

PG English Hour Distribution 2020-2021 (Odd Semester)

First Year MA syllabus (Semester I)				
S.N	Paper Name	Units	Staff- I HR EACH	PIC
1.	Old English to Elizabethan Times 19PAENC1 (6 hrs)	I POETRY- 1.Chaucer 2.Spenser 3.Wyatt & Surrey	AS	AS
		II POETRY- 1.Sydney 2.John Donne	AS	
		III PROSE-1.Thomas Moore 2.Bacon	SA	
		IV DRAMA-1. Kyd 2. Marlowe	AL	
		V DRAMA-1.Ben Jonson 2. Nash	KL	
2.	Shakespeare 19PAENC2 (6 hrs)	I. Shakespeare's Sonnets 18,78,116	SRE	NS
		II TRAGEDY-Othello	SA	
		III COMEDY-Twelfth Night	NS	
		IV HISTORICAL PLAY- Henry V	KL	
		V CRITICAL ESSAYS-- A. Greenblatt B. Manish Trivedi	VKS	
3.	Jacobean to Augustan Period 19PAENC3 (6 hrs)	I POETRY	SS	
		II PROSE	VKS	
		III CRITICAL ESSAY Dr. Jonson	VKS	VKS
		IV DRAMA Goldsmith	SS	
		V NOVEL Daniel Defoe	SS	
4.	English Language Teaching and Grammar Usages 19PAENC4 (6hrs)	I GRAMMAR	RS	
		II VOCABULARY	SRE	SRE
		III HISTORY OF ENGLISH LANGUAGE TEACHING	SS	
		IV MAJOR THEORIES	RS	
		V DIGITAL LEARNING	SRE	
5.	Major Elective I Mass Communication and Journalism (4 hrs) 19PAENE1	I (1 to 6) SUBUNITS- 1,2,3-SA 4- GR,5, 6- SRE	Shared by 3 AP	SRE
		II	GR	
		III	SRE	
		IV	SA	
		V	SRE (Only 2 hrs)	
6.	Non Major Elective SS1 Employability skills 19PASBE1 (2 hrs)	Unit 1 to 5	RS- I HR	RS
7.	Extra Disciplinary Non Major elective I English for competitive exams 19PAEND1 (2 hrs)	Unit 1 to 5	AS – I HR	AS

Second Year MA Syllabus (Semester III)				PIC
S No	Paper Name	Units	Staff	
1.	Literary Criticism I 19PCENC1 (6 hrs)	I M.H. Abrams	AS	VKS
		II T.E.Hulme D.H.Lawrence	RS	
		III Edmund Wilson Cleanth Brooks	VKS	
		IV C.G.Jung Lionel Trilling	SS	
		V Gerald Genette Jean Paul Sartre	VKS	
2.	Modern Literature 19PCENC2 (6 hrs)	I POETRY-W.B.Yeats, D.H.Lawrence	NS	AL
		II Chitra Banerjee Divakaruni	GR	
		III Bernard Shaw	KL	
		IV Badami	AL	
		V William Golding Joseph Conrad	AS	
3.	Indian English Literature I 19PCENC3 (6 hrs)	I POETRY Chapters 1 to 5	SRE	AL
		II PROSE -Vivekananda Tagore	AL	
		III NOVEL- Raja Rao R.K.Narayan	NS	
		IV DRAMA- Tagore (II&IV-1 hr)	AL	
		V SHORT NOVEL- Khushwant Singh Anita Desai	AL	
4.	Modern European Drama 19PCENC4 (6 hrs)	I John Osborne	NS	AL
		II Anton Chekov	GR	
		III Samuel Beckett	NS	
		IV Jean Genet	AL	
		V Eugene Ionesco	AL	
5.	Major Elective IV Feminism 19PCENE1 (4 hrs)	I Introduction (1 to 7)	1 to 4- NS; 5 to 7- SA	SA
		II POETRY- Wright,Sexton,Moore,Angelou	NS	
		III DRAMA-Marsha Norman	AL	
		IV PROSE -Woolf	AL	
		V FICTION- (Kunal Basu) SHORT STORY (Nathaniel Hawthorne, Susan Gaspell)	SA	
6.	Non major elective ss3 Managerial Skills (2hrs) 19PCSBE3	Units 1 to 5	Tutor's paper	SS3
7.		Internship		

DEPARTMENT OF COMPUTER SCIENCE
DR.AMBEDKAR GOVERNMENT ARTS COLLEGE, VYSARPADI
M.Sc. COMPUTER SCIENCE
TEACHING PLAN –ODD SEMESTER (2020-2021)

**CLASS M.Sc. COMPUTER SCIENCE –I YEAR-
SEMESTER I**
SUBJECT CODE: 19PACSC1
SUBJECT NAME: DESIGN AND ANALYSIS OF ALGORITHMS (THEORY)
SUBJECT IN-CHARGE: B.JAYAPRADHA

WEEK	TOPIC TO BE COVERED
WEEK 1	Introduction: Algorithm Definition – Algorithm Specification and Performance
WEEK 2	Analysis-Asymptotic Notations. Elementary Data Structures- Introduction
WEEK3	Stacks and Queues – Trees – Graphs and its operations
WEEK4	Divide and Conquer: The General Method – Binary Search – Finding The Maximum And Minimum.
WEEK5	Merge Sort and Quick Sort
WEEK 6	Selection sort - Stassen's Matrix Multiplication
WEEK 7	The Greedy Method: General Method - Knapsack Problem - Tree Vertex Splitting
WEEK 8	Job Sequencing With Deadlines - Minimum Cost Spanning Trees – Prim's method
WEEK 9	Minimum Cost Spanning Trees –Krushakal Algorithms - Single Source Shortest path
WEEK 10	Dynamic Programming: The General Method – Multistage Graphs
WEEK 11	All-Pairs Shortest Paths - String Editing
WEEK 12	0/1 Knapsack - The Travelling Salesperson Problem.
WEEK 13	Backtracking: The General Method – The 8-Queens Problem – Sum of Subsets
WEEK 14	Graph Coloring – Hamiltonian Cycles
WEEK 15	Knapsack Problem Branch and Bound: General Method - 0/1 Knapsack Problems.

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PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)**

DEGREE: M.Sc., COMPUTER SCIENCE
COURSE CODE:
COURSE NAME: ADVANCED WEB TECHNOLOGY
SEMESTER NO: I
STAFF NAME: Prof.D.KRISHNAKUMAR

WEEK	TOPICS TO BE COVERED
Week-1	.NET Frame work, CLR, .NET Class Library. C#: C# Language Basics- Variables and Data types-Variable Operations-Conditional Logic-Loops
Week-2	C#: Methods-Building Basic Class-Value types and Reference types-Understanding Namespaces and Assemblies.
Week-3	The Anatomy of a Web Form, Writing Code, Visual Studio Debugging, The Anatomy of an ASP.NET Application
Week-4	Server controls: The HTML Control Classes, Page Class, Application Events,
Week-5	Web Control Classes, List Controls, Table Controls, Web Control Events and AutoPostBack.
Week-6	Exception Handling, Page Tracing, State Management: View State, Transferring information between Pages, Cookies, Session States,
Week-7	Session States Configuration, Application State. Understanding Validation.
Week-8	Rich Controls: Calendar-AdRotator, Pages with multiple Views, User Controls
Week-9	ADO.NET: The Data Provider Model, Direct Data Access, Disconnected Data Access.
Week-10	Data Binding: Single Value Data Binding, Repeated Value Data Binding.
Week-11	GridView Control, Formatting the GridView, Selecting a GridView Row, Editing with the GridView, Sorting and Paging the GridView.
Week-12	Files and Streams: File System Information, Reading and Writing with Streams, Allowing File Uploads.
Week-13	XML: The XML Classes, Website Security: Authentication and Authorization, Forms Authentication, Windows Authentication.
Week-14	Component: Creating a Component, Properties and State, Data Access Components, Object Data Source.
Week-15	Caching: Output Caching, Data Caching-, Caching with Dependencies.

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M.Sc., Degree Programme in Computer Science
Teaching Plan (ODD- Semester (2020-21))

Class : I M.Sc Computer Science Semester:I
 Subject Code: 19PACSC3 Subject Name: Advanced Database Management System
 Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Relational and parallel Database Design: Basics, Entity Types
Week-2	Relationship Types, ER Model, ER-to-Relational Mapping algorithm.
Week-3	Normalization: Functional Dependency, 1NF, 2NF, 3NF, BCNF and 4NF.
Week-4	Parallel Databases : I/O Parallelism, Interquery Parallelism, Intraquery Parallelism
Week-5	Intraoperation Parallelism, Interoperation Parallelism, Query Optimization.
Week-6	Distributed and Object based Databases: Architecture, Distributed data storage, Distributed transactions
Week-7	Commit protocols, Concurrency control, Distributed Query Processing.
Week-8	Spatial Database: Spatial Database Characteristics, Spatial Data Model, Spatial Database Queries, Techniques of Spatial Database Query.
Week-9	Logic based databases: Complex Data Types, Structured Types and Inheritance, Table Inheritance, array and Multiset
Week-10	Object Identity and Reference Types, Object Oriented versus Object Relational.
Week-11	XML Databases: XML Hierarchical data model, XML Documents, DTD, XML Schema, XML Querying
Week-12	XHTML, Illustrative Experiments. Temporal Databases: Introduction, Intervals,
Week-13	Packing and Unpacking Relations, Generalizing the relational Operators
Week-14	Database Design, Integrity Constraints, Multimedia Databases: Multimedia Sources,
Week-15	Multimedia Database Queries, Multimedia Database Applications.

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**LESSON PLAN
ACADEMIC YEAR- 2020-2021 (ODD SEMESTER)**

DEGREE: M.Sc COMPUTER SCIENCE

COURSE CODE: 19PACSE1B

COURSE NAME: DATA MINING

SEMESTER NO: I

STAFF NAME : Dr K.SHYAMALA

WEEK	TOPICS TO BE COVERED
Week-1	Introduction: Data mining – Kind of Data – Kinds of Patterns – Major issues in Data mining
Week-2	Data Warehouse - Introduction of Functionalities – Classification
Week-3	Introduction to Data Warehousing – Modeling: Data cube and OLAP
Week-4	Data Preprocessing: Preprocessing the Data – Data cleaning
Week-5	Data Integration, Data reduction
Week-6	Data Transformation and Data discretization
Week-7	Mining Association Rules: Basic Concepts - Frequent item set mining
Week-8	Mining Multilevel associations – Mining Multi dimensional associations
Week-9	Mining Quantitative associative rules – mining rare patterns and negative patterns
Week-10	Classification and Prediction: Introduction – Decision Tree Induction
Week-11	Bayesian Classification – Rule based Classification
Week-12	Classification of Back Propagation. Prediction – Classifier Accuracy.
Week-13	Cluster Analysis: Introduction – Types of Data in Cluster Analysis – Requirements of Cluster analysis
Week-14	Partitioning Methods – Hierarchical Methods
Week-15	Density Based Methods – Data mining applications

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)**

DEGREE: M.Sc., COMPUTER SCIENCE
COURSE CODE:
COURSE NAME: DIGITAL IMAGE PROCESSING
SEMESTER NO: III
STAFF NAME: Prof.D.KRISHNAKUMAR

WEEK	TOPICS TO BE COVERED
Week-1	Fundamentals: Image Sensing and Acquisition, Image Sampling and Quantization, relationship between Pixels, Random noise: Gaussian Markov Random Field, σ -field,
Week-2	Linear and Non-linear Operations, Image processing models: Causal, Semi-causal, Non-causal models. Colour Models: colour Fundamentals.
Week-3	Colour Models: colour Models, Pseudo-colour Image Processing, Full colour Image Processing, colour Transformation, Noise in colour Images.
Week-4	Spatial Domain: Enhancement in spatial domain: Point processing; Mask processing.
Week-5	Smoothing Spatial Filters, Sharpening Spatial Filters. Frequency Domain: Image transforms, FFT, DCT.
Week-6	Karhunen-Loeve transform, Hotelling's T^2 transform, Wavelet transforms and their properties. Image filtering in frequency domain.
Week-7	Edge Detection: Types of edges, threshold, zero-crossing..
Week-8	Gradient operators: Roberts, Prewitt, and Sobel operators; residual analysis based technique.
Week-9	Canny edge detection , Edge features and their applications
Week-10	Image Compression: Fundamentals, Image Compression Models, Elements of Information Theory.
Week-11	Error Free Compression: Huff-man coding; Arithmetic coding; Wavelet transform based coding;
Week-12	Lossy Compression: FFT, DPCM, MRFM based compression, Wavelet transform based, Image Compression standards.
Week-13	Image Segmentation: Detection and Discontinuities, Edge Linking and Boundary Deduction.
Week-14	Threshold, Region-Based Segmentation, Segmentation by Morphological watersheds.
Week-15	The use of motion in segmentation, Image Segmentation based on colour.

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LESSON PLAN
ACADEMIC YEAR- 2020-2021 (ODD)

DEGREE: M.Sc., COMPUTER SCIENCE

COURSE CODE: 19PCCSC2

COURSE NAME: Internet of Things

SEMESTER NO: 3

STAFF NAME: Dr. G. Sekar

WEEK	TOPICS TO BE COVERED
Week-1	Introduction: Physical Design of IoT and Logical Design of IoT. IoT Enabling Technologies.
Week-2	IoT Levels & Deployment Templates. IoT Architecture: M2M (Machine to Machine) high-level architecture.
Week-3	IETF architecture for IoT and Open Geospatial Consortium (OGC) Architecture.
Week-4	IoT and M2M: Introduction to M2M, Differences between IoT and M2M. SDN and NFV for IoT.
Week-5	Need for IoT System Management: SNMP and Network operator requirements. NETCONF-YANG.
Week-6	Basic IoT Protocols: M2M, WSN, SCADA, RFID, IEEE 802.15.4 and Security.
Week-7	IoT Platforms Design Methodology IoT: Ten steps in IoT design methodology. IoT Physical Devices & Endpoints.
Week-8	RASPERRY PI - Raspberry Pi Interfaces.
Week-9	Programming Raspberry Pi with Python.
Week-10	Data Analytics for IoT. Basics of Hadoop ecosystem. Software & Management Tools.
Week-11	Cloud Storage Models & Communication APIs.
Week-12	Cloud for IoT. Amazon Web Services for IoT.
Week-13	Case Studies and Real-World Applications: Real world design constraints
Week-14	IoT applications: Asset management, Industrial automation and smart grid.
Week-15	IoT applications: Commercial building automation and Smart cities.

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Teaching Plan (ODD- Semester (2020-21))

Class : II M.Sc Computer Science

Semester:III

Subject Code: 19PCCSC3

Subject Name: Machine Learning

Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Learning Problems – Perspectives and Issues – Concept Learning
Week-2	Version Spaces and Candidate Eliminations – Inductive bias
Week-3	Decision Tree learning – Representation – Algorithm – Heuristic Space Search.
Week-4	Neural networks and genetic algorithms :neural network representation – problems
Week-5	Perceptrons – Multilayer Networks and Back Propagation Algorithms –
Week-6	Advanced Topics – Genetic Algorithms – Hypothesis Space Search – Genetic Programming – Models of Evaluation and Learning.
Week-7	Bayesian and computational learning : bayes theorem – concept learning – maximum likelihood – minimum description length principle – bayes optimal classifier
Week-8	Gibbs algorithm – naïve bayes classifier – bayesian belief network – em algorithm
Week-9	Probability Learning – Sample Complexity – Finite and Infinite Hypothesis Spaces – Mistake Bound Model
Week-10	Instant Based Learning : K- Nearest Neighbour Learning – Locally weighted Regression
Week-11	Radial basis functions – case based learning.
Week-12	Learning Sets of Rules – Sequential Covering Algorithm – Learning Rule Set – First Order Rules – Sets of First Order Rules
Week-13	Induction on Inverted Deduction – Inverting Resolution – Analytical Learning
Week-14	Perfect domain theories – explanation base learning – focl algorithm
Week-15	Reinforcement learning – task – Q-learning – temporal difference learning

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Teaching Plan (ODD- Semester (2020-21))

Class : II M.Sc Computer Science Semester:III
Subject Code: 19PCCSC4 Subject Name: Machine Learning using Python- Lab
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Intoduction about Basic Input / Output in python,Comments,Variables,Datatype
Week-2	Simple Programs in python
Week-3	Introduction of all libraries in python
Week-4	Demonstrate Scipy library
Week-5	Implement and demonstrate the FIND-S algorithm for finding the most specific hypothesis based on a given set of training data samples. Read the training data from a .CSV file
Week-6	For a given set of training data examples stored in a .CSV file, implement and demonstrate the Candidate-Elimination algorithm to output a description of the set of all hypotheses consistent with the training examples
Week-7	Write a program to demonstrate the working of the decision tree based ID3 algorithm. Use an appropriate data set for building the decision tree and apply this knowledge to classify a new sample.
Week-8	Bayesian Theorem
Week-9	Naive Bayesian
Week-10	Write a program to construct a Bayesian network considering medical data. Use this model to demonstrate the diagnosis of heart patients using standard Heart Disease Data Set.
Week-11	Build an Artificial Neural Network by implementing the Backpropagation algorithm and test the same using appropriate data sets.
Week-12	Write a program to implement k-Nearest Neighbour algorithm to classify the iris data set. Print both correct and wrong predictions.
Week-13	Locally weighted Regression Algorithm.

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Teaching Plan (ODD- Semester (2020-21))

Class : II M.Sc Computer Science
Subject Code: 19PCSBE3
Subject In Charge: Mrs.N.Vanitha

Semester: III
Subject Name: Managerial Skills

Week	Topics to be Covered
Week-1	Intoduction about Time Management ,Advantage and Disadvantages
Week-2	Organisational Awareness and it importance
Week-3	Problem Solving, Leadership Qualities, Merits and demerits
Week-4	Team work and office functional rule, Advantage and disadvantages
Week-5	Being knowledgeable of Hierarchy in Office
Week-6	Conducting Interviews and its importance
Week-7	Conducting Meetings and its benefits
Week-8	Writing Circulars and its importance
Week-9	Agendas, Minutes of meetings and Passing resolutions
Week-10	Business Communication and about its importance Email
Week-11	Project Proposals Contracts and its importance
Week-12	Job Application and Curriculum vitae
Week-13	Office Etiquette Dress Code
Week-14	Communication Maintaining healthy work relationship
Week-15	Effective use of technology at workplace

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LESSON PLAN
ACADEMIC YEAR- 2020-2021 (EVEN)

DEGREE: M.Sc., COMPUTER SCIENCE

COURSE CODE: 19PBCSC1

COURSE NAME: Distributed Operating System

SEMESTER NO: 2

STAFF NAME: Dr. G. Sekar

WEEK	TOPICS TO BE COVERED
Week-1	Introduction to Distributed Systems: Advantages of Distributed Systems over centralized Systems. Advantages of Distributed Systems over Independent Systems.
Week-2	Hardware Concepts. Software Concepts. Design Issues: Transparency, Flexibility, Reliability, Performance and Scalability
Week-3	Communication in Distributed Systems: Layered Protocols.
Week-4	Communication Models: The Client-Server Model. Remote Procedure Call. Group Communication.
Week-5	Synchronization in Distributed Systems: Clock Synchronization and Mutual Exclusion. Election Algorithms.
Week-6	Deadlocks in Distributed Systems: Distributed Deadlock Detection and distributed Deadlock Prevention.
Week-7	Processes and Processors in Distributed Systems: Threads. System Models. Processor Allocation.
Week-8	Design issues and Implementation issues. Processor allocation algorithms. Distributed File Systems: Distributed File System Design.
Week-9	Distributed File System Implementation. Trends in Distributed File Systems.
Week-10	Distributed Shared Memory: Introduction, Consistency Models: Strict, Sequential, Causal and Weak Consistencies.
Week-11	Page Based Distributed Shared Memory: Replication, Granularity, achieving sequential consistency.
Week-12	Finding the owner and copies. Object-Based Distributed Shared Memory.
Week-13	Multiprocessor Systems: Bus based Multiprocessor, Ring based Multiprocessor and NUMA Multiprocessor.
Week-14	Basic Model of Real Time Distributed Systems: Characteristics, Applications of Real Time Systems. Fault Tolerance in Distributed Systems.
Week-15	Features of Android Operating System and Linux Operating Systems.

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M.Sc., Degree Programme in Computer Science
Teaching Plan (EVEN- Semester (2020-21))

Class : I M.Sc Computer Science Semester:II
Subject Code: 19PBCSC2 Subject Name: Advanced Java Programming
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Introduction – Servlet Architecture - Servlet Life Cycle-Generic Servlet
Week-2	Http Servlet-Performing URL redirection-Session Tracking-
Week-3	Using JDBC in Servlets. Introduction – JDBC Architecture
Week-4	Types of Drivers-Statement- Resultset - Prepared Statement
Week-5	Batch Update - Callable Statement-Creating a New Database and Table with JDBC.
Week-6	Java Beans :The Component Model-JavaBeans Architecture-Writing simple beans
Week-7	EJB : EJB Component Model-Enterprise JavaBeans-Entity Beans
Week-8	Session Bean-Message driven beans and its examples
Week-9	Overview – Developing Applications with RMI: Declaring & Implementing Remote Interfaces
Week-10	Stubs & Skeletons, Registering Remote Objects, Writing RMI Clients
Week-11	Pushing Data from RMI Servlet and its examples
Week-12	Introduction JSP - Examining MVC and - Working with Variables
Week-13	JSP - JSP Scripting Elements & Directives
Week-14	Scopes - Error Pages and Example of JSP programs
Week-15	Using Java Beans in JSP and its Example.

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Teaching Plan (EVEN- Semester (2020-21))

Class : I M.Sc Computer Science

Semester:II

Subject Code: 19PBCSC4

Subject Name: Advanced Java Programming lab

Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Intoduction of Netbeans Intregrated development environment
Week-2	Simple programs in netbeans
Week-3	Servlet program
Week-4	HTML to Servlet Communication
Week-5	Designing Online Applications with JSP
Week-6	Creating JSP program using JavaBeans
Week-7	Working with Enterprise JavaBeans
Week-8	Performing Java Database Connectivity
Week-9	Implement a Client/Server application using RMI
Week-10	Update a given Table using Batch Update.
Week-11	Designing Employee Details Applications with JSP
Week-12	Program for Payroll using JDBC
Week-13	Creating Mark Sheet using Tables with JSP.

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**LESSON PLAN
ACADEMIC YEAR- 2020-2021 (EVEN SEMESTER)**

DEGREE: M.Sc COMPUTER SCIENCE
COURSE CODE: 19PBCSE1B
COURSE NAME: SCIENTIFIC COMPUTING
SEMESTER NO: II
STAFF NAME : Dr K.SHYAMALA

WEEK	TOPICS TO BE COVERED
Week-1	Introduction to Scientific Computing – Applications - Bisection methods
Week-2	Fixed point Iteration method – Newton Raphson method
Week-3	Graffe’s squaring method – Secant method
Week-4	Solution of Simultaneous linear equations – Matrix Inversion method
Week-5	Gauss Elimination – Gauss Jordan methods
Week-6	Gauss Seidel method – Gauss Jacobi iterative methods
Week-7	Newton’s divided difference interpolating polynomials – Lagrange’s and Hermite’s polynomials
Week-8	Newton forward and backward difference formula – String’s and Bessel’s Central difference formula
Week-9	Numerical differentiation using Newton’s forward and backward interpolation formula
Week-10	Numerical integration – Introduction - Trapezoidal rule
Week-11	Simpon’s 1/3 and 3/8 rules
Week-12	Double integral using Trapezoidal and Simpson’s rules
Week-13	Taylor series method for simultaneous first order and second order differential equations
Week-14	Modified Euler’s method – Runge Kutta method for simultaneous differential equations
Week-15	RK second order and fourth order methods

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M.Sc DEGREE PROGRAMME
TEACHING PLAN
ACADEMIC YEAR 2020-21
(EVEN SEMESTER)

Subject Name : OPTIMIZATION TECHNIQUES
Subject Code : 19PDMAC2
Semester : IV
Staff in Charge :Dr.S.KARTHIGEYAN

Week	Topics to be Covered
Week-1	Unit I : Integer Linear Programming: Introduction – Importance of Integer Programming Problem
Week-2	Unit I : Gomory’s Cutting Plane Method.
Week-3	Unit I : Branch and Bound Method.. Unit II : Goal Programming : Introduction - Concept of Goal Programming
Week-4	Unit II : Goal Programming Model formulation – Graphical Solution Method of Goal Programming. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Unit II : Modified Simplex method of Goal Programming.
Week-6	Unit III : Classical Optimization Techniques: Introduction – Unconstrained Optimization – Constrained Multi-variable Optimization with Equality Constraints
Week-7	Unit III : Lagrangian Method - Constrained Multi-variable Optimization with inequality Constraints – Kuhn-Tucker conditions.
Week-8	Unit III : Non-linear Programming Problem: Introduction – Formulation of NLPP – General NLPP – Graphical solution. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV : Quadratic Programming: Introduction – Kuhn-Tucker conditions .
Week-10	Unit IV : General Quadratic Programming Problem – Wolfe’s Modified simplex method
Week-11	Unit IV : Beale’s Method. Unit V : Dynamic Programming: Introduction – Bellman’s Principle of Optimality.
Week-12	Unit V : Minimum Path problem – Single additive constraint: Multiplicative separable return
Week-13	Unit V : Additively separable return – Single multiplicative constraint: Additively

	separable return.
Week-14	Revision.
Week-15	Model Examinations.

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TEACHING PLAN
ACADEMIC YEAR 2020-21
(EVEN SEMESTER)

Subject Name : Partial Differential equations
Subject Code : 19PBMAC3
Semester : II
Staff in Charge : Dr.J. Desdemona Kirubavathi

Week	Topics to be Covered
Week-1	Unit I Formation and solution of PDE of first order, Cauchy problem, Orthogonal surfaces
Week-2	Compatible systems, Charpits method
Week-3	Classification and canonical forms of PDE
Week-4	Unit II Elliptic Differential equations-Derivation of Laplace and Poisson equation, BVPs, Variables separable solution FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Dirichlet and Neumann problem for a rectangle, Interior and exterior Dirichlet problem for a circle
Week-6	Interior Neumann problem for a circle, Solution of Laplace equation in cylindrical and spherical coordinates
Week-7	Unit III Parabolic differential equations- Derivation and elementary solution of diffusion equation, Separation of Variables method
Week-8	Solution of diffusion equation in cylindrical and spherical coordinates SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV Hyperbolic differential equations-Occurrence and solution of wave equation (1D), solution by canonical reduction, D'Alembert solution, Vibrating string problem
Week-10	Riemann Volterra solution, separable method, simple problems
Week-11	Solution of 1D wave equation in cylindrical and spherical coordinates, Uniqueness theorem
Week-12	Unit V Solution of PDE using Laplace Transforms
Week-13	Solution of PDE using Fourier transforms
Week-14	Revision

Week-15	Model Examination
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ACADEMIC YEAR 2020-21
(EVEN SEMESTER)

Subject Name : **Personality Development**
 Subject Code :19PDSBE4
 Semester : **II**
 Staff in Charge : K.THULUKKANAM

Week	Topics to be Covered
Week-1	Unit I: Personality definition, determinants,heredity.
Week-2	Environment and situation.
Week-3	Self awareness and benefits of self awareness.
Week-4	Unit II :Enhancing self awareness: self analysis,behaviour and motivation. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Modes of thinking,modes of acting and modes of interacting.
Week-6	Unit III: The BIG FIVE model: Extroversion,agreeableness.
Week-7	Emotional stability and conscientiousness.
Week-8	Openness to experience and self-monitoring. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV:Traits for building positive personality: Chief traits for building personality.
Week-10	Concious programming and subconscious programming.
Week-11	Unit V: Personal grooming: Men dress,shirts,trousers,ties,socks,shoes belts and watches.
Week-12	Women dress, hair,shoes /sandal,bags.
Week-13	Accessories.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : **Real Analysis-II**
Subject Code : 19PBMAC2
Semester : **II**
Staff in Charge : K.THULUKKANAM

Week	Topics to be Covered
Week-1	UNIT-I : Measure on the Real line - Lebesgue Outer Measure .
Week-2	Measurable sets.
Week-3	Measurable Functions.
Week-4	UNIT-II : Integration of Functions of a Real variable - Integration of Non-negative functions . FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	The General Integral , Riemann and Lebesgue Integrals.
Week-6	UNIT-III : Fourier Series and Fourier Integrals - Introduction and Orthogonal system of functions .
Week-7	The theorem on best approximation - The Fourier series of a function relative to an orthonormal system.
Week-8	Properties of Fourier Coefficients and The Riesz-Fischer Theorem. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT-IV : Multivariable Differential Calculus - Introduction - The Directional derivative - Directional derivative and continuity.
Week-10	The total derivative and The total derivative expressed in terms of partial derivatives - The matrix of linear function.
Week-11	The Jacobian matrix and The chain rule - The mean - value theorem for differentiable functions - A sufficient condition for differentiability.
Week-12	UNIT-V : Implicit Functions and Extremum Problems : Functions with non-zero Jacobian determinants .

Week-13	The inverse function theorem- and The Implicit function theorem.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : TOPOLOGY
 Subject Code : 19PBMAC4
 Semester : II
 Staff in Charge : DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I: The definition and some Examples- Elementary concepts - open bases and open sub bases
Week-2	UNIT I: weak topologies - The function Algebras $C(X, \mathbb{R})$ and $C(X, \mathbb{C})$.
Week-3	UNIT II: Compactness: Compact Spaces – Products of Spaces
Week-4	UNIT II: Tychonoffs Theorem and locally compact spaces. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT. UNIT III: Compactness for metric spaces
Week-5	UNIT III: Ascoli's Theorem – Separation: T_1 – spaces and Hausdorff spaces- Completely Regular spaces and Normal spaces
Week-6	UNIT III: Separation: T_1 – spaces and Hausdorff spaces
Week-7	UNIT III: Completely Regular spaces
Week-8	UNIT III: Normal spaces SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT.
Week-9	UNIT IV: Urysohn's Lemma and The Tietze extension theorem
Week-10	UNIT IV: The Urysohn's imbedding Theorem
Week-11	UNIT IV: Connected spaces
Week-12	UNIT V: The Components of a space – Totally disconnected spaces
Week-13	UNIT V: locally connected spaces. Approximation: The Weierstrass approximation Theorem.

Week-14	Revision.
Week-15	Model Examinations.

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Subject Name :COMPLEX ANALYSIS
 Subject Code :19PDMAC1
 Semester :IV
 Staff in Charge :DR.A.SAROJINI

Week	Topics to be Covered
Week-1	UNIT I:Cauchy's Integral Formula: Definition of Analytic Function and Introduction to Complex Integration,The Index of a point with respect to a closed curve,The integral formula,Higher Derivatives.
Week-2	UNIT I:Local properties of Analytic functions: Removable singularities,Taylor's Theorem,Zeros and Poles.
Week-3	UNIT I: The Local Mapping,The maximum principle. UNIT II:The General form of Cauchy's Theorem: Chains and Cycles.
Week-4	UNIT II:Simple continuity,Homology,The General statement of Cauchy's Theorem,Proof of Cauchy's Theorem. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT II:Calculus of Residues: The Residue Theorem,The Argument Principle.
Week-6	UNIT III:Harmonic Functions: Definition of Harmonic function and basic properties,Mean Value Property.
Week-7	UNIT III:Poisson Formula. Harmonic functions and Power series expansions: Schwarz Theorem,The Reflection Principle.
Week-8	UNIT III:Weierstrass's Theorem,Taylor's series,Laurent series. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT.
Week-9	UNIT IV:Partial Fractions and Factorization: Partial Fractions,Infinite Products.
Week-10	UNIT IV:Canonical Products,Gamma function. UNIT V:Simply Periodic Functions: Representation by Exponentials.

Week-11	UNIT V:The Fourier Developments,Functions of Finite order. Doubly Periodic Functions: The Period Module.
Week-12	UNIT V:Unimodular Transformations,Canonical basis,General Properties of Elliptic functions.
Week-13	UNIT V:The Weierstrass Theory: The Weierstrass P function,The functions $\zeta(z)$ and $\sigma(z)$,The Differential Equation.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : Fluid Dynamics
Subject Code : 19PDMAE1C
Semester : IV
Staff in Charge : A.R. RAGAVAN

Week	Topics to be Covered
Week-1	UNIT-I : Kinematics of Fluids in motion. Real fluids and Ideal fluids- Velocity of a fluid at a point, Stream lines , path lines , steady and unsteady flows- Velocity potential - The vorticity vector
Week-2	Local and particle rates of changes - Equation of continuity - Worked examples - Acceleration of a fluid
Week-3	UNIT –II: Equations of motion of a fluid. Pressure at a point in a fluid at rest.- Pressure at a point in a moving fluid
Week-4	Euler’s equation of motion - Bernoulli’s Equation – Examples FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT –III: Some three dimensional flows. Introduction- Sources, sinks and doublets
Week-6	Images in a rigid infinite plane
Week-7	Axi symmetric flows : Stokes stream function
Week-8	UNIT-IV : Some two dimensional flows : Meaning of two dimensional flow – Use of Cylindrical polar coordinates - The stream function SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	The complex potential for two dimensional , irrotational, incompressible flow - Complex velocity potentials for standard two dimensional flows - Some worked examples
Week-10	Two dimensional Image systems - The Milne Thompson circle Theorem and some of its applications.
Week-11	UNIT-V : Stress components in a real fluid. - Relations between Cartesian components of stress- Translational motion of fluid element
Week-12	The rate of strain quadric and principle stresses - Some further properties of the rate of strain quadric - Stress analysis in fluid motion - Relation between stress and rate of strain
Week-13	The coefficient of viscosity and Laminar flow - The Navier – Stokes equations of motion of a Viscous fluid

Week-14	Revision
Week-15	Model Examination

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Subject Name : FUNCTIONAL ANALYSIS
 Subject Code : 19PDMAC3
 Semester : IV
 Staff in Charge : Dr. G.PALANI

Week	Topics to be Covered
Week-1	<u>Unit-1:</u> Banach Spaces : Definition – Some examples.
Week-2	<u>Unit-1:</u> Banach Spaces : Continuous Linear Transformations.
Week-3	<u>Unit-1:</u> Banach Spaces : The Hahn-Banach Theorem . <u>Unit-2:</u> The natural embedding of N in N^{**} .
Week-4	<u>Unit-2:</u> - Open mapping theorem –closed graph theorem. First Internal Assessment Test.
Week-5	<u>Unit-2:</u> Conjugate of an operator.
Week-6	<u>Unit-3:</u> Hilbert Spaces - Definition and properties.
Week-7	<u>Unit-3:</u> Hilbert Spaces – Bessel's inequality – Orthogonal complements.
Week-8	<u>Unit-3:</u> Hilbert Spaces - Orthonormal sets. Second Internal Assessment Test.
Week-9	<u>Unit-4:</u> Conjugate space H^* - Adjoint of an operator – Self-adjoint operator.
Week-10	<u>Unit-4:</u> Conjugate space H^* - Normal and Unitary Operators.
Week-11	<u>Unit-4:</u> Projections. <u>Unit-5:</u> Preliminaries on Banach Algebras : Definition and some examples.
Week-12	<u>Unit-5:</u> Preliminaries on Banach Algebras: Regular and singular elements – Topological divisors of zero.
Week-13	<u>Unit-5:</u> Preliminaries on Banach Algebras : Spectrum – the formula for the spectral radius – the radical and semi-simplicity.

Week-14	Revision
Week-15	Model Exam

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Subject Name : LEADERSHIP & COMMUNICATION SKILLS
 Subject Code : 19PBSBE2
 Semester : II
 Staff in Charge : Dr.SHIRLEY GLORIA D.K.

Week	Topics to be covered
Week-1	UNIT I: Leadership-Nature, characteristics or features of leadership-objectives of leadership.
Week-2	UNIT I: Functions or role of a leader-Qualities of a good leader-skills of a leader.
Week-3	UNIT I: Leader Vs Manager-Leadership and management. UNIT II: Leadership styles-Autocratic leadership-Democratic leadership
Week-4	UNIT II: Laissez-Faire leadership or free rein leadership-Bureaucratic leadership style FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT II: Supportive leadership-Charismatic leaders.
Week-6	UNIT III: Communication-Elements of communication-Process of communication.
Week-7	UNIT III: Functions of communication-Features of communication-.
Week-8	UNIT III: Benefits of communication-Principles of communication SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: Methods or types of communication-Formal communication-Merits and demerits-informal communication or grapevine.
Week-10	UNIT IV: Merits and demerits-Rumour-Reasons for spread of rumours-Negative impact of rumours-methods to deal with rumours.
Week-11	UNIT IV: Formal Vs informal communication. UNIT V : Oral communication-Written communication-downward communication
Week-12	UNIT V: Upward communication-Horizontal communication-Types of communication networks.

Week-13	UNIT V: Barriers to communication-Steps to overcome barriers to communication..
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name :Linear Algebra
 Subject Code :19PBMAC1
 Semester :II
 Staff in Charge :Babu.O.S

Week	Topics to be Covered
Week-1	UNIT I:Linear transformations – Isomorphism of vector spaces
Week-2	Representations of linear transformations by matrices – Linear functionals.
Week-3	UNIT II:The algebra of polynomials –Polynomial ideals
Week-4	The prime factorization of a polynomial
Week-5	Determinant functions. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-6	UNIT III:Permutations and the uniqueness of determinants – Classical adjoint of a (square) matrix
Week-7	Inverse of an invertible matrix using determinants
Week-8	Characteristic values – Annihilating polynomials. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: “Diagonalization” Invariant subspaces – Simultaneous triangulations
Week-10	Simultaneous diagonalization – Direct-sum decompositions
Week-11	Invariant direct sums – Primary decomposition theorem.
Week-12	UNIT V: “The Rational and Jordan forms” Cyclic subspaces – Cyclic decompositions theorem (Statement only)
Week-13	Generalized Cayley – Hamilton theorem - Rational forms – Jordan forms.
Week-14	Revision.
Week-15	Model Examination.

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Subject Name : MATHEMATICS FOR COMPETITIVE EXAMINATIONS
 Subject Code : 19PBMA1
 Semester : II
 Staff in Charge : DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I: Problems of Ages,
Week-2	UNIT I: Surds and indices.
Week-3	UNIT II: Profit and Loss,
Week-4	UNIT II: Ratio and Proportions. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT UNIT III: Time
Week-5	UNIT III: work,
Week-6	UNIT III: Time and distance
Week-7	UNIT III: Time and distance
Week-8	UNIT III: Time and work SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: Permutations and
Week-10	UNIT IV: Combinations
Week-11	UNIT IV: Permutations and Combinations
Week-12	UNIT V: Stocks
Week-13	UNIT V: Shares.

Week-14	Revision.
Week-15	Model Examinations.

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Subject Name :Mechanics PG
 Subject Code :19PDMAC4
 Semester :IV
 Staff in Charge :O S Babu

Week	Topics to be Covered
Week-1	UNIT-I: Mechanical Systems: The Mechanical system- Generalized coordinates
Week-2	Constraints - Virtual work
Week-3	Energy and Momentum
Week-4	UNIT-II: Lagrange's Equations: Derivation of Lagrange's equation- Examples FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Integrals of the motion
Week-6	UNIT-III: Hamiltonian's Equations: Hamiltonian's Principle - Hamiltonian's Equations
Week-7	Other variational principles.
Week-8	UNIT-IV: Hamilton-Jacobi Theory: Hamilton's Principle function SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Hamilton –Jacobi Equation
Week-10	Separability.
Week-11	UNIT-V: Canonical Transformation: Differential forms and generating functions
Week-12	Special Transformations
Week-13	Lagrange and Poisson brackets.
Week-14	Revision

Week-15	Model Examination
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Subject Name : NUMERICAL ANALYSIS
 Subject Code : 19PBMAE1A
 Semester : II
 Staff in Charge : Mrs.D.KALPANA

Week	Topics to be Covered
Week-1	UNIT 1 : The solution of nonlinear equations $f(x)=0$.The solution of linear system $AX=B$. Chapter 2 : sec 2.1 to 2.4
Week-2	Chapter 2: sec 2.6 to 2.7
Week-3	Chapter3:sec3.3 to 3.5
Week-4	Chapter3:sec 3.6 ,3.7 FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT 2:Interpolation and polynomial approximation – Curve fitting. Chapter 4 :sec 4.1 , 4.2
Week-6	Chapter 4 :sec 4.3 ,4.4
Week-7	Chapter5 :sec5.1 ,5.2
Week-8	UNIT 3: Numerical Differentiation – Numerical Integration Chapter6 :sec6.1,6.2 SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Chapter 7 :sec 7.1,7.2
Week-10	UNIT 4 :Solution of ordinary differential equations Chapter 9:sec 9.1,9.2,9.3
Week-11	Chapter 9: sec 9.4,9.5,9.6
Week-12	UNIT 5: Solution of partial differential equations Chapter 10 : sec 10.1,10.2
Week-13	Chapter :10.3
Week- 14	Revision

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Subject Name :Mechanics PG
 Subject Code :19PDMAC4
 Semester :IV
 Staff in Charge :O S Babu

Week	Topics to be Covered
Week-1	UNIT-I: Mechanical Systems: The Mechanical system- Generalized coordinates
Week-2	Constraints - Virtual work
Week-3	Energy and Momentum
Week-4	UNIT-II: Lagrange's Equations: Derivation of Lagrange's equation- Examples FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Integrals of the motion
Week-6	UNIT-III: Hamiltonian's Equations: Hamiltonian's Principle - Hamiltonian's Equations
Week-7	Other variational principles.
Week-8	UNIT-IV: Hamilton-Jacobi Theory: Hamilton's Principle function SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Hamilton –Jacobi Equation
Week-10	Separability.
Week-11	UNIT-V: Canonical Transformation: Differential forms and generating functions
Week-12	Special Transformations
Week-13	Lagrange and Poisson brackets.
Week-14	Revision

Week-15	Model Examination
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Subject Name : NUMERICAL ANALYSIS
 Subject Code : 19PBMAE1A
 Semester : II
 Staff in Charge : Mrs.D.KALPANA

Week	Topics to be Covered
Week-1	UNIT 1 : The solution of nonlinear equations $f(x)=0$.The solution of linear system $AX=B$. Chapter 2 : sec 2.1 to 2.4
Week-2	Chapter 2: sec 2.6 to 2.7
Week-3	Chapter3:sec3.3 to 3.5
Week-4	Chapter3:sec 3.6 ,3.7 FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT 2:Interpolation and polynomial approximation – Curve fitting. Chapter 4 :sec 4.1 , 4.2
Week-6	Chapter 4 :sec 4.3 ,4.4
Week-7	Chapter5 :sec5.1 ,5.2
Week-8	UNIT 3: Numerical Differentiation – Numerical Integration Chapter6 :sec6.1,6.2 SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Chapter 7 :sec 7.1,7.2
Week-10	UNIT 4 :Solution of ordinary differential equations Chapter 9:sec 9.1,9.2,9.3
Week-11	Chapter 9: sec 9.4,9.5,9.6
Week-12	UNIT 5: Solution of partial differential equations Chapter 10 : sec 10.1,10.2
Week-13	Chapter :10.3
Week- 14	Revision

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Subject Name : OPTIMIZATION TECHNIQUES
Subject Code : 19PDMAC2
Semester : IV
Staff in Charge :Dr.S.KARTHIGEYAN

Week	Topics to be Covered
Week-1	Unit I : Integer Linear Programming: Introduction – Importance of Integer Programming Problem
Week-2	Unit I : Gomory’s Cutting Plane Method.
Week-3	Unit I : Branch and Bound Method.. Unit II : Goal Programming : Introduction - Concept of Goal Programming
Week-4	Unit II : Goal Programming Model formulation – Graphical Solution Method of Goal Programming. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Unit II : Modified Simplex method of Goal Programming.
Week-6	Unit III : Classical Optimization Techniques: Introduction – Unconstrained Optimization – Constrained Multi-variable Optimization with Equality Constraints
Week-7	Unit III : Lagrangian Method - Constrained Multi-variable Optimization with inequality Constraints – Kuhn-Tucker conditions.
Week-8	Unit III : Non-linear Programming Problem: Introduction – Formulation of NLPP – General NLPP – Graphical solution. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV : Quadratic Programming: Introduction – Kuhn-Tucker conditions .
Week-10	Unit IV : General Quadratic Programming Problem – Wolfe’s Modified simplex method
Week-11	Unit IV : Beale’s Method. Unit V : Dynamic Programming: Introduction – Bellman’s Principle of Optimality.
Week-12	Unit V : Minimum Path problem – Single additive constraint: Multiplicative separable return
Week-13	Unit V : Additively separable return – Single multiplicative constraint: Additively

	separable return.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : Partial Differential equations
Subject Code : 19PBMAC3
Semester : II
Staff in Charge : Dr.J. Desdemona Kirubavathi

Week	Topics to be Covered
Week-1	Unit I Formation and solution of PDE of first order, Cauchy problem, Orthogonal surfaces
Week-2	Compatible systems, Charpits method
Week-3	Classification and canonical forms of PDE
Week-4	Unit II Elliptic Differential equations-Derivation of Laplace and Poisson equation, BVPs, Variables separable solution FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Dirichlet and Neumann problem for a rectangle, Interior and exterior Dirichlet problem for a circle
Week-6	Interior Neumann problem for a circle, Solution of Laplace equation in cylindrical and spherical coordinates
Week-7	Unit III Parabolic differential equations- Derivation and elementary solution of diffusion equation, Separation of Variables method
Week-8	Solution of diffusion equation in cylindrical and spherical coordinates SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV Hyperbolic differential equations-Occurrence and solution of wave equation (1D), solution by canonical reduction, D'Alembert solution, Vibrating string problem
Week-10	Riemann Volterra solution, separable method, simple problems
Week-11	Solution of 1D wave equation in cylindrical and spherical coordinates, Uniqueness theorem
Week-12	Unit V Solution of PDE using Laplace Transforms
Week-13	Solution of PDE using Fourier transforms
Week-14	Revision

Week-15	Model Examination
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Subject Name : **Personality Development**
Subject Code :19PDSBE4
Semester : **II**
Staff in Charge : K.THULUKKANAM

Week	Topics to be Covered
Week-1	Unit I: Personality definition, determinants,heredity.
Week-2	Environment and situation.
Week-3	Self awareness and benefits of self awareness.
Week-4	Unit II :Enhancing self awareness: self analysis,behaviour and motivation. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Modes of thinking,modes of acting and modes of interacting.
Week-6	Unit III: The BIG FIVE model: Extroversion,agreeableness.
Week-7	Emotional stability and conscientiousness.
Week-8	Openness to experience and self-monitoring. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV:Traits for building positive personality: Chief traits for building personality.
Week-10	Concious programming and subconscious programming.
Week-11	Unit V: Personal grooming: Men dress,shirts,trousers,ties,socks,shoes belts and watches.
Week-12	Women dress, hair,shoes /sandal,bags.
Week-13	Accessories.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : **Real Analysis-II**
Subject Code : 19PBMAC2
Semester : **II**
Staff in Charge : K.THULUKKANAM

Week	Topics to be Covered
Week-1	UNIT-I : Measure on the Real line - Lebesgue Outer Measure .
Week-2	Measurable sets.
Week-3	Measurable Functions.
Week-4	UNIT-II : Integration of Functions of a Real variable - Integration of Non-negative functions . FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	The General Integral , Riemann and Lebesgue Integrals.
Week-6	UNIT-III : Fourier Series and Fourier Integrals - Introduction and Orthogonal system of functions .
Week-7	The theorem on best approximation - The Fourier series of a function relative to an orthonormal system.
Week-8	Properties of Fourier Coefficients and The Riesz-Fischer Theorem. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT-IV : Multivariable Differential Calculus - Introduction - The Directional derivative - Directional derivative and continuity.
Week-10	The total derivative and The total derivative expressed in terms of partial derivatives - The matrix of linear function.
Week-11	The Jacobian matrix and The chain rule - The mean - value theorem for differentiable functions - A sufficient condition for differentiability.
Week-12	UNIT-V : Implicit Functions and Extremum Problems : Functions with non-zero Jacobian determinants .

Week-13	The inverse function theorem- and The Implicit function theorem.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : TOPOLOGY
Subject Code : 19PBMAC4
Semester : II
Staff in Charge : DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I: The definition and some Examples- Elementary concepts - open bases and open sub bases
Week-2	UNIT I: weak topologies - The function Algebras $C(X, \mathbb{R})$ and $C(X, \mathbb{C})$.
Week-3	UNIT II: Compactness: Compact Spaces – Products of Spaces
Week-4	UNIT II: Tychonoffs Theorem and locally compact spaces. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT. UNIT III: Compactness for metric spaces
Week-5	UNIT III: Ascoli's Theorem – Separation: T_1 – spaces and Hausdorff spaces- Completely Regular spaces and Normal spaces
Week-6	UNIT III: Separation: T_1 – spaces and Hausdorff spaces
Week-7	UNIT III: Completely Regular spaces
Week-8	UNIT III: Normal spaces SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT.
Week-9	UNIT IV: Urysohn's Lemma and The Tietze extension theorem
Week-10	UNIT IV: The Urysohn's imbedding Theorem
Week-11	UNIT IV: Connected spaces
Week-12	UNIT V: The Components of a space – Totally disconnected spaces
Week-13	UNIT V: locally connected spaces. Approximation: The Weierstrass approximation Theorem.

Week-14	Revision.
Week-15	Model Examinations.

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Subject Name :COMPLEX ANALYSIS
 Subject Code :19PDMAC1
 Semester :IV
 Staff in Charge :DR.A.SAROJINI

Week	Topics to be Covered
Week-1	UNIT I:Cauchy's Integral Formula: Definition of Analytic Function and Introduction to Complex Integration,The Index of a point with respect to a closed curve,The integral formula,Higher Derivatives.
Week-2	UNIT I:Local properties of Analytic functions: Removable singularities,Taylor's Theorem,Zeros and Poles.
Week-3	UNIT I: The Local Mapping,The maximum principle. UNIT II:The General form of Cauchy's Theorem: Chains and Cycles.
Week-4	UNIT II:Simple continuity,Homology,The General statement of Cauchy's Theorem,Proof of Cauchy's Theorem. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT II:Calculus of Residues: The Residue Theorem,The Argument Principle.
Week-6	UNIT III:Harmonic Functions: Definition of Harmonic function and basic properties,Mean Value Property.
Week-7	UNIT III:Poisson Formula. Harmonic functions and Power series expansions: Schwarz Theorem,The Reflection Principle.
Week-8	UNIT III:Weierstrass's Theorem,Taylor's series,Laurent series. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT.
Week-9	UNIT IV:Partial Fractions and Factorization: Partial Fractions,Infinite Products.
Week-10	UNIT IV:Canonical Products,Gamma function. UNIT V:Simply Periodic Functions: Representation by Exponentials.

Week-11	UNIT V:The Fourier Developments,Functions of Finite order. Doubly Periodic Functions: The Period Module.
Week-12	UNIT V:Unimodular Transformations,Canonical basis,General Properties of Elliptic functions.
Week-13	UNIT V:The Weierstrass Theory: The Weierstrass P function,The functions $\zeta(z)$ and $\sigma(z)$,The Differential Equation.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : Fluid Dynamics
Subject Code : 19PDMAE1C
Semester : IV
Staff in Charge : A.R. RAGAVAN

Week	Topics to be Covered
Week-1	UNIT-I : Kinematics of Fluids in motion. Real fluids and Ideal fluids- Velocity of a fluid at a point, Stream lines , path lines , steady and unsteady flows- Velocity potential - The vorticity vector
Week-2	Local and particle rates of changes - Equation of continuity - Worked examples - Acceleration of a fluid
Week-3	UNIT –II: Equations of motion of a fluid. Pressure at a point in a fluid at rest.- Pressure at a point in a moving fluid
Week-4	Euler’s equation of motion - Bernoulli’s Equation – Examples FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT –III: Some three dimensional flows. Introduction- Sources, sinks and doublets
Week-6	Images in a rigid infinite plane
Week-7	Axi symmetric flows : Stokes stream function
Week-8	UNIT-IV : Some two dimensional flows : Meaning of two dimensional flow – Use of Cylindrical polar coordinates - The stream function SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	The complex potential for two dimensional , irrotational, incompressible flow - Complex velocity potentials for standard two dimensional flows - Some worked examples
Week-10	Two dimensional Image systems - The Milne Thompson circle Theorem and some of its applications.
Week-11	UNIT-V : Stress components in a real fluid. - Relations between Cartesian components of stress- Translational motion of fluid element
Week-12	The rate of strain quadric and principle stresses - Some further properties of the rate of strain quadric - Stress analysis in fluid motion - Relation between stress and rate of strain
Week-13	The coefficient of viscosity and Laminar flow - The Navier – Stokes equations of motion of a Viscous fluid

Week-14	Revision
Week-15	Model Examination

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Subject Name : FUNCTIONAL ANALYSIS
 Subject Code : 19PDMAC3
 Semester : IV
 Staff in Charge : Dr. G.PALANI

Week	Topics to be Covered
Week-1	<u>Unit-1:</u> Banach Spaces : Definition – Some examples.
Week-2	<u>Unit-1:</u> Banach Spaces : Continuous Linear Transformations.
Week-3	<u>Unit-1:</u> Banach Spaces : The Hahn-Banach Theorem . <u>Unit-2:</u> The natural embedding of N in N^{**} .
Week-4	<u>Unit-2:</u> - Open mapping theorem –closed graph theorem. First Internal Assessment Test.
Week-5	<u>Unit-2:</u> Conjugate of an operator.
Week-6	<u>Unit-3:</u> Hilbert Spaces - Definition and properties.
Week-7	<u>Unit-3:</u> Hilbert Spaces – Bessel's inequality – Orthogonal complements.
Week-8	<u>Unit-3:</u> Hilbert Spaces - Orthonormal sets. Second Internal Assessment Test.
Week-9	<u>Unit-4:</u> Conjugate space H^* - Adjoint of an operator – Self-adjoint operator.
Week-10	<u>Unit-4:</u> Conjugate space H^* - Normal and Unitary Operators.
Week-11	<u>Unit-4:</u> Projections. <u>Unit-5:</u> Preliminaries on Banach Algebras : Definition and some examples.
Week-12	<u>Unit-5:</u> Preliminaries on Banach Algebras: Regular and singular elements – Topological divisors of zero.
Week-13	<u>Unit-5:</u> Preliminaries on Banach Algebras : Spectrum – the formula for the spectral radius – the radical and semi-simplicity.

Week-14	Revision
Week-15	Model Exam

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Subject Name : LEADERSHIP & COMMUNICATION SKILLS
 Subject Code : 19PBSBE2
 Semester : II
 Staff in Charge : Dr.SHIRLEY GLORIA D.K.

Week	Topics to be covered
Week-1	UNIT I: Leadership-Nature, characteristics or features of leadership-objectives of leadership.
Week-2	UNIT I: Functions or role of a leader-Qualities of a good leader-skills of a leader.
Week-3	UNIT I: Leader Vs Manager-Leadership and management. UNIT II: Leadership styles-Autocratic leadership-Democratic leadership
Week-4	UNIT II: Laissez-Faire leadership or free rein leadership-Bureaucratic leadership style FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT II: Supportive leadership-Charismatic leaders.
Week-6	UNIT III: Communication-Elements of communication-Process of communication.
Week-7	UNIT III: Functions of communication-Features of communication-.
Week-8	UNIT III: Benefits of communication-Principles of communication SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: Methods or types of communication-Formal communication-Merits and demerits-informal communication or grapevine.
Week-10	UNIT IV: Merits and demerits-Rumour-Reasons for spread of rumours-Negative impact of rumours-methods to deal with rumours.
Week-11	UNIT IV: Formal Vs informal communication. UNIT V : Oral communication-Written communication-downward communication
Week-12	UNIT V: Upward communication-Horizontal communication-Types of communication networks.

Week-13	UNIT V: Barriers to communication-Steps to overcome barriers to communication..
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name :Linear Algebra
 Subject Code :19PBMAC1
 Semester :II
 Staff in Charge :Babu.O.S

Week	Topics to be Covered
Week-1	UNIT I:Linear transformations – Isomorphism of vector spaces
Week-2	Representations of linear transformations by matrices – Linear functionals.
Week-3	UNIT II:The algebra of polynomials –Polynomial ideals
Week-4	The prime factorization of a polynomial
Week-5	Determinant functions. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-6	UNIT III:Permutations and the uniqueness of determinants – Classical adjoint of a (square) matrix
Week-7	Inverse of an invertible matrix using determinants
Week-8	Characteristic values – Annihilating polynomials. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: “Diagonalization” Invariant subspaces – Simultaneous triangulations
Week-10	Simultaneous diagonalization – Direct-sum decompositions
Week-11	Invariant direct sums – Primary decomposition theorem.
Week-12	UNIT V: “The Rational and Jordan forms” Cyclic subspaces – Cyclic decompositions theorem (Statement only)
Week-13	Generalized Cayley – Hamilton theorem - Rational forms – Jordan forms.
Week-14	Revision.
Week-15	Model Examination.

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Subject Name :MATHEMATICS FOR COMPETITIVE EXAMINATIONS
 Subject Code :19PBMA1
 Semester :II
 Staff in Charge :DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I: Problems of Ages,
Week-2	UNIT I: Surds and indices.
Week-3	UNIT II: Profit and Loss,
Week-4	UNIT II: Ratio and Proportions. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT UNIT III: Time
Week-5	UNIT III: work,
Week-6	UNIT III: Time and distance
Week-7	UNIT III: Time and distance
Week-8	UNIT III: Time and work SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: Permutations and
Week-10	UNIT IV: Combinations
Week-11	UNIT IV: Permutations and Combinations
Week-12	UNIT V: Stocks
Week-13	UNIT V: Shares.

Week-14	Revision.
Week-15	Model Examinations.

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Class : M.Sc. **Zoology** - I year Semester: I
Subject Code : 19AAZC1
Name of the Subject: **FUNCTIONAL MORPHOLOGY OF INVERTEBRATES**
Subject In charge : Dr K. MOHAN

Week	Topics to be Covered
Week -1	Principles of Animal Taxonomy, species concept
Week -2	Origin of coelome formation and its types
Week -3	Origin and Evolution of Metazoa
Week -4	Locomotion in Protozoa, pseudopodia, flagella and cilia
Week -5	Hydrostatic movement in Coelenterates and Feeding mechanism,
Week -6	Parasitic adaptation in helminthes and larval forms
Week -7	Theories on origion of metamerism
Week -8	Filter feeding in polycheata, Mollusca and Echinodermata
Week -9	Larval form and its evolutionary significance of Crustacean, Mollusca and Echinodermata
Week -10	Advanced nervous system in Annelids, Arthropods and mollusca
Week -11	Organs of excretion : nephridia, malphigian tubules.
Week -12	Organs of respiration gills, lungs and trachea
Week -13	Respiratory pigments and Mechanism of respiration in invertebrates.
Week -14	Structure and peculiarities of Minor phyla
Week -15	Affinities of Rotifera, Chaetogantha, phoronida, Endoprocta and Ectoprocta

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Class : M.Sc. Zoology - I year Semester: I
Subject Code : **19PAAZC2**
Name of the Subject: **Comparative Anatomy of Chordates**
Subject In charge : Dr K SAMYAPPAN

Week	Topics to be Covered
Week -1	Prochordate phylogeny-
Week -2	Evolutionary position of Ostracoderms, Placoderms in the evolution of the jawed vertebrates
Week -3	Origin and classification of vertebrates – Origin of mammals
Week -4	Vertebrate integument and its derivatives
Week -5	Evolution of heart in fishes, amphibians, reptiles, birds and mammals.
Week -6	Evolution of aortic arches and portal systems
Week -7	Comparative account of respiratory organs in fishes, amphibians, reptiles,
Week -8	Evolution of kidney and their ducts in vertebrates
Week -9	Comparative account of jaw suspensorium
Week -10	Comparison of forelimbs, hindlimbs, in amphibians, reptiles, birds and mammals
Week -11	Comparison of pectoral girdle and pelvic girdle in amphibians, reptiles, birds and mammals
Week -12	Types of vertebra and Vertebral column of vertebrates
Week -13	Sense organs – Receptors in vertebrates
Week -14	Comparative anatomy of the brain in vertebrates in relation to its functions
Week -15	Lateral line system and Electoreception in fishes

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Class : M.Sc. Zoology - I year Semester: I
Subject Code : **19PAAZC3**
Name of the Subject: **Evolution and Animal Behaviour**
Subject In charge : Dr T KUMARAN AND Dr R SARAIVANAN

Week	Topics to be Covered
Week -1	Emergence of Evolutionary theories- Lamarckism and Darwinism – concepts
Week -2	Evolutionary synthesis - Modern Synthetic theory of evolution
Week -3	Molecular Evolution - Role of genes in evolution - Evolution of gene families
Week -4	Modern understanding of Natural selection
Week -5	Polymorphism- Transient and Stable- Maintenance of Polymorphism
Week -6	Patterns and trends in Evolution – Microevolution, Macroevolution and Megaevolution
Week -7	Simpson's adaptive grid. Phylogenetic gradualism and punctuated equilibrium
Week -8	Population genetics- Metapopulations - Monitoring natural populations
Week -9	Human Evolution- Evolution of Anthropoid primates – The first Hominids - Origin of Modern man
Week -10	Classification of animal behaviour – Inborn animal behaviour- (Taxis, kinesis, Reflex, Instincts) - Acquired animal behavior
Week -11	Chronobiology - Biological clock- Biological rhythms in animals
Week -12	Sociobiology - Territoriality, Aggressive behavior and Sexual and Mating behaviour among animals
Week -13	Communication in animals – Types of communication in animals- Components
Week -14	Visual communication in honey bees and birds, Auditory (Vocal /Sound) communication in birds and mammals.
Week -15	Chemical communication – Pheromones of insects, Pheromones of mammals.

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Class : M.Sc. **Zoology** - I year Semester: I

Subject Code : **19PAAZE1**

Name of the Subject: **MICROBIOLOGY**

Subject In charge : Dr T MATHURAM

Week	Topics to be Covered
Week -1	Contribution of scientists to microbiology - Classification of microbes
Week -2	Ultra structure of bacteria Ultra structure of fungi, Yeast, Viruses - virioids and prions
Week -3	Sterilization techniques
Week -4	Culture media - Types of culture media, Pure culture techniques
Week -5	Staining techniques
Week -6	Microbial growth - Factors influencing microbial growth
Week -7	Microbial ecology
Week -8	Application of soil beneficial microbes in agriculture
Week -9	Biofuels - Biomining
Week -10	Nitrogen fixing bacteria
Week -11	Viral diseases
Week -12	Bacterial diseases
Week -13	Antibiotics and production of antibiotics
Week -14	Microbes in food - Dairy and Non Dairy products
Week -15	Food Spoilage - Food Preservation

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Class : M.Sc. Zoology - II year Semester: III

Subject Code : 19PCAZC1

Name of the Subject: **BIOCHEMISTRY AND BIOPHYSICS**

Subject In charge : Dr M.Sasikala

Week	Topics to be Covered
Week -1	Electronic configuration of atoms,Bonds,Covalent bonds,
Week -2	Vanderwal's force,hydrophilc and hydrophobic
Week -3	Nature of bonds,structure of biomolecules
Week -4	Structure of proteins, Ramachandran plot
Week -5	Enzymes-classification, kinetics,Inhibitory,Isoenzymes
Week -6	Carbohydrate metabolism, Bioenergetics,
Week -7	Protein metabolism,Lipid metabolism,Fattyacids
Week -8	pH,Acid base balance,Buffer system in blood
Week -9	Diffusion,Fick's&Donnan equilibrium,Osmotic pressure
Week -10	Law of Thermodynamics,entropy, enthalpy,open and closed and isolated,
Week -11	Glycogenesis, Glucuneogenesis, Glycogenolysis
Week -12	Oxidation of fatty acids, Biosynthesis of Cholesterol
Week -13	Ionizing radiation,exposure and dose,Autoradiography
Week -14	Biological effects of radiation,cellular effects
Week -15	Application of radioactive traces,radiation protection and therapy

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Class : M.Sc. Zoology - II year Semester: III

Subject Code : 19PCAZC2

Name of the Subject: **ANIMAL PHYSIOLOGY**

Subject In charge : Dr V.MATHIVANNAN

Week	Topics to be Covered
Week -1	Digestion and absorption in the gastrointestinal tract
Week -2	Role of gastrointestinal hormones in digestion
Week -3	Heart - Haemodynamics, origin and conduction of cardiac impulse. Pace maker , ECG, phases of cardiac cycle
Week -4	Respiratory physiology — Respiratory gases – uptake – respiratory pigments – O ₂ and CO ₂ dissociation curves –
Week -5	Respiratory adjustments - hypoxia and oxygen therapy , dyspnoea . Adaptations at High altitude - mountain sickness and acclimatization
Week -6	Stress Physiology
Week -7	Mechanism of excretion – physiology- counter current mechanism -
Week -8	Physiological adaptation to osmotic and ionic stress; mechanism of cell volume regulation
Week -9	Acclimation and acclimatization - Physiological adaptations of different environments
Week -10	Neurons – action potential – nerve impulse transmission – neurotransmitters
Week -11	Synapse structure - synaptic transmission , Neuro-degenerative diseases.
Week -12	Muscle contraction – Theories – Contractile proteins - molecular mechanism of muscle contraction. Energetics of muscle contraction
Week -13	Thermoregulation in poikilotherms and homeotherms - Endothermy
Week -14	Physiological response to body exercise - Meditation, Yoga and their effects
Week -15	Bioluminescence: light producing organs in invertebrates and vertebrates

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Class : M.Sc. **Zoology** - II year Semester: III
Subject Code : **19PCAZC3**
Name of the Subject: **IMMUNOLOGY**
Subject In charge : Dr I MALAICHELVI

Week	Topics to be Covered
Week -1	Immunity and Types of Immunity, Lymphoid organs, Lymphocyte
Week -2	Immunogenicity, Antigenicity and Super antigens Immunoglobulins
Week -3	Organizatition and expression of Ig genes,Antibody Interaction
Week -4	Complement system, MHC and HLA antigens
Week -5	Molecular component and structure, differentiation of of T cells
Week -6	Molecular component and structure, differentiation of of B cells
Week -7	Humoral- mediated immune response
Week -8	Cell - mediated immune response, Antigen processing and presentation
Week -9	Cytokines – features, cytokines receptors
Week -10	Cell adhesion molecules, CTL and NK cell – mechanism of action
Week -11	Immunological tolerance- central , peripheral and acquired tolerance
Week -12	Hypersensitivity – types and Immunological reactions
Week -13	Autoimmunity and autoimmune diseases
Week -14	Tumor immunology-types,tumor antigens, Immune response to antigen
Week -15	Transplantation immunology, Immunological technique

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Class : M.Sc. Zoology - II year Semester: III

Subject Code : **19PCAZE1**

Name of the Subject: **BIOINSTRUMENTATION**

Subject In charge : Dr N.THIRUNAVUKKARASU

Week	Topics to be Covered
Week -1	Units of measurements
Week -2	Electron microscope (SEM & TEM), fluorescent microscope, phase contrast microscope, photomicrography
Week -3	chromosome banding techniques (G,C,Q,R. Banding). Flow cytometry - Fluorescence in situ hybridization - (FISH)
Week -4	Centrifugation
Week -5	UV- visible spectrophotometer- Beer Lambert Law. Principle and application of Flame photometer
Week -6	X-ray diffraction
Week -7	Chromatography- Paper, thin layer, column,.
Week -8	Chromatography - Ion exchange , GC and HPLC
Week -9	Electrophoresis: Paper, Agarose gel, and SDS-PAGE
Week -10	Histological techniques- Mechanism of staining and vital stains
Week -11	Histochemical Localization- DNA, RNA, protein, lipid and carbohydrates
Week -12	cryopreservation of cells, tissues, organs and organisms
Week -13	Animal Cell Culture
Week -14	Immunotechniques - Immunodiffusion, Immunoelectrophoresis,
Week -15	ELISA (Direct, Indirect and Competitive), RIA, Immunodetection - Immunoblotting technique

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Class : M.Sc. Zoology - II year

Semester: III

Subject Code : **19PCAZD1**

Name of the Subject: **MAMMALIAN ENDOCRINOLOGY**

Subject In charge : Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Classification of hormones based on chemical nature. Hormone secretions
Week -2	Hormone transport. Hormonal feedback in homeostasis- Negative and positive feed back mechanisms through endocrine axis.
Week -3	Mechanism of hormone action- Mechanism of action of peptide hormones
Week -4	Mechanism of action of Steroid hormones
Week -5	Hypothalamo-hypophyseal system - localization, chemistry and actions
Week -6	Thyroid gland - Biosynthesis of thyroid hormones, Control of secretion and Biological functions – Disorders- Hypothyroidism, Hyperthyroidism
Week -7	Parathyroid gland- Role of parathormone, calcitonin and vitamin D in calcium homeostasis
Week -8	Endocrine pancreas
Week -9	Adrenal cortex: Structure, Hormone secretion, Biosynthesis and Control of mineralocorticoid and glucocorticoid secretions.
Week -10	Adrenal medulla: Catecholamine biosynthesis, release and its physiological
Week -11	Disorders with reference to Addisons disease and Cushing's syndrome Disorders with reference to Gigantism, Acromegaly, Diabetes insipidus
Week -12	Testis: Organization and Hormone secretion – Chemical structure of
Week -13	Ovary: Structure - Hormone secretion- Chemical structure of estrogens
Week -14	Physiological role of estrogen, progesterone and relaxin . Hormones of placenta and their functions
Week -15	Physiological roles of glucocorticoids and mineralocorticoids

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Class : M.Sc. **Zoology** - I year Semester: II
Subject Code : **19PBAZC1**
Name of the Subject: **CELL AND MOLECULAR BIOLOGY**
Subject In charge : Dr V.Mathivannan

Week	Topics to be Covered
Week -1	Biomembranes - Molecular composition and arrangement
Week -2	Transport across cell membrane- Diffusion, active transport and pumps
Week -3	uniports, symports and antiport - Membrane potential - Co-transport by symports or antiports
Week -4	Microfilaments and microtubules-structure and dynamics – Role of Microtubulins in mitosis
Week -5	Cell movements- intracellular transport, role of kinesin and dynein.
Week -6	Cell-cell signalling - Cell surface receptors - Second messenger system - MAP kinase pathways - Signalling from plasma membrane to nucleus
Week -7	Cell- cell adhesion and Communication
Week -8	Gap junctions and connexions
Week -9	Cell cycle - cyclins and cyclin dependent kinases, Regulation of CDK -cyclin
Week -10	Genome Organization - Unique, repetitive, Non repetitive DNA, C- value paradox
Week -11	Morphological and Functional elements of Eukaryotic Chromosomes
Week -12	Eukaryotic DNA Replication and Enzymology. DNA repair – Direct, excision, Mismatch repair and recombinational repair
Week -13	Intracellular protein traffic - Protein synthesis on free and bound polysomes Golgi sorting, post-translational modifications - Biogenesis of mitochondria and nuclei - Trafficking mechanisms
Week -14	Biology of cancer - Oncogenes - Retroviral and Proto-oncogene. Tumor suppressor genes
Week -15	Apoptosis-definition, mechanism and significance - Genes involved in apoptosis

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Class : M.Sc. **Zoology** - I year Semester: II

Subject Code : **19PBAZC2**

Name of the Subject: **GENETICS**

Subject In charge : Dr R SARVANAN

Week	Topics to be Covered
Week -1	Concept of gene
Week -2	Codominance, incomplete dominance, gene interactions, pleiotropy, genomic imprinting
Week -3	linkage and crossing over, sex linkage, sex limited and sex influenced characters
Week -4	Gene mapping methods: Linkage maps, tetrad analysis, mapping with molecular markers
Week -5	Gene mapping methods: Linkage maps, tetrad analysis, mapping with molecular markers
Week -6	Extra chromosomal inheritance: Inheritance of Mitochondrial genes
Week -7	Microbial genetics: Methods of genetic transfers
Week -8	Human genetics: Pedigree analysis, lod score for linkage testing, karyotypes, genetic disorders
Week -9	Population Genetics: Genetic equilibrium
Week -10	Mutation: Types, causes and detection, mutant types
Week -11	Structural and numerical alterations of chromosomes
Week -12	Gene Recombination : Homologous and Non-homologous recombination.
Week -13	Gene regulation – genome analysis — RNA processing
Week -14	Eukaryotic transcription – Transcription Factors and regulation
Week -15	Eukaryotic translation - Control and regulation. Post translational modifications

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Class : M.Sc. **Zoology** - I year Semester: II
Subject Code : **19PBAZC3**
Name of the Subject: **Environmental Biology and Biodiversity Conservation**
Subject In charge : Dr K.Mohan

Week	Topics to be Covered
Week -1	Physical environment; biotic environment; biotic and abiotic interactions
Week -2	Habitat and Niche: Concept of habitat and niche; niche width and overlap; fundamental and realized niche
Week -3	Biogeochemical cycles – Gaseous and sedimentary cycle
Week -4	Population Ecology: Characteristics of a population
Week -5	concept of metapopulation
Week -6	Species Interactions: Types of interactions, interspecific competition
Week -7	Community Ecology: Nature of communities; community structure and attributes
Week -8	Ecological Succession
Week -9	Ecosystem structure and function
Week -10	Structure and function of Indian ecosystems
Week -11	Estuaries - Productivity of an estuary. Mangroves
Week -12	Environmental pollution and Bioremediation; global environmental change , e-waste management
Week -13	Biodiversity: status, monitoring and documentation; major drivers of biodiversity change; biodiversity management approaches.
Week -14	Conservation Biology: Principles of conservation, major approaches to management
Week -15	Biogeography: Major terrestrial biomes; theory of island biogeography

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Teaching plan (EVEN semester – 2020 -21)

Class : M.Sc. **Zoology** - I year Semester: II

Subject Code : **19PBAZE1**

Name of the Subject: **APPLIED ENTOMOLOGY**

Subject In charge : Dr T KUMARAN

Week	Topics to be Covered
Week -1	Outline classification- Classification of insects
Week -2	Metamorphosis – ametabolous, holometabolus and hemimetabolous development
Week -3	Insect Organization and structure
Week -4	Types of damage- injuries and loss caused to plants - factors governing the outbreak of pests.
Week -5	Pests affecting agricultural crops
Week -6	Pests affecting agricultural crops
Week -7	Sericulture Grainage Technology-Procedures for seed Selection for rearing
Week -8	Silk worm rearing-Chawaki rearing and Late age rearing techniques. Rearing appliances
Week -9	Mountages- Types and importance . Composition of cocoons – Physical
Week -10	Types of Honey bees for rearing- Bee rearing- Modern bee hive structure
Week -11	Honey extractor and extraction of honey, Chemical composition, nutritional and medicinal value of honey.
Week -12	Lac culture-Host plants for lac insect, Cultivation of lac - Inoculation.Swarming and harvesting of lac). Processing of lac..
Week -13	Vector borne diseases
Week -14	Pest management strategies and tools
Week -15	Hormone analogs - Integrated Pest Management (IPM)

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Teaching plan (EVEN semester – 2020 -21)

Class : M.Sc. **Zoology** - I year Semester: II
Subject Code : **19PBAZD1**
Name of the Subject: **BIostatistics and Bioinformatics**
Subject In charge : Dr K SAMYAPPAN AND Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Collection and representation of data- Graphical and diagrammatic representation of data
Week -2	Measure of central tendency- Arithmetic mean - computation for (ungrouped , discrete and continuous frequency distributions) – median and mode
Week -3	Measures of dispersion- Standard deviation –Computations and Interpretations
Week -4	Hypothesis testing - null hypothesis - level of significance - degrees of freedom
Week -5	Test of significance: Chi-square test for goodness of fit, homogeneity
Week -6	Student's 't' test- Applications- Test of significance T-tests ANOVA- One way - Principle and applications , F test
Week -7	Correlation: Definition and types - simple, multiple, partial, linear, nonlinear, mutual, cause and effect, etc
Week -8	Regression analysis: derivation of regression equations between two variables- regression coefficient - construction of regression lines
Week -9	Computation of Karl Pearson's Co-efficient of correlation - testing its
Week -10	Information networks in bioinformatics- Biological databases – Nucleic acid databases - Protein sequence data bases
Week -11	Protein structural databases - MMDB, FSSP, SCOP and CATH.
Week -12	Sequence alignment - Global and local alignment - pair wise and multiple sequence alignment
Week -13	Bioinformatic tools - Homology and similarity search tools
Week -14	Molecular phylogenetics- Construction of phylogenetic tree
Week -15	Biomolecular structural visualization tools -RASMOL, SWISS PDB viewer - Data Retrieval systems- Locus Link, SRS, PubMed, Entrez

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Class : M.Sc. Zoology - II year Semester: IV
 Subject Code : 19PDAZC1

Name of the Subject: **DEVELOPMENTAL BIOLOGY**

Subject In charge : Dr I MALAICHELVI

Week	Topics to be Covered
Week -1	Mechanism of gametogenesis, hormonal regulation , vitellogenesis
Week -2	Molecular events of fertilization, cell surface molecules in sperm egg recognition
Week -3	Factors affecting cleavage – molecular changes during cleavage
Week -4	Blastula formation , Morphogenetic movements,
Week -5	Embryonic fields- formation of germ layers ‘ Embryogenesis and symmetry
Week -6	Cell aggregation and differentiation in Dictyostelium – Axes and pattern formation in Drosophila
Week -7	Amphibia and chick – organogenesis – vulva formation in <i>Caenorhabditis elegans</i>
Week -8	Eye lens induction and limb development in frog, Differentiation of neurons- mammals
Week -9	Organizer concept – gradient theory and factors Embryonic induction –
Week -10	Placenta – classification and distribution , Implantation in Mammals
Week -11	Stem cells – Embryonic and adult – Application stemcell and Ethical issues
Week -12	Male and female infertility – Assisted reproductive technology
Week -13	Amniocentesis, contraceptives methods - Immunocontraceptives
Week -14	Metamorphosis in insect and Amphibia - regeneration
Week -15	Apoptosis-sensitization-and its mechanism

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Class : M.Sc. Zoology - II year Semester: IV

Subject Code : 19PDAZC2

Name of the Subject: **BIOTECHNOLOGY**

Subject In charge : Dr M.SASIKALA

Week	Topics to be Covered
Week -1	recombinant DNA technology and gene cloning - Restriction enzymes and ligases. Genomic libraries - c-DNA libraries - Preparation of cDNA
Week -2	Types of vectors- Plasmids, cosmids, lambda phage vectors, shuttle vectors, YACS, BACS, Expression vectors in bacteria and eukaryotes, Cloning vector for mammalian cells - Simian Virus 40
Week -3	Screening for transformants - Characterisation of transformants
Week -4	Isolation and sequencing of DNA- Maxim- Gilbert, Sanger's dideoxy methods., PCR
Week -5	Molecular markers - RAPD, RFLP, AFLP
Week -6	Blotting techniques, DNA finger printing- Techniques and applications - Biochips and Biosensors
Week -7	Organ and Whole embryo culture Cell lines
Week -8	Somatic Animal cell fusion – Somatic Embryogenesis
Week -9	Tissue Engineering- Artificial skin and cartilage
Week -10	Human gene therapy- Types and Methods of gene therapy
Week -11	Design of bioreactor – Stages involved in fermentation process
Week -12	Fermentation products- Primary metabolites and Secondary metabolites
Week -13	Production and industrial applications of primary metabolites
Week -14	Immobilized enzymes and applications Enzymes technology - Industrial applications and uses of microbial enzymes
Week -15	Biotechnology Regulations- Biosafety- Hazards of Genetically modified organisms (GMO's) and GM foods .

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Class : M.Sc. **Zoology** - II year Semester: IV
Subject Code : **19PDAZE1**

Name of the Subject: **RESEARCH METHODOLOGY**

Subject In charge : Dr N.THIRUNAVUKKARASU

Week	Topics to be Covered
Week -1	Concepts of research
Week -2	Types of research
Week -3	Research formulation
Week -4	Defining and formulating the research problem
Week -5	Sample designs- Characteristics and different types of sample design.
Week -6	Data collection techniques
Week -7	Hypothesis- Null and alternate hypothesis, testing the hypothesis –Theory and principle
Week -8	Literature review
Week -9	Abstracting and indexing sources, reviews, monographs
Week -10	Sources of information - primary and secondary sources
Week -11	Scientific writing- characteristics - Presentation techniques
Week -12	Reference styles- Harvard and Vancouver systems.
Week -13	Project proposal writing
Week -14	Laboratory safety and IPR
Week -15	Bioethics: Working with man and animals - consent - animal ethical committees and constitution.

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Class : M.Sc. Zoology - II year Semester: IV

Subject Code : **19PDAZE2**

Name of the Subject: **AQUACULTURE**

Subject In charge : Dr T MATHURAM

Week	Topics to be Covered
Week -1	Importance of Aquaculture - Present status, prospects and scope in India
Week -2	Types of Aquaculture
Week -3	Types of fish culture, Topography, site selection
Week -4	Control of parasites, predators Fish farm implements
Week -5	Fish feed and seed production - Hatchery techniques for freshwater organisms
Week -6	Shrimp Hatchery techniques - Shrimp culture technology
Week -7	Brackish water fish culture - Oyster culture
Week -8	Economic importance of lobster, sea urchin and sea cucumber
Week -9	Types of sea weeds
Week -10	Fish and Shrimp diseases and health management
Week -11	Non-infectious - environmental and nutritional diseases
Week -12	Different types of crafts and gears for fishing
Week -13	By products of fish industry
Week -14	Fisheries economics and marketing
Week -15	Central aquaculture research organization

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code:19PACOC1 Name of the Subject: Advanced Corporate Accounting & Accounting Standards
Subject In charge : Dr.S.SARAVANAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Accounts of Banking Companies – Legal provisions
WEEK 2	Capital adequacy norms – Rebate on Bills Discounted
WEEK 3	Preparation of Final Accounts
WEEK 4	Insurance Company accounts – Nature of Insurance business –
WEEK 5	Accounts of Life Insurance Business – Accounts of General Insurance Business
WEEK 6	IRDA Regulations Regarding Preparation of Financial Statements
WEEK 7	Holding company accounts -Theory
WEEK 8	Consolidated final statement of Holding companies and subsidiary companies (excluding intercompany holdings and Owings)
WEEK 9	treatment of dividends and Bonus Issue
WEEK 10	Introduction-Double Entry System and Double Account System
WEEK 11	Double Account System-Features of Double Account System-Advantages and Disadvantages
WEEK 12	Accounts of Electricity Companies and Railways - Replacement and Renewals
WEEK 13	Accounting Standards – Indian and International Accounting Standards –
WEEK 14	Accounting Standards 1,3,6,10,14,21 and 29
WEEK 15	Advantages – Disadvantages of Accounting Standards

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code: 19PACOC2

Name of the Subject: Advanced Financial Management

Subject In charge : Dr.S.BAMA

WEEK	TOPICS TO BE COVERED
WEEK 1	Financial management- Meaning – Nature and Scope of finance
WEEK 2	Financial Goal- Profit vs. Wealth maximization – Finance Functions – Investment
WEEK 3	Financing – Dividend Decisions (Theory only)
WEEK 4	Sources of Finance: short term finance & long term finance - Purpose – Sources
WEEK 5	Security Financing, Internal Financing, Loan Financing and other Innovative sources of Financing
WEEK 6	Factors determining the source of finance
WEEK 7	Cost of capital –Meaning – Significance of cost of capital
WEEK 8	calculation of cost of debt – preference capital – equity capital – retained earnings
WEEK 9	combined cost of capital (weighted) - cost of equity – approaches to equity capital-dividend, CAPM.(Theory and Problem)
WEEK 10	Capital structure Theories – Traditional and M.M hypotheses –
WEEK 11	Determining Capital structure in practice- Leverages – Operating, Financial and Combined leverages
WEEK 12	Measurement of leverages – Effects of operating and financial leverage on profit.
WEEK 13	Management of working capital – Meaning – Significance – types of working capital
WEEK 14	Calculating operating cycle period – Estimation of working capital requirements – Management of Receivables and Inventory
WEEK 15	Dividend Policies – Issues in dividend decisions – Walter’s model – Gordon’s model- MM hypothesis

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code: 19PACOC3

Name of the Subject: Insurance and Risk Management

Subject In charge : Dr.J.JAYAKUMAR

WEEK	TOPICS TO BE COVERED
WEEK 1	Need for Insurance – Major Types of Insurance and their Features – Importance of Insurance Industry
WEEK 2	Role of Insurance in Economic Development – Insurance and Social Security – Reforms in the Insurance Sector- IRDA
WEEK 3	Privatization and Liberalization in India- Indian Insurance Market- New Entrants to the Indian Insurance Market
WEEK 4	Nature of Life Insurance-Principles of Insurance-Terms used in Insurance- Life Insurance Product – Various Schemes
WEEK 5	Role of Insurance-Factors influencing Demand for Insurance - First Premium – Renewal – Mode of Premium Payment – Limited Period Payment and Single Premium
WEEK 6	Lapse & Revival – Paid Up Policy – Deferment Period – Nomination & Assignment of Policy – Bonus – Surrender Value
WEEK 7	Introduction of General Insurance- Concept and Need
WEEK 8	Essential Features and Requirements of Fire Policy, Loss of Profits Policy, Marine Cargo Policy
WEEK 9	Marine Hull Policy and Motor Insurance Policy including Vehicle and Third Party Insurance
WEEK 10	Life and Non-Life Insurers Firms in India: Public Sector Pioneers in Life and General Insurance Activities
WEEK 11	Role of Insurance Agents and Brokers – Surveyors – Medical Examiners – Third Party Administrators
WEEK 12	Regulators: Insurance Regulatory and Development Authority (IRDA) of India- Insurance Councils – Ombudsmen
WEEK 13	Risk and risk management process – Risk identification
WEEK 14	Evaluation – Risk management techniques – Insurance and Risk management techniques
WEEK 15	selecting and implementing risk management techniques

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code: 19PACOE1

Name of the Subject: Organizational Behaviour

Subject In charge : Dr.V.RAVICHANDRAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Definition, nature and importance of Organizational behaviour, historical background of organizational behaviour
WEEK 2	relationship between Organizational behaviour and the individual, theoretical framework (Cognitive, behaviouristic and cognitive)
WEEK 3	limitations of Organizational behaviour
WEEK 4	Perception - importance and factors influencing perception, interpersonal perception - Learning – classical, operant & social cognitive approaches, managerial implications
WEEK 5	Emotions – emotional intelligence – Attitudes – values and attitudes, behaviour relationship – sources, importance
WEEK 6	components of attitude, relationship between behaviour and attitude, job attitude, barriers to change attitude
WEEK 7	Personality – types-factors influencing personality theories – trait theories – Motivation
WEEK 8	definition & concept of motive & motivation, the content theories of motivation (Maslow & Hierarchy and Herzerg's two factor model theory)
WEEK 9	the process theories (Vroom's expectancy and porter and lawler model)
WEEK 10	Organizational structure formation – groups in organizations - influence group dynamics
WEEK 11	Organizational change – meaning and definition and nature of organizational change
WEEK 12	types of organizational change forces that act as stimulants to change, how to overcome the resistance to change
WEEK 13	Leadership – concept of leadership, styles and trait approach, contingency approach, contemporary leadership, meaning and significance of contemporary leadership
WEEK 14	Communication – communication, function, process, barriers, forms
WEEK 15	Stress management – stressors in work place, individual differences an experiencing stress – managing workplace stress

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code: 19PASBE1

Name of the Subject: Employability skills

Subject In charge : Dr.S.BAMA

WEEK	TOPICS TO BE COVERED
WEEK 1	Making presentations – introducing oneself – introducing a topic
WEEK 2	answering questions – individual presentation practice - Creating effective PPTs
WEEK 3	presenting the visuals effectively
WEEK 4	Using appropriate body language in professional contexts
WEEK 5	gestures, facial expressions, etc. - Preparing job applications
WEEK 6	writing covering letter and resume
WEEK 7	Applying for jobs online - email
WEEK 8	job portals- Participating in group discussions
WEEK 9	understanding group dynamics - brainstorming the topic
WEEK 10	Training in soft skills - persuasive skills –
WEEK 11	People skills – questioning skills
WEEK 12	clarifying skills – mock GD
WEEK 13	Attending job interviews – answering questions confidently
WEEK 14	Interview etiquette – dress code
WEEK 15	body language – mock interview

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOC1

Name of the Subject: Accounting for management

Subject In charge : Dr.N.BARATHI DASAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction to Financial, Cost and Management Accounting
WEEK 2	Management accounting Vs Financial Accounting
WEEK 3	Management Accounting Vs Cost Accounting
WEEK 4	Concