
- Electrodynamics
- Solid State Physics
- Nuclear Physics

PROGRAMME SPECIFIC LEARNING OUTCOMES

On successful completion of the programme, the students will be able to

- Demonstrate conceptual understanding of physics, its models and their limitations

- Perform calculations in theoretical physics using qualitative and quantitative reasoning including sophisticated mathematical techniques

- Show the ability to follow and critically assess developments in the field of physics by using relevant physical literature and databases.

- Conduct independent research or work successfully in a technical position.

- Demonstrate the ability to critically and creatively identify and formulate problems using appropriate methods.

- Carry out advanced tasks like computations, simulations, observations and experiments in Physics.

- Communicate the critical importance of physics in the society.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Sc. DEGREE : Branch III PHYSICS

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
C-Credit, **L**-Lecture Hours, **T**-Tutorial Hours, **P**- Practical Hours, **Ex**-Exam Hours, **CA**- Continous Assessment Marks, **ES**-End Semester Marks, **M**-Maximum Marks									
SEMESTER-I									
19PH/PC/MP14	Mathematical Physics I	4	4	1	0	3	50	50	100
19PH/PC/SM14	Statistical Mechanics	4	4	1	0	3	50	50	100
19PH/PC/EL14	Electronics I	4	4	1	0	3	50	50	100
19PH/PC/P114	Experimental Physics I	4	0	0	8	3	50	50	100
	Department Elective I								
	SAP / SL	2	2	0	0	-	50	-	100
SEMESTER-II									
19PH/PC/MP24	Mathematical Physics II	4	4	1	0	3	50	50	100
19PH/PC/CM24	Classical Mechanics	4	4	1	0	3	50	50	100
19PH/PC/P224	Experimental Physics II	4	0	0	8	3	50	50	100
	Department Elective II								
	Common Elective I								
CD / ET	Value Education	2	2	0	0	-	50	-	100
19EL/PK/SS22	Soft Skills	2	2	0	0	-	50	-	100
SEMESTER-III									
19PH/PC/QM34	Quantum Mechanics I	4	4	1	0	3	50	50	100
19PH/PC/SS34	Solid State Physics	4	4	1	0	3	50	50	100
19PH/PC/ED34	Electrodynamics	4	4	2	0	3	50	50	100
19PH/PC/P334	Experimental Physics III	4	0	0	8	3	50	50	100
	Common Elective II								
CD / ET	Value Education	2	2	0	0	-	50	-	100
19PH/PN/SI32	Summer Internship	2	0	0	2	-	50	-	100
SEMESTER-IV									
19PH/PC/QM44	Quantum Mechanics II	4	4	1	0	3	50	50	100
19PH/PC/NP44	Nuclear and Elementary Particle Physics	4	4	1	0	3	50	50	100
19PH/PC/EL44	Electronics II	4	4	1	0	3	50	50	100
19PH/PC/DS47	Dissertation	7	0	0	9	-	50	50	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19PH/PE/CP15	Crystal Physics	5	5	0	0	3	50	50	100
19PH/PE/RP15	Reactor Physics	5	5	0	0	3	50	50	100
19PH/PE/MN15	Material Physics and Nanoscience	5	5	0	0	3	50	50	100
19PH/PE/MU15	Medical Physics and Ultrasonics	5	5	0	0	3	50	50	100
19PH/PE/AP15	Astrophysics	5	5	0	0	3	50	50	100
19PH/PE/GP15	Geophysics	5	5	0	0	3	50	50	100
19PH/PE/SP15	Spectroscopy	5	5	0	0	3	50	50	100

M.Sc. DEGREE : Branch III PHYSICS

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

C-Credit, L-Lecture Hours, T-Tutorial Hours, P- Practical Hours, Ex-Exam Hours, CA- Continous Assessment Marks, ES-End Semester Marks, M-Maximum Marks									
Subject Code	**Title of Course**	**C**	**L**	**T**	**P**	**Ex**	**CA**	**ES**	**M**
Postgraduate Elective Courses Offered to Other Departments									
19PH/PE/ED23	Everyday Physics	3	2	0	1	3	50	50	100
19PH/PE/EI23	Electrical Installations	3	2	0	1	3	50	50	100
19PH/PE/EP23	Energy Physics	3	3	0	0	3	50	50	100
Independent Elective Courses									
19PH/PI/DC24	Digital Communication	4	0	0	0	3	-	100	100
19PH/PI/DN24	Data Communication and Computer Networks	4	0	0	0	3	-	100	100

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

MATHEMATICAL PHYSICS I

CODE:19PH/PC/MP14   **CREDITS:4**
                                                                         L T P:4 1 0
                                                          TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
• The foundations to various mathematical techniques and tools like numerical methods, transform techniques and special functions which forms the back bone of all higher physics is introduced.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

• Explain the main mathematical methods used in physics.
• Understand the fundamentals of Numerical and Complex Analysis
• Be familiar with important special functions in mathematical physics including Legendre Polynomial and Bessel function
• Master the tools from vector and tensor analysis that are important prerequisites for other theoretical physics courses like electrodynamics or continuum mechanics.
• Demonstrate accurate and efficient use of specific mathematical physics techniques

Unit 1
Numerical analysis   **(13 Hours)**
Finite differences – Newton Gregory formula – Interpolation and extrapolation – Numerical differentiation - Numerical integration –Simpson's one third rule - Solution of ordinary differential equations: Euler method - Euler modified method – Runge - Kutta method (2nd order) – Newton Raphson method – method of iterations (forward and backward iterations) – method of Least squares.

Unit 2
Complex Analysis   **(13 Hours)**
Functions of a complex variable - Analytic function - Cauchy - Riemann equations - Laplace equation and harmonic function - Line integral in complex plane - Cauchy's theorem - multiply connected regions - Cauchy integral formula - Derivatives of analytic function - Taylor and Laurent series - Singularities - Residue theorem

Unit 3
 Linear vector Space   **(13 Hours)**
Basic concepts – Expansion theorem – Inner product and unitary spaces – Orthonormal sets – Schmidt orthogonalization procedure – Completeness – Applications to Hydrodynamics , Heat flow in solids, Gravitation and Electromagnetic field – Dual space: ket and bra notation – basis – orthogonal basis –

change of basis – Isomorphism of vector spaces – projection operator – Eigen values and eigen functions – Direct sum and invariant subspaces – orthogonal transformations and rotations

Unit 4

Tensor Analysis (13 Hours)

Tensors in Physics - Notation and conventions - Contra and covariant tensors of rank one and two - Algebra of tensors - outer and inner products - Contraction - Symmetric and anti symmetric tensors - Quotient law - Conjugate tensors - Metric tensor - Raising and lowering of indices Cartesian tensors - Rotation and translation – Orthogonal transformations - Transformation of divergence and curl of vectors - Stress, strain and Hooke's law – Tensors in dynamics, in elasticity and in rigid bodies - Moment of inertia tensor

Unit 5

Special Functions – I (13 Hours)

Series solution with simple examples - Gamma and Beta functions - Properties - Legendre polynomial and function - Generating function - Rodrigue formula – Orthogonality property - Associated Legendre function - Recurrence relations - spherical harmonics - Graphs of Legendre functions - Bessel function - Generating function – Hankel function - Recurrence relations - Spherical Bessel function - Graphs - Orthonormality relation

BOOKS FOR STUDY:

H.K.Dass, *Mathematical Physics*, S. Chand & Company Limited (2010) (Unit 1 Ch 13 and Unit 2 and 3)

Sathyaprakash, *Mathematical Physics with Classical Mechanics* Sultan Chand & Sons 2014 (Unit 4 and 5)

BOOKS FOR REFERENCE

Louis Albert Pipes, Lawrence R. Harvill, *Applied mathematics for engineers and physicist*, 3rd Edition, McGraw - Hill (1970)

Greenberg, *Advanced Engineering Mathematics*, 2nd Edition, Pearson Education India (1998)

Isaac A. Thangapandi Somasundaram A. Arumugam S, .*Engineering mathematics*, Vol I - III, 1st edition - Scitech Publications (India) Pvt. Ltd

George Arfken, Hans-Jurgen Weber, *Mathematical Methods for Physicists,* 6th Edition, Academic Press, (2003)

K. F. Riley, M. P. Hobson, S. J. Bence, *Mathematical Methods for Physics and Engineering: A Comprehensive Guide,* 3rd Edition, Cambridge University Press(2006)

Mary L. Boas, *Mathematical Methods in the Physical Sciences*, 3rd Edition, Wiley, (2006)

Nikolaĭ Nikolaevich Lebedev, *Special Functions and Their Applications*, Courier Dover Publications, (1972)

PATTERN OF ASSESSMENT

Continuous Assessment Test:　　　**Total Marks:　50**　　　　　**Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination:　　　**Total Marks:　100**　　　　　**Duration: 3 hours**
Section A – 10 x 3 = 30 Marks (All questions to be answered)
Section B – 5 x 5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

STATISTICAL MECHANICS

CODE:19PH/PC/SM14   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To create a thorough understanding of how a real system should be understood by the linking of thermodynamics with kinetic theory using statistical methods
- To develop understanding of the importance of entropy in this linking
- To learn the concept of ensembles – tackle the simplest case of ideal gas in different ensembles
- To invoke the quantum picture, density matrix and quantum gases

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Understand the basic ideology of phase space, microstate and macrostate
- Give an account of the relevant quantities used to describe macroscopic systems, thermodynamic potentials and ensembles.
- Apply the principles of probability in distribution of particles in various systems and to calculate thermodynamic probability.
- Distinguish between different types of particles and statistics and can easily distribute bosons, fermions and classical particles among energy levels.
- Show an analytic ability to solve problems relevant to statistical mechanics

Unit   1   **(13 Hours)**
Ensemble Theory
Foundation of statistical Mechanics – connection between statistical mechanics and thermodynamics – classical ideal gas – Gibb's paradox – phase space – Liouville's theorem, microcanonical ensemble – classical gas in microcanonical ensemble – linear harmonic oscillator – coarse graining of phase space

Unit   2   **(13 Hours)**
Canonical Ensembles
Classical Canonical ensembles –partition function – connection with thermodynamics – energy fluctuation – classical ideal gas in canonical ensembles - calculation of statistical quantities – equipartition theorem – classical harmonic oscillator – two level system – concept of negative temperature – particle in a box – linear harmonic oscillator – system with internal degrees of freedom – rigid rotator – Einstein's theory of specific heat capacity

Unit 3 (13 Hours)
Grand Canonical ensemble
Particle reservoir – grand partition function – connection with thermodynamics – classical gas in grand canonical ensemble – symmetry aspect of many particle wave function – photons – number fluctuation – parametric equation of states – virial expansion – critical fluctuation – pair production – elements of quantum statistics – density matrix – pure and mixed states – properties of density matrix– density operators for quantum statistics.

Unit 4 (13 Hours)
Bose – Einstein statistics
Ideal Bose gas – its thermal properties – statistics of ensembles – black body radiation – phonons – Debye's theory of specific heat –BE condensation – Liquid helium – super fluidity

Unit 5 (13 Hours)
Ideal Fermi gas
Ideal Fermi gas – Fermi Dirac distribution –thermodynamic properties of Fermi gas – electrons in metals – electronic heat capacity – paramagnetic susceptibility – white dwarf – Chandrasekhar
limit – nuclear matter.

BOOKS FOR STUDY
Thermodynamics and Statistical Mechanics – Walter Greiner Springer – 1995

Statistical Mechanics – R K Pathria – Elsevier – second edition – 1996

Introduction to statistical mechanics – Kerson Huang – CRC press – 2001

BOOKS FOR REFERENCE
F Reif, *Fundamentals of Statistical and thermal Physics,* McGraw Hill – 1965

Laundu and Lifshitz, Butterworth, Heinemann – *Statistical Physics*, 3rd Edition – 1980

Terrell Hill, *Statistical Mechanics, Principles and selected applications,* Courier Dover Publications, 1987

David Chandler, *Introduction to modern statistical mechanics*, Oxford University Press – 1987

Agarwal and Eisner, *Statistical Mechanics*, New Age International Press – 2011

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 = 15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)
Other Components:
Presentation/Assignments/Problem solving/Quiz
End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

ELECTRONICS I

CODE:19PH/PC/EL14   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- Appreciate the significance of electronics in different applications.
- Compile the different building blocks in digital electronics using logic gates and implement simple logic function using basic universal gates
- Familiarize the students with the Op-Amp IC and its applications.
- To introduce the basic architecture, operation and interfacing of microprocessors.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand operation of diodes, transistors in order to design basic circuits
- Explain the functioning of field-effect transistors.
- Demonstrate understanding of shift register basics, the various kinds, their operating characteristics, and applications.
- Write assembly language program for 8085
- Students will be able to understand various types of memory systems.

Unit   1   **(13 Hours)**
Special Devices
Transistor Amplifiers – Establishing the Q point – Types of Transistor Amplifiers – H parameter – Z parameter – transconductance G_m - FET Structure and constructional features - working principle and characteristics – FET biasing – FET common source and common drain amplifier – FET as voltage variable resistor – SCR theory, construction and characteristics – SCR as half wave and full wave rectifier – DIAC and TRIAC.

Unit   2   **(13 Hours)**
Digital Electronics
DTL type AND, OR, NAND and NOR – **RTL** type NAND and NOR – **TTL** type NAND - **ECL** and **I²L** circuits - CMOS NOR and CMOS NAND.
Flip – Flops : RS, RST, D, JK and JK master-slave flip flops
Asynchronous Counters : 4 bit binary ripple counter – mod-7 and mod-5 counter – decade counter – up counter – down counter – up-down counter
Synchronous counters: mod -8, mod-7, mod-6 and mod -5 parallel counters – race problem
Registers : Serial shift register – Ring counter – Johnson counter

Unit   3   **(13 Hours)**
Op Amp, Timer And Its Applications
DC analysis of IC op amp – instrumentation amplifier – Transducer bridge – applications – Temperature indicator, Flux meter and weighing machine – analog integrator,

differentiator – Design of analog circuits for the solution of differential equation and simultaneous equation using op amp – Sample and hold system – analog multiplexer. **Active filters**: high, low and band pass filters – first order and second order filters. **Timer 555**: Internal architecture and working – monostable and astable operation – voltage control oscillator (VCO) 566 – PLL concept - Phase locked loop IC 565

Unit 4 (13 Hours)
8085 Programming And Interfacing

Architecture of 8085 – addressing modes – instruction sets – programming technique - assembly language programs – memory mapping – 2k x 8 and 4k x 8 ROM interface – 2k x 8 and 4k x 8 RAM interface – Timing diagram for memory READ and memory WRITE cycles – Memory mapping – I/O schemes – memory mapped I/O and I/O mapped I/O schemes – comparison between them – Data transfer schemes.

Unit 5 (13 Hours)
Interfacing Periperal And I/O Systems

Programmable peripheral interface 8255: Architecture of 8255 – control signals of 8255 – operational modes – interfacing of key board – interfacing multiplexed 7 segment display – interfacing of DAC and ADC – Stepper motor interface

BOOKS FOR STUDY

Arul Thalapathi . M, *Basic and applied Electronics*, Comptek Publishers, Chennai, 2005.

Ramesh.S, Gaonkar.B, *Microprocessor architecture , Programming and application* , Wiley International Edition, 11th Reprint (1989)

Douglas V.Hall, *Microprocessor and Interfacing , Programming and Hardware*, 2nd Edition. Tata McGraw Hill Publishing, (2005), New Delhi.

Malvino Leach, *Digital Principles and applications,* 5th edition, TMH Publications (2002), New Delhi.

Milman and Grabel, *Microelectronics,* 2nd edition, TMH Publications (2002), New Delhi

BOOKS FOR REFERENCE

Taub and Schilling, *Integrated electronics*, Tata McGraw Hill, International student edition, 11th printing (1984).

Albert D.helfrich and William D.Cooper, *Modern Electronic instrumentation and measurement techniques,* 5th edition, Prentice Hall of India

Vijayendran, V., *Fundamentals of Microprocessor 8085 – Architecture, Programming and Interfacing,* Viswanathan Publishers, Chennai (2002)

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4 x 5 = 20 (4 out of 6 to be answered)
Section C – 1x 15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

EXPERIMENTAL PHYSICS I

CODE:19PH/PC/P114   **CREDITS:4**
                                                  L T P:0 0 8
                                            TOTAL HOURS:78

1) De Sauty's bridge
2) Fresnel's Biprism – Spectrometer
3) Polarimeter
4) Cornu's method – Young's modulus and Poisson's ratio – Elliptic Fringes
5) UV visible Spectrometer
6) Study of RS, Clocked RS, D flip flops using NAND and NOR
7) Arithmetic Operations 4 bit binary addition 7483 and subtraction
8) OP-AMP 4 bit Digital – Analog R – 2R Ladder
9) OP-AMP Waveform generators
10) Multi vibrators – Monostable and astable using 555 timer
11) Microprocessor 8085 Sum of Set of n data (8 bit numbers)
12) Microprocessor 8085 Traffic Signal Controller
13) Microprocessor 8085 Code Conversion
14) Microprocessor 8085 Stepper motor interface
15) Microprocessor 8085 interfacing of R-2R ladder
16) Microprocessor 8085 interfacing of 7 segmented display

BOOK FOR STUDY
Ouseph,C. C., V. Srinivasan and R. Balakrishnan, A Text Book of Practical Physics, Vol. I &
II., S.Viswanathan Pvt., Ltd. Madras (2007).

PATTERN OF ASSESSMENT:
Continuous Assessment Test		**Total Marks: 50**	**Duration: 3 hours**
Formula & Procedure	20		
Observation & Calculation	20		
Result & Accuracy	10		

End-Semester Examinations		**Total Marks: 50**	**Duration: 3 hours**
Formula & Procedure	20		
Observation & Calculation	20		
Result & Accuracy	10		

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

MATHEMATICAL PHYSICS II

CODE:19PH/PC/MP24   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- Advanced mathematical tools essential for various theoretical models in all branches of physics are introduced with aim to enable students solve problems.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Express in depth understanding of the partial differential equations
- Be familiar with differential forms as tools that allow to solve physical problems with simplicity
- Acquire a basic knowledge of some advanced topics in Mathematical Physics, such as the elements of group theory
- Solve problems using special functions, such as Bessel functions and Legendre polynomials.
- Understand the applications of Fourier Transform in the field of Physics

Unit   1
Fourier Transform   **(13 Hours)**
Fourier transform – properties – Convolution theorem - Transforms of derivatives – Finite Fourier transform - Laplace transform - properties Transforms of derivatives and integral -   Periodic function - Special Function – Fourier Miller theorem – Convolution - Laplace transform and its inverse - Solution of differential equations.

Unit   2
Partial Differential Equations   **(13 Hours)**
Introduction – Elliptic parabolic and hyperbolic equations - Solution of partial differential equations – Laplace equation – transformation – Solutions– Wave equation - Solutions involving boundary conditions – Two dimensional and Three dimensional equation - Wave equation in spherical and cylindrical coordinates – Heat conduction equation – One dimensional and Two dimensional equation with boundary conditions

Unit   3
Special Function – II   **(13 Hours)**
Fuch's theorem – Hermite equations - Hermite polynomials - Generating function for $H_n(x)$ – Rodrique's formula for $H_n(x)$ – Bessel's equations – Recurrence formula for Bessel function - Orthogonality properties of Bessel function - Laguerre polynomials - Generating function for $L_n(x)$ - Rodrique's formula - Orthogonality properties - Recurrence relation

Unit   4
Group Theory   **(13 Hours)**
Groups - Symmetry transformation of a square - Conjugate element and classes -
multiplication of classes - Subgroups - cyclic group - Normal subgroups and factor
groups - Direct product of groups - Isomorphism and homomorphism - Permutation
groups – Distinct groups - representation theory of finite groups - Molecular point
groups - irreducible representation of point groups – reducible representation -
Schur's lemma and the orthogonality theorem - character of the representation - the
example of C4V – irreducible representation and regular representation - Continuous
groups and their representations - Lie groups - Axial rotation group SO (2) - Three
dimensional rotation groups SO (3) and SU(2)

Unit   5
Probability   **(13 Hours)**
Definitions - Laws of probability - Mean, Standard deviation – Poisson distribution -
Binomial distribution - Normal distribution - Moments of distribution - Recurrence
relations - Sampling of variables - Variance - The t-distribution - The Chi – Square
distribution

BOOKS FOR STUDY:
A. B. Gupta *Fundamentals of Mathematical Physics,* Books & Allied Ltd 2013 Unit 2 (ch 5)
Unit 3 (ch 8)

Sathyaprakash, *Mathematical Physics with Classical Mechanics*, Sultan Chand & Sons 2014
Unit 1 (ch 9) Unit 4 (ch 12)

Rao Sankara, *Introduction to Partial Differential Equations*, 2nd edition, Prentice – Hall of
India(2005) (Unit 1 and 2)

Erwin Kreyszig, *Advanced Engineering Mathematics,* 10th Edition, John Wiley & Sons
(2011)(partly for unit 1)

W. W. Bell, *Special functions for scientists and engineers*, Courier Dover Publications
(2004)(Unit 3)

A.W. Joshi, *Elements of group theory for physicists*, 4th Edition, New Age International
(2007) (Unit 4)

H.K.Dass, *Mathematical Physics*, S. Chand & Company Limited (2010) (Unit 5)

BOOKS FOR REFERENCE
Louis Albert Pipes, Lawrence R. Harvill, *Applied mathematics for engineers and physicists*
3rd Edition, McGraw - Hill (1970)

Greenberg, *Advanced Engineering Mathematics,* 2nd Edition, Pearson Education India (1998)

Isaac A. Thangapandi Somasundaram A. Arumugam S., *Engineering mathematics*, Vol I -
III, 1st edition - Scitech Publications (India) Pvt. Ltd

Michael Tinkham, *Group theory and quantum mechanics,* Courier Dover Publications, Tata McGraw - Hill(2003)

George Arfken, Hans-Jurgen Weber, *Mathematical Methods for Physicists,* 6th Edition, Academic Press, (2003)

K. F. Riley, M. P. Hobson, S. J. Bence, *Mathematical Methods for Physics and Engineering: A Comprehensive Guide* 3rd Edition, Cambridge University Press(2006)

Mary L. Boas, *Mathematical Methods in the Physical Sciences,* 3rd Edition, Wiley, (2006)

Nikolaĭ Nikolaevich Lebedev, *Special Functions and Their Applications,* Courier Dover Publications, (1972)

Tulsi Dass, S.K. Sharma, *Mathematical Methods In Classical And Quantum Physics,* Universities Press,

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

CLASSICAL MECHANICS

CODE:19PH/PC/CM24   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce the classical formulation approaches like Lagrangian and Hamiltonian dynamics in understanding mechanical systems and solving problems.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand planar and spatial motion of a rigid body,
- Utilize appropriate mathematical tools to analyse and solve a system's equations.
- Demonstrate a basic knowledge of Lagrangian and Hamiltonian dynamics.
- Apply Lagrangian & Hamiltonian methods to complex motion problems.
- Demonstrate an understanding of the central-force motion.

Unit   1   **(13 Hours)**
Lagrangian Formulation
Mechanics of a system of particles - Constraints - D'Alembert's principle – Lagrange equations - Velocity dependent potentials - applications – Variational principle - Hamilton's principle - Non - holonomic systems - Conservation theorems and symmetry properties. Two - body central force problem - equations of motion - first integrals - classification of orbits - conditions for closed orbits - Kepler's problem - scattering in a central force field - Lab frame - centre of mass frame transformation.

Unit   2   **(13 Hours)**
Rigid Body Dynamics
Kinematics - degrees of freedom - Euler angles - Euler's theorem on the motion of a rigid body - Rotations - finite and infinitesimal. Angular momentum and kinetic energy - Inertia tensor - Principal axes - Euler's equations – Torque free motion of a rigid body - Symmetric top - Precession and nutation - applications – Motion in rotational frames – centrifugal and coriolis forces.

Unit   3   **(13 Hours)**
Hamiltonian Formulation
Legendre transformation and Hamiltonian equations - Cyclic coordinates and conservation theorems - Hamiltonian equations from Variational principle - canonical transformations - Poisson brackets – equations of motion - conservation theorems in Poisson bracket formulation - angular momentum Poisson brackets - generation of canonical transformations.

Unit 4 (13 Hours)

Canonical Transformations

Hamilton-Jacobi theory - Hamilton - Jacobi equation - Hamilton's principal function – free particle in Cartesian coordinates - central force in spherical polar coordinates - application to harmonic oscillator problem – Action angles - Kepler's problem - action - angle variables - simple harmonic oscillator.

Unit 5 (13 Hours)

Small Oscillations

The eigenvalue equation – the principal axis transformation - free vibrations - normal coordinates - linear triatomic molecule – double pendulum – triple pendulum – triple parallel pendulum.

BOOKS FOR STUDY

H.Goldstein, Charles Poole and John Sabko, *Classical Mechanics*, 3rd edition, Pearson Education India, (2002)

M.G.Calkin, *Lagrangian and Hamiltonian mechanics*, 1st Indian Reprint, Allied Publishers (2000)

BOOKS FOR REFERENCE

P.V.Panat, *Classical Mechanics*, 5th Edition, Alpha Science International, (2005)

K.N.Srinivasa Rao, *Classical Mechanics*, Universities Press (India) Private Limited (2003)

Dare A. Wells, *Lagrangian dynamics*, Schaum S Outline Series, McGraw - Hill Education (India) Pvt Ltd, (2005)

Yung – Kuo Lim, *Problems and solutions on Mechanics*, Sarat Book House, (2001)

Rana & Joag, Rana, *Classical Mechanics*, 24th Reprint, Tata McGraw-Hill Education, (2001)

Stephen T. Thornton, Jerry B. Marion, *Classical Dynamics of Particles and Systems,* 5th Edition, Brooks/Cole, (2004)

R. Douglas Gregory, *Classical Mechanics: An Undergraduate Text,* Cambridge University Press, (2006)

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:

Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 10 x 3 = 30 Marks (All questions to be answered)
Section B – 5 x 5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

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M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

EXPERIMENTAL PHYSICS II

CODE:19PH/PC/P224   **CREDITS:4**
L T P:0 0 8
TOTAL HOURS:78

1) e/m Magnetron method
2) Hall Effect
3) Thickness of insulation of a wire by interference method(air wedge)
4) Viscosity of a liquid by Mayer's method
5) Hydrogen spectra – Rydberg's constant
6) Cornu's method – Young's modulus and Poisson's ratio – Hyperbolic Fringes
7) OP-AMP - Solving differential equation
8) OP-AMP - Low pass, band pass and high pass filter
9) Shift register, Ring counter and Johnson twisted ring counter
10) OP-AMP phase shift oscillator
11) OP-AMP – Pulse generator and application as Frequency divider
12) OP-AMP – Triangular Wave Oscillator.
13) UJT relaxation oscillator
14) Microprocessor 8085 sorting ascending and descending
15) Microprocessor 8085 programmable counter 8255 interface
16) Microprocessor 8086 Arithmetic operations

BOOK FOR STUDY
Ouseph,C. C., V. Srinivasan and R. Balakrishnan, A Text Book of Practical Physics, Vol. I & II., S.Viswanathan Pvt., Ltd. Madras (2007).

PATTERN OF ASSESSMENT:
Continuous Assessment Test   **Total Marks: 50**   **Duration: 3 hours**
Formula & Procedure   20
Observation & Calculation   20
Result & Accuracy   10

End-Semester Examinations   **Total Marks: 50**   **Duration: 3 hours**
Formula & Procedure   20
Observation & Calculation   20
Result & Accuracy   10

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

QUANTUM MECHANICS I

CODE:19PH/PC/QM34   **CREDITS:4**
                                                                          L T P:4 1 0
                                              TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To understand the basic concepts of quantum mechanics.
- To have an in-depth knowledge of intermediate quantum mechanics.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Demonstrate an understanding of how quantum states are described by wave functions
- Demonstrate an understanding of the significance of operators and eigenvalue problems in quantum mechanics
- Solve the Schrodinger equation and describe the properties of the simple harmonic oscillator
- Demonstrate an understanding of angular momentum in quantum mechanics
- Learn approximate methods for solving the Schrödinger equation (the variational method, perturbation theory, Born approximations)

Unit   1
General Formalism   **(13 Hours)**
Linear vector space – linear operators – postulates – uncertainty principle – Dirac's notation – equations of motion – momentum representation. Free particle – finite potential well – potential barrier– linear harmonic oscillator (operator method alone) – Hydrogen atom.

Unit   2
Matrix Formalism (Representation theory)   **(13 Hours)**
Matrix representation of state vectors – operators – continuous case – change of representation – eigen value problems – different representations – unitary transformations involving time – Heisenberg method – Harmonic oscillator – matrix representation of spin – spinors- expectation values – magnetic moment of an electron –precision of electron in magnetic field.

Unit   3
Approximation methods   **(13 Hours)**
Time independent perturbation theory – non-degenerate energy levels– anharmonic oscillator – ground state of Helium – degenerate levels– Stark effect – spin-orbit interaction – variational method – Hydrogen molecule.

Unit 4

Angular momentum (13 Hours)

Angular momentum operator – commutation relation – eigen values and eigen functions of L^2 and L_z – general angular momentum – eigen states and eigen values of J^2 and Jz – angular momentum matrices – spin angular momentum – spin - 1/2 systems – addition of
angular momentum.

Unit 5

Scattering theory and applications (13 Hours)

Scattering cross section – scattering amplitude – partial waves – scattering by a central potential – partial wave analysis – scattering by a square well potential – phase shifts – Born approximation – scattering by screened Coulomb potential – validity of Born approximation – laboratory and centre of mass coordinate systems.

BOOKS FOR STUDY:

G Aruldhas, *Quantum Mechanics* Prentice Hall India Learning Pvt. Ltd., 2004

B. K. Agarwal, Hari Prakash, *Quantum Mechanics*, Prentice Hall India Learning Pvt. Ltd., 2004

V. K. Thankappan, *Quantum Mechanics*, 2nd Edition, New Age International (1993)

Leonard. I. Schiff, *Quantum Mechanics*, 4th Edition, McGraw Hill education (2017)

BOOKS FOR REFERENCE:

Piravonu Mathews Mathews, K. Venkatesan, *A text book of Quantum Mechanics*, 36th Edition Tata McGraw – Hill Education, (1978)

Nouredine Zettili, *Quantum Mechanics: Concepts and Applications*, 2nd Edition, John Wiley & Sons, (2009)

Claude Cohen - Tannoudji, Bernard Diu, Franck Laloë, *Quantum mechanics* Vol. 1, Wiley, (1977)

Walter Greiner, *Quantum mechanics: An introduction*, 4th Edition, Elsevier Springer, (2001)

David J. Griffith, *Introduction to Quantum Mechanics,* 2nd Edition, Pearson Education India, (2005)

Ramamurti Shankar, *Principles of Quantum Mechanics*, 2nd Edition, Springer, (1994)

J.J. Sakurai, *Modern Quantum Mechanics*, Pearson Education India

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

SOLID STATE PHYSICS

CODE:19PH/PC/SS34   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To understand the properties of metals
- To learn the magnetic properties of materials

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand the basics of the Free Electron model and calculate electrical and thermal properties
- Clearly describe the cause for different types of magnetism in materials
- Account for what the Fermi surface is and how it can be measured
- Describe the phenomenon of superconductivity
- Distinguish between perfect conduction and perfect diamagnetism, and give a qualitative description of the Meissner effect

Unit   1
Free Electron theory: **(13 Hours)**
Energy bands – free electron model – Origin of gap – Bloch functions - Kronig - Penney model – Wave equation of electron in a periodic potential – number of orbitals in a band – metals and insulators – semi - conductor crystals - Band gap – Equations of motion – Fuller Derivation - effective mass - Intrinsic semiconductor - carrier concentration – impurity semiconductors (n and p type) – thermoelectric effects in semiconductors – Amorphous semiconductors.

Unit   2
Fermi Surface and Dielectric Properties: **(13 Hours)**
Fermi surfaces and metals – construction of Fermi surfaces – electron, hole and open orbits – pseudo potential – calculation of energy bands – Wigner – Seitz method – pseudo potential - dielectric and ferro electrics – polarization – macroscopic electric field - depolarization – local electric field of an atom – dielectirc constant and polarizability - Classius - Mossotti equation- electronic polarizability – ferro electric crystals – classification – polarazability catastrophe

Unit   3
 Diamagnetism and Paramagnetism: **(13 Hours)**
Langevin diamagnetic equation, diamagnetic response, Quantum mechanical formulation, core diamagnetism. Quantum Theory of Paramagnetism, Rare Earth Ions, Hund's Rule, Iron Group ions, Crystal Field Splitting and Quenching of orbital angular momentum; Adiabatic Demagnetisation of a paramagnetic Salt, Paramagnetic susceptibility of conduction electrons;

Unit 4

Magnetic Ordering: (13 Hours)

Ferromagnetic order- Exchange Integral, Saturation magnetisation, Magnons, neutron magnetic scattering; Ferrimagnetic order, spinels, Yttrium Iron Garnets, Anti Ferromagnetic order.

Ferromagnetic Domains – Anisotropy energy, origin of domains, transition region between domains, Bloch wall, Coercive force and hysteresis.

Unit 5

Superconductivity: (13 Hours)

Historical survey of superconductivity - critical parameters – Isotope effect - Meissner effect - type I and II superconductors - thermodynamics of superconducting transition - other properties.

London's theory - elements of BCS theory - flux quantisation – DC and AC Josephson effect - SQUID - High temperature superconductivity.

BOOKS FOR STUDY:

H.C. Gupta, *Solid state Physics*, 2nd edition, Vikas publishing house Pvt Ltd (2009)

R.K. Puri and V.K. Babber, *Solid State Physics*, 3rd edition, S.Chand and company Ltd (2005)

P.K. Palanisamy, *Solid State Physics*, Scitech Publication Pvt Ltd (2003)

Dr. Ajay Kumar Saxena, *Solid State Physics*, MacMillan India Ltd (2005)

Charles Kittel, *Introduction to Solid State Physics*, Wiley (2012)

S.O. Pillai, *Solid State Physics*, New age international publishers (2018)

Rita John, *Solid State Physics*, McGraw Hill Education (2014)

BOOKS FOR REFERENCE:

Mircea S. Rogalski, Stuart B. Palmer, Gordan & Breach, *Solid State Physics*, (2000)

Mohammad Abdul Wahab, *Solid State Physics: Structure and properties of materials,* 2nd edition, Alpha science International (2005)

Neil. W. Ashcroft, N. David Mermin, *Solid state Physics*, Harcourt Asia PTE Ltd, first reprint (2001)

PATTERN OF ASSESSMENT

Continuous Assessment Test:　　　**Total Marks: 50**　　　　　**Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination:　　　**Total Marks: 100**　　　　**Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

ELECTRODYNAMICS

CODE:19PH/PC/ED34   **CREDITS:4**
                                                                                                 L T P:4 2 0
                                                                          TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To study the laws governing the distribution and propagation of electromagnetic fields created by static and dynamic charge distributions and their interaction with matter.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Have a deep understanding of the theoretical foundations of electromagnetic phenomena
- Understand the usage of basic concepts of electromagnetism
- Be able to solve the Maxwell equations for simple configurations
- Describe and explain electrodynamics, and explain Maxwell's equations in vacuum;
- Show an ability to solve problems in electrodynamics

Unit   1
Electric and Magnetic Potential   **(15 Hours)**

Divergence and curl of E - Electric scalar potential - Poisson's and Laplace's equations - uniqueness theorems - potential of a localised charge distribution - electric potential - energy of a continuous charge distribution - multipole expansion: approximate potentials at large distances – monopole and dipole terms - electric dipole moment - electric field of a dipole. Divergence and curl of B - Energy in the magnetic fields due to current carrying elements - Magnetic vector potential – magnetic potential at any point due to current carrying elements – multipole expansion of the vector potential - magnetic dipole moment - magnetic field of a dipole.

Unit   2
Electromagnetic Waves   **(15 Hours)**
Maxwell's equation in free space and in matter, displacement current, boundary conditions, Gauge transformations - Coulomb and Lorentz gauge - momentum - Poynting's theorem, - Polarisation - monochromatic plane waves - energy and momentum in electromagnetic waves. Propagation in linear media - reflection and transmission at (i) normal incidence (ii) oblique incidence - laws of geometrical optics - Fresnel's equation - Brewster's angle - boundary conditions - absorption and dispersion in conductors - skin depth - reflection at a
conducting surface - dispersion and anomalous dispersion - Cauchy's formula.

Unit 3

Relativistic Electrodynamics: **(16 Hours)**

Four vectors - tensor algebra, Lorentz transformation - invariance of Maxwell's equations under Lorentz transformation - transformation of electromagnetic field intensities - electromagnetic field tensor - electromagnetic field invariants - covariant form of Maxwell's equations – electromagnetic energy - momentum tensor, conservation laws of vacuum electrodynamics. Relativistic Lagrangian for a free particle - energy - momentum of a free particle - Lagrangian and Hamiltonian for a charged particle in an electromagnetic field.

Unit 4

Electromagnetic radiation: **(16 Hours)**

Retarded scalar and vector potentials - Lienard - Wiechert potentials for a moving point charge - electric and magnetic fields of a moving point charge, velocity and acceleration fields. Electric dipole radiation - magnetic dipole radiation - radiation from an arbitrary source - power radiated by a point charge – Larmor formula - Lienard's generalization of the Larmor formula – radiation reaction - Abraham Lorentz formula.

Unit 5

Guided waves and magneto hydrodynamics (MHD):   **(16 Hours)**

Essential conditions for guided waves - TEM waves in coaxial cables - TE waves- rectangular wave guide - electric and magnetic fields on the surface and inside rectangular wave guide - TE and TM waves in rectangular wave guide - cut - off frequency and wavelength – circular waveguides - energy flow and attenuation in wave guides – cavity resonators - phase and group velocity MHD - Definitions – magneto hydrodynamic equations - magnetic diffusion - viscosity and pressure.

BOOKS FOR STUDY

David Jeffery Griffiths, *Introduction to electrodynamics,* 3rd edition, Prentice Hall(1999)

John David Jackson, *Classical electrodynamics* 3rd edition, Wiley Eastern Ltd. (1999)

BOOKS FOR REFERENCE

Gupta SL, Kumar V, Singh SP, *Electrodynamics*, 2nd edition, Pragati Prakashan (2001)

Anton Z. Capri, P. V. Panat, *Introduction to Electrodynamics,* Narosa Publishing house, New Delhi (2002)

V. V. Sarwate, *Electromagnetic fields and waves,* Reprint 2006, New Age International (P) Publishers (formerly Wiley Eastern limited) (1993)

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 = 15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 =15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

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M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

EXPERIMENTAL PHYSICS III

CODE:19PH/PC/P334   **CREDITS:4**
                                                                                      L T P:0 0 8
                                                                          TOTAL HOURS:78

1) Fabry Parot Etalon
2) Thickness of Edser and Butler fringes
3) B-H loop by CRO
4) Band gap of a thermistor
5) OP-AMP triangle wave oscillator
6) Susceptibility – Guoy's method
7) Regulated power supply ZC 723
8) Study of JK, DT flip-flops using 7476 and 7473
9) Study of binary up and down counters using 7473 and 7486
10) Shift register, Ring counter and Johnson counter
11) Microcontroller 8051 interfacing seven segmented display
12) OP-AMP Wein bridge oscillator
13) OP-AMP pulse generator and applications and frequency divider
14) Microprocessor 8086 multi byte addition and subtraction
15) Microprocessor 8086 sum of set of n data average of n numbers
16) Microcontroller 8051 Arithmetic Operations

BOOK FOR STUDY
Ouseph,C. C., V. Srinivasan and R. Balakrishnan, A Text Book of Practical Physics, Vol. I &
II., S.Viswanathan Pvt., Ltd. Madras (2007).

PATTERN OF ASSESSMENT:

Continuous Assessment Test		Total Marks: 50	Duration: 3 hours
Formula & Procedure	20		
Observation & Calculation	20		
Result & Accuracy	10		

End-Semester Examinations		Total Marks: 50	Duration: 3 hours
Formula & Procedure	20		
Observation & Calculation	20		
Result & Accuracy	10		

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

SUMMER INTERNSHIP

CODE:19PH/PN/SI32   **CREDITS:2**

OBJECTIVES OF THE COURSE
- To familiarize the students to research ambience.
- To expose he students to various experimental and analytic techniques related to research.
- **To enable the** students to have a hands-on experience to work in their desired field. It will help them learn how their course of study applies to the real world and build a valuable experience that makes them stronger candidates for jobs after graduation

The summer internship program is for a minimum period of 1 month. The students are expected to have regular attendance in their respective institute and submit a report to the Department about their summer internship along with a attendance certificate. The students are also expected to give a detailed oral presentation in the third semester related to their research carried out at the Institute.

Guidelines for Assessment

The maximum marks for the summer internship is 50 and is evaluated by considering the following:

Summer internship report**: 20 marks**

Seminar presentation**: 20 marks**

Attendance along with the log book: **10 marks**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

QUANTUM MECHANICS II

CODE:19PH/PC/QM44   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVE OF THE COURSE
- To introduce time dependent perturbation theory, its applications
- To understand the concepts of relativity and relativity in quantum mechanics, symmetries in QM
- To introduce the concepts of quantum field theory.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Formulate and solve problems in quantum mechanics using Dirac notation
- Describe the importance of symmetry and conservation laws in quantum mechanics
- Acquire knowledge of non-relativistic and relativistic quantum mechanics including time-dependent perturbation theory, scattering theory, relativistic wave equations, and second quantization.
- Recognise the connection between relativity and quantum mechanics
- Analyse physical system in a quantum mechanical way

Unit   1
Time Dependent Perturbation Theory   **(13 Hours)**
Introduction – first order perturbation – constant perturbation – harmonic perturbation – interaction of atom with electro-magnetic field – dipole approximation – selection rules – Einstein coefficients and spontaneous emission.

Unit   2
Relativistic Mechanics   **(13 Hours)**
Relativistic addition of velocities – structure of space-time – metric tensor – contra & covariant vectors – proper time and proper velocity – relativistic energy and momentum – momentum 4-vector – momentum transformation – Compton scattering – work energy theorem – Minkowski force.

Unit   3
Relativistic Quantum Mechanics   **(13 Hours)**
K – G equation – interpretation – particles in a Coulomb field – Dirac's equation for a free particle – Dirac's matrices – covariant form of Dirac's equation – negative energy states – probability density – plane wave solution – spin of Dirac's particle – magnetic moment of electron – spin-orbit interaction – radial equation for electron in a central potential – Hydrogen atom – Lamb shift.

Unit 4

Identical particles, Symmetries and conservation laws (13 Hours)

Identical particles in quantum mechanics – exchange degeneracy –permutation operators – two - particle system – symmetric and antisymmetric kets – system with arbitrary number of particles – parity. Symmetry transformations – conservation laws and degeneracy – discrete symmetries – parity or space inversion – parity conservation– time reversal.

Unit 5

Elements of field quantization (13 Hours)

Introduction – quantization of free electromagnetic field – creation and annihilation operators – Lagrangian field theory – non-relativistic fields – relativistic fields – Klein - Gorden field – Dirac's field – electromagnetic field – interacting fields – Feynmann diagrams – electron-photon interaction (optional – scattering – Coulomb scattering – Moller scattering – Bhabha scattering – Bremstrauhlung and pair production.

BOOKS FOR STUDY:

G Aruldhas, *Quantum Mechanics*, Prentice Hall India Learning Pvt. Ltd., 2004

B.K. Agarwal, Hari Prakash, *Quantum Mechanics*, Prentice Hall India Learning Pvt. Ltd., 2004

S L Kakani, H M Chandalia, *Quantum Mechanics: For M.phil, M.Sc., B.Sc. Students of Indian and Foreign Universities NET, SLET, UGC - CSIR & Other Entrance Examination,* Sultan Chand (2007)

V. K. Thankappan, *Quantum Mechanics*, 2nd Edition, New Age International (1993)
Leonard. I. Schiff, *Quantum Mechanics*, 4th Edition, McGraw Hill education (2017)

BOOKS FOR REFERENCE:

Piravonu Mathews, K. Venkatesan, *A text book of Quantum Mechanics*, 6th Edition Tata McGraw – Hill Education, (1978)

Nouredine Zettili, *Quantum Mechanics: Concepts and Applications,* 2nd Edition, John Wiley & Sons, (2009)

Claude Cohen - Tannoudji, Bernard Diu, Franck Laloë, *Quantum mechanics* Vol. 2, Wiley, (1977)

Walter Greiner, *Quantum mechanics: An introduction*, 4th Edition, Elsevier Springer, (2001)

PATTERN OF ASSESSMENT:

Continuous Assessment Test: Total Marks: 50   Duration: 90 minutes
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)
Other Components:
Presentation/Assignments/Problem solving/Quiz
End-Semester Examination: Total Marks: 100   Duration: 3 hours
Section A – 10 x 3 = 30 Marks (All questions to be answered)
Section B – 5 x 5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

NUCLEAR AND ELEMENTARY PARTICLE PHYSICS

CODE:19PH/PC/NP44   **CREDITS:4**
                                                     L T P: 4 1 0
                                          TOTAL TEACHING HOURS:65

OBJECTIVE OF THE COURSE
- To explore the understanding of nuclear models and various physical properties of nucleus.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Learn the concepts in particle and nuclear physics
- Explain the role of spin-orbit coupling in the shell structure of atomic nuclei, and predict the properties of nuclear ground and excited states based on the shell model
- Describe the different types of elementary particle interaction
- Explain the different forms of radioactivity and account for their occurrence
- Be familiar with current research in Nuclear Physics.

Unit   1
Nuclear Size, Shapes and Forces   **(13 Hours)**
Nuclear size determination by different methods - Electron scattering method – mirror nuclei method - nuclear spin, parity and electric and magnetic moments - Nuclear forces:- Meson theory of nuclear forces- ground state of Deuteron – nucleon – nucleon scattering – scattering cross section – length and effective range.

Unit   2
Nuclear Models: **(13 Hours)**
Fermi Gas model - Liquid drop model - Semi – empirical mass formulas – Binding energy – rectangular well potential – shell model – magic numbers – nuclear spin orbit interaction – predictions of shell model - - Unified model

Unit   3
Nuclear Reactions   **(13 Hours)**
Nuclear reactions – types – conservation laws- nuclear reaction croos section – theories of nuclear reaction – Breit – Weigner single level formula - Resonance scattering – Compound Nucleus – Continuum theory – mechanism of nuclear reaction – Heavy ion induced nuclear reaction – life time – photo nuclear reactions – nuclear molecules.

Unit   4
Radioactivity: **(13 Hours)**
Introduction - Gamow theory of alpha decay - Beta decay - Energy spectrum - Fermi theory - Fermi and Gamow - Teller selection rules - Non - conservation of parity –

Gamma Decay – internal conversion of Gamma rays – resonance scattering and absorption.

Unit 5

Elementary particles (13 Hours)

Introduction - classification – types of interaction – hadrons and leptons – symmetries and conservation laws – CP and CPT invariance – CPT theorem – symmetry classification of elementary particles - hadrons – Lie algebra – SU(2) and SU(3) multiplets – quark model – Gellman - Okubo mass formula for octets and decuplet hadrons – charm, bottom, top quarks.

BOOKS FOR STUDY:
Nuclear physics: theory and experiment by Radha Raman Roy, B.P. Nigam, 1st Edition, New Age International, Chennai, (2008).

BOOKS FOR REFERENCE:
David Jeffery Griffiths, *Nuclear Physics (VI and VII), Mermier, Shelton. Introduction to elementary particles,* 2nd Edition, Wiley - VCH, (2008)

B R Martin, *Nuclear and Particle Physics: An Introduction*, 2nd Edition, John Wiley & Sons, (2011)

Christopher G Tully, *Elementary Particle Physics in a Nutshell,* Princeton University Press, (2011)

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**
Section A – 10 x 3 = 30 Marks (All questions to be answered)
Section B – 5 x 5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

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M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

ELECTRONICS II

CODE:19PH/PC/EL44   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- Explore the architecture microcontroller 8051.
- Write assembly language program in 8086 and 8051 for various applications.
- Select a microprocessor or a microcontroller suitable for the given application.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Compare microprocessors and microcontrollers.
- Describe the architecture and instruction set of 8085 and 8051
- Understand programming and interfacing of microprocessors and microcontrollers.
- Explain the interfacing between microprocessor and various peripherals.
- Analyse the embedded system concept

Unit   1   **(13 Hours)**
8086 Architecture
8086 Architecture – Min.Mode, Max.Mode – Software Model – Segmentation – Segmentation of address – Pipe line Processing – Interrupts in 8086 – Interrupt types of 8086 response – NMI – Internal Interrupts – Interrupt Priorities.

Unit   2   **(13 Hours)**
8086 PROGRAMMING
Addressing Modes – Instruction Set –Constructing Machine Code – Instruction Templates for MOV Instruction – Data Transfer Instructions – Arithmetic, Logic, Shift, rotate instructions – Flag Control instructions – Compare, Jump Instructions – Loop and String instructions – Assembly programs – Block move: Sorting , Averaging, Factorial , Code Conversion: Binary to BCD, BCD to Binary.

Unit   3   **(13 Hours)**
Microcontroller 8051
Introduction – 8 & 16 Bit Microcontroller families – Flash series – Embedded RISC processor – 8051 Microcontroller Hardware – Internal registers – Addressing mode – Assembly Language Programmig – Arithmetic, Logic & Sorting operation.

Unit   4   **(13 Hours)**
Interfacing I/O And Memory With 8051
Interfacing I/O ports, External memory, Counters & Timers, Serial data input/ output, Interrupts – Interfacing 8051 with ADC, DAC, LED display, Keyboard, Sensors and Stepper motor.

Unit 5   **(13 Hours)**
Embedded Microcontroller
Embedded Microcontroller system – Types of embedded operating system – Micro Chip P1C16C6X / 7X family – features – Architecture – Memory organization – Register file map – I/O ports – Data & Flash program memory – Asynchronous serial port – Applications in Communication and industrial controls.

BOOKS FOR STUDY

Douglas. V. Hall, *Microprocessor and interfacing programming and Hardware*, Tata McGraw Hill (unit – I).

W.A.Triebel and Avatar Singh, *The 8086/8088 Microprocessors – Programming, Software, Hardware and Application,* Prentice Hall of India, New Delhi

Kenneth J.Ayala, *The 8051 Microcontroller Architecture, Programming and Applications* 3rd edition, Penram International

John B.Peatman, *Design with PIC Microcontrollers,* 7th Indian reprint, pearson education

BOOKS FOR REFERENCE

B.Brey, *Intel Microprocessors 8086/8088,80186,80286,80386,80486, Architecture, Programming and Interfacing,* 1995

Yu-Cheng and Glenn A.gibson, *The 8086/8088 family Architecture, programming and Design*

Muhammed Ali Mazidi and Janice Gillespie Mazidi, *The 8051 Microcontroller and Embedded Systems,* Fourh Indian reprint, Pearson education, 2004

Raj Kamal, *Introduction to Embedded systems,* TMS 2002

V.Vijayendran, *Fundamentals of Microprocessor -8086-Architecture, programming (MASM) and interfacing,* Viswanathan publishers, Chennai,2002.

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

DISSERTATION

CODE:19PH/PC/DS47   **CREDITS:7**

GUIDELINES FOR DISSERTATION

Project should be done individually. Each student will choose a topic of her interest and the student will be assigned to a supervisor.

Each candidate should submit a research proposal to the Supervisor and the abstract of the project to be developed in guidance with the supervisor.

The project will require practical work with the submission of a project report. The duration of the project work is between 3 and 6 months.

The project report should be submitted in the prescribed format containing a minimum of 50 pages. Reference should not be counted with the main pages. The report should be enhanced with graphs, spectra, tables and or photographs.

Each candidate has to give three periodical reviews to the internal guide on the scheduled dates prescribed by the Department.

Each candidate will submit 4 hard copies of the project thesis on the scheduled date. 1 copy for the candidate and 3 copies to be submitted to the Department.

The student will appear for Viva-voce before a panel comprising External Examiner, supervisor and Head of the Department.

PATTERN OF ASSESSMENT

Continuous Assessment :   **Total Marks: 50**

Literature review   10 marks
Periodic review   15 marks
Submission thesis and viva   25 marks

End Semester Examination: **Total Marks: 100**

Dissertation   50 marks

Viva with External Examiner   50 marks

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SYLLABUS
(Effective from the academic year 2019–2020)

CRYSTAL PHYSICS

CODE:19PH/PE/CP15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To know the different structures of crystals
- To understand types of characterization of crystals and its applications

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Recognize the applications of X-ray crystallography
- Understand the crystal structure and thermal properties of materials.
- Understand the influence of lattice vibrations on thermal behaviour.
- Relate crystalline structure to X-ray diffraction data and the reciprocal lattice.
- Understand the influence of crystal binding energy on crystalline structure.

Unit   1
Crystal Physics   **(13 Hours)**
Crystal Structure - Lattice representation - Simple symmetry operations - Bravais Lattices, Unit cell, Wigner -Seitz cell - Miller planes and spacing - Characteristics of cubic cells - Structural features of NaCl, CsCl, Diamond, ZnS – Close packing. Diffraction: Bragg's law - Reciprocal representation - Diffraction conditions and Laue equations - Brillouin zones for cubic lattices - Rotation, Laue and Powder methods of X-ray diffraction (an overview only) - Concepts of Scattering , Structure and Temperature factors. Crystal Binding: Interactions in inert gas crystals and cohesive energy - Interactions in ionic crystals and Madelung energy - Overview of Covalent, metal and hydrogen bonded interactions.

Unit   2
Lattice Dynamics   **(13 Hours)**
Theory of elastic vibrations in mono and diatomic lattices -Phonons – Dispersion relations - Phonon momentum. Heat Capacity Vibrational modes - Einstein model - Density of modes in one and three dimensions - Debye Model of heat capacity. Anharmonic effects: Explanation for Thermal expansion, Conductivity and resistivity – Umklapp process.

Unit   3
Low Temperature Growth Techniques   **(13 Hours)**
Low temperature solution growth - slow cooling and slow evaporation methods - temperature gradient method - criteria for optimizing solution growth parameters -

basic apparatus for solution growth. Gel growth - structure of silica gel and gelling mechanism -nucleation control - merits of gel method - experimental methods - chemical reaction method - chemical reduction method - complex de - complex method - solubility reduction method - sol gel method.

Unit 4

Crystal Characterization   **(13 Hours)**
X Ray diffraction(XRD) - Thermal analysis - methods of thermal analysis - thermogravimetric analysis (TGA) - Differential thermal analysis (DTA) - Differential Scanning Calorimetry (DSC) - Mechanical studies - methods of hardness testing (qualitative) - Vickers hardness testing - correlation of microhardness with other properties - estimation of hardness number and work hardening coefficient (n) – dielectric

Unit 5

Liquid Crystals   **(13 Hours)**
Liquid Crystals: Classification-isotropic-nematic, smectic-cholestic phases, Phase transition of liquid phases, Properties:- optical, electric and magnetic fields, Application of liquid crystals

BOOKS FOR STUDY:
James Coble Brice, *Crystal growth processes*, John Wiley and Sons, New York.(1986)

John Chadwick Brice, *The growth of crystals from liquids*, North - Holland Pub. Co., (1973)

BOOKS FOR REFERENCE:
Harold Eugene Buckley, *Crystal growth*, John Wiley and Sons, New York(1951)

Brian R. Pamplin, *Crystal growth*, 2nd Edition, Pergamon,(1980)

Heinz K. Henisch, *Crystals in Gels and Liesegang Rings,* Cambridge University Press(2005)

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

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SYLLABUS
(Effective from the academic year 2019–2020)

REACTOR PHYSICS

CODE:19PH/PE/RP15   **CREDITS:5**
                                                           L T P:5 0 0
                                        TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To expose the students to the physics of neutrons and fuel inside a reactor.
- To understand the construction of a nuclear reactor and precautions to be taken in its operation

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Discuss the various aspects of reactor physics.
- demonstrate a knowledge of fundamental aspects of the structure of the nucleus, radioactive decay, nuclear reactions and the interaction of radiation and matter;
- Explain processes of nuclear collisions and nuclear reactions.
- describe the physical processes as well as the different components of a nuclear power plant
- Understand important reactor parameters including performance and safety
- Acquire a clear understanding of the applications of nuclear physics

Unit   1
Nuclear energy   **(13 Hours)**
Nuclear mass - Binding energy-Radioactivity - Nuclear reactions -Nuclear fission - Mechanism of fission - Fuels - Products of fission - Energy release from fission - Reactor power and calculations - Fuel burn up - Consumption.

Unit   2
Neutron diffusion   **(13 Hours)**
Multiplication factor - neutron balance and conditions for criticality - Conversion and breeding - Classification of reactors.Diffusion of neutrons: Flux and current density - Equation of continuity - Fick's law - Diffusion equation - Boundary conditions and solutions - Diffusion length - Reciprocity theorem.

Unit   3
Neutron moderation   **(13 Hours)**
Energy loss in elastic collision - moderation of neutrons in Hydrogen - lethargy - Space dependent slowing down - Fermi's age theory - Moderation with absorption. Fermi theory of Bare thermal reactor: Criticality of an infinite reactor - One region

finite thermal reactor - Critical equation – Optimum reactor shape.

Unit 4

Reactor kinetics **(13 Hours)**

Infinite reactor with and without delayed neutrons - Stable period - Prompt jump - Prompt criticality - Negative reactivity - Changes in reactivity - Temperature coefficient - Burn up and conversion.

Unit 5

Control and shielding **(13 Hours)**

Reactor control: Rod worth - One control rod - modified one group, two group theory - ring of rods. Radiation shielding : Reactor safeguards - Reactor properties over life-core life estimation.

BOOKS FOR STUDY:
John R. Lamarsh, *Introduction to Nuclear Reactor Theory*, American Nuclear Society (2002)

Samuel Glasstone, Milton C. Edlund, *The Elements of Nuclear Reactor Theory*, Van Nostrand, (1965)

BOOKS FOR REFERENCE:
H.S. Isbin*, Introductory Nuclear Reactor Theory*, Reinhold, New York (1963)

WEB RESOURCES
www.ans.org/PowerPlants
npcil.nic.in/main/AllProjectOperationDisplay.aspx

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**
Section A – 10 x 3 = 30 Marks (All questions to be answered)
Section B – 5 x 5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

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M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

MATERIAL PHYSICS AND NANOSCIENCE

CODE:19PH/PE/MN15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To introduce the rapidly developing field of nanoscience and technology with special focus on the methods of synthesis, characterization techniques and applications of nanomaterials
- To understand the necessary concepts in nanotechnology
- To develop skills to perform their project works related to the synthesis and characterization of nanomaterials by direct experience.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Explain the basic concepts of Nanoscience and Nanotechnology
- Give an account of the various synthesis procedures for nanofabrication
- Describe the state-of-the-art characterization methods for nanomaterials
- describe the size effects induced changes on material properties
- Exhibit a broad and coherent knowledge of nanoscale phenomena and describe how and why materials and systems at the nanoscale differ from those at macro- and micro-scales.

Unit   1   **(13 Hours)**
Fundamentals of Material Physics and Nanoscience
1.1. Smart Materials – Introduction - Classification of Smart Materials - Different Types of Smart Materials - Their Applications
1.2. Introduction - nano and nature - background to nanotechnology - scientific revolutions opportunities at the nanoscale - time and length scale in structures - surfaces and dimensional space - evolution of band structures and Fermi surfaces - electronic structure of nanocrystals - bulk to nano transition - size and shapes - dimensionality and size dependent phenomena

Unit   2   **(13 Hours)**
Classification of nanoparticles and its properties
2.1 Metal Nanoparticles: Size control of metal nanoparticles, Structural, Surface, electronic and optical properties. **Semiconductor Nanoparticles:** solid state phase transformation,Excitons, Quantum confinement effect, Semiconductor quantum dots (SQDs), Correlation of properties with size, Quantum Well, Quantum Wires, Super lattices band and Band offsets, Quantum dot lasers.
Magnetic nanomaterials: Fundamentals of magnetic materials, Dia, Para, Ferro, Ferric, and Superpara magnetic materials, Nanostructured Magnetism.

    2.2 Semiconductor Nanocomposites: Types of Nanocomposites (Metal oxides, ceramic an.d .Glass), Core - Shell nanoparticles – Types of systems - properties of nanocomposites. **Carbon Nanostructures:** Introduction, Fullerenes, C60, CNT, mechanical, optical and properties.

Unit 3   **(13 Hours)**

    Synthesis of Nanomaterials

    3.1 Physical methods: Thermal evaporation, Spray pyrolysis, Molecular beam epitaxy (MBE), Physical vapour deposition (PVD), Microwave heating, Electric arc deposition, Ion implantation.

    3.2 Chemical methods: Chemical and co - precipitation, Sol fundamentals - sol – gel synthesis of metal oxides, Micro emulsions or reverse micelles, Solvothermal, Sonochemical synthesis, Electrochemical synthesis, Photochemical synthesis, Langmuir - blodgett (LB) technique, Chemical vapour deposition (CVD)

    3.3. Biological methods: Green Synthesis

Unit 4   **(13 Hours)**

    Characterization Techniques

    4.1 Powder X - Ray Diffraction, Scanning electron microscope (SEM), Transmission electron microscope (TEM), Scanning tunnelling microscope (STM), Atomic force microscope (AFM), Scanning probe microscopy (SPM), UV - Visible absorption, Impedance measurement, V - I characteristics, Vibrating sample magnetometer (VSM).

    4.2 Brunauer - Emmett - Teller (BET) Surface Area Analysis, Energy dispersive X – ray (EDX), X - ray photoelectron spectroscopy (XPS) and Photoluminescence.

Unit 5   **(13 Hours)**

    Applications of Nanomaterials and Nanocomposites

    5.1 Nanophotonics and Devices: ID, 2D, 3D Photonic crystals, Couplers, Waveguides,
    Photonic crystal fibres, Optical data storage systems and Quantum computing
    Medical applications: Imaging of cancer cells, Biological tags and Targeted nano drug delivery system.

    5.2 Nanosensors: Sensors based on physical properties - Electrochemical sensors, Sensors for aerospace, defence and Biosensors. **Energy:** Solar cells, LEDs and Photovoltaic device applications. **Photocatalytic applications:** Air purification, Water purifications and Volatile organic pollution degradation -waste management.
    Carbon nanotubes: Field emission, Fuel cells and Display devices.

BOOKS FOR STUDY

B. Viswanathan, *Structure and properties of solid state materials*, 2nd Edition, Alpha Science International, (2006).

T.Pradeep, Nano - The essentials, Tata McGraw – Hill publishing company limited (2007).

BOOKS FOR REFERENCE

Pulickel M. Ajayan, Linda S. Schadler, Paul V. Braun, *Nanocomposite Science and Technology*, John Wiley & Sons, (2006)

Günter Schmid, *Nanoparticles: From Theory to Application*, 2nd Edition, John Wiley & Sons, (2011)

Sulabha K.Kulkarni, *Nanotechnology: Principles And Practices*, Capital publishing company (2007).

B. Viswanathan, *Nanomaterials*, Narosa PublishingHouse Pvt. Ltd., New Delhi, (2009)

A. K. Bandyopadhyay, *Nano Materials,* 2nd Edition, New Age International Publishers Ltd., New Delhi, (2007).

C. R. Brundle, Charles A. Evans, Shaun Wilson, Butterworth, *Encyclopedia of Materials Characterization: Surfaces, Interfaces, Thin Films,* Heinemann publishers (1992).

Charles P.Poole, Frank J. Owens, *Introduction to nanotechnology*, John Wiley & Sons publication (2003).

Ulrich Schubert, Nicola Housing, *Synthesis of inorganic materials*, 3rd Edition, John Wiley & Sons, (2012)

Paolo Milani, Salvatore Iannotta, *Cluster beam synthesis of nanostructured materials* Springer, (1999)

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
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Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

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M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

MEDICAL PHYSICS AND ULTRASONICS

CODE:19PH/PE/MU15   **CREDITS:5**
                                                          L T P:5 0 0
                                          TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To learn the fundamentals of health Physics.
- To acquire knowledge about diagnostic and therapeutic devices.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Acquire a better understanding of the importance of physics for medical diagnosis and treatment.
- Explain and describe the physical concepts for different modalities used in medical diagnosis and treatment.
- Learn how different external physical factors including ionizing radiation, electrical and magnetic fields and thermal effects influence biological systems.
- Understand the Physics of medical imaging
- Describe the application of physics principles such as ultrasound and Nuclear Magnetic Resonance

Unit   1
Diagnostic Devices   **(13 Hours)**
Blood Pressure and its Measurement - High Pressure Measurement – Electrical Signals from Heart : Electrocardiography(ECG) – Electrical Signals from brain : Electroencephalogram(EEG) – Electrical signal from muscles : Electromyogram(EMG) – Magnetic Resonance Imaging(MRI)

Unit   2
Therapeutic Devices   **(13 Hours)**
Microprocessor based Ventilators – AC and DC Defibrillator – Pacemaker – Versatile Electro Therapeutic Stimulator – Anasthesia Machine – Ventilator – Dialysis process – Comparision between Haemodialysis and Peritoneal Dialysis – Peritoneal Dialysis Unit.

Unit   3
Medical Applications Of Lasers   **(13 Hours)**
Laser based Blood Cell Counter – Laser Doppler Blood Flow Meter – Laser in Angioplasty – Principle And Theory of Fluorescence – Reflectance and Light Scattering Spectroscopy – Laser Spectroscopy Cancer Detection.

Unit 4

Ultrasonic Study Of Liquid Mixtures And Solutions (13 Hours)

Preparation of multi component liquid mixtures : Mole fraction – Weight fraction – Volume fraction. Measurement techniques : Ultrasonic Interferometer – Continuous Wave Method – Density – Viscosity Pure liquids and binary mixtures : Free length theory – Collision factor theory – Nomoto's Relation Acoustical Parameters – Adiabatic compressibility – Acoustic Impedence – Intermolecular Free Length – Molar Volume – Free Volume – Internal Pressure.

Unit 5

Applications Of Ultra Sound (13 Hours)

Low Frequency – High Intensity Applications : Ultrasonic Welding – Ultrasonic Cleaning – Applications – Food Industry – Length Meters.

High Frequency - Low Intensity Applications : Level Meters – Thickness Measurements – Ultrasonic Microscopy – Acoustic Holography(Transmission Acoustic Holography).

BOOKS FOR STUDY:

Dr.M.Arumugam , 2005, *Biomedical Instrumentation*, Anuradha Publications, Chennai.

S.Svanberg, 2010, *Atomic and Molecular Spectroscopy(Basic Aspects and Practical Applications),* fourth edition, WILY Publications.

Baldevraj, V.Rajendran and P.Palinichamy, 2009, *Science and Techology of Ultrasonics,* fourth edition, Narosa Publications, New Delhi.

BOOK FOR REFERENCE:

John R.Cameron and James G.Skofronick, 2009, *Medical Physics*, John Wiley Interscience Publication, Canada, Second edition.

PATTERN OF ASSESSMENT:

Continuous Assessment Test:　　　　**Total Marks: 50**　　　　　**Duration: 90 minutes**

Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:

Presentation/Assignments/Problem solving/Quiz

End-Semester Examination:　　　　**Total Marks: 100**　　　　**Duration: 3 hours**

Section A – 10 x 3 = 30 Marks (All questions to be answered)
Section B – 5 x 5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

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M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

ASTROPHYSICS

CODE:19PH/PE/AP15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To learn about stars and constellations
- To appreciate the universe.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Understand the violent Universe -white dwarf, neutron stars and black hole.
- Explain the origin of our universe
- Describe the structure and evolution of stars
- Describe the general observed properties of star and their formation with respect to HR diagram.
- Understand the basic concepts of modern astrophysics, such as: Stellar classification and spectroscopy, solar system and planetary motion, stellar evolution and nuclear fusion etc.

Unit   1

General Astronomy   **(13 Hours)**
System of Coordinates - Altazimuth, Equatorial (local and Universal), Ecliptic and Galactic systems. Magnitude scale and magnitude systems - correction for observed magnitudes. The proper motion - stellar parallax - Trignometric, cluster and secular parallaxes. Method of Luminosity distance.

Unit   2

Stellar temperatures and sizes   **(13 Hours)**
Colour and effective temperatures - defining stellar temperatures by matter laws - HR diagram - Spectral and luminosity classification of stars. Measurement of stellar radii - Relation of luminosity with mass, radii and surface temperature. Binary stars – visual, spectroscopic and eclipsing binaries.

Unit   3

Stellar structure   **(13 Hours)**
Equations of stellar structure - Russel - Vogt theorem - Ideas of polytropic model - stellar opacity - Free - Free transitions, Bound - Free transitions and electron scattering. Eddington's standard model. Homologous model for main sequence stars - Schwarzchild's model for real stars.

Unit 4

Stellar evolution (13 Hours)

The virial theorem - application to an isothermal gas sphere - evolution of stars near the main sequence - effect of hydrogen depletion - Schoenberg - Chandrasekhar limit of an isothermal core - nuclear time scale - ages of clusters - Star formation - Jean's criterion.

Unit 5

Stellar energy sources (13 Hours)

Thermonuclear fusion - CN cycle - pp chain - simple formulae for the energy generation rates - abundances for the elements in the stars structure of the sun from helioseismology - problems of nucleosynthesis.

BOOKS FOR STUDY:

Abhyankar K D, *Astrophysics: Stars and Galaxies,* Tata Mc Graw Hill (1992)

V.B.Bhatia, *Text Book of Astronomy and Astrophysics with elements of Cosmology,* Narosa Publishing House.

Baidyanath Basu, *An Introduction to Astrophysics,* Prentice Hall India Learning Pvt. Ltd. (2003)

BOOKS FOR REFERENCES:

Simon F. Green, Mark H. Jones, S. Jocelyn Burnell, *An Introduction to the Sun and Stars,* Cambridge University Press(2004)

Günter Dietmar Roth, *Compendium of practical astronomy, Volume 1,* Springer (1994)

A. C. Phillips, *The physics of stars*, 2nd Edition, John Wiley (1999)

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Section A – 5 x 3 =15

Section B – 4x5 = 20 (4 out of 6 to be answered)

Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:

Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Section A – 10 x   3 = 30 Marks (All questions to be answered)

Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)

Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

GEOPHYSICS

CODE:19PH/PE/GP15   **CREDITS:5**
                                                                          L T P:5 0 0
                                                         TOTAL TEACHING HOURS:65

OBJECTIVE OF THE COURSE
*   To provide brief introduction to seismology and to have a look at the experimental data supporting electric and magnetic properties of earth.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
*   Understand the structure and evolution of the Earth
*   Apply Physics to the study of the Earth
*   Different techniques used to map and analyze the physical properties of the Earth.
*   Understand the physical principles of reflection seismology
*   Appreciate the application of geophysics for understanding the physical conditions of the Earth's multi-layered interior.

Unit   1
Seismology: **(13 Hours)**
Introduction - Seismology - P - waves - S waves, their velocities - Time distance curves and the location of epicenters - Effect of Boundaries - Major discontinuities - Properties of rocks and minerals and factors that control them - Seismic energy sources – Detectors -Reflection and refraction field surveys and interpretation of time and distance curves.

Unit   2
Internal structure of earth   **(13 Hours)**
Introduction - Seismic waves - Rayleigh waves and love waves - Study of earth by seismic waves - Earthquake seismology - Horizontal and vertical seismograph - Seismograph equation - Internal structure of earth.

Unit   3
Earth's age and electrical properties: **(13 Hours)**
Geochronology - Radioactivity of the earth - Radioactive dating of rocks and minerals - Geological time scale - Geoelectricity - AC and DC type resistivity meters - Factors affecting resistivity - Field data collection and interpretation - Application of resistivity method and engineering.

Unit   4
Geomagnetism   **(13 Hours)**
Geomagnetism - Definitions, magnetic field, main field, external field and local anomalies, rock susceptibility - Method of Gauss - Saturation induction

magnetometers - Proton precession magnetometer - Dynamo theory of earth magnetism – Magnetic surveying - application.

Unit 5
Geodynamics (13 Hours)
Plate dynamics - Earth's size and shape - Earth's rotation – absolute and relative methods of Measurement of gravity – Gravity measurements - reduction of gravity data - separation of regional and residual. Interpretation of gravity data obtained over spherical and cylindrical objects - Application of gravity methods.

BOOKS FOR STUDY:
M. B. Ramachandra Rao, *Outlines of geophysical prospecting: a manual for geologists,* University of Mysore(1975)

William Murray Telford, W. M. Telford, L. P. Geldart, Robert E. Sheriff, R. E. Sheriff, *Applied Geophysics 2nd Edition*, Cambridge University Press (1990)

B. S. Rama Rao, I V R Murthy, *Gravity and magnetic methods of prospecting,* 4th Edition, Arnold - Heinemann, (1978)

V. L. S. Bhimasankaram, Vinod Kumar Gaur, Association of Exploration Geophysicists, *Lectures on exploration geophysics for geologists and engineers,* Association of Exploration Geophysicists, (1977)

BOOKS FOR REFERENCE:
George David Garland*, Introduction to geophysics: mantle, core, and crust*,2nd Edition, Saunders, (1979)

Alan H. Cook, *Physics of the earth and planets*, Macmillan,(1973)

William Lowrie, *Fundamentals of Geophysics*, 2nd Edition, Cambridge University Press, (2007)

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**
Section A – 10 x 3 = 30 Marks (All questions to be answered)
Section B – 5 x 5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019–2020)

SPECTROSCOPY

CODE:19PH/PE/SP15   **CREDITS:5**
L T P:5 0 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To have in depth understanding of various techniques of spectroscopy
- To study its applications to modern science.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Acquire an advanced knowledge about the interactions of electromagnetic radiation and matter and their applications in spectroscopy
- Explain the basic principles of IR, Electronic, Vibrational and Nuclear spectroscopy
- Discuss the basic components common to most spectroscopic instruments
- Understand the use of these spectroscopic methods for organic structure elucidation
- Choose an appropriate spectroscopic technique in their research.

Unit 1
Microwave Spectroscopy   **(13 Hours)**
Rotation of molecules-Rotational spectroscopy-Rigid and non-rigid diatomic Rotator - Intensity of spectral lines-Isotopic substitution-Poly atomic molecules (Linear and symmetric top)-Hyperfine structure and quadrupole effects-Inversion spectrum of ammonia-Chemical analysis by microwave spectroscopy-Techniques and instrumentation microwave oven

Unit 2
Vibrational Spectroscopy   **(13 Hours)**
Infrared spectroscopy-Vibration of molecules-Diatomic vibrating rotator-Vibrational rotational spectrum-Interactions of rotations and vibrations-Influence of rotation on the Vibrational spectrum of linear and symmetric top and poly atomic molecules-Analysis by infrared techniques-Instrumentation-FTIR spectroscopy. **Raman spectroscopy:** Classical and quantum mechanical picture of Raman effect-Polarizability –Pure rotational Raman spectrum- Vibrational Raman Spectrum-Raman activity of vibrations of CO_2 and H_2O-Rule of mutual exclusion-Overtones and combination- Rotational fine structure - Depolarization ratio-Vibrations of spherical top molecule-structural determination from IR and Raman spectroscopy-techniques and instrumentation-FT Raman spectroscopy.

Unit 3
Electronic Spectrosccopy   **(13 Hours)**
Electronic spectra-Frank-Condon principle-Dissociation energy and dissociation
products-Fortrat diagram-predissociation-shapes of some molecular orbits-Chemical
analysis by electronic spectroscopy-Techniques and instrumentation-Mass
spectroscopy-ESR spectroscopy- Introduction techniques and instrumentation-
Electronic angular momentum in diatomic molecules.

Unit 4
Nuclear Spectrosopy   **(13 Hours)**
Introduction- Nuclear magnetic resonance spectroscopy-x-Interaction of spin and
magnetic field-population of energy levels-Larmor precession-Relaxation times-
Double resonance- Chemical shift and its measurement-Coupling constant-Coupling
between several nuclei- -C13 NMR spectroscopy- Interpretation of simple spectrum-
Quadrupole effects- NQR Mossbauer spectroscopy: Principle-instrumentation- Isomer
shift-Effect of electric and magnetic fields- Magnetic hyperfine interaction

Unit 5
Surface Spectrocopy And Devices   **(13 Hours)**
Electron energy loss spectroscopy (EELS)-Reflection absorption
spectroscopy(RAIRS) -Photoelectron spectroscopy (PES) – Instrumentation –
interpretation of spectrum; XPES, UPES-Auger electron spectroscopy (AES) - X-ray
Flourescence spectroscopy (XRF)- SERS – Surfaces for SERS study-SERS Microbes-
Surface selection rules- SEM- TEM- AFM.

BOOKS FOR STUDY:

G. Aruldhas, *Molecular and Structure and Spectroscopy*, PHI Learning Private Limited 2
edition, 2007

Colin Banwell and Mc Cash, *Fundamentals of molecular spectroscopy:,* TMH publishers-5th
edition, 2004

Raymond Chang, *Basic Principles of Spectroscopy*, R.E. Krieger Publishing Company, 1980

BOOKS FOR REFERENCE:

Rajat K. Chaudhuri, M.V. Mekkaden, A. V. Raveendran, A.Satya Narayanan, *Recent
Advances in Spectroscopy:Theoretical, Astrophysical and Experimental Perspectives.*

Berman Paul R., Malinovski Vladimir S. *Principles of Laser Spectroscopy and Quantum
Optics,* Princeton University Press 2011

Tuniz C., Kutschera W., Fink D., Herzog G.F, *Accelerator Mass Spectrometry,* CRC press
2011

Thomas Engel, *Quantum Chemistry and Spectroscopy* International Edition 3rd Edition
Pearson Publications 2012

Wozniak Bogdian, Dera Jerzy, *Light Absorption in Sea Water* Springer Publications 2011

WEB RESOURCES:
www.ups.edu/faculty/hanson/chemwebsites/organicwebsites.htm
www.rsc.org/.../InterestGroups/ESRSpectroscopy/index.asp

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50** **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100** **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI-600086.

**Post Graduate Elective Course Offered by the Department of Physics for
M.A. / M.Sc. / M.Com Degree Programme**

SYLLABUS
(Effective from the academic year 2019- 2020)

EVERYDAY PHYSICS

CODE:19PH/PE/ED23   **CREDITS:3**
L T P:2 0 1
TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To learn the basic concepts of physics
- To understand the principles of various machines through experiments

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Explain how Physics applies to phenomena in the world around them.
- Understand basic concepts related to Mechanics, Optics, Magnetism, Electricity and Sound
- Acquire a better understanding of these fundamental concepts through experiments
- Appreciate the relation between Electricity and Magnetism
- Understand the basics of light matter interaction

Unit   1
Mechanics   **(7 Hours)**
1.1 Newton's Laws of Motion- Torque-examples-Principle of Moments-Simple Harmonic oscillations- day to day examples-Centripetal and Centrifugal Forces around us –First and Second Order of Levers Simple Machines
1.2. Demonstration
   I Simple pendulum
   II. Principle of Moments

Unit   2
Optics   **(8 Hours)**
2.1 Light – Characteristics of Light- Reflection – Refraction – Interference – Diffraction
Polarization- Electromagnetic Spectrum- Microscope-Telescope-Spectrometer Laser- Stimulated Emission – Principle of Laser Action
2.2 Demonstration
   I. Parts of Optical Instruments
   II. Study of Spectrum Using Prism and Transmission Grating

Unit 3
Electricity   (8 Hours)
3.1 Ohm's Law- Resistance in Series and Parallel- Electromagnetic Induction -
Lenz's Law - Direct Current and Alternating Current - Three Phase AC
3.2 Demonstration
 I. Verification of Ohm's Law
 II. Generation of EMF Using Induction Coil

Unit 4
Sound   (8 Hours)
4.1 Waves - Properties of Waves- Wave Motion- Sound Propagation- Velocity of
sound
 in air and water - Echoes- Interference - Resonance and Beats – Vibration in
 strings – Acoustics in auditorium.
4.2 Demonstration
 i) Meldes's String
 ii) Sonometer

Unit 5
Magnetism   (8 Hours)
5.1. Magnetism – Magnetic lines of force – Magnetic field – Magnetic Materials-
Types
 of Magnetic Materials – Diamagnetism – Paramagnetism – Ferromagnetism –
 Antiferromagnetism – Ferrimagnetism.
5.2. Demonstration
 i) Making a magnet
 ii) Study of Magnetic Properties

BOOKS FOR STUDY
Halliday,David and Robert Resnick. *Physics Vol I and I*. Chennai: New Age, 1995.

BOOKS FOR REFERENCE
Naranyanamurthi.M and Nagaratham.N. *Dynamic*. Chennai: The National, 1994.
Subrahmanyan. Nand Lal Brij. *Textbook of Optics*. New Delhi: Vikas, 2013.
Murugeshan R. *Electricity and Magnetism*. New Delhi: S Chand, 2013.

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI-600086.

**Post Graduate Elective Course Offered by the Department of Physics for
M.A. / M.Sc. / M.Com Degree Programme**

SYLLABUS
(Effective from the academic year 2019- 2020)

ELECTRICAL INSTALLATIONS

CODE:19PH/PE/EI23   **CREDITS:3**
                                                                          L T P:2 0 1
                                                        TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To understand the working principles of the domestic electrical appliances.
- To learn safety measures in the usage of electricity and in handling simple repair works.

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to
- Learn about the significance of electric components
- Understand the significance of various devices and how they operate
- Assess the electricity consumption of household electrical appliances
- Have an hands on experience
- Be aware of the safety practices for handling electrical equipment
- Undertake minor electrical repair works

Unit 1 (9 Hours)
Basic electric circuits
1.1 Basic facts : electric circuits – basic components used in an electric circuit – Series and parallel – types of circuits.
1.2 Switches – types of switches – plugs and its types – safety practices and measurements
1.3 AC and DC - Principles of single phase and three phase connections.

Unit 2 (10 Hours)
Electrical connections and Home appliances
2.1 Three effects of electric current - Hot wires – nichrome- fuses-fuse wire - melting point – .causes and repairing a fuse – lighting circuits - house lights – ring circuit – the earth wire – lightning conductor - Using and paying for electricity-consumption- KWH- meters.

Unit 3 (10 Hours)
Home appliances
3.1 Refrigerator – Air conditioner - microwave oven-washing machine - Types of lamps and its working –inverter - Motor pump(Water)-jet pump

Unit 4 (5 Hours)
Demonstration and Hands on Training-I
1 Earthing.
2 Wiring practice of switches and plugs.
3 Measurement of current, voltage and resistance using multimeter.

Unit   5   **(5 Hours)**
      Demonstration and Hands on Training-II
      4. Replacing fuses.
      5. A model of house wiring.
      6. Model of an inverter

BOOKS FOR STUDY AND REFERENCE:
Bob Fairbrother, *Electricity in the Home,* Bell and Bain Ltd., New York(1980).

Lindslaey Trevor, *Basic Electrical Installation Work*, Newnes Pub, Great Britain(2005).

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x   3 = 30 Marks (All questions to be answered)
Section B –   5 x   5 = 25 Marks (5 out of 7 to be answered)
Section C –   3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI-600086.

**Post Graduate Elective Course Offered by the Department of Physics for
M.A. / M.Sc. / M.Com Degree Programme**

SYLLABUS
(Effective from the academic year 2019- 2020)

ENERGY PHYSICS

CODE:19PH/PE/EP23   **CREDITS:3**
                                                             L T P:3 0 0
                                                             TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To understand various types of energy
- To stress the importance of conservation of energy and the need for alternate source of energy

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Explain the production of electricity from renewable sources of energy
- Acquire knowledge about all proposed renewable energy technologies
- Understand the impact of non-renewable energy sources on our environment
- Describe the need for alternate sources of energy
- Understand the significance of energy conservation and sustainable energy development

Unit   1
Introduction   **(9 Hours)**
1.1 Energy : Sources of Energy - Forms of Energy- Units of Energy, Uses of Energy, Energy Conversion
 1.2 Non-Renewable Energy – Coal, Petroleum, Gas, Renewable Energy- Solar, Wind, Biomass, Geothermal and Nuclear , Advantages and Disadvantages

Unit   2
Non-Renewable Energy   **(10 Hours)**
2.1 Coal - Early Uses as Fuel,-Electricity Generation, Petroleum- Composition, Reservoirs – Uses
2.2 Natural Gas – Process, Conversion to Electrical Energy
2.3 Alternate sources of energy - Need

Unit   3
Renewable Energy   **(10 Hours)**
3.1 Solar radiation and its measurement - Solar cells for direct conversion of solar energy to electric powers- Efficiency - Wind Energy : Basic principles of wind energy conversion – Power in the wind - Forces in the blades – Advantages and disadvantages of wind energy conversion systems(WECS) – Applications of wind energy

3.2 Biomass Energy – Biofuel Conversion Process, Wet and Dry process – Photosynthesis – Biogas generation – Advantages of anaerobic digestion – Biogas from waste fuel – Utilization of Biogas. Nuclear: Nuclear Fission and Fusion, Power Reactors – energy from the oceans – energy utilization – energy from tides – basic principle of tidal power – utilization of tidal energy.

Unit 4
Energy and Environment   **(5 Hours)**
4.1 Energy and Environment, Conservation of Energy, Energy Consumption, Calorific Values of Energy

Unit 5
Energy Audit and Planning   **(5 Hours)**
5.1 Sustainable Energy Development, Present and Future.
5.2 Energy Audit

BOOKS FOR STUDY
Ashok V. Desai. *Non-conventional Energy.* New Delhi: New Age, 2001.

BOOKS FOR REFERENCE
Ashwin Paramar. *Energy Future*, New Delhi: Dominant, 2001.

Tiwari. G. N. and Ghosal M. K. *Renewable Energy resources.* New Delhi: Narosa, 2007.

Vandana. S. *Alternative Energy*. New Delhi: A P H, 2002.

R.B. Rai, *Energy Physics*.

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Section A – 5 x 3 =15
Section B – 4x5 = 20 (4 out of 6 to be answered)
Section C – 1x15 = 15 (1 out of 2 to be answered)

Other Components:
Presentation/Assignments/Problem solving/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Section A – 10 x 3 = 30 Marks (All questions to be answered)
Section B – 5 x 5 = 25 Marks (5 out of 7 to be answered)
Section C – 3 x 15 = 45 Marks (3 out of 5 to be answered)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.Sc. DEGREE: BRANCH III- PHYSICS

SYLLABUS
(Effective from the academic year 2019 -2020)

SOFT SKILLS

CODE: 19PH/PK/SS22   **CREDITS: 2**
                                                          L T P: 2 0 0
                                          TOTAL TEACHING HOURS: 26

OBJECTIVES OF THE COURSE

- To empower students and create opportunities for self-development.
- To instill confidence in students to face challenges.
- To manage emotions and resolve conflicts.
- Top organize activities and manage time.
- To set goals and plan ahead.

COURSE LEARNING OUTCOMES

- Communicate with confidence and poise.
- Accept themselves and improve on their weaknesses.
- Strengthen their relationships through confronting and solving problems.
- Work more effectively and complete activities on time.
- Plan their future with clarity and focus.

Unit   1
Behavioural Traits   **(6 Hours)**
1.1   Self Awareness
1.2   Communication Skills –Verbal and Non Verbal
1.3   Leadership Qualities
1.4   Etiquette and Good Manners
1.5   Experiential Learning –Based on activities

Unit   2
Team Work   **(5 Hours)**
2.1.   Interpersonal Skills
2.2.   People Management
2.3.   Creative Thinking
2.4.   Critical Thinking
2.5.   Experiential Learning – Based on activities

Unit   3
Time Management   **(5 Hours)**
3.1.   Importance of time management
3.2.   Planning and Prioritizing

	3.3.	Organizing skills
	3.4.	Action Plan
	3.5.	Experiential Learning – Based on activities

Unit 4

Conflict Resolution   **(5 Hours)**
4.1. Reasons for conflict
4.2. Consequences of conflict
4.3. Managing emotions
4.4. Methods of resolving conflicts
4.5. Experiential Learning – Based on activities

Unit 5

Career Mapping   **(5 Hours)**
5.1. Goal Setting and Decision Making
5.2. Career Planning
5.3. Resume Writing
5.4. Handling Interviews
5.5. Experiential Learning – Based on activities

Workshop on Societal Analysis

BOOKS FOR REFERENCE

Khera. Shiv. *You Can Win*. New Delhi: Macmillan India, 2002.

Mishra. Rajiv. K. *Personality Development: Transform Yourself*. New Delhi: Rupa 2004.

Newstorm, John. W. and Scannell. Edward. E. *Games Trainers Play: Experiential Learning*. New Delhi: Tata McGraw Hill, 1980.

PATTERN OF EVALUATION

Internal Assessment:
Quiz / Group Presentation /Assignment

No End Semester Examination

Institutional Learning Outcomes

Stella Maris College, an autonomous Catholic institution of higher education, is committed to the highest standards of academic excellence based on sound values and principles, where students are strengthened with whole person education to lead purposeful lives in service to the community and the nation.

The Institutional Learning Outcomes (ILOs) of Stella Maris College (SMC) reflect the broader mission and purpose of the institution. They are the overarching set of learning outcomes that all students, regardless of discipline, must achieve at graduation. All programme and course learning outcomes are mapped to the institutional outcomes, thus reflecting an overall alignment of values, knowledge and skills expected at programme completion. ILOs are designed to help guide individual departments and disciplines in the development of their programme learning outcomes.

The ILOs of SMC are formed by two components:

1. **Core commitments**: Knowledge and scholarship, values and principles, responsible citizenship, service to community
2. **Institutional values**: Quest for truth, spirit of selfless service, empowerment

Upon graduation, students of Stella Maris College will

- Display mastery of knowledge and skills in their core discipline (**Knowledge and Scholarship)**
- Exhibit in all actions and attitudes a commitment to truth and integrity in all contexts, both personal and professional (**Values and Principles)**
- Demonstrate knowledge about their role in society at local and global levels, and actively work for social and environmental justice (**Responsible Citizenship)**
- Engage in the process of self-discovery through a life-long process of learning (**Quest for truth**)
- Demonstrate readiness to serve those who are in need (**Spirit of selfless service**)
- Be able to function effectively and with confidence in personal and professional contexts **Empowerment)**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

Programme Learning Outcomes/Intended Programme Learning Outcomes

Graduates of a Master's Degree of Stella Maris College will have a comprehensive knowledge of their disciplines, with indepth knowledge of the underlying principles and concepts in one or more disciplines as a basis for independent lifelong learning.

At the end of a postgraduate programme students will be able to

- Demonstrate mastery in the discipline
- Demonstrate deep understanding of the broad principles of science and technology and apply them in varied contexts
- Demonstrate knowledge, understanding and professionalism required for the discipline
- Demonstrate capability to locate, evaluate, manage, and use information/data and research to develop and guide their own knowledge, learning, and practice
- Demonstrate the ability to organise a presentation in a coherent fashion
- Demonstrate the literacy and numeracy skills necessary to understand and interpret information/data and communicate according to the context
- Draw on multiple, relevant/interrelated fields of study to understand, analyse and solve problems
- Exhibit principled decision making and reasoning to identify creative solutions to ethical problems
- Practice/act in ways that show a commitment to social justice and the processes of peace/conflict resolution
- Demonstrate the skills to appropriately interact with people from a range of cultural, linguistic, and religious backgrounds
- Demonstrate an understanding of local, regional, national, and global issues
- Identify themselves as agents of change
- Demonstrate the ability to solve an issue
- Show self-awareness and emotional maturity
- Demonstrate career and leadership readiness
- Exhibit the ability to work in teams
- Demonstrate sensitivity and readiness to share their knowledge and capabilities with the marginalised and oppressed in their communities

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
DEPARTMENT OF PUBLIC RELATIONS
PROGRAMME DESCRIPTION

Public Relations is a postgraduate programme with a multi-disciplinary approach that offers various courses that open horizons for employment and research.

Along with its Core courses dealing with Relationship Management with a multi-sectoral approach (PR in the Corporate, Service and the Government Sectors), the programme offers specialisations in conventional management subjects like Marketing Management, Advertising Management, Event Management, Human Resource Management and Media Management.

The programme offers communication papers with a special focus on the verbal and written forms (inter-personal and Group Communication, Mass Communication and Writing for Media).

The programme equips the students with requiste skills in areas sucg as brand creation, building and communication through digital communication and social media communication keeping in pace with the changing trends in the field (Digital PR, Creative PR)

In keeping with the overall mission of the institution to cater to societal needs and to inculcate a sense of responsibility towards society/ environment in students, the programme offers courses like Community Relations with a special focus on Corporate Social Responsibility. The students are taken on field visits for an extensive participatory field research in rural communities through its unique Social Awareness Programme. The students create and execute a city-wide Public Relations Campaign to build awareness, deliberate discussions and reach out to communities for a solution on any prevalent issue on health, education and environment.

PROGRAMME LEARNING OUTCOMES
On completion of the two-year M.A programme, the students will be able to

- Demonstrate and practice ethical public relations
- Respect cultural diversity in a global society, be able to exercise moral reasoning when faced with ethical dilemmas, and show a commitment to making a difference within their sphere of influence
- Analyse and select the best strategies and tools to manage PR activities in an organization/consultancy
- Translate PR strategies into effective contribution towards grassroots communications and social responsibility programmes

- Practice communication within legal boundaries, while exhibiting standards of professional behavior and demonstrating sensitivity to ethical behavior
- Demonstrate competency in communication with the media
- Select strategies and tools to build and manage stakeholder relationships to support public relations activities, organizational objectives and career development
- Display skills of efficient digital media management in various capacities for future communication
- Conceive, plan and execute a Public Relations Campaign encompassing all its elements
- Display the skill of quick thinking at times of crisis for effective management and conflict resolution

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI 600 086

M.A. DEGREE : PUBLIC RELATIONS

COURSES OF STUDY

(Effective from the academic year 2019-2020)

CHOICE BASED CREDIT SYSTEM

C-Credit, L-Lecture Hours, T-Tutorial Hours, P- Practical Hours, Ex-Exam Hours, CA- Continous Assessment Marks, ES-End Semester Marks, M-Maximum Marks									

Subject Code	Title of Course	C	L	T	P	Ex	CA	ES	M
SEMESTER-I									
19PR/PC/FP14	Fundamentals of Public Relations	4	4	2	0	3	50	50	100
19PR/PC/CR14	Community Relations	4	4	1	0	3	50	50	100
19PR/PC/IG14	Inter-personal and Group Communication	4	4	1	0	3	50	50	100
19PR/PC/MG14	Marketing Management in Public Relations	4	4	1	0	3	50	50	100
	Department Elective I								
	SAP / SL	2	2	0	0	-	50	-	100
SEMESTER-II									
19PR/PC/CO24	Corporate Public Relations	4	4	1	0	3	50	50	100
19PR/PC/CU24	Customer Relations	4	4	1	0	3	50	50	100
19PR/PC/AS24	Public Relations Agency Services	4	4	1	0	3	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19PR/PK/SS22	Soft Skills	2	2	0	0	0	50	-	100
	Department Elective II								
	Common Elective I								
SEMESTER-III									
19PR/PC/SS34	Public Relations in the Service Sector	4	4	1	0	3	50	50	100
19PR/PC/ER34	Employee Relations	4	4	1	0	3	50	50	100
19PR/PC/MC34	Mass Communication	4	4	1	0	3	50	50	100
19PR/PC/RM34	Research Methodology for Public Relations	4	4	2	0	3	50	50	100
CD / ET	Value Education	2	2	0	0	-	50	-	100
19PR/PN/SI32	Summer Internship	2	0	0	0	0	50	-	100
	Common Elective II								
SEMESTER-IV									
19PR/PC/PG44	Public Relations in the Government Sector	4	4	1	0	3	50	50	100
19PR/PC/WM44	Writing for Media	4	4	1	0	3	50	50	100
19PR/PC/CM44	Public Relations Campaign Management	4	1	0	5	3	50	50	100
19PR/PC/DS47	Dissertation	7	0	0	8	-	50	50	100
	Department Elective III								
Postgraduate Elective Courses Offered to Parent Department									
19PR/PE/EM15	Event Management	5	4	0	2	3	50	50	100
19PR/PE/AP15	Advertising in Public Relations	5	4	0	2	3	50	50	100
19PR/PE/MM15	Media Management	5	4	0	2	3	50	50	100
19PR/PE/HR15	Human Resource Perspectives in Public Relations	5	4	0	2	3	50	50	100
19PR/PE/DP15	Digital Public Relations	5	4	0	2	3	50	50	100
19PR/PE/CT15	Communication Tools for Public Relations	5	4	0	2	3	50	50	100
19PR/PE/CP15	Creative Public Relations	5	4	0	2	3	50	50	100

C-Credit, L-Lecture Hours, T-Tutorial Hours, P- Practical Hours, Ex-Exam Hours, CA- Continous Assessment Marks, ES-End Semester Marks, M-Maximum Marks								
Subject Code	**Title of Course**	**C**	**L**	**T**	**P**	**Ex**	**CA**	**ES**	**M**
Postgraduate Elective Courses Offered to Other Departments									
19PR/PE/IP23	Introduction to Public Relations	3	2	0	1	3	50	50	100
19PR/PE/DM23	Digital Marketing	3	2	0	1	3	50	50	100
19PR/PE/PS23	Public Relations Skills	3	2	0	1	3	50	50	100
Independent Elective Courses									
19PR/PI/DC24	Digital Communications	4	0	0	0	3	-	100	100
19PR/PI/GP24	Global Public Relations	4	0	0	0	3	-	100	100

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M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

FUNDAMENTALS OF PUBLIC RELATIONS

CODE:19PR/PC/FP14   **CREDITS:4**
L T P:4 2 0
TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE:
- To give students the knowledge of the basic concepts of Public Relations
- To enable an understanding of the functions of a PR Department in an organization
- To equip the students with a concrete understanding of how PR helps in maintaining stakeholder relations, campaign planning and management and measurement of communication

COURSE LEARNING OUTCOMES:
On completion of the course, the students will be able to

- Define Public Relations and identify internal and external publics for individual organizations
- Comprehend the distinction of Public Relations from Spin Publicity, Advertising and Propaganda
- Understand the theories of PR and its use in different capacities
- Understand how PR evolved and how it has been appreciated as an important management tool by various industries
- Conceive and draw an action plan for a Campaign – commercial or social
- Use the different metrics of evaluation to measure the communication reach and impact of PR in an organization

Unit   1   **(16 Hours)**
   Introduction
   1.1 Definitions and Theories
        1.1.1 Meaning, Importance, Scope and Trends
        1.1.2 Publics – Internal and External
   1.2 Models of Public Relations
        1.2.1 Press Agentry/ Publicity Model
        1.2.2 Public Information Model
        1.2.3 Two-way Asymmetric Model
        1.2.4 Two-way Symmetric Model
   1.3 Need for Public Relations today
   1.4 Qualities of PR a Professional
   1.5 Ethics in Public Relations

Unit 2 (15 Hours)

Evolution of Public Relations
2.1 History of PR – World
2.2 PR in USA and UK
2.3 PR in India – Freedom struggle and post-colonial revolution
2.4 PR in India – Post Industrial Revolution
2.5 Introduction to In-house PR and PR Consultancies

Unit 3 (15 Hours)

Public Relations in Practice
3.1 Advertising, Publicity, Propaganda and Public Relations – Similarities and Differences
3.2 Introduction to Relationship Management
    3.2.1 Stakeholder Relations
    3.2.2 Working with the Media
3.3 Event Management
3.4 Reputation Management
3.5 Crisis Management

Unit 4 (16 Hours)

Public Relations Campaign
4.1 Conceptualization and Planning
4.2 Research and Setting Objectives
4.3 Target Audience and Publics
4.4 Resources and Budgeting
4.5 Strategies and Tactics
4.6 Communication and Media
4.7 Feedback and Evaluation

Unit 5 (16 Hours)

Career in Public Relations
5.1 In-house PR department and PR agencies
5.2 Professional bodies of Pubic Relations
5.3 Recent trends in PR career
    5.3.1 Product/Service PR
    5.3.2 Celebrity PR
    5.3.3 Entertainment PR
    5.3.4 PR for Non-Profits
    5.3.5 Political PR

BOOKS FOR STUDY

Rita Bhimari. *PR 2020*: *The Trending Practice of Public Relations*. Bee Books Pvt. Ltd., 2018

Sachdeva, Iqbal. *Public Relations – Principles and Practices.* Oxford University Press, India, 2015

BOOKS FOR REFERENCE

Anne Gregory. *Planning and Managing Public Relations Campaign – A Strategic Approach.* Kogan Page, UK, 2015

Bernays, Edward. L. *Public Relations.* Snowball Publishing, USA, 2012

Jaishri Jethwani, Shankar. N.N. *Public Relations Management.* Sterling Publishers, 2015

Jung Ki, Eyun; Nam Kim, Jeong; Ledingham. A. *Public Relations as a Relationship Management.* Routledge, UK, 2015

Lloyd, John; Laura Toogood. *Journalism and Public Relations – News Media and PR in the Digital Age.* I.B. Tauris, London, 2015

Morris, Trevor; Goldsworthy, Simon. *PR Today – The Authoritative Guide to Public Relations.* Macmillan Education, USA, 2016

Parsons, Patricia. P. *Ethics in Public Relations – A Guide to Best Practice.* Kogan Page, London, 2016

Reddi, Narasimma. C.V. *Effective Public Relations and Media Strategy.* Prentice Hall, India, 2014

Rogers, Danny. *Campaigns that shook the world – Evolution of Public Relations.* Kogan Page Ltd., UK, 2015

Stacks, Don. W; Michaelson, David. *Practitioner's Guide to Public Relations Research, Measurement and Evaluation.* Business Expert Press, New York, 2010

Swann,Patricia. *Cases in Public Relations Management.* Routledge, London, 2010

JOURNALS

Public Relations Review: A Global Journal for Research and Comment. Elsevier. ISSN 0363-8111

Journal of Public Relations Research. Routledge (Taylor and Francis Online) ISSN 1062-726x (p); 1532-754x (e)

Public Relations Inquiry. SAGE Journals. ISSN 2046-147x (p); 2046-1488 (e)

Journal of Public Relations Education. Association for Education in Journalism and Mass Communication, USA. ISSN 2573-1742

Asia Pacific Public Relations Journal. Public Relations Institute of Australia. ACN 85066451732

Public Relations Journal. Public Relations Society of America.

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions/Quiz

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

COMMUNITY RELATIONS

CODE:19PR/PC/CR14   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVE OF THE COURSE
- To understand the need of the community to practice Community Relations
- To learn the role of Public Relations in devising and executing CSR programs
- To know the role of PR in NGOs and NPOs in creating visibility

COURSE LEARNING OUTCOMES
On completion of the course, the students will be able to-
- Demonstrate an understanding on knowledge about the stakeholders
- Formulating effective communication strategies for community relations programmes
- Discuss the pressing need for creative and valuable CSR programmes for the benefit of both community and business
- Compare and discuss the different community relations activities undertaken by industries and businesses
- Execute community relations activities using different tools through the acquired PR skills

Unit   1   **(15 Hours)**
Community Relations and its importance in Public Relations
1.1 Community, community relations, community publics as important stakeholders
1.2 The concept of trusts and trusteeship
1.3 What are community relations programs?
1.4 Impact of community relations programs on businesses
1.5 Needs, purpose, objectives and benefits of community relations programs
1.6 Importance and effectiveness of communication and communication methods like grass root methods, mass media, etc in building community relations

Unit   2
Corporate Social Responsibility   **(15 Hours)**
2.1 CSR: Definition, Purpose and Theories
2.2 CSR tools: Business ethics, Sustainability and Corporate citizenship
2.3 Social, Political and environmental governance by corporate organizations
2.4 Globalization and revolution and its impact on CSR
2.5 Role of Public Relations in devising and initiating communication and CSR programs

Unit   3   **(10 Hours)**
Schemes and Programs for the Community
3.1 Schemes and programs for the community by Corporate organization: case Studies

3.2 Schemes and programs for the community by Industrial Organization: case studies

3.3 Schemes and programs for the community by Service Organization: case studies

Unit 4 (15 Hours)

Community Relations and Voluntary Organizations

4.1 Concept of Volunteerism and voluntary workers in a community

4.2 Voluntary Organizations and Agencies – An Overview

4.3 National Voluntary Organizations and community relations – case studies

4.4 International Voluntary Organizations and community relations – case studies

Unit 5 (10 Hours)

PR Professionals and Community Relations

5.1 Knowledge, skill and attitude needed to work in a community

5.2 Popular PR tools in community relations

    5.2.1 Opinion polling

    5.2.2 Working with opinion leaders

    5.2.3 Community events and gatherings

    5.2.4 Advertising and Fund-Raising activities

BOOKS FOR STUDY

Alison Theaker. *The Public Relations Handbook. 5th Ed*. Routledge, 2016.

Litow, Stanley S. *The challenge for Business and Society: From Risk to Reward*. Wiley, 2018.

BOOKS FOR REFERENCE

Abira Choudhury. *Gandhi on Trusteeship: An Ethical Approach*. LAP LAMBERT Academic Publishing, 2016

Anita Abraham. *Formation and Management of NGOs.* 4th Ed. Universal Law Publishing-An imprint of LexisNexis, 2015.

Broom, Glen.M; Sha, Bey-Ling. *Cutlip & Center's Effective Public Relations.*11th Ed. Pearson, 2013.

Du Plessis, Jean .J ; Umakanth Varottil; Veldman Jeroen. *Globalization of Corporate Social Responsibility and its impact on Corporate Governance.* Springer, 2018.

Hunter, Ronald .D; Barker, Thomas; De Guzman, Melchor C. *Police community Relations*.9th Ed. Pearson, 2017

Nayan Mitra; Schmidpeter, Rene. *Corporate Social Responsibilities in India.* Springer International Publishing AG, 2016

Reddi, Narasimha C.V. *Effective Public Relations & Media Strategy*.2nd Ed. Prentice-Hall of India Pvt. Ltd,2014.

Remund,David. L. *The art of responsible communication*. Business Expert Press, 2014.

Seitel, Fraser.P. *The Practice of Public Relations. 13th Ed.* Pearson,2016.

Wilcox, Dennis. L;Cameron, Glen.T;Reber.Bryan.H. *Public Relations: Strategies and Tactics*. 11th Ed. Pearson, 2015.

Wikipedia Contributors. *Focus on: Community Building*. Focus on,2018.

JOURNAL
International Journal of Non-Governmental Organizations (NGOs) and Essays (IJNGOE).
Print ISSN: ISSN 2514-9237 and Online ISSN: ISSN 2514-9245
Public Relations Review, Elsevier, United Kingdom
Public Relations Journal -Public Relations Society of America
Social Responsibility Journal – Emarald Insight ISSN 1747-1117
International journal of Corporate Social Responsibility

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks:50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions

End Semester Examination: **Total Marks: 100**   **Duration: 3 hours**

Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year June 2019-2020)

INTERPERSONAL AND GROUP COMMUNICATION

CODE:19PR/PC/IG14   **CREDITS:4**
                                                                    L T P:4 1 0
                                                                    TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To acquire skills in using communication tools
- To enable an understanding of the functions of communication
- To understand the importance of effective communication at interpersonal and group communication levels
- To comprehend the usefulness of communication theories and models in understanding the process

COURSE LEARNING OUTCOMES
On completion of the course, the students will be able to

- Understand the skills required to converse effectively at the interpersonal and group communication levels
- Identify the barriers to effective communication and take corrective measures
- Discuss the importance of communication of all types and levels
- Analyze the significance of communication within oneself and its impact
- Send and interpret verbal and nonverbal messages with accuracy
- Analyze and relate the communication models to real-life for better understanding of the process

Unit   1   **(13 Hours)**
   Introduction
   1.1 Definition and Origin of Communication
   1.2 Elements and Process of Communication
   1.3 Types, Levels and Functions of Communication
   1.4 Barriers to Effective Communication

Unit   2   **(13 Hours)**
   Intrapersonal Communication
   2.1 Concept of Self – Johari Window Theory, Self-Esteem, Self-Acceptance and Personality Development
   2.2 Coping with Fear, Shyness and Anger
   2.3 Four Factors that Influence Intra-Personal Communication – Perspective, Self-esteem, Self-assertion and Self-confidence

Unit   3   **(13 Hours)**
   Interpersonal Communication
   3.1 Definition of Interpersonal Communication, Interpersonal Skills – Verbal
       Communication, Non-Verbal Communication, Listening, Negotiation,
       Assertiveness, Decision-Making and Problem-Solving Skills
   3.2 Models of Interpersonal Communication: Lasswell Formula, Shannon and
       Weaver's, Osgood and Schramm's, David Berlo's SCMR Model
   3.3 Communicating to Influence Behavior – Meaning, Effective and Ineffective
       Strategies, Development of Plan for Influencing Change
    3.4 Forms of Interpersonal Communication – Oral Presentations, Telephone and
        Mic Techniques for Effective Communication, E-mail Communication –
        Etiquettes

Unit   4   **(13 Hours)**
   Group Communication
   4.1 Group – Definition and Types of Groups, Group Communication and its
       Importance
   4.2 Group Lifecycle, Group Leadership, Group Dynamics
   4.3 Working with Groups – Advantages and Disadvantages, Group Member
        Roles
   4.4 Forms of Group Communication – Group Discussions, Symposiums,
       Seminars, Panel Discussion, Debates, Interviews, Conference, Meetings and
       Exhibition

Unit   5   **(13 Hours)**
    Models and Theories of Group Communication
    5.1 Riley and Riley's Sociological Model
    5.2 Katz and Lazarsfeld's Two Step Flow Model of Communication
    5.3 Fisher's Theory of Small Group Communication – Decision Emergence
        Theory
    5.4 The Functional Theory, Structuration Theory

BOOKS FOR STUDY
Hargie, Owen. *The Handbook of Communication Skills*. Routledge, UK, 2018
Katherine.L.Adams; Gloria J Galanes. *Communicating in Groups: Applications and Skills*.
Mc-Graw Hill Education, 2017

BOOKS FOR REFERENCE
Aniisu K Verghese. *Internal Communication: Insights, Practices and Models*. Sage
Publications. New Delhi, 2012
Asha Kaul. *Effective Business Communication*. PHI Learning. New Delhi, 2015
Beebe, Steven. A. Masterson, John.T. *Communicating in Small Groups: Principles and
Practices (11thEdition)*. Pearson. London, 2014
Bernays, Edward L. *Public Relations*. Snowball Publishing, 2016
Donna.R.Vocate. *Intrapersonal Communication*. Routledge, 2017
Kumar, Sanjay. Pushp, Lata. *Communication Skills*. Oxford University Press. New Delhi,
2015
Lewis, Hedwig. *Body Language: A Guide for Professionals*. Sage Publications. New Delhi,
2012

McKay, Matthew. Davis, Martha. Fanning, Patrick. *Communication Skills*. B.Jain Publishers. New Delhi, 2010

O.P Singh. *Art of Effective Communication in Group Discussion and Interview*. S Chand & Company, 2014

Sharma,Ashish. *Introduction to Mass Communication*. Evincepub Publishing. Chhattisgarh, 2018

JOURNALS

Communication Theory. Wiley-Blackwell. ISSN: 1050-3293 (p); 1468-2885 (e)

Communicator. Indian Institute of Mass Communication. ISSN: 0588-8093

International Journal of Communication. Bahri Publications. ISSN: 0975-640X

Journal of Advanced Research in Journalism and Mass Communication. ADR Publications. ISSN: 2395-3810

Journal of Creative Communication. SAGE Publishing. ISSN: 0973-2586 (p); 0973-2594 (e)

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS
SYLLABUS
(Effective from the academic year 2019-2020)

MARKETING MANAGEMENT IN PUBLIC RELATIONS

CODE:19PR/PC/MG14   **CREDITS:4**
                                                    L T P:4 1 0
                                   TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE:
- To give students the knowledge of the basic concepts and principles of Marketing Management
- To enable an understanding of the objectives of Marketing and its relevance in Public Relations
- To enable the students create their own marketing strategies – using the different tools and objectives
- To give an understanding of the different strategies used for marketing and brand promotion on digital platforms
- To enable an understanding oh how research and analytics prove to be useful in drawing marketing strategies

COURSE LEARNING OUTCOMES:
On completion of the course, the students will be able to

- Identify the core components of Marketing Management and its role in promoting a brand
- Display a clear understanding of marketing research and ethical marketing
- Define branding and show an understanding of the different branding decisions
- Ability to develop marketing strategies based using the marketing mix
- Understand and Analyse how marketing strategies work for non-profit organizations
- Identify and examine the advantages and disadvantages of various communication tools used for marketing
- Explore into the tactics used for marketing on digital platforms
- Understand and appreciate social media marketing as an important feature of the digital era.

Unit   1   **(15 Hours)**
   Introduction
   1.1 Definitions and Concepts
        1.1.1 Principles and Elements of Marketing
        1.1.2 Scope of Marketing – concepts of need, want and demand
        1.1.3 Types of Marketing
   1.2 Market Segmentation, Targeting and Positioning
   1.3 Types of Markets: Market Place, Space and Meta-Markets
   1.4 Marketing Ethics and Responsibilities
   1.5 Need for Market Research and Analysis
   1.6 Integrated Marketing Communications

Unit 2   **(13 Hours)**

Marketing Strategies
2.1 Brand – Meaning and definition
2.2 Brand Equity and Promotion
2.3 Branding Decisions -Positioning, Repositioning, Rejuvenation and Relaunch
2.4 Types of Branding and Brand Building Strategies
2.5 Personal Branding – Emergence, Scope, Importance & Relevance to Corporate
    Branding

Unit 3   **(11 Hours)**

Social Marketing
3.1 Marketing for Non-Profit Organizations
3.2 Concepts of Social Marketing and Cause-Related Marketing – Origin and purpose
3.3 Integrating Social cause with Marketing - Social Marketing Mix
3.4 Differences between Social and Commercial Marketing
3.5 Types Social Marketing Campaigns – Application of PR strategies

Unit 4   **(13 Hours)**

Digital Marketing
4.1 Introduction to Digital Marketing
4.2 Introduction to Data and Analytics (Google Analytics)
4.3 Website Planning and Creation
4.4 Search Engine Optimization
4.5 Content and Affiliate Marketing Business
4.6 Mobile Marketing

Unit 5   **(13 Hours)**

Social Media Marketing
5.1 Social Media Marketing Strategies: Identifying the Influencers and Game
    Changers
5.2 Online Brand and Reputation Management
5.3 Marketing strategies for E-Commerce Portals
5.4 Effective Branding on Social Media Platforms: Facebook, Twitter, Instagram,
    LinkedIn, Pinterest, Snap Chat
5.5 Creating Video Stories – Vlog, YouTube for promotion and feedback
5.6 Effective Blog Writing: Planning, Creating and Marketing

BOOKS FOR STUDY
Kotler, Philip; Kartajaya, Hermawan; Setiawan, Iwan. *Marketing 4.0*: *Moving from Traditional to Digital.* Wiley India Pvt. Ltd., 2017
Lancaster, Geoff; Massingham, Lester. *Essentials of Marketing Management*. Routledge Publications, UK, 2018

BOOKS FOR REFERENCE
Chernav, Alexander. *Strategic Marketing Management*. Cerebellum Press, 2018
Dodson, Ian. The Art of Digital Marketing. John Wiley & Sons, New Jersey, 2016
Hofacker, Charles. F. Digital Marketing- Communicating, Selling and Connecting. Edward Elger, UK, 2018
Kotler, Philip; Keller, Kevin Lane; Koshy Abraham; Jha, Mithileshwar. *Marketing Management – A South Asian Perspective* (13th Edition). Pearson Prentice Hall, India, 2009

Mortimer, Ruth; Brooks,Greg; Smith Craig; Hiam, Alexander. Marketing for Dummies. John Wiley & Sons, India, 2013

Nagpal, Amit, Hindustani, Prakash. *Personal Branding, Storytelling and beyond*. Story Mirror Infotech, India, 2017

Nargundkar, Rajendra; Sainy, Romi. *Digital Marketing- Cases from India (E-book).* Amazon Digital Services. 2018

Reddi, Narasimma. C.V. *Effective Public Relations and Media Strategy*. Prentice Hall, India, 2013

Singh, Shiv; Stephanie Diamond. Social Marketing for Dummies. John Wiley & Sons, India, 2013

Susan Chritton. *Personal Branding for Dummies*. John Wiley & Sons, India, 2013

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International Journal for Research in Marketing. Elsevier. ISSN 0167-8116

Journal of Brand Strategy. Henry Stewart Publications. ISSN 2045-855x (p); ISSN 2045-8568 (e)

Indian Journal of Marketing (Scopus). Associated Management Consultants Private Limited. ISSN 0973-8703

Public Relations Review: A Global Journal for Research and Comment. Elsevier. ISSN 0363-8111

Journal of Public Relations Research. Routledge (Taylor and Francis Online) ISSN 1062-726x (p); 1532-754x (e)

Public Relations Inquiry. SAGE Journals. ISSN 2046-147x (p); 2046-1488 (e)

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions/Quiz

End-Semester Examination: **Total Marks: 100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

CORPORATE PUBLIC RELATIONS

CODE:19PR/PC/CO24   **CREDITS:4**
                                                          L T P:4 1 0
                                            TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To enable an understanding of the importance of PR as a management function for image building of an organization
- To discern the individual and departmental contributions of PR in business organizations
- To enable an understanding of how corporate communication works in an organization
- To encourage and nurture written and oral communication that Corporate PR demands
- To introduce the various facets of Corporate PR such as internal governance, Public Affairs and Stakeholder Management

COURSE LEARNING OUTCOMES
On completion of the course, the students will be able to

- Appreciate the impact of PR in a corporate organization and its role in image building
- Distinguish brand identity and brand image and analyze their contributions to the overall market position of the organization
- Create a brand story
- Show proficiency in writing newsletters, press releases and press notes
- Analyze the effectiveness of internal and external communication through case studies
- Display a thorough understanding of stakeholder management and public affairs

Unit   1   **(16 Hours)**
   Introduction
   1.1 Major Social, Economic, Technological and Trends and their impact on the industry
   1.2 Impact of Technology and Awareness on people's perception towards corporates
   1.3 Corporates as Social Brands, Technical Brands and Employer Brands – an overview
   1.4 Corporate Leadership - Handling public attitudes, political activism and pressure groups
   1.5 Corporate Identity, Branding and Image Management
   1.6 The importance of Storytelling in Organizational Branding

Unit   2   **(13 Hours)**
   Corporate Communication
   2.1 Definition, Need, Scope and Trends
   2.2 Types and Drivers of Corporate Communication

2.3 Corporate Communication in a Changing Media Environment – Challenges and Opportunities

2.4 Corporate Meetings, Speeches, Visits, Conferences, Training Programmes and In-house Journals

2.5 Corporate Films: Planning, Creation and Influence

2.6 Media Relations: Facets, functions and Effective Relationship Management

Unit   3   **(10 Hours)**

Corporate Governance

3.1 Quality Control and Management

3.2 Corporate Policies and Regulations

3.3 R&D and Product Specifications

3.4 Intellectual Property Rights

3.5 Internal Complaints Committees and Redressal

3.6 Change Communication

Unit   4   **(13 Hours)**

Stakeholder Management

4.1 concept and Definition

4.2 Nature of Stakes and Stakeholders

4.3 Stakeholder Engagement

4.4 Stakeholder Communication

    4.4.1 Stakeholder Salience Model

    4.4.2 Power Matrix Model

    4.4.3 Organization Model

 4.5 Tools of Stakeholder Communication – Annual Reports, Newsletters, Annual Meetings, Plant Tours and Web-based Communication.

Unit   5   **(13 Hours)**

 Public Affairs

5.1 Business's Involvement with Government and Societal Issues

    5.1.1 Working with Legislators and Legislative Bodies

    5.1.2 Working with Government Departments, Directorates, Corporations, Bureaus and Agencies

    5.1.3 working with Interest Groups –handling protests and Demonstration

    5.1.4 Working with Civil Societies

5.2 Lobbying and Advocacy

    5.2.1 Definition, Similarities and Differences

    5.2.2 Nature and Types of Lobbying

    5.2.3 Professional and Specialist Lobbyists

    5.2.4 Nature and Types of Advocacy

    5.2.5 Case studies

BOOKS FOR STUDY:

Cornelissen, Joep. *Corporate Communication – A guide to Theory and Practice*. SAGE Publication, London, 2017

Sachdeva, Iqbal. *Public Relations – Principles and Practices.* Oxford University Press, India, 2015

BOOKS FOR REFERENCE:
Bernays, Edward. L. *Public Relations*. Snowball Publishing, USA, 2012
Carroll, Archie. B; Buchholtz, Ann. K. *Business and Society- Ethics, Sustainability and Stakeholder management*. Cengage Learning, USA, 2015
Fernando, A.C. *Business Ethics and Corporate Governance*. Pearson Education India, 2010
Jane Johnston. *Media Relations- Issues and Strategies*. Allen &Unwin, Australia, 2013
Jung Ki, Eyun; Nam Kim, Jeong; Ledingham. A. *Public Relations as a Relationship Management*. Routledge, UK, 2015
Lloyd, John; Laura Toogood. *Journalism and Public Relations – News Media and PR in the Digital Age*. I.B. Tauris, London, 2015
Parsons, Patricia. P. *Ethics in Public Relations – A Guide to Best Practice*. Kogan Page, London, 2016
Reddi, Narasimma. C.V. *Effective Public Relations and Media Strategy*. Prentice Hall, India, 2014
Thompson, Stuart. *Public Affairs – A Global Perspective*. Urbane Publications, UK, 2016
Wasieleski, David. M; Weber, James. *Stakeholder Management*. Emerald Publishing Limited, UK, 2017

JOURNALS
Corporate Communications: An International Journal. Emerald Insight Online. ISSN 1356-3289
Public Relations Review: A Global Journal for Research and Comment. Elsevier. ISSN 0363-8111
Journal of Public Relations Research. Routledge (Taylor and Francis Online) ISSN 1062-726x (p); 1532-754x (e)
Public Relations Inquiry. SAGE Journals. ISSN 2046-147x (p); 2046-1488 (e)
Journal of Public Relations Education. Association for Education in Journalism and Mass Communication, USA. ISSN 2573-1742
Asia Pacific Public Relations Journal. Public Relations Institute of Australia. ACN 85066451732

PATTERN OF ASSESSMENT
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Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Case Studies/Group Discussions/Quiz

End-Semester Exam: **Total Marks: 100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

CUSTOMER RELATIONS

CODE:19PR/PC/CU24   **CREDITS:4**
                                                                                      L T P:4 1 0
                                                            TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To understand the importance of a customer
- To learn the role of Public Relations in reaching out to customers
- To understand the PR skills needed to appeal to customers

COURSE LEARNING OUTCOMES
On completion of the course, the students will be able to

- Explain the differences between customer and consumer and their relationship management
- Exhibit skills needed to handle customers in order to build loyalty
- Discuss the rights of consumers and their responsibilities
- Use the customer relationship management process and procedures for effective relationship management
- Apply PR knowledge for devising effective policies for businesses and grievance redressal

Unit   1   **(15 Hours)**
    Customer and Consumer
    1.1 Customer and consumer
    1.2 Types of customers
    1.3 Resource management to deliver customer needs and requirement
    1.4 Customer: Expectations, satisfaction and delight
    1.5 Customer loyalty building strategies
    1.6 Concept of Globalization and consumerism in India

Unit   2   **(15 Hours)**
     The customer is the king
    2.1 Consumer awareness, Consumer rights and responsibilities
    2.2 Consumer protection acts
    2.3 Consumer courts and complains
    2.4 Handling complaints and grievances of customers
    2.5 Return and refund policies for customers

Unit   3   **(15 Hours)**
    Customer relations Procedures and communication
    3.1 Customer relations Policies and procedures for businesses
    3.2 Customer Relationship Management and its need
    3.3 Types of customer communication and the effective tools
    3.4 Barrier to customer communication and effective handling of the break down

Unit   4   **(10 Hours)**
    Practical Customer Relations: Case Studies
    4.1 Customer relations and handling of customers: public sector
    4.2 Customer relations and handling of customers: private sector

Unit   5   **(10 Hours)**
    PR Professionals and Customer Relations
    5.1 knowledge, skill and attitude needed to work with customers
    5.2 PR tools for customer relations: surveys, campaigns, feedback systems and
        customer communication

BOOKS FOR STUDY
Alison Theaker. *The Public Relations Handbook*. 5th Ed. Routledge, 2016.
Seitel, Fraser.P.*The Practice of Public Relations*. 13th Ed. Pearson, 2016.

BOOKS FOR REFERENCE
Greenberg, Paul. CRM at the speed of light. 4th Ed. Tata McGraw Hill Education, 2017.
Gurpreet Kaur Chhbra. *Consumer Behavior*. Dreamtech press,2015.
Francis, Jeremy. *Selling to Different Customer Types* (e book), 2018.
Mohammed Kamalun Nabi. *Consumer rights and Protection in India*, New Century
Publications, 2015.
Mullick N.H. *Customer Relationship Management*. Oxford University Press, 2016.
Rajyalakshmi Rao. Consumer is King!! Know your rights and remedies. Universal Law
Publishers, 2012.
Schiffman, Leon G; Wisenblit, Joseph ; Ramesh Kumar.S. Consumer Behavior. 11th Ed.
Pearson Education India,2015.
Sheth, Jagdish.N; Parvatiyar, Atul; Shainesh. G. Customer Relationship Management:
Emerging Concepts, Tools and Applications. McGraw Hill Education, 2017.
Tom, Wanyakala. *Customer Service in the Public Sector. VDM Verlag,2011.*
Younes, Ben. Effective Sales Techniques(e book), 2017.

JOURNAL
International Journal of Customer Relationship Marketing and Management (IJCRMM),
ISSN: 1947-9247
Ivey Business journal IOSR Journals, e-ISSN : 2278-487X, p-ISSN : 2319-7668
Public Relations Journal -Public Relations Society of America
Public Relations Review, Elsevier, United Kingdom

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Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions/Quiz

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

PUBLIC RELATIONS AGENCY SERVICES

CODE:19PR/PC/AS 24   **CREDITS:4**
                                                                      L T P:4 1 0
                                          TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To give students the knowledge about the working of a Public Relations Agency
- To enable an understanding of the specialized nature of work of an agency professional
- To enable an understanding of the various collaterals created by an agency for communication with the stakeholders and the media
- To enable an understanding of the convergence of traditional and digital PR and the effective handling of it by the agency professionals

COURSE LEARNING OUTCOMES:
On completion of the course, the students will be able to

- Identify and appreciate the core roles and responsibilities of a PR professional working in an agency
- Display a clear understanding of agency tactics and strategies used for clients
- Analyse the importance of media relations and networking for the agency
- Analyse the various advantages of traditional and digital PR activities
- Display an understanding of the value- added services provided by a PR agency
- Create news-worthy stories and pitch with media houses for public communication

Unit   1   **(13 Hours)**
Introduction
1.1 PR Agency – Definition, Need and Scope
1.2 In-house Department and External PR Agency –Differences in the Roles and
    Requirements
1.3 Agency Landscape – Global PR Agencies
1.4 Leading PR Agencies in India
1.5 Market Trends in PR –
      1.5.1 Specialized Agencies
      1.5.2 Integration of Traditional and Digital PR
      1.5.3 Inbound PR functions

Unit   2   **(13 Hours)**
Structure of a PR Agency
2.1 Structure and Hierarchy of a PR Agency

2.2 Stakeholders of an agency –roles and contributions
2.3 Departments in an agency – roles and responsibilities
2.4 Account Planning and Management
2.5 Business Development

Unit   3   **(13 Hours)**
Role of a PR Professional in an Agency
3.1 Client Services and Networking
3.2 Research on Clients
3.3 Getting a PR brief
3.4 Conception, Planning and Implementation of PR Strategies
3.5 B2B and B2C campaign development strategies
3.6 Measurement and Evaluation of PR – Structures and Metrics

Unit   4   **(13 Hours)**
Media Relations
4.1 Understanding the media landscape – people and service
4.2 Media Tracking – Industry, Company and Competitors
4.3 Building relationship with journalists
4.4 Storytelling – creative brand stories
4.5 Pitching stories to the media
4.6 Other Functions - News Conferences, News Releases/ VNR, development and
     production of media kits

Unit   5   **(13 Hours)**
Value-added Services
5.1 Content writing and planning
5.2 Digital PR complementing traditional efforts
5.3 Influencer outreach strategies
5.4 Media and networking Training
5.5 Executive Training

BOOKS FOR STUDY
Cappizo, Luke. W and Regina M. Luttrell. *PR Agency Handbook*. Sage Publications, 2018
Iliyana Stravera. *Inbound PR: The PR agency's Manual to Transforming your Business with Inbound*. John Wiley & Sons Inc., New Jersey, USA, 2018

BOOKS FOR REFERENCE:
Bernays, Edward. L. *Public Relations*. Snowball Publishing, USA, 2012
Howard, Carole. M; Wilma. K. Mathews. On deadline – Managing Media Relations. Wavelength Press Inc., Illinois, 2013
Jaishri Jethwani, Shankar. N.N. *Public Relations Management*. Sterling Publishers, 2015
Jane Johnston. Media Relations- Issues and Strategies. Allen &Unwin, Australia, 2013
Janis Teruggi Page; Lawrence. J Parnell. *Introduction to Strategic Public Relations*. SAGE Publications, USA, 2019
Morris, Trevor; Goldsworthy, Simon. *PR Today – The Authoritative Guide to Public Relations*. Macmillan Education, USA, 2016
Parsons, Patricia. P. *Ethics in Public Relations – A Guide to Best Practice*. Kogan Page, London, 2016

Reddi, Narasimma. C.V. *Effective Public Relations and Media Strategy*. Prentice Hall, India, 2014

Sachdeva, Iqbal. *Public Relations – Principles and Practices.* Oxford University Press, India, 2015

Stacey Smith. The Public Relations Firm. Business Expert Press, New York, 2015

JOURNALS

Public Relations Review: A Global Journal for Research and Comment. Elsevier. ISSN 0363-8111

Journal of Public Relations Research. Routledge (Taylor and Francis Online) ISSN 1062-726x (p); 1532-754x (e)

Public Relations Inquiry. SAGE Journals. ISSN 2046-147x (p); 2046-1488 (e)

Journal of Public Relations Education. Association for Education in Journalism and Mass Communication, USA. ISSN 2573-1742

Asia Pacific Public Relations Journal. Public Relations Institute of Australia. ACN 85066451732

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50** **Duration: 90 Minutes**

Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**

Assignments/Seminars/Presentations/Case Studies/Group Discussions/Quiz

End-Semester Exam: **Total Marks: 100** **Duration: 3 hours**

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

SOFT SKILLS

CODE:19PR/PK/SS22   **CREDITS:2**
                                                                 LTP:2 0 0

OBJECTIVES OF THE COURSE
- To empower and create opportunities for self -development
- To instill confidence and face challenges
- To enable an understanding of effective communication for success in work and life

COURSE LEARNING OUTCOMES
On completion of the course, the students must be able to

- Demonstrate appropriate leadership style at work place
- Work and manage efficiently in a team
- Resolve conflicts wIth their fullest capacity
- Manage and prioritize their tasks and follow deadlines
- Plan their career based on their interest and skill, using career mapping techniques.

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**

The organisation is required to assess every student based on Knowledge, attitude to learn, attendance and skills- acquired and developed during internship and this assessment marks is taken as Continuous Assessment Marks

Viva- Voce Examination:
Total Marks: 100   Internal Examiner: 50 marks External Examiner: 50 marks

- The entire learning from the internship along with highlights to be presented
- A copy of the report to be handed over to organisation on request.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

PUBLIC RELATIONS IN THE SERVICE SECTOR

CODE:19PR/PC/SS34   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE
- To expose the students to PR research process and its steps
- To enable the students with the skills needed to negotiate with customers in the service sector
- To make the students understand the essentials of service marketing

COURSE LEARNING OUTCOMES
On completion of the course, the students will be able to

- Understand and appreciate the importance of personnel in service organizations
- Use the research knowledge and research process in dealing with clients of service industry
- Channelize the PR skills in improving customer relations in service industry
- Employ service marketing to improve the visibility for service industries
- Analyse the communication patterns in service promotion in different sectors

Unit   1   **(15 Hours)**
Introduction to Service sector
1.1 Service sector: Unique features and its characteristics
1.2 Features: People-Intensive, Service-Delivery & Customer-satisfaction
1.3 Important P's of Service sector: Product, Price, Place, Publicity and PR
1.4 Soft Skill: Grooming, Courtesy, Patience, Friendliness and Service mentality

Unit   2   **(15 Hours)**
Service Sector and four step Public Relations
2.1 First step of Public Relations process: fact-finding and feedback
2.2 Second step of Public Relations process: Planning and programming
2.3 Third step of Public Relations process: Action and Communication
2.4 Fourth step of Public Relations process: Evaluation

Unit   3   **(12 Hours)**
Public Relations for Utilities:
Electricity, Gas, Water, Telephone and Communication
3.1 Unique nature of utilities
3.2 Relations with customers through employee
3.3 Special concerns: Consumerism, Environment and Privatization

Unit 4   **(13 Hours)**
      Service Marketing

4.1 Introduction to service marketing: Definition, Need, types and its characteristics

4.2 B2B and B2C communication

4.3 Service Marketing mix: Process, Product, Price, Place, Promotion, People, Physical Evidence and Process

Unit 5   **(10 Hours)**
      Public Relations for Service Sector – Case Studies

5.1 Telecommunication industry, financial services, hospitality, tourism, health care, hospitals and educational institutions

5.2 Advertising and Marketing Strategy

5.3 Employees and Customer and other stakeholder Relations

5.4 Media and Communication

5.5 Outreach programs and their impact

BOOKS FOR STUDY

Alison Theaker. *The Public Relations Handbook.* 5th Ed. Routledge, 2016.

Seitel, Fraser P. *The Practice of Public Relations.*13th Ed. Pearson, 2016.

BOOKS FOR REFERENCE

Arnold, Todd.W. Rethinking Utility Customer Care. CS Week,2015.

Beale, Joseph Henry. Cases on Public Service Companies. Arkose Press, 2015.

Camillo, Angelo.A. *Handbook of Research on Global hospitality and Tourism Management.* Idea Group, U.S. 2015.

Christine Jones ; Valerie Jowett. *Managing Facilities* (e-book), Routledge, 2010.

Deuschl, Dennis.E. *Travel and Tourism Public Relation: An Introductory Guide for Hospitality Managers* (e-book), Routledge, 2006.

Fatima, De Souza Maria. *Complaint Management in Airline Industry: Application of Justice Theory.* Notion Press, 2019.

Vasant Pandian ; Kalaivanthan M. *Handbook of Research on Holistic Optimization Techniques in the Hospitality, Tourism and Travel Industry.* IGI Global, 2016

Upendra, Singh Panwar; Raj Kumar & Nilanjan Ray. *Handbook of Research on Promotional Strategies and Consumer Influence in the Service Sector.* IGI Global, 2016.

Wirtz, Jochen; Lovelock, Christopher; Chatterjee, Jayanta. Service Marketing. Pearson Education, 2017.

Zeithaml, Valarie A; Mary Jo Bitner; Gremler, Dwayne . D; Ajay Pandit. *Service Marketing.* Mc Graw Hill Education, 2017.

JOURNALS

Features of Public Relations in Service Sector: Rohit Patil

International journal of Services sciences (IJSSci). ISSN Online: 1753-1454 & ISSN Print: 1753- 1446

Journal of Service Management – Emerald Insight

The Service industries Journal: Taylor and Francis

The Service Industry Journal: Ingenta Connect Publications. ISSN 0264-2069 (print), ISSN 1743 – 9507 (online)

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**

Part A: 3X2 = 6 Marks (Answer All questions)

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End-Semester Exam: **Total Marks: 100**   **Duration: 3 hours**

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Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

EMPLOYEE RELATIONS

CODE:19PR/PC/ER34
<div align="right">

CREDITS:4
L T P: 4 1 0
TOTAL TEACHING HOURS:65
</div>

OBJECTIVES OF THE COURSE:
- To enable an understanding of the importance of employees as an important stakeholder in an organization
- To give an understanding of the responsibilities of employers and employees
- To enable an understanding of the need for good employment relationship
- To give an understanding of the different tools used for internal communication in an organization
- To equip with the knowledge of the different laws of employment in the country
- To enable an understanding of the need for smooth labour relations and its impact on an organization

COURSE LEARNING OUTCOMES:
On completion of the course, the students will be able to

- Identify their personal goals and their contribution as a productive employee to an organization
- Display an understanding of the different laws of employment and labour relations
- Design an internal communication brochure, putting the different tools to use
- Conceive and plan an employee engagement programme – based on a social or environmental cause
- Be able to resolve employer-employee disputes based on real-time case studies
- Display a skill of effectively using social media platforms for effective and ethical workplace communication

Unit   1   **(13 Hours)**
Introduction
1.1 Employee Relations – Concepts and Definitions
1.2 Need for effective Employee Relations
1.3 Expectations of Employers and Employees in an Organization
1.4 Aligning Corporate and Individual Goals
1.5 Challenges in Employer-Employee Relationship
1.6 Laws pertaining to Employment – Pay, Safety, Compensation and Termination

Unit   2   **(13 Hours)**
Employment Relationship
2.1 Perspectives of Employment – Economic, Legal and Social

2.2 Employment as a Psychological Contract
2.3 Employee Involvement and participation
    2.3.1 EIP and Employee Performance
    2.3.2 EIP and Organizational Performance
2.4 Employee Burnout – Causes, Symptoms and Treatment
2.5 The end of employment relationship in an organization

Unit 3   (13 Hours)
Employee Communication
3.1 Introduction to Organizational Communication – Needs, Trends and Phases
3.2 Internal Marketing – Concept, Need and Scope
3.3 Upward, Downward, Lateral and Grapevine Communication
3.4 Tools of Internal Communication – House Journals, Bullet-in boards (digital and manual), Mails, Intranet, Plant Newspapers and other publications
3.5 Technology Driven Internal Communication – Information, Employee Participation and Performance Motivation
3.6 Workplace Social Media Platforms – Slack, Yammer, Facebook Workplace, Message Boards and Work Blogs
3.7 Ethics of Internal Communication

Unit 4   (13 Hours)
Employee Engagement
4.1 Concept of Employee Engagement – Commitment, Trust, Team-work and Excellence
4.2 Employee Engagement Strategies
4.3 Recreational Activities and Engagement
4.3 Employee Volunteerism and Engagement
4.4 Challenges in Employee Engagement
4.5 Personal and Health Issues
4.6 Drug Abuse and Alcoholism
4.7 Safety and other social issues

Unit 5   (13 Hours)
Industrial Relations
3.1 Objectives of Industrial Relations
3.2 Labour Relations: Role of Trade Unions and Labour Associations
3.3 International Labour Organization and Standards
3.4 Industrial Disputes and Conflicts
3.5 Types and forms of disputes
3.6 Collective Bargaining
    3.6.1 Meetings and Negotiations
    3.6.2 Negotiation Skills
 3.7 Dispute Resolution and types

BOOKS FOR STUDY
Thornton, Gail. S; Vivian Regina Mansi; Carramenha, Bruno; Cappellano, Thatiana. *Strategic Employee Communication: Building Culture of Engagemen*t. Stinger Publishing, USA, 2018
Ruck, Kevin (Ed.). Exploring Internal Communication: Towards Informed Employee Voice. Grower Publishing, London. 2015

BOOKS FOR REFERENCE

Ahmed, Parvaiz. K; Rafiq Mohammed. *Internal Marketing: Tools and Concepts for Customer Focused Management.* Butterworth Heinemann, 2013

Budd, John W. *Labour Relations: Striking a Balance*. McGraw-Hill, New York, USA, 2010

Byres. T.J; Kapadia, Karian; Lerche, Jenn. *Rural Labour Relation in India*. Routledge, NY, 2013

Elizabeth Aloytt. *Employee Relations*. Kogan Page, London, 2014

Emma Bridger. *Employee Engagement*. Kogan Page, London, 2015

Jung Ki, Eyun; Nam Kim, Jeong; Ledingham. A. *Public Relations as a Relationship Management.* Routledge, UK, 2015

Kathrene Miller. *Organizational Communication: Approaches and Processes*. Cengage Learning, USA, 2015

Sachdeva, Iqbal. *Public Relations – Principles and Practices.* Oxford University Press, India, 2015

Singh, P.N; Kumar, Neeraj. *Employee Relations Management*. Pearson India, 2011

Varghese, Aniisu K. Internal Communication- Insights, Practices and Models. SAGE, India, 2012

JOURNALS

Human Resource Management Review. Elsevier. ISSN 1053-4822

Academy of Management Journal. Academy of Management. ISSN 0001-4273(p), 1948-0989(e)

Public Relations Review: A Global Journal for Research and Comment. Elsevier. ISSN 0363-8111

Journal of Public Relations Research. Routledge (Taylor and Francis Online) ISSN 1062-726x (p); 1532-754x (e)

Public Relations Inquiry. SAGE Journals. ISSN 2046-147x (p); 2046-1488 (e)

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STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year June 2019-2020)

MASS COMMUNICATION

CODE:19PR/PC/MC34   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVES OF THE COURSE:
- To enable the students to trace the origin and development of print, electronic and new media
- To comprehend the nature and working of the mass media
- To understand how to maximize the potential of mass media in serving the needs of PR practices
- To equip the students with the knowledge of interactive communication technologies

COURSE LEARNING OUTCOMES:
On completion of the course, the students will be able to

- Explain the vital functions of mass media communication as opposed to interpersonal communication
- Comprehend the concept of media audience as active consumers of mass media content
- Discuss the roles played by mass media with respect to special audience like women and children
- Discuss the laws in journalism and the analyze ethical issues faced by media with respect to paid journalism
- Understand how PR can use electronic media for effective communication of messages
- Discuss the merits and demerits of new media in mass communication along with the laws of cyber safety
- Interpret the scope of cinema as a persuasive medium of mass communication

Unit   1   **(13 Hours)**
Introduction to Mass Media
1.1 Definitions and Classifications of Mass Media
1.2 Functions of Mass Media – News or Information, Education, Entertainment, Commerce, Integration, Development, Persuasion
1.3 Popular players in the Mass Media Industry – World and India
1.4 The Four normative theories of press
1.5 Models and theories of Mass Media:

Comstock's Psychological Model of Television Effects in Individual Behavior; Ball-Rokeach's Media Dependency model of Mass Communication Effects; Maletzke's Model of Mass Communication Process

Unit 2   **(15 Hours)**

Media, Culture and Society

2.1 Media audience – Meaning and the audience as market

2.2 Media text and Media rhetoric – Rhetoric Techniques of Media
Audience Effect Theories – Uses and Gratifications Theory, Dissonance Theory, Reception Analysis Theory, Spiral of Silence Theory

2.3 Mass Media as a Tool of Development Communication

2.4 Media and Women & Children

2.5 Media and Popular Culture

Unit 3   **(13 Hours)**

Traditional Media – Print and Electronic Media

3.1 Print Media

    3.1.1 History of Print Media – World and India

    3.1.2 Major techniques Involved in Printing

    3.1.3 Ethics in Journalism – Overview of Major Laws

    3.1.4 Opinion Building in Print media and Paid Journalism

3.2 Electronic Media – TV and Radio

    3.2.1 History of Electronic Media – World and India

    3.2.2 Introduction to Radio programming concepts

    3.2.3 Public Relations and Electronic Media

    3.2.4 Ethics of Broadcasting

Unit 4   **(13 Hours)**

Cinema

4.1 Evolution of Cinema – World and India

4.2 Cinema as a Tool of Communication, Influence of Cinema

4.3 Categories and Genres of Cinema

4.4 Components of Cinema and Film Promotions

4.5 Film Appreciation - Practical

Unit 5   **(11 Hours)**

New Media

5.1 Evolution of New Media – World and India

5.2 ICT and Development – Case Studies in India

5.3 Application of Interactive Communication – Video Conferencing, Streaming Media: Internet TV, Internet Radio, Podcast

5.4 Ethics and Responsibilities in Using the New Media

5.5 Cyber Safety and Laws

BOOKS FOR STUDY

Baran, Stanley.J. *Loose Leaf for Introduction to Mass Communication: Media literacy and Culture*. Mc-Graw Hill Education. 2018

Calvert, Clay. Kozlowski,Dan.V. Silver, Derigan. *Mass Media Laws*. Mc-Graw Hill Education. 2017

BOOKS FOR REFERENCES
Aggarwal, Virbala. *Handbook of Journalism and Mass Communication*. Neha Publishers and Distributors, 2012
Campbell, Richard. Martin, Christopher.R. *Media & Culture: Mass Communication in a Digital Age*. Bedford/St. Martin's; Tenth edition. United States, 2013
Lloyd, John. Laura Toogood. *Journalism and PR: News Media and Public Relations in the Digital Age (Reuters Challenges)*. I.B Tauris, 2014
Parthasarathy, Rangaswami. *Journalism in India*. Sterling Publishers. New Delhi, 2009
Pavlik, John.V. McIntosh, John. *Converging Media*. Oxford University Press. New Delhi, 2018
Rita Bhimani. *PR 2020: The Trending Practice of Public Relations*. Bee Bee Books, 2018
Reddi, Narasimha. *Effective Public Relations and Media Strategy*. PHI learning, 2014
Sharma, Ashish. *Introduction to Mass Communication*. Evincepub Publishing. Chhattisgarh, 2018
Sunetra Sen Narayan. Shalini Narayanan. *India Connected: Mapping the Impact of New Media*, Sage Publications. New Delhi, 2016
Rosenberry, Jack. *Applied Mass Communication Theory*. Routledge. United Kingdom, 2017

JOURNALS
Communication Theory. Wiley-Blackwell. ISSN: 1468-2885 (p); 1050-3293 (e)
Communicator. Indian Institute of Mass Communication. ISSN: 0588-8093
Global Media and Communication. SAGE Journals. ISSN: 17427665
Journal of Advanced Research in Journalism and Mass Communication. ADR Publications. ISSN: 2395-3810
Media Watch: Journal of Communication. Indian Journals.Com. ISSN: 0976-0911(p); 2249-8818(e)

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Component: **Total Marks: 50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions/Quiz

End-Semester Exam: **Total Marks: 100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

RESEARCH METHODOLOGY FOR PUBLIC RELATIONS

CODE:19PR/PC/RM 34   **CREDITS:4**
                                                            L T P:4 2 0
                             TOTAL TEACHING HOURS: 78

OBJECTIVES
- To train the students in basics of Social Science Research in general and Communication/Media in particular
- To enable them to put forward a research proposal in a field of study
- To enable the students to understand and practice academic/scientific writing

COURSE LEARNING OUTCOMES
On completion of the course, the students will be able to

- Identify the core research problem based on substantial study in a specific subject
- Evaluate literature from a variety sources pertinent to the objectives of the study
- Utilize the various sources of methods of data collection to obtain information and narratives
- Analyse the collected data to infer or find a different perspective to the given study
- Scientifically substantiate the study undertaken with relevant findings as a report

Unit 1   **(16 Hours)**
   Introduction
   1.1 Meaning and definition of Research
   1.2 Nature, Scope and elements of Research
   1.3 Pre – research studies and Types of Research
   1.4 Defining a Research Problem
   1.5 Identifying and Defining variables
   1.6 Types of Variables

Unit 2   **(15 Hours)**
   Research Methodology
   2.1 Research Approach – Qualitative, Quantitative, Mixed Methods
   2.2 Research Hypothesis - Meaning
   2.3 Types of Hypothesis
   2.4 Functions of Literature
   2.5 Steps in Conducting Literature Review

Unit 3   **(15 Hours)**
   Literature Review
   3.1 Meaning and Definition

3.2 Importance and Objectives of Literature Review
3.3 Sources of literature
3.4 Functions of Literature
3.5 referencing and Types

Unit 4   **(16 Hours)**
Research Strategies and Data Collection
4.1 Ground Study/ Base-line surveys
4.2 Case Studies
4.2 Ethnography
4.4 Observation
4.3 Informants
4.4 Survey techniques
4.5 Opinion Polling
4.6 Interviews and Types
4.7 Focus Groups

Unit 5   **(16 Hours)**
Techniques of Analysis
5.1 Analysis of Quantitative Data
        5.1.1 Sampling Techniques
        5.1.2 Statistical Methods of Testing
5.2 Analysis of Qualitative Data
        5.2.1 Discourse and Narrative Analysis
        5.2.2 Content Analysis
        5.2.3 Textual Analysis
        5.2.4 Performance Analysis
5.3 Tabulation and presentation of Findings
5.4 Research Report Writing

BOOKS FOR STUDY
Best, John. W; Kahn, James. V; Jha, Arbind. K. Research in Education (tenth edition).
Pearson Education, India, 2016
Kothari C.R; Garg, Gaurav. *Research Methodology : Methods And Techniques (Multi Colour Edition)*. New Age International Publishers (Fourth Edition), 2019

BOOKS FOR REFERENCE
Brennen, Bonnie S. *Qualitative Research Methods For Media Studies 2nd Edition.*
T&F/India, 2018
Creswell, John W; Creswell, David J. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage Publications, 2018
Dayal, Manoj. *Media Metrics: An Introduction to Quantitative Research in Mass Communication*. Sage Publications India, 2017
Jankowski, Nicholas.W; Jensen, Bruhn Klaus. *A Handbook of Qualitative Methodologies for Mass Communication Research*. Routledge, 2015
Jugenheimer, Donald. W; Bradley, Samuel. D; Kelly, Larry. D; Hudson, Jerry. C.
Advertising and Public Relations Research. PHI Learning Pvt. Ltd., 2010
Kate Turabian. *A Manual for Writers of Research Papers, Theses, and Dissertations 9e*.
University of Chicago Press, 2018

Lindlof, Thomas R; Taylor, Bryan C. *Qualitative Communication Research Methods*. SAGE Publications, Inc, 2017
Lucinda Becker. *Writing Successful Reports and Dissertations*. Sage Publications, 2014
Machi, Lawrence A; Brenda T. McEvoy. *The Literature Review: Six Steps to Success*. Corwin, 2016
Napoleon. D; Sathya Narayanan, Balaji. *Research Methodology- A Theoretical Approach*. Lakshmi Publications, India, 2014
Vinod, Chandra; Anand, Hareendran. *Research Methodology*. Pearson, 2017

JOURNALS
Journal of Mixed Methods Research. SAGE Publishing. ISSN: 1558-6898 (p); 1558-6901 (e)
International Journal of Quantitative and Qualitative Research Methods. European-American Journals. ISSN: 2056-3620 (p); 2056-3639 (e)
International Journal of Social Research Methodology. Taylor & Francis. ISSN: 1364-5579 (p); 1464-5300 (e)
International Journal of Qualitative Methods. Sage Publishing. ISSN: 1609-4069 (p); 1609-4069 (e)
Organizational Research Methods. Sage Publishing. ISSN: 1094-4281 (p); 1552-7425 (e)

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Case Studies

End-Semester Exam: **Total Marks: 100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

SUMMER INTERNSHIP

CODE:19PR/PN/SI 32   **CREDITS:2**

OBJECTIVES OF THE COURSE
- To work in a corporate/ NGO/ Service sector/ Government for 60 working days in summer between First year and Second year
- To acquire skill and training from their selected organization to increase their employability
- To understand the structure and function of their selected organization
- To get to know the current work trends of their selected industry

COURSE LEARNING OUTCOME:
On completion of the course, the students will be able to
- To be able to adopt to working atmosphere and implement the learning/skill/knowledge for professional development
- To be able to document the observations, findings, understandings, perceptions and experiences into a report
- To be able to present the internship report in a viva voce and face questioning

PLAN OF ACTION FOR FACULTY:
- This internship is usually in April-May after the student has completed
  a) a semester of theory in: Public Relations in the Corporate sector, Customer Relations, Communication Skills II and Electives.
  b) papers in Community Relations, Basics of Public Relations, Interpersonal Communication have already been covered in the first semester and hence will be useful for an internship in the NGO
  c) case studies through guest lectures by professionals from different organisations
  d) workshops in communications which include practicals and demonstrations
  e) attended seminars/conferences/workshops
  f) analyzed data and made presentations during practical work in theory papers

Hence the internship should provide facilities for the student to transform all the above learning experiences into practical applications and provide a platform for experiential learning.

- The faculty should contact different organisations - small, medium and large in both the private and government sector.
- The Students should be given an organisation according to her academic performance and participation in departmental, collegiate and inter- collegiate activities.

- The attendance and assessment sheet should be prepared and collected at the end of the internship and internship assessment is to be entered as C.A marks. Report and Viva Voce marks (End semester exam marks) are to be also entered and consolidated
- When the organisation sends an acceptance letter agreeing to the internship of the students one photocopy is to be given to the student and the original filed in the department.
- When the student submits internship reports Viva Voce examination is to be conducted with one internal and external examiner and the consolidated mark sheet to be handed over to the Controller of Examination office

FOR STUDENTS:
- Obtain good theoretical knowledge in all subjects through lectures and reading in the library
- Listen to all case studies and attempt to understand the practical applications in the concerned sector.
- Participate actively in all practical sessions and acquire skills in communication and PR
- Acquire the proper knowledge, attitude and skills in any field study or visit
- Cultivate good listening, speaking, reading, writing and interpersonal communication skills
- SMS supervising faculty daily on work done
- During the 60 days (8 weeks) of internship plan and use the time effectively as follows:
  a) For the first ten working days learn: the mission, vision, objectives, structure and programs of the organization
  b) For the next thirty working days obtain information from the personnel in the organisation the PR tools used for (i) employees (ii) customers (iii) community (iv) government (v) stockholders (vi) financial institutions (vii) press and other media and (viii) all communication and PR media used to communicate with all the publics of the organisation.
  c) For the last twenty working days document all the work done and show it to the supervisor at the organisation and obtain the necessary documentation
- Prepare three copies of the internship report and a soft copy (DVD) and submit to the department. One report is for the department, one for the organisation which has to be handed over with a thank you letter from the department and one is for the student
- Make a good presentation at the Viva Voce and answer questions; obtain one copy of the report.

SUGGESTED READING
Swann, Patricia. *Cases in Public Relations Management.* New York and London: Routledge. 2010.

PATTERN OF ASSESSNENT:
Continuous Assessment Test: Total Marks: 50
The organisation is required to assess every student based on Knowledge, attitude to learn, attendance and skills- acquired and developed during internship and this assessment marks is taken as Continuous Assessment Marks
Viva- Voce Examination:
Total Marks: 100   Internal Examiner: 50 marks External Examiner: 50 marks
- The entire learning from the internship along with highlights to be presented
  A copy of the report to be handed over to organisation on request

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

PUBLIC RELATIONS IN THE GOVERNMENT SECTOR

CODE:19PR/PC/PG44   **CREDITS:4**
L T P:4 1 0
TOTAL TEACHING HOURS:65

OBJECTIVE OF THE COURSE
- To understand the vastness and complexities of the government
- To perceive the need for the government to explain, interpret and clarify to the citizen
- To comprehend the Public Relations practices in government

COURSE LEARNING OUTCOMES
On completion of the course, the students will be able to

- Understand the set-up and functions of a democratic government and the need for public relations for the same
- Discuss the challenges faced by government in keeping up with the informational needs of citizens and gaining their confidence
- Comprehend the power of public opinion in a democracy and employ ways of gathering public information
- Explain the differences in application of PR functions at the central, state and local levels
- Analyze the importance of citizen participation in the implementation of policies and schemes of the government
- Identify the strategies and communication tools used by designated government bodies for outreach mechanisms

Unit   1   **(13 Hours)**
Fundamentals of PR in Public Authorities
1.1 Democratic Government – The Characteristics and Functions
1.2 Government Public Relations – Roles and Justifications
1.3 Challenges in Governmental Public Relations
1.4 Strategic approaches to Government PR Practice
1.5 Public Grievances and the Redressal Measures by Government

Unit   2   **(13 Hours)**
Public Opinion
2.1 Public Information: Meaning; Importance of Government – Citizen Interaction
2.2 Public Opinion and Opinion Leaders – Types and Components
2.3 Opinion Poll and Public Poll – Meaning, Importance and Data Collection methods
2.4 Importance of Public Gatherings

Unit   3   **(13 Hours)**
        Public Relations in Central Government
        3.1 Information and Public Relations Department at the Center
        3.2 Media Units of Ministry of Information and Broadcasting
        3.3 Diplomatic Missions and Public Relations – External Publicity
        3.4 Information Officers in Various Ministries
        3.5 Functions of Government Public Relations Officers

Unit   4   **(13 Hours)**
        Public Relations in the State and Local Government, Corporation and Municipality
        4.1 Public Relations in the State Government
           4.1.1 Information and Publicity Department at the State
           4.1.2 Media Sections of the Department
           4.1.3 Schemes for Citizen Welfare – Health, Education, Employment, Police and Development
      4.2 Public Relations in the Local Government, Corporation and Municipality
           4.2.1 Public Relations in Municipal Government
           4.2.2 Goals of Municipal Public Relations
           4.2.3 Citizen participation and Feedback Mechanisms from the Community

Unit   5   **(13 Hours)**
        Outreach and Public Relations Programmes by Government
        5.1 Media Relations in Government – Meaning and Importance
        5.2 Communication Tools Used for Government Public Relations – Exhibitions and Fairs, Festivals, Print and Publicity Media, Electronic Media and New Media
        5.3 Case studies: Rural, Semi-urban and Urban Outreach Programmes of Different Ministries and Departments

BOOKS FOR STUDY
Bernays, Edward. L. *Crystallizing Public Opinion*. Open Road Media. New York, 2015
Dalton, Russel. J. *Citizen Politics, Public Opinion and Political Parties in Advanced Industrial Democracies (7ᵗʰ Edition)*. CQ Press, 2019

BOOKS FOR REFERENCE
Campo, Schiavo, Salvatore. *Running the Government: Public Administration and Governance in Global Context*. Routledge. England, 2018
Coombs, Timothy.W. Falkheimer, Jesper. Mats Heide. Young, Philip. *Communication, Social Media and Democracy: The Challenge of the Digital Naturals*. Routledge, 2018
Cropf, Robert. *E-Government for Public Managers*. Research India. New Delhi, 2016
Fitch, Bradford. Holt, Jack. *Media Relations Handbook for Government, Associations, Non-Profits and Elected Officials, 2ⁿᵈ Edition*. TheCapitol.Net, Inc. Virginia, 2012
Rao, Bhaskara.N. *Good Governance: Delivering Corruption Free Public Services*. SAGE India, 2013
Laxmikanth.M. *Public Administration*. Tata McGraw Hill's. New Delhi, 2012
Mary Maureen Brown. Garson, David.G. *Public Information Management and E-Government: Policy and Issues*. IGI Global. The United States of America, 2013
Reddi, Narasimha. *Effective Public Relations and Media Strategy*. PHI learning, 2014
Suri P.K. Sushil. *Strategic Planning and Implementation of E-Governance (Flexible Systems Management)*. Springer, 1ˢᵗ Edition, 2017

Yadav, Shyamlal. *Journalism Through RTI: Information Investigation Impact*. Sage Publications. New Delhi, 2017

JOURNALS
Global Media and Communication. SAGE Journals. ISSN: 1742-7665
Journal of Communication Management. Emeral Insight. ISSN: 1363-254X
Political Communication. Taylor & Francis. ISSN: 1091-7675; 1058-4609
Public Relations Review: A Global Journal of Research and Comment. Elsevier. ISSN: 0363-8111
Public Affairs and Governance. IndianJournals.Com. ISSN: 2321-2128 (p); 2321-2136 (e)

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions

End-Semester Exam: **Total Marks: 100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

WRITING FOR MEDIA

CODE:19PR/PC/WM44   **CREDITS: 4**
                                                               L T P:4 1 0
                                               TOTAL TEACHING HOURS:65

OBJECTIVE OF THE COURSE
- To provide insights on writing for media in today's business scenario
- To train students on effective construction of media messages
- To equip the students with the knowledge of PR opportunities in media houses
- To enable an understanding of the working of different media

COURSE LEARNING OUTCOMES:
On completion of the course, the students will be able to

- Explain how media is an important vehicle to get PR messages across to the audience
- Demonstrate skills required to write effective PR messages through print media
- Conceptualize and produce works in electronic media based on effective principles and practices of media for target stakeholders
- Construct task based social media messages to communicate organizational objectives
- Design and develop influential copy of advertising messages
- Produce effective PR messages to manage stakeholder relations and achieve corporate goals

Unit   1   **(13 Hours)**
Print Media
1.1 PR and Print Media – the Working Relationship, Tasks of PR, Contents of Newspaper
1.2 Types of News – Hard News and Soft News, News Values – Timeliness, Proximity, Oddity, Prominence, Impact, Relevance and Conflict
1.3 The Inverted Pyramid Structure
1.4 News Stories, Features, Editorials, Info graphics, Advertorials
1.5 News Headlines – Importance and the Types
1.6 Beat Reporting – Political News, Sports News, Business News, Entertainment News, Environment News, Art and Craft News

Unit   2   **(13 Hours)**
Electronic Media – Radio and Television
2.1 Radio
  2.1.1 Audio-Visual Communication – The Features and Importance

        2.1.2 PR Opportunities in Radio

        2.1.3 Styles of Writing for Radio, Genres of Radio Programs

        2.1.4 Radio Programmes – Conceptualizing, Script Writing and Capsuling

    2.2 Television

        2.2.1 Television as a PR medium, Television Tactics of PR

        2.2.2 Genres of Video Programmes, Approaches to Writing for TV

        2.2.3 TV Progamming – Conceptualization and Production Process

Unit 3   **(13 Hours)**

    New Media

    3.1 Introduction to New Media – Characteristics and Advantages

    3.2 Types of Social Media

    3.3 Social Media Strategies – Broadcasting, Interaction and Engagement

    3.4 Task based Writing for Social Media – Facebook, Twitter, LinkdIn

    3.5 Creative Blog Writing, Websites, Online Newsletter

    3.6 The Future of Writing in Digital World – Insights

Unit 4   **(13 Hours)**

    Writing for Advertising

    4.1 Copywriting – Meaning, Rules, Features and Steps Involved in Copywriting

    4.2 Copywriting Elements – Headlines, Sub Headlines and Types, Body Copy,
        Captions, Taglines, Slogans, Coupons

    4.3 Text Elements of Advertising – Cliché's Words, Action Words, Emotive Words,
        Alliteration, Colloquialisms, Punctuation and Grammar

    4.4 Visualization Process –Thumbnail Sketch, the Rough, Comprehensive Copy,
        Paste Up or Mechanical, Copy Final

    4.5 Visual Elements of Advertising – Cartoons, Caricatures, Photographs, Charts,
        Maps, Graphs

Unit 5   **(13 Hours)**

    Public Relations

    5.1 Ten Golden Guidelines for Effective PR Writing

    5.2 Press Releases and Types, Speeches and Types – Preparing Talk Points

    5.3 Drafting Memos, Circulars, Media Pitches, Company Profiles, Preparation of
        Bulletins for Noticeboards

    5.4 Media Alerts and Pictures, Backgrounds and Features

    5.5 Writing for Journals – In-house and External

BOOKS FOR STUDY

Filak, Vincent. F. *Dynamics of News Reporting and Writing: Foundational Skills for a Digital Age*. CQ Press. United States, 2018

Sue Teddern. Wardurton, Nick. *Writing for TV and Radio: A Writers' and Artists' Companion*. Bloomsbury Academic India, 2018

BOOKS FOR REFERENCE

Asha Kaul. *Effective Business Communication*. PHI Learning. New Delhi, 2015

Foster, John. *Writing Skills for Public Relations: Style and Technique for Mainstream and Social Media (PR in Practice)*. Kogan Page, 2012

Friedmann, Anthony. *Writing for Visual Media*. Routledge. England, 2014

Lloyd, John. Laura Toogood. *Journalism and PR: News Media and Public Relations in the Digital Age (Reuters Challenges)*. I.B Tauris. 2014

Maria Veloso. *Web Copy That Sells: The Revolutionary Formula for Creating Killer Copy That Grabs Their Attention and Compels Them to Buy*. Amacom. 2013

Newsom, Doug. Haynes, Jim. *Public Relations Writing: Form & Style, International Edition.* Wadsworth Publishing Co.Inc. The USA, 2013

Reddi, Narasimha. C.V, *Effective Public Relations and Media Strategy*, PHI Learning Ltd. New Delhi, 2014

Saravanavel.P. S.Sumathi. *Advertising and Salesmanship*. Margham Publications. Chennai, 2016

Scott, David. *The New Rules of Marketing and PR: How to Use Social Media, Online Video, Mobile Applications, Blogs, News Releases and Viral Marketing to Reach Buyers Directly.* Pan Macmillan India (5th Edition), 2016

Vilanilam.J.V. *Public Relations in India: New Tasks and Responsibilities*. Sage Publications. New Delhi, 2011

JOURNALS

Journal of Advanced Research in Journalism and Mass Communication. ADR Publications. ISSN: 2395-3810

Journal of Technical Writing and Communication. SAGE Publishing. ISSN: 0047-2816 (P); 1541-3780 (e)

Journal of Public Relations Education. AEJMC. ISSN: 2573-1742

Journalism Practice. Taylor & Francis Online. ISSN: 1751-2786 (p); 1751-2794 (e)

Journal of Applied Journalism and Media Studies. Intellect Journals. ISSN: 2001-0818

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions

End-Semester Exam: **Total Marks: 100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS
SYLLABUS
(Effective from the academic year 2019-2020)

PUBLIC RELATIONS CAMPAIGN MANAGEMENT

CODE:19PR/PC/CM44   **CREDITS:4**
                                                        LTP:1 0 5

OBJECTIVES OF THE COURSE
- To enable an understanding on the conception and planning of a campaign
- To enable team work for an effective execution and management of the campaign
- To enable efficient application of communications skills developed over the previous semesters
- To foster a sense of responsibility and belongingness with social and environmental causes

COURSE LEARNING OUTCOMES
On completion of the course, the students will be able to

- Work as a team to understand the prevailing social, health or environmental issue
- Choose a topic of common interest carefully keeping with the code of ethics of the programme
- Display relationship management skills to communicate with various stakeholders
- Device innovative and creative tools to communicate with different sets of audiences
- Manage Media Relations and other promotional activities of the campaigns
- Demonstrate the ability to manage crisis
- Evaluate and measure the effectiveness of the campaign through its impact

CAMPAIGN GUIDELINES:

Choice of Topic:
The student is required:

- To adopt a social cause that is relevant to society
- To identify and work with an organisation that is working in the area of the social cause, so that there is continuity and sustainability even after the campaign is over
- To define which facet of the social cause can be most effectively used as a focus of PR activity
- To plan a PR campaign around this facet of the social cause

PR Campaign Aims
The PR campaign should accomplish the following:

- Increase awareness about the case/organisation
- Urge more people to involve themselves with the activities of the social cause/organisation

- Urge donations of cash and kind from the society for the social cause/organisation

PR Campaign planning

The campaign plan must include the following:

- PR Brief
- Media Planning
- Proposed partnerships/sponsors with special emphasis on budget planning, fund raising and fund utilization including accounting
- Evaluation format

The Media Covered may include:

- Press: Newspaper and magazine coverage
- Out Of Home: Posters, Leaflets
- Radio: Interviews, ideas for interactive shows to involve people
- TV: Expert interview/News Bulletin/News Feature Spots
- Internet: Website design and execution, Blog forum discussions
- Indigenous Media: Folk and other media

Advertising may be planned across all the above media

Below the line PR Activities:

Events, Interactive and Demonstrative Camps, Road Shows, Seminars etc. must be planned and executed.

Documentation:

The document must contain the following:

- Background of the social cause and organisation
- PR brief
- PR plan
- Media Plan
- Explanation of the execution of the above, in detail
- Photographs
- Articles, if any that have been published
- Details of individual contributions

BOOKS FOR REFERENCE
Austin, Erica W, B.E. Pinkleton. *Strategic Public Relations Management: Planning and Managing Effective Communication Programs.* New Jersey: Lawrence Erlbaum, 2006.
Heath, R.L (Ed). *Encyclopedia of Public Relations*. Thousand Oaks: Sage Publications. 2005.
W. Timothy Coombs on 'Goals' in Vol. 1of *Encyclopedia of Public Relations*
W. Timothy Coombs on 'Objectives' in Vol. 2 of *Encyclopedia of Public Relations*
Don. W. Stacks on 'Benchmarking' in Vol. 1 of *Encyclopedia of Public Relations*
O'Connor, Amy on 'Reputation Management' in Vol. 2 of *Encyclopedia of Public Relations*
Smith, R.D. *Strategic Planning for Public Relations*. New York and London: Routledge. 2009.

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**
Accomplishment/ Execution of the assigned task
Ability to work in a team
Active participation throughout the campaign

Viva- Voce Examination:
Total Marks: 100   Internal Examiner: 50marks
                                 External Examiner: 50 marks

- The entire PR campaign along with highlights to be presented
- Individual and group contribution to be assessed
- A copy of the report to be handed over to Sponsor(s) on request.

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

DISSERTATION

CODE:19PR/PC/DS47   **CREDITS:7**

OBJECTIVES OF THE COURSE:
- To enable an understanding on the basics of conducting, analyzing and evaluating research in Public Relations Practice
- To enable an understanding and application of research tools for an effective inquiry into the chosen topic
- To make use of the research findings for further study or change in the field of Public Relations

GUIDELINES FOR DISSERTATION

Students are to design and deliver an academically written report of the study that they have undertaken in various topics in the field of Public Relations and Communication. It is important that the aims and the objectives of the study are expressed with clarity. A research proposal must be submitted to the research supervisor for approval of the topic. A clear report in the prescribed format should be submitted duly recommended by the research supervisor at the end of the semester and the candidates must be presented for a viva-voce examination.

Chapterization:

Chapter 1: Purpose and Theoretical Background

The purpose of the study to be undertaken should be specified with a strong theoretical grounding. The significance or the scope of the study should talk about how the research contributes to the existing theoretical material/ knowledge that is seen in the chosen field. The contribution thus made, must be original and contemporary in the field of Public Relations and Communication.

Chapter 2: Review of Literature

While the conceptual Review of Literature elaborates the theoretical framework of the study, the empirical review should comprise of the previous research done in the same topic. The chapter should aim at bringing together the various studies under one focal point of the subject and should effectively contribute to the current research. The chapter should determine the research question or the hypothesis.

Chapter 3: Methodology

The chapter must give a description of the different methods used for the collection of data. The chapter must consist of the description of research design, approach, tools and techniques that were used for conducting the inquiry for the study.

Chapter 4: Analysis

The chapter must consist of the statistical data analysis or the qualitative forms of analysis (eg. interpretations of narratives) of the data collected for inquiry.

Chapter 5: Findings and Discussion

This chapter must elaborate on the findings or results of the analysis done. These may be the results of an experimental study or a descriptive research or an exploratory inquiry. The findings and inferences may be conclusive or may lead to a substantial study in future. The chapter may also contain a summary on the research and discuss benefits and limitations in a brief format.

REFERENCING:

Acknowledging the contributions made by authors, specialists, experts, academicians and other scholars to the study is very important. Referencing helps in providing evidence to support the assertions made in the dissertation. References must be accurate, allowing the examiners track the sources from which ideas or inspirations for the study have been drawn. References can be cited from
- Books, journals and articles by experts and scholars
- Newspapers, magazines
- Films, documentaries and other audio-visual sources
- Websites, blogs and other online sources (reviewed/verified)
- Emails and discussion forums
- Interview bytes (audio/video), discourses, narratives or performances
- Lectures and public speeches

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total marks: 50**
Chapter 1 - 10 Marks
Chapter 2 – 10 Marks
Chapter 3 – 5 Marks
Chapter 4 – 20 Marks
Chapter 5 – 5 marks

End-Semester: **Total marks: 50**
Viva-voce Examination

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

EVENT MANAGEMENT

CODE:19PR/PE/EM15   **CREDITS:5**
L T P:4 0 2
TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
 • To understand the components of event management
 • To learn the role of Public Relations in reaching through events
 • To understand the PR skills needed for event marketing and special events

LEARNING OUTCOMES
On completion of the course, the students will be able to

 • Exhibit knowledge about the role of PR in Event Management
 • Discuss the importance of the conducting events and the market demands it has
 • Organize general events by staffing, controlling and executing the operations
 • Execute special events for government and corporates for fund raising activities and
   creating awareness about issues
 • Devise communication strategies and tools to market special events

Unit   1   **(16 Hours)**
   Introduction to Event Management
   1.1 Definitions, Types, 5Cs and 5Ws
   1.2 Characteristics and Elements of events
   1.3 Market and business demand for events
   1.4 Event Component Mix
    1.5 Event process: Planning, Budgeting, Marketing and Organizing

Unit   2   **(15 Hours)**
    Event marketing
   2.1 Event marketing, need and kinds of event marketing
   2.2 Role and need of PR in event marketing
   2.3 Preparing for event marketing
   2.4 Event Management and International approach

Unit   3   **(16 Hours)**
   Event Planning, promotion and evaluation
   3.1 Planning: preparation and purpose
   3.2 Planning: effectiveness and outcome
   3.3 Communication and Media Relations
   3.4 Social Media and Promotions
   3.5 Evaluation: need and process

Unit 4   **(15 Hours)**

Special Events

4.1 Need, Objectives and purpose for special events

4.2 Role of PR in Managing Special Events

4.3 PR skills involved in organizing special events

4.4 Special events – case study

4.5 Organizing Special Events- Practical

Unit 5   **(16 Hours)**

Event Planning

5.1 Government events – case studies

5.2 Corporate events – case studies

5.3 Business events – case studies

5.4 Social Events for Non-Profit Organizations – case studies

5.5 Micro Projects – Practical

BOOKS FOR STUDY

Charles, Bladen; Kennell,James; Emma Abson; Wilde, Nick. *Events Management: An Introduction*. 2nd Ed. Routledge, 2017.

Mittal,Saurav, *Event Management*. Independently Published, 2017

BOOKS FOR REFERENCE

Arantxa Castella. *The Event Planning handbook*: Essentials to successful event management (e book) Amazon Digital Services LLC, 2017.

CreateSpace Independent Publishing Platform,2015.

Goldblatt, Joe. *Special Events: Creating and Sustaining a new world for celebration*. 7th Ed. Wiley, 2013.

Ferdinand, Nicole & Kitchin, Paul. J. Event management: An International Approach. Sage Publications Ltd, 2017.

Genadinik, Alex. *Event Planning: Management & Marketing for successful events*.

Judy Allen. *The Business of Event Planning*. Wiley,2002.

Kilkenny, Shannon. The Complete Guide to Successful Event Planning. 3rd Ed. Atlantic Publishing Group, Inc.2016.

Miziker, Ron. Miziker's Complete Event Planner's Handbook. University of New Mexico Press,2015.

Preston C.A. *Event Marketing: How to successfully promote events, Festivals, Conventions and Expositions*. 2nd Ed. Wiley, 2012.

Raj, Razaaq; Walters, Paul ; Rashid, Tahir. *Event Management: Principles and Practice*. 3rd Ed. SAGE Publications Ltd, 2017.

Ruth Dowson. *Event Planning and Management: A practical handbook for PR and Event Professionals.* Kogan Page,2015.

JOURNAL

Emerging knowledge and innovation in event management, Emerald Group Publishing

Event Evaluation: Definition, Concepts and State of the art Review, Emerald Group Publishing

Event Management Research: The focus today and in the future, ScienceDirect

Event Management, Cognizant Communication. ISSN 1525-9951

International journal of Hospitality and Event Management, Inderscience Publishers. ISSN Online 2050-0491

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Case Studies/Group Discussions/Quiz

End-Semester Exam: Theory: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Practical Viva-Voce: **Total Marks: 50**
Live Event
Online Event

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

ADVERTISING IN PUBLIC RELATIONS

CODE:19PR/PE/AP15   **CREDITS:5**
L T P:4 0 2
TOTAL TEACHING HOURS: 78

OBJECTIVES OF THE COURSE
- To give students the knowledge of the concepts of Advertising and its principles
- To enable an understanding of the strategies involved in creating an Advertisement that are acceptable to all the levels of audience
- To enable the students to create an innovative commercial using the right choice of communication medium
- To enable and encourage the students to conceive and plan an Ad Campaign

COURSE LEARNING OUTCOMES:
On completion of the course, the students will be able to

- Identify the core components of Advertising and its role in brand communication
- Display a clear understanding of ethical and responsible advertising
- Analyse the different types of audiences and be able to make a wise of choice of communication pattern
- Showcase the ability to create an advertisement based on a given brief
- Evaluate the effectiveness of the advertisement communication
- Run an Ad Campaign live or online

Unit   1   **(16 Hours)**
   Introduction
   1.1 Definitions and Concepts
        1.1.1 Need, Scope and Principles of Advertising
        1.1.2 Functions of Advertising in Image and Reputation Management
        1.1.3 Objectives and Types of Advertising
   1.2 Commercial and Social Advertising
   1.3 Advertising and PR – similarities and differences
   1.4 Advertising as a tool of IMC
   1.5 Advertising laws in India
   1.6 Ethics for Advertising

Unit   2
   Advertising Strategies   **(15 Hours)**
   2.1 Advertising Appeals – definitions and types
   2.2 Message and Communication Strategies
   2.3 Advertising decisions – budget, message and aesthetics

2.4 In-house Advertising Department – Structure and functions
2.5 Advertising Agency- Structure and functions
2.6 Types of Ad Agencies

Unit   3
Ad Copy   (16 Hours)
3.1 Meaning and Definition
3.2 Account brief and Management
3.3 Role and Skills of a copywriter
3.4 The Art of Copywriting – Structure and aesthetics of an ad copy
3.5 Visual aesthetics: The role of image in an ad copy
3.6 Taglines and Slogans
3.7 Steps in creating an ad

Unit   4   (16 Hours)
 Advertising on Print and Broadcast Media
4.1 Copywriting for Print Ads
4.2 Working with photographs, cartoons and sketches
4.3 Ad tariffs of the print media in India
4.4 Production of Television and Radio Commercials
4.5 Script, Storyboard and production of TV Commercials
4.6 Writing ad copy for Radio – content imagery, jingles and voiceover

Unit   5   (15 Hours)
Online Advertising
5.1 Creative ads online – An Introduction
5.2 Types of ads online-banner ads, pop-up/pop-under ads, floating ads, expanding
     ads
5.3 Mobile Advertising – SMS and push notifications and Ads on mobile Apps
5.4 Ads on Social Media – News Feed Ads, Sponsored Stories, Boosted Posts
5.5 Other forms of online advertising – chat ads, email ads, ads on E-commerce
     portals
5.6 Regulations and safety measures for advertising online

BOOKS FOR STUDY
Kelly, Larry. D; Jugenheimer, Donald. W, Sheehan, Kim Bartel. *Advertising Media and
Planning*. Taylor and Francis, New York, 2015

BOOKS FOR REFERENCE
Gabriela Taylor. *Advertising in a Digital Age*. Global & Digital Publications, 2013
Jaisree Jethwani; Shruthi Jain. *Advertising Management*. OUPPublication, Delhi, 2012
Jugenheimer, Donald; Bradley, Samuel.D; Kelly, Larry. D; Hudson, Jerry. C. *Advertising and
Public Relations Research.* PHI Learning Pvt Ltd., Delhi, 2010
Leiss, William; Stephanie Kline; Jhally, Sut; Jaqueline Botterill. *Social Communication in
Advertising: Consumption in the Mediated Market Place*. Rouledge, UK, 2013
Marla. R Stafford; Faber, Ronald. J (Ed.). *Advertising, Promotion and New Media.*
Routledge, London, 2015
O'Guinn, Thomas; Allen, Chris; Angeline Close. *Advertising and Integrated Brand
Communication*. Cengagae Learning, USA, 2018
Percy, Larry. *Strategic Advertising Management*. Oxford University Press, UK, 2016

Singh, Shiv; Stephanie Diamond. Social Marketing for Dummies. John Wiley & Sons, India, 2013

Sinha, Sam. *Online Advertising- Your Quick Start Guide*. Lulu Press Inc., 2015

Young, Miles. *Ogilvy on Advertising in the Digital Age*. Bloomsbury publications, 2018

JOURNALS:

Journal of Advertising Research. Advertising Research Foundation (online)

Journal of Advertising. Taylor and Francis. ISSN: 0091-3367(p); 1557-7805(e).

Journal of Advertising Education. SAGE Journals. ISSN: 1098-0482(p); 2516-1873(E).

Media Watch: Journal of Communication (SCOPUS). ISSN: 0976-0911(P); 2249-8818

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**

Part A: 3X2 = 6 Marks (Answer All questions)

Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)

Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**

Assignments/Seminars/Presentations/Case Studies/Group Discussions/Quiz

End-Semester Exam: Theory   **Total Marks: 50**   **Duration: 90 minutes**

Part A: 3X2 = 6 Marks (Answer All questions)

Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)

Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Practical Viva-Voce: **Total Marks: 50**

Ad Campaign/ Ad Design, Story and Production

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

MEDIA MANAGEMENT

CODE:19PR/PE/MM15   **CREDITS:5**
                                                                 L T P:4 0 2
                                                     TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To enable the students to acquire knowledge on operating media organizations
- To enable students in handling the strategic situations in media enterprises
- To give the students an understanding on media economic factors of print, electronic and online medium

COURSE LEARNING OUTCOMES:
On completion of the course, the students will be able to

- Discuss the roles and responsibilities of media managers
- Apply the general principles of management to specific media businesses
- Analyze the economic structure of media business and industries
- Identify the ownership patterns of media organizations and how it reflects on the business operations
- Devise media planning in the appropriate content businesses for maximum reach and efficiency
- Analyze audience measurement and activity across media platforms, including broadcast ratings, readership figures and web traffic

Unit   1   **(16 Hours)**
   Introduction to Media Management
   1.1 Media as an Organization
   1.2 Organizational Behavior and Factors affecting organizational behavior , Organizational Culture
   1.3 Media Managers Roles and Responsibilities
   1.4 Theories of Management and Management Skills
   1.5 Principles of Media Law

Unit   2   **(16 Hours)**
   Media Economics
   2.1 Media Economics – Definition and Types
   2.2 Media Markets, Types of Market Structures – Monopoly, Oligopoly, Perfect Competition
   2.3 Media Ownership – Meaning, Types – Family Ownership, Chain Ownership, Cross Media Ownership, Conglomerate Ownership, Vertical Integration
   2.4 Media Planning and Media Buying

2.5 Media Industry - a Booming Sector and the Opportunities

Unit 3   **(16 Hours)**
Newspaper and Magazine Organization and Management
3.1 Organization Structure, Economic and Financial Aspects
3.2 Popular Players in the Print Media Industry
3.3 Sales, Subscription and Circulation – Figures and Distribution
3.4 Advertisements and Promotions

Unit 4   **(15 Hours)**
Electronic Media Management
4.1 Organization Structure and Responsibilities – AIR, DD and Private Satellite Channels
4.2 Production Project Cycle (PPC)
4.3 Demands for Advertising, Marketing Vs Funded Programmes
4.4 Media Metrics – Audience Rating, Audience Analysis and Methods

Unit 5   **(15 Hours)**
Online Media Management
5.1 Converging Technologies, Media Convergence – Definition and Forms of Convergence – Ownership, Tactical, Structural, Information – gathering and Storytelling Convergence
5.2 Techniques of Information Management
5.3 Digital Economic Tools
5.4 Rating of Blogs, Cost per Impression, Click Thoughts

BOOKS FOR STUDY
Stephen, Robbins.P; Coulter Mary. *Management*. Pearson Education, 2017
Vanita Kohli- Khandekar. *The Indian Media Business*. Sage Publications India, 2017

BOOKS FOR REFERENCE
Arpita Menon. *Media Planning and Buying: Principles and Practice in the Indian Context*.
Baron, Roger; Sissors, Jack. *Advertising Media Planning, Seventh Edition*. McGraw Hill Education, 2017
Chaturvedi B.K. *Media Management*. Global Vision Publishing House, 2014
Pavlik, John.V. McIntosh, John. *Converging Media*. Oxford University Press. New Delhi, 2018
Pringle, Peter; Starr, Michael.F; *Electronic Media Management*. Routledge, 2015
Paul, Sebastian. *Law, Ethics and The Media.* Lexis Nexis, 2015
Reddi, Narasimha. *Effective Public Relations and Media Strategy*. PHI learning, 2014
Robbins, Stephen.P; Judge, Timothy.A; Neharika Vohra. *Organizational Behavior.* Pearson Education, 2016
Rogers, Jason. *Building Newspaper Advertising: Selling the By-Product of the Newspaper, Printed Salesmanship; Management and Organization of the Selling Force--Development of New Lines of Business*. Arkose Press, 2015
Sunetra Sen Narayan. Shalini Narayanan. *India Connected: Mapping the Impact of New Media*, Sage Publications. New Delhi, 2016

JOURNALS

Global Media and Communication. SAGE Journals. ISSN: 17427665

International Journal of Research in Organizational Behavior and Human Resource Management. IndianJournals.Com. ISSN: 2320-8716 (p); 2320-8724 (e)

Journal of Advanced Research in Journalism and Mass Communication. ADR Publications. ISSN: 2395-3810

International Journal of Media Management. Taylor & Francis. ISSN: 1424-1277 (p); 1424-1250 (e)

Journal of Media Management and Entrepreneurship. IGI Global: Disseminator of Knowledge. ISSN: 2577-5103 (p); 2577-5111 (e)

PATTERN OF ASSESSMENT:

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**

Part A: 3X2 = 6 Marks (Answer All questions)

Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)

Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**

Assignments/Seminars/Presentations/Case Studies/Group Discussions/Quiz

End-Semester Exam: Theory: **Total Marks: 50**   **Duration: 90 Minutes**

Part A: 3X2 = 6 Marks (Answer All questions)

Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)

Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Practical Viva-Voce: Total Marks: 50

Project in Media Houses

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

HUMAN RESOURCE PERCEPTIVES IN PUBLIC RELATIONS

CODE:19PR/PE/HR15   **CREDITS:5**
L T P:4 0 2
TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To understand the importance of human resource management and organization culture in any organization
- To comprehend the uses of training and incentives and development strategies in Human resource management
- To enable an understanding on contemporary HR issues that can be implemented for effective organizational performance

LEARNING OUTCOMES:
On completion of the course, the student will be able to

- Exhibit knowledge on organizational culture and HRM
- Plan and execute trainings for effective work production and developmental strategies for overall improvement and welfare of the employees for an organization
- Devise and write HR collaterals including job description, job specification, appraisal and the like
- Analyze the other contemporary adoptions in HRM
- Discuss the importance of HR evaluation and feedback mechanisms

Unit   1   **(16 Hours)**
   Organization Culture
   1.1 Describing organization culture and environment
   1.2 Organization recruitment and selection process
   1.3 Job analysis and design, job rotation and performance-based incentives
   1.4 Human resource management: policy, rules and regulations
   1.5 Contemporary issues in HRM

Unit   2   **(16 Hours)**
   Induction and Training
   2.1 Context of Training: Understanding the importance of training
   2.2 Employee Induction Training and its importance
   2.3 Other Trainings and Training methods
   2.4 Post Training support: Retraining and Redeployment
   2.5 Importance of Evaluation and Feedback

Unit 3   **(15 Hours)**

Incentives, Motivation and Development Strategies
3.1 Incentives: Need, Purpose and Importance
3.2 Other motivational tools and perspectives
3.3 Development Strategies: Talent, Career, Stress, Attitude and value Management
3.4 Case study analysis from Organizations
 3.5 Practical workshops

Unit 4   **(16 Hours)**

Major Contemporary Adoptions in HRM
4.1 EHRM
4.2 IHRM
4.3 SHRM
4.4 GHRM
4.5 Ethical, Health and Safety environment
4.6 Practical workshops

Unit 5   **(15 Hours)**

External Human Resource Management
5.1 Minorities in Organization
5.2 HRM outside organizations
5.3 Extra- Curricular and Co-Curricular activities within organizations
5.4 Case Studies from Organizations

BOOKS FOR STUDY
Aswathappa. K. *Human Resource Management.*8th Ed. Mc.Graw Hill Education, 2017.
Sharma R C; Sharma, Nipun. *Human Resource Management: Theory and Practice. 1st Ed*. Sage Publications Pvt.Ltd, 2018.

BOOKS FOR REFERENCE
Aswathappa. K; Sadhna Dash. *International Human Resource Management. 2nd Ed*. Mc.Graw Hill Education, 2017
Aswathappa. K; Ghuman, Karminder. *Management: Concepts and Cases. 1st Ed.* Mc.Graw Hill Education, 2017
Bevoc's, Louis. Human Resource Management: a Basic Introduction (e book). NutriNiche System LLC, 2016
Decenzo, David .A; Robbins, Stephen .R. *Human Resource Management. 11th Ed*. Wiley, 2015
Desseler, Gary. *Fundamentals of Human Resource Management. 4th Ed*. Pearson Education, 2017.
Desseler,Gary; Varrkey, Biju. *Human Resource Management. 15th Ed*. Pearson Education, 2017
Stredwick, John. *An introduction to Human Resource. 3rd Ed*. Routledge, 2014.
Sinha P.R.N, Shekhar S.P & Indu Bala. *Human Resource Management*. Cengage Learning India Pvt. Ltd, 2016
Sengupta, Amitabha. Human Resource Management: Concepts, Practices, New Paradigms. 1st Ed. Sage Publications Pvt. Ltd, 2018.
Thite, Mohan. e-HRM: Digital Approaches, Directions & Applications. Routledge, 2018.

JOURNALS
Human Resource Management Journal, online ISSN 1748-8583
Journal of Strategic Human Resource Management, ISSN 2277-2138
South Asian Journal of Human Resource Management, ISSN 2322-0937
The International journal of Human Resource management: Taylor & Francis
The journal of Human Resource: Sandra E. Black

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Case Studies/Group Discussions/Quiz

End-Semester Exam: Theory: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Practical Viva-Voce: **Total Marks: 50**

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

DIGITAL PUBLIC RELATIONS

CODE:19PR/PE/DP15   **CREDITS:5**
                                                                 L T P:4 0 2
                                                TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To expose the students to digital communication tools and methods
- To enable the students with the skills needed to communicate using digital tools
- To make the students understand online communication strategies and their usage

LEARNING OUTCOMES:
On completion of the course, the students will be able to

- Identify the stakeholder's requirement and create appropriate digital communication strategies for larger reach
- Use digital tools for effective communication of an organization's ideas and principles to the publics
- Discuss the differences between digital and traditional PR tools how the former has an edge over the latter in the current digital age
- Create effective and creative digital collaterals to support the organization's communication mechanisms
- Apply the right tone and style in strategizing online communication, bearing in mind the policies of the business
- Demonstrate an understanding of the measuring tools of online reach and the impact it creates for a business

Unit   1   **(16 Hours)**
   Introduction to Digital PR
   1.1 Definition and Significance
   1.2 Strategies and Tactics
   1.3 Using demographic and psychographic profile for digital communication
   1.4 Penetration of digital communication and its reach
   1.5 Uses and function od DPR in various industries

Unit   2   **(16 Hours)**
    Digital PR and Media Relations
   2.1 PR skills needed for the modern practitioners
   2.2 Digital Collaterals
   2.3 B2B and B2C digital marketing and campaigns
   2.4 Pitching through online media
   2.5 Digital news rooms and news release

Unit 3   **(16 Hours)**

Tools of Digital PR

3.1 Various tools in Digital PR

3.2 Campaigns through various tools and its effectiveness

3.3 Trends and Trending tools

3.4 Digital PR tools VS Traditional PR tools

3.5 Digital Media Policies

Unit 4   **(15 Hours)**

Online Communication Strategy

4.1 Objectives, Strategies, Audience, stakeholders, Influencers

4.2 Uses of appropriate digital tools and platforms for Communication

4.3 Using of right tone and style for communication

4.4 Adoption of strategies by businesses and brands - case studies

Unit 5   **(15 Hours)**

Research and Evaluation Process

5.1 Search keys and Search Engine Optimization

5.2 Navigation: Links to Sub Links

5.3 Reach measuring tools like hits/ likes/ tweets/ comments etc

5.4 Reach Analytics and their impact – case studies

BOOKS FOR STUDY

Sferle, Adrian. *Digital Corporate Communication: The Fundamentals of Building your company's Digital Public Relations Department*, 2016.

Lathi, B.P; Ding, Zhi; adapted by Gupta, Hari M.*Modern Digital and Analog Communication system.* 4th Ed. Oxford University Press, 2017

BOOKS FOR REFERENCE:

Breakenridge, Deirdre K. Social Media and Public Relations: Eight New Practices for the PR Professional. 1st Ed. Pearson FT Press, 2012.

Chartered Institute of Public Relations. *Share this too: Social media solutions for PR professionals*. Wiley, 2013

Haykin, Simon; Moher, Michael. Introduction to Analog & Digital Communications. 2nd Ed. Wiley, 2012

Haykin,Simon. Digital Communication Systems. Wiley, 2013

Lloyd, John ; Toogood, Laura. Journalism and PR: News Media and Public Relations in the Digital Age. I.B.Tauris, 2014.

Mitra Ananda. Digital communications: from E-Mail to the Cyber. Chelsea House Pub, 2010.

Ryan, Damian. *Understanding Digital Marketing*. Kogan Page, 2016.

Stella Bayles. *Public Relations' Digital Resolution* (e book), 2015.

Timothy, Coombs.W; Falkheimer,Jesper; Heide,Mats; Young,Philip. *Strategic Communication, Social Media and Democracy*. 1st Ed. Routledge, 2015.

Whatmough, Danny. *Digital PR*. Emerald Publishing Limited, 2018.

JOURNALS

A review of the impact on New Media on Public Relations: Melanie James

Call for papers on the special Issues, New digital Publics. (n.d): Elsevier

Communication and New media: O'Dwyer
Online PR,Digital Public Affairs and Online Corporate Communication, (n.d): Stuart Bruce
What is Digital PR: Rhian Morgans

PATTERN OF ASSESSMENT:
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Case Studies/Group Discussions/Quiz

End-Semester Exam: Theory: **Total Marks: 50**   **Duration: 90 Minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Practical Viva-Voce: Total Marks: 50
Blog Page - Writing and Promotion: Project
Product and Brand Stories on Social Media: Project

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

COMMUNICATION TOOLS FOR PUBLIC RELATIONS

CODE:19PR/PE/CT15   **CREDITS:5**
                                                              L T P:40 2
                                              TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE
- To enable an understanding of how various tools for communication are created
- To enable a sense of creativity in conceiving and designing messages through the communication tools
- To encourage skill development on working with different sections of the audience using one or a combination of these tools

COURSE LEARNING OUTCOMES:
On successful completion of the course, students must be able to

- Discuss the significance of communication and the skills required for the same
- Demonstrate an understanding of versatile forms communication could take – written, oral and audio-visual
- Exhibit one's thoughts efficiently through presentations, including public speaking
- Produce works of photography to support various media content and to be used as a medium of storytelling
- Conceptualize and produce corporate videos using the basic principles of videography
- Illustrate an understanding of grassroots communication and the indigenous tools used for the same Perform street theater and puppetry for development communication purposes

Unit   1   **(16 Hours)**
   Introduction
   1.1 Overview of the importance of communication in Public Relations
   1.2 Impact of communication – information, persuasion and influence
   1.3 Learning audience needs and specifications
   1.4 Skills for communication:
       1.4.1 Written Communication: Feature, content, descriptions and taglines
       1.4.2 Oral Communication: Storytelling, debates, group & discussions, interviews and meetings
       1.4.3 Audio and Visual Communication: Corporate films, VNR, podcasts, jingles and Advertisements

Unit   2   **(16 Hours)**
   Public Speaking and Presentation Skills   (16 Hours)
   2.1 Public Speaking and Conversations – similarities and differences

2.2 selection of topic, organization and research, techniques of delivery (gesture, posture, expressions and eye contact)

2.3 Overcoming stage fright – reasons for nervousness, controlling fear, value of fear and methods to overcome audience rejection

2.4 Self Confidence – Listening skills, giving expressions to thoughts, observations and feelings

2.5 Techniques of speech: Voice modulation, supportive aids and creativity

2.6 Tips to making effective presentations

2.7 Practical Workshop

Unit 3   **(15 Hours)**
Photography:
3.1 Photography is PR – Importance and scope
3.2 Basics of photography
    3.2.1 understanding camera – SLR and DSLR
    3.2.2 Controls – Shutter speed, Aperture, ISO and other camera settings
    3.2.3 Compositions - Subject, Rule of Thirds, Line and Frame
    3.2.4 Lighting – Exposure, Flash and Fixing common problems
3.3 Types of Photography
3.4 Photography for News, Features, Blogs and Web Content
3.5 Practical Workshop

Unit 4   **(16 Hours)**
Videography
4.1 Introduction to Short films and Documentaries
4.2 Setting the objectives
4.3 Stages of film-making – Pre-Production
    4.3.1 Conceptualization
    4.3.2 Budgeting
    4.3.3 Scripting and Story Board
4.4 Stages of film-making –Production
    4.4.1 Costumes and Lighting
    4.4.2 Shooting – techniques and angles
    4.4.3 Camera Movement
4.5 Stages of film-making – Post-Production
    4.5.1 Editing and Sound Techniques
    4.5.2 Distribution

Unit 5   **(15 Hours)**
Indigenous Communication Tools
5.1 Street Theatre
    5.1.1 Alternative medium for grassroots communication
    5.1.2 Working with the communities about social, political and economic issues
    5.1.3 Street Theatre as an effective medium of communication for development
    5.1.4 The role of participatory approach – playback theatre, Improv Theatre and Children's Theatre
    5.1.5 The evolution of Street Theatre in India – its uses and impact
5.2 Puppetry
    5.2.1 Types of Puppets – shadow, string, rod, glove, Muppets, finger puppets and marionettes

        5.2.2 Traditional forms of puppetry used as a tool of communication in India
        5.2.3 Children's Puppetry – used for therapy and communication
    5.3 Practical Workshop

BOOKS FOR STUDY

Carnegie, Dale. *Develop Self Confidence, Improve Public Speaking*. Amazing Reads. Mumbai, 2018

Kirsten Johnson; Jodi Radosh. *Shoot, Edit, Share: Video Production for Mass Media, Marketing, Advertising and Public Relations*. Routledge, 2016

BOOKS FOR REFERENCE

Dilts, Brian, Robert. *Effective Presentation Skills*. Dilts Strategy Group. 2017

Esta De Fossard**.** *Writing and Producing for Television and Film: Communication for Behavior Change – Vol.2:* SAGE India. New Delhi, 2015

Friedmann, Anthony. *Writing for Visual Media*. Routledge. England, 2014

Ghosh, Arjun. *A History of the Jana Natya Manch: Plays for the People*. SAGE India, 2012

Lewis, Hedwig. *Body Language: A Guide for Professionals*. SAGE Publications. New Delhi, 2012

Mamer, Bruce. *Film Production Technique, Creating the Accomplished Image*. Wadsworth Centage Learning, USA, 2009

Oberg, Brent.C. *An Introduction to Public Speaking.* Jaico, Mumbai, 2011

O.P Singh. *Art of Effective Communication in Group Discussion and Interview*. S Chand & Company. 2014

Sandra Stahl, *The Art and Craft of PR: Creating the Mindset and Skills to Succeed in Public Relations Today*. SAGE Publications, 2018

Tuhovsky, Ian. *Communication Skills: A Practical Guide to Improving Your Social Intelligence, Presentation, Persuasion and Public Speaking (Volume 9).* Createspace Independent Pub, 2015

JOURNALS

International Journal of Communication. Bahri Publications. ISSN: **0975-640X**

Indian Theatre Journal. Intellect Journals. ISSN: 2059-0660 (p); 2059-0679

Journal of Creative Communication. SAGE Publishing. ISSN: 0973-2586 (p); 0973-2594 (e)

Public Relations Inquiry. SAGE Publishing. ISSN: 2046-174X (p); 2046-1488 (e)

Media Watch: Journal of Communication. Indian Journals.Com. ISSN: 0976-0911(p); 2249-8818(e)

PATTERN OF ASSESSMENT:

Continuous Assessment Test:	**Total Marks: 50**	**Duration: 90 Minutes**

Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components:	**Total Marks: 50**

Assignments/Seminars/Presentations/Group Discussions

End-Semester Exam: Theory:	**Total Marks: 50**	**Duration: 90 Minutes**

Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Practical Viva-Voce: Total Marks: 50
(Short-film/documentary, street theatre/puppetry performance with a theme)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

CREATIVE PUBLIC RELATIONS

CODE:19PR/PE/CP15   **CREDITS:5**
         L T P:4 0 2
         TOTAL TEACHING HOURS:78

OBJECTIVES OF THE COURSE:
- To comprehend the theories and concepts involved in designing creative communication collaterals used by PR practitioners
- To develop skills in utilizing communication tools
- To gain software on designing corporate collaterals

COURSE LEARNING OUTCOMES:
On successful completion of the course, students will be able to

- Exhibit a theoretical understanding of the concepts needed for the designing of creative communication collaterals of a corporate
- Analyze and use the software applications required to design
- Devise and design the corporate identity tools
- Conceptualize and design advanced communication tools like newsletters, package designing and merchandising
- Display skills of creating digital collaterals for communication and interaction

Unit 1   **(16 Hours)**
     Introduction
     1.1 Theory of colors
     1.2 Elements and principles of design
     1.3 Visual analysis techniques
     1.4 Other visual elements

Unit 2   **(15 Hours)**
     Corporate identity designs I
     2.1 Logo
         2.1.1 Logo – a powerful asset; sketching a logo
         2.1.2 Design decision – client research, organizational mission and vision, previous logos
         2.1.3 Logo Psychology – Role of colour, shape and font in logo
         2.1.4 Graphic Designing Software – Photoshop, Illustrator, Creative Cloud
     2.2 Symbols and Monogram
     2.3 Protecting the design – Trademark

Unit   3   **(15 Hours)**
        Corporate identity designs II
        3.1 Visiting cards, Letterheads, Brochures and flyers
        3.2 Creating Banner Ads for websites– static and dynamic
        3.3 Software: InDesign

Unit   4   **(16 Hours)**
        Corporate identity designs III
        4.1 Newsletters, Magazines, Newspapers, Tabloids and books
        4.2 Layout: Design, body and images
        4.3 Page Setting and Typologies
        4.4 Software: CorelDraw

Unit   5   **(16 Hours)**
        Digital Publishing
        5.1 Digital Magazines, books, archives and data base
        5.2 Creation of Information Charts and Infographics
        5.3 Monetizing Digital Content - in-app purchases
        5.4 Creating and Designing Digital Portfolios
        5.5 Software: Lucid Press, PaperLit, Canva, Infogram

BOOKS FOR STUDY

Ambrose, Gavin and Harris, Paul. *Design Thinking for Visual Communication*. Bloomsbury Publication, London, 2015

Alina Wheeler. *Designing Brand Identity*. John Wiley & Sons, New Jersey, USA, 2018

BOOKS FOR REFERENCE

Airey, David. *Identity Designed: The Definitive Guide to Visual Branding*. Rockport Publishers, 2019

Airey, David. *Logo Design Love: A Guide to Creating Iconic Brand Identities (Voices that Matter)*. Peachpit Press, 2014

Catherine Slade Brooking. *Creating a Brand Identity: A Guide for Designers*. Laurence King Publishing, 2016

Green, Andy. *Creativity in Public Relations (PR in Practice).* Kogan Page, 2009

Johnson. *Infographics: Resume, Social Media Infographic, Data Visualization Tools*. Createspace Independent Pub, 2014

Lisa Danae Dayley. *Adobe Photoshop CS6 Bible*. Wiley, 2012

Kogent Learning Solutions Inc. *Indesign CS6 in Simple Steps*. Dreamtech Press, 2012

Kogent Learning Solutions Inc. CorelDraw 2018 in Simple Steps. Dreamtech Press, 2018

Kotler, Philip; Kartajaya, Hermawan; Setiawan, Iwan. *Marketing 4.0*: *Moving from Traditional to Digital.* Wiley India Pvt. Ltd., 2017

Singh, Shiv; Stephanie Diamond. *Social Marketing for Dummies.* John Wiley & Sons, India, 2013

JOURNALS

Journal of Visual Communication. SAGE Journals. ISSN 1470-3572 (P); 1741-3214(E).

Visual communication Quarterly. Taylor and Francis online. ISSN 1555-1393 (P); 1555-1407(E).

Journal of Creative Communication. SAGE Publishing. ISSN: 0973-2586 (p); 0973-2594 (e)

Public Relations Inquiry. SAGE Publishing. ISSN: 2046-174X (p); 2046-1488 (e)

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Case Studies/Group Discussions/Quiz

End-Semester Exam: Theory   **Total Marks: 50**   **Duration: 90 minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Practical Viva-Voce: Total Marks: 50
Creation of Communication Collaterals for an organization as a project
Creation of newsletter/tabloid for an organization as a project

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

INTRODUCTION TO PUBLIC RELATIONS

CODE: 19PR/PE/IP23   **CREDITS: 3**
                                                                    L T P:2 0 1
                                                          TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To introduce the fundamental concepts of Public Relations
- To enable an understanding of the working of PR different sectors
- To encourage skill development on working with different stakeholders using the various tools of communication
- To enable an understanding of various forms of digital platforms and communication tools used today for effective PR activities

COURSE LEARNING OUTCOMES
On successful completion of the course, the student will be able to

- Define Public Relations and identify internal and external publics for individual organizations
- Comprehend the distinction of Public Relations from Spin Publicity, Advertising and Propaganda
- Understand the theories of PR and its use in different capacities
- Understand how PR evolved and how it has been appreciated as an important management tool by various industries

Unit   1   **(8 Hours)**
   Introduction
   1.1 Meaning and Definition of Public Relations
   1.2 Publics: Internal and External
   1.3 Need, Scope and Functions of Public Relations
   1.4 Skills for a PR professional
   1.5 Public Relations and Advertising/Propaganda/Publicity: Similarities and
         Differences
   1.6 Spinning and Public Relations

Unit   2
   Public Relations in Practice   **(8 Hours)**
   2.1 Introduction to Relationship Management
        2.1.1 Stakeholder Relations
         2.1.2 Working with the Media
   2.2 Event Management
   2.3 Brand Building and Reputation Management
   2.4 Crisis Management

2.5 Ethics in Public Relations

Unit 3   **(8 Hours)**
Communication Skills
3.1 Overview of the importance of communication in PR
3.2 Introduction to Corporate Communications – need and functions
3.3 Impact of communication – information, persuasion and influence
3.4 Learning audience needs and specifications

Unit 4   **(7 Hours)**
Internal and External Communication
4.1 Skills for communication: Internal and External
4.2 Written Communication: Feature, content, descriptions and taglines
4.3 Oral Communication: Storytelling, debates, discussions, interviews and
     meetings
4.4 Audio and Visual Communication: Corporate films, VNR, podcasts, jingles
     and Advertisements

Unit 5   **(8 Hours)**
Digital Public Relations
5.1 Introduction to Digital Communication and its impact
5.2 Functions of Digital PR
     5.2.1 Content Management on Websites, Blogs and Mobile Applications
     5.2.2 Introduction to Search Engine Optimization
     5.2.3 Introduction to Data Analytics
5.3 PR Strategies for Social Media Platforms – Facebook, Twitter, Instagram,
     Snapchat, LinkedIn, Pinterest
5.4. Creative Stories – YouTube and Vlogs

BOOKS FOR STUDY
Alison Theaker. Heather Yaxley. *The Public Relations Strategic Toolkit: An Essential Guide to Successful Public Relations Practice*. Routledge, 2017
Bernays, Edward L. *Public Relations*. Snowball Publishing, 2016

BOOKS FOR REFERENCE
Aniisu K Verghese. *Internal Communication: Insights, Practices and Models*. Sage Publications. New Delhi, 2012
Bernays, Edward. L. *Crystallizing Public Opinion*. Open Road Media. New York, 2015
Fitz Patrick, Liam; Valskov, Klavs. *Internal Communications: A Manual for Practitioners*. Kogan Page. 2014
Mishra, Abhishek.Er. *Ethics and Public Relations*. Jnanada Prakashan. New Delhi
Reddi, Narasimha. *Effective Public Relations and Media Strategy*. PHI learning, 2014
Rita Bhimani. *PR 2020: The Trending Practice of Public Relations*. Bee Bee Books, 2018
Sandra Stahl, *The Art and Craft of PR: Creating the Mindset and Skills to Succeed in Public Relations Today*. SAGE Publications, 2018
Smith, Ron. *Public Relations: The Basics*. Routledge, 2013
Vilanilam. J.V. *Public Relations in India: New Tasks and Responsibilities*. Sage Publications. New Delhi, 2011

Yadav, Shyamlal. *Journalism Through RTI: Information Investigation Impact*. Sage Publications. New Delhi, 2017

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International Journal of Communication. Bahri Publications. ISSN: 0975-640X
International Journal of Management Studies. ERM Publications. ISSN: 2249-0302 (p); 2231-2528 (e)
Journal of Advanced Research in Journalism and Mass Communication. ADR Publications. ISSN: 2395-3810
Journal of Communication Management. Emeral Insight. ISSN: 1363-254X
Public Relations Review: A Global Journal of Research and Comment. Elsevier. ISSN: 0363-8111

PATTERN OF ASSESSMENT
Continuous Assessment Test: **Total Marks:50**   **Duration: 90 minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Component: **Total Marks:50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions

End-Semester Exam: **Total Marks:100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

DIGITAL MARKETING

CODE: 19PR/PE/DM23   **CREDITS: 3**
                                                                   L T P:2 0 1
                                                      TOTAL TEACHING HOURS:39

OBJECTIVES OF THE COURSE
- To introduce the various forms of digital platforms and communication tools used today for effective Marketing
- To encourage skill development on working with different stakeholders using the various digital tools of communication
- To introduce the role of analytics in Digital Marketing

COURSE LEARNING OUTCOMES:
On successful completion of the course, the students will be able to

- Define and discuss the term digital marketing and its scope in future
- Identify the similarities and differences between traditional and digital marketing
- Demonstrate an understanding of how search engines are optimized to market brands and the variety of tools used for the same
- Illustrate the working of mobile marketing for brands and the strategies used to keep the customers informed and updated
- Analyze how social media is utilized for effective brand communication, including the interactive platforms and video portals
- Assess how online campaigns for brands are done in comparison to the traditional campaigns in terms of tactics and tools used

Unit   1   **(8 Hours)**
   Introduction
   1.1 Meaning and Definition Marketing
   1.2 Need, Scope and Functions of Marketing
   1.3 Introduction to Digital Communication platforms
   1.4 Meaning and Definition of Digital Marketing
   1.5 Traditional Vs. Digital Marketing – Similarities and Differences
   1.6 Need for Data Analytics for effective Digital Marketing

Unit   2
   Search Engine Marketing   **(8 Hours)**
   2.1 Definition and Functions
   2.2 Online Reputation Building
   2.3 Video and Image Marketing
   2.4 Online Campaigns
   2.5 Feedback, Tags and Mentions

2.6 Search Spiders and AI

Unit 3
  Search Engine Optimization   **(7 Hours)**
  3.1 Meaning and Definition
  3.2 Elements of SEO – keyword research, website analysis, content strategy,
      link building
  3.3 Content Optimization and Image Optimization
  3.4 Ethics of SEO - Organic Vs. Pay Per Click SEO
  3.5 In-house SEO Vs. Outsourced SEO

Unit 4   **(8 Hours)**
  Mobile Marketing
  4.1 Definition and Meaning of Mobile Marketing
  4.2 Growth of Mobile Marketing in India
  4.3 SMS and Push Message Strategies
  4.4 Mobile Applications Marketing
  4.5 Creating Content for Apps
  4.6 App Store Ads Vs. Notifications
  4.7 In-game Promotions – the most effective mobile marketing strategy

Unit 5   **(8 Hours)**
  Social Media Marketing
  5.1 Social Media Marketing and Ethics
  5.2 Tools of communication for Social Media Marketing
  5.3 Marketing Strategies for Social Media Platforms – Facebook, Twitter, Instagram,
      Snapchat, LinkedIn, Pinterest
  5.4. Creative Stories for Brand Promotion – YouTube and Vlogs
  5.5 Effective campaigns and Brand Communication on Social Media

BOOKS FOR STUDY
 Kotler, Philip; Kartajaya, Hermawan; Setiawan, Iwan. *Marketing 4.0*: *Moving from Traditional to Digital.* Wiley India Pvt. Ltd., 2017
Lancaster, Geoff; Massingham, Lester. *Essentials of Marketing Management*. Routledge Publications, UK, 2018

BOOKS FOR REFERENCE
Becker, Michael; Arnold, John. *Mobile Marketing for Dummies*. John Wiley & Sons, 2010
Dodson, Ian. The Art of Digital Marketing. John Wiley & Sons, New Jersey, 2016
Evans, Dave. *Social Media Marketing – An Hour a Day.* John Wiley & Sons, 2012
Hofacker, Charles. F. Digital Marketing- Communicating, Selling and Connecting. Edward Elger, UK, 2018
Kelsey, Todd. Introduction to Search Engine Marketing and Adwords. APress, USA, 2017
Kotler, Philip; Keller, Kevin Lane; Koshy Abraham; Jha, Mithileshwar. *Marketing Management – A South Asian Perspective* (13th Edition). Pearson Prentice Hall, India, 2010
Nagpal, Amit, Hindustani, Prakash. *Personal Branding, Storytelling and beyond*. Story Mirror Infotech, India, 2017
Nargundkar, Rajendra; Sainy, Romi. *Digital Marketing- Cases from India (E-book).* Amazon Digital Services. 2018

Singh, Shiv; Stephanie Diamond. Social Marketing for Dummies. John Wiley & Sons, India, 2013

Susan Chritton. *Personal Branding for Dummies*. John Wiley & Sons, India, 2013

JOURNALS

International Journal for Research in Marketing. Elsevier. ISSN 0167-8116

Journal of Brand Strategy. Henry Stewart Publications. ISSN 2045-855x (p); ISSN 2045-8568 (e)

Indian Journal of Marketing (Scopus). Associated Management Consultants Private Limited. ISSN 0973-8703

Public Relations Review: A Global Journal for Research and Comment. Elsevier. ISSN 0363-8111

Journal of Public Relations Research. Routledge (Taylor and Francis Online) ISSN 1062-726x (p); 1532-754x (e)

Public Relations Inquiry. SAGE Journals. ISSN 2046-147x (p); 2046-1488 (e)

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Components: **Total Marks: 50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions

End-Semester Exam: **Total Marks:100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

PUBLIC RELATIONS SKILLS

CODE: 19PR/PE/PS23   **CREDITS:3**
                                                          L T P:2 0 1
                                          TOTAL TEACHING HOURS:39

OBJECTIVE OF THE COURSE
- To realize the importance of presenting oneself
- To apprehend the significance of Etiquettes during various situations
- To enable the students to understand the vital role played by communication in public relations

COURSE LEARNING OUTCOMES
On successful completion of the course, the students will be able to –

- Illustrate an understanding of the basic communication requirements and concepts
- Demonstrate skills required to write effective PR messages in print and electronic media
- Exhibit one's ideas and opinions efficiently through presentations, including public speaking and group discussions
- Demonstrate an understanding on the importance of voice modulation in oral presentations
- Produce persuasive job applications and present oneself well during interviews
- Prepare for interviews from both employers' and employee's perspectives
- Discuss the effective media strategy and skills required for public relations

Unit   1
Communication Skills   **(8 Hours)**
  1.1 Communication Types – Verbal and Non-Verbal; Levels - Interpersonal, Group and Mass Communication
  1.2 Listening – Importance, Types and Barriers
  1.3 Telephone and Mic Techniques

Unit   2   **(8 Hours)**
Presentation Skills
  2.1 Importance of Grooming and Posture
  2.2 Public Speaking
  2.3 Interview – Preparation and Facing Interviews
  2.4 Group Discussion – Meaning, Elements and Participation in Group Discussion
  2.5 Different Modes of Speaking: Voice Modulation and Supportive Aids

Unit   3   **(7 Hours)**
Preparation of Job Application and the Process – Skills
  3.1 Searching for Job Opportunities

3.2 Bio – Data, Resume, Curriculum Vitae
3.3 Preparation of Job Application
3.4 Interviewer Skills – Employer's Perspective

Unit   4   **(8 Hours)**
  PR writing Skills
  4.1 Flair for Writing – an important PR Skill
  4.2 Press Releases, House Publication, Blogs, Feature Stories, Backgrounders
  4.3 Electronic Media: Preparing and writing for web page

Unit   5
  Effective Media Strategy and Skills   **(8 Hours)**
  5.1 Media – A Platform to Build Relationship with Publics
  5.2 Classification of Media
  5.3 Media and PR – Relationship, Media Networking
  5.4 Social Media Savvy
  5.5 Creativity using Media

BOOKS FOR STUDY

Beebe, Steven. A. Masterson, John.T. *Communicating in Small Groups: Principles and Practices (11th Edition)*. Pearson. London, 2014
Carnegie, Dale. *Develop Self Confidence, Improve Public Speaking*. Amazing Reads. Mumbai, 2018

BOOKS FOR REFERENCE

Asha Kaul. *Effective Business Communication*. PHI Learning. New Delhi, 2015
Dilts, Brian Robert. *Effective Presentation Skills*. Dilts Strategy Group, 2017
Jane Johnston. *Media Relations: Issues and Strategies*. Allen & Unwin, 2008
Lewis, Hedwig. *Body Language: A Guide for Professionals*. Sage Publications. New Delhi, 2012
Oberg, Brent.C. *An Introduction to Public Speaking.* Jaico. Mumbai, 2011
O.P Singh. *Art of Effective Communication in Group Discussion and Interview*. S Chand & Company, 2014
Reddi, Narasimha. *Effective Public Relations and Media Strategy*. PHI learning, 2014
Rita Bhimani. *PR 2020: The Trending Practice of Public Relations*. Bee Bee Books, 2018
Sandra Stahl, *The Art and Craft of PR: Creating the Mindset and Skills to Succeed in Public Relations Today*. SAGE Publications, 2018
Tuhovsky, Ian. *Communication Skills: A Practical Guide to Improving Your Social Intelligence, Presentation, Persuasion and Public Speaking (Volume 9)*.Createspace Independent Pub, 2015

JOURNALS

Communicator. Indian Institute of Mass Communication. ISSN: 0588-8093
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Journal of Advanced Research in Journalism and Mass Communication. ADR Publications. ISSN: 2395-3810
Journal of Creative Communication. SAGE Publishing. ISSN: 0973-2586 (p); 0973-2594 (e)
Public Relations Review: A Global Journal of Research and Comment. Elsevier. ISSN: 0363-8111

PATTERN OF ASSESSMENT

Continuous Assessment Test: **Total Marks: 50**   **Duration: 90 minutes**
Part A: 3X2 = 6 Marks (Answer All questions)
Part B: 3X 8 = 24 Marks (Answer any Three out of Five questions)
Part C: 1X20= 20 Marks (Answer any One out of Two questions)

Other Component Test: **Total Marks: 50**
Assignments/Seminars/Presentations/Role Play/Case Studies/Group Discussions

End-Semester Exam: **Total Marks:100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

DIGITAL COMMUNICATIONS

CODE:19PR/PI/DC24   **CREDITS:4**

OBJECTIVES OF THE COURSE:
- To understand the basic premises and the fundamental concepts of digital communication
- To comprehend the effectiveness of digital communication
- To understand the Impact of Globalization on Communication

COURSE LEARNING OUTCOMES:
On successful completion of the course, the students will be able to

- Discuss the importance and scope of digital communication
- Make use of digital platforms to communicate with different stakeholders
- Exhibit skills required to blog efficiently
- Produce creative and specialized content for business websites
- Create effective social media content for business using various visual and text elements

Unit   1
   Introduction
   1.1 Introduction to digital communication
   1.2 Need and importance of digital communication
   1.3 Scope of digital communication
   1.4 Growth of digital communication in India
   1.5 Digital communication as a modern tool of PR

Unit   2
   Blogs
   2.1 Blog – Meaning and definition
   2.2 Nature of blogging – characteristics and elements
   2.3 Types of blogging
   2.4 Skills set required for blogging
   2.5 Effective communication through blogging

Unit   3
   Websites
   3.1 Websites – purpose of websites, characteristics and elements
   3.2 Websites as an integral tool of communication for the organization/business
   3.3 Importance of news emphasis and frequent updates on web portals
   3.4 Importance and purpose of hyperlinks and keywords
   3.5 Writing specialized content for websites

Unit   4

    Social Media

    4.1 Social media – Use and need of social media for communication and its types

    4.2 A shift from traditional media to social media

    4.3 Technical skill sets for social media communication

        4.3.1 Visual elements – cartoons, caricatures, pictures and infographics

        4.3.2 Text elements – buzz words, messages with limited characters and hashtag

    4.4 Effectiveness of social media communication

Unit   5

    E-commerce

    5.1 Impact of globalization on e-commerce

    5.2 USP of E-Commerce

        5.2.1 Design, color, features and layout

        5.2.2 Content – Headlines, taglines and body copy

        5.2.3 Advertisements and promotions

    5.3 E-commerce through mobile applications

        5.3.1 Communication through mobile apps

        5.3.2 Effectiveness of notifications and push messages

    5.4 Effective handling of complaints and grievance redressal

BOOKS FOR STUDY

Gray, Kyle. *The Story Engine: An Entrepreneur's Guide to Content Strategy and Brand Storytelling Without Spending All Day Writing*. CreateSpace Independent Publishing Platform, 2017

Nagpal, Amit, Hindustani, Prakash. *Personal Branding, Storytelling and beyond*. Story Mirror Infotech, India, 2017

BOOKS FOR REFERENCE

Andrews, Adrian. Website Marketing and Promotion (E-Book). 2014

Bly, Robert. W. The Digital Marketing Handbook. Entrepreneur Press, 2018

Dodson, Ian. The Art of Digital Marketing. John Wiley & Sons, New Jersey, 2016

Emma Lopez. *Regulations for Blogging Business*. Creative Space Independent Pub, 2015

Evans, Dave. *Social Media Marketing – An Hour a Day.* John Wiley & Sons, 2012

Grami, Ali. Introduction to Digital communications. Elsevier Academic Press, 2016

Nargundkar, Rajendra; Sainy, Romi. *Digital Marketing- Cases from India (E-book).* Amazon Digital Services. 2018

Singh, Shiv; Stephanie Diamond. Social Marketing for Dummies. John Wiley & Sons, India, 2013

Susan Chritton. *Personal Branding for Dummies*. John Wiley & Sons, India, 2013

Susanna Gardener, Birley, Shane. *Blogging for Dummies*. John Wiley & Sons Inc., New Jersey, USA, 2012

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Public Relations Review: A Global Journal of Research and Comment. Elsevier**.** ISSN: 0363-8111

PATTERN OF ASSESSMENT
End- Semester Exam: **Total Marks: 100**   **Duration: 3 hours**
Part A: 10X2 = 20Marks (Answer All questions)
Part B: 5X 8 = 40 Marks (Answer any Five out of Eight questions)
Part C: 2X20= 40 Marks (Answer any Two out of Four questions)

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI - 600 086

M.A. DEGREE: PUBLIC RELATIONS

SYLLABUS
(Effective from the academic year 2019-2020)

GLOBAL PUBLIC RELATIONS

CODE:19PR/PI/GP24   **CREDITS:4**

OBJECTIVES OF THE COURSE
- To understand the basic premises and fundamental concepts of Public Relations
- To understand the Public Relations scenario worldwide

COURSE LEARNING OUTCOMES
On successful completion of the course, students will be able to

- Discuss how Public Relations is practiced in different continents of the world
- Give examples of the strategies and tools of Public Relations used in different countries of the world
- Discuss the perspectives and relationship between Global public relations and various cultures
- Explain the importance of media for Public Relations and the relationship shared by both at the global level
- Draw a comparison between the nature of Public Relations practices in different countries

Unit   1
  Global Public Relations: Conceptual Framework
  1.1 Theoretical Framework for Global Public Relations
  1.2 Political Economy and Public Relations
  1.3 Relationship Between Culture and Public Relations

Unit   2
  Media and Public Relations: Global Scenario
  2.1 Traditional Media and Public Relations
  2.2 Mass Media and Public Relations
  2.3 Digital Medium and Public Relations

Unit   3
  Public Relations in the American Countries
  3.1 Public Relations in the United States Of America
  3.2 Public Relations in Canada

3.3 Public Relations in Mexico

Unit   4
      Public Relations in Europe
      4.1 Public Relations in UK
      4.2 Public Relations in France
      4.3 Public Relations in Germany

Unit   5
      Public Relations in Asia – Pacific Region
      5.1 Public Relations in China, Japan and Australia
      5.2 Public relations in India
      5.3 Public Relations in Thailand, Singapore

BOOKS FOR STUDY
Bardhan, Nilanjana and C. Kay Weaver (Eds). *Public Relations in Global Cultural Contexts: Multi-Paradigmatic Perspectives.* New York and London: Routledge, 2011.
Black, Sam. *Practical Public Relations.* New Delhi: Universal, 2005.
Cutlip, S.M., A.H. Center and G.M. Broom. *Effective Public Relations.* New Jersey : Pearson Education, 2006.
Darrow, R.W., D.J. Forrestal and A.D. Cookman. *The Dartnell Public Relations – Handbook* Chicago and London: Dartnell, 2007.
McKee, Kathy .B and L.F. Lamb. *Applied Public Relations: Cases in Stakeholder Management.* New York and London: Routledge, 2009.
Sriramesh K. *Public Relations in Asia-An Anthology.* USA: Thomson, 2006.
Sriramesh K. and Dejan Vercic. *The Global Public Relations Handbook. Revised Ed.* New York and London: Routledge, 2009.
Stephenson, H. *Handbook of Public Relations: The Standard Guide to Public Affairs and Communications.* New Jersey: McGraw Hill, 2011.
Swann, Patricia. *Cases in Public Relations Management*. New York and London: Routledge, 2010.

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Harrison, Shirley. *Public Relations: An Introduction.* U.K.: Thomson Learning, 2008.
Black, Sam. *Practical Public Relations.* New Delhi: Universal, 2005.
Moss, D and Santo De Barbara (Eds). *Public Relations Cases: International Perspectives.* London and New York: Routledge Taylor and Francis Group, 2009.
Marconi, J. *Public Relations: The Complete Guide.* U.K.: Thomson and Racom Communications, 2006.
Wilcox, D.L, P.H. Ault, and W.K.Agree. *Public Relations.* New York: Longman, 2007.
Lesly, P. *Handbook of Public Relations& Communications.* Mumbai: Jaico, 2008.

JOURNALS
Key messages in public relations campaigns: Melanie James
Exploring the Concept of Mindfulness in Public Relations Practice: Douglas J. Swanson, Ed. D
Asia Pacific Public Relations Journal: Public Relations Institute of Australia
Public Relations Journal – Public Relations Society of America
Public Relations Inquiry (online): SAGE Publications

PATTERN OF ASSESSMENT
End-Semester Examination: **Total Marks:100**   **Duration: 3 hours**
Section A –10x2=20 marks (Answer all the questions)
Section B – 5x8=40 marks (Five out of Eight to be answered)
Section C – 2x20=40 marks (Two out of four to be answered)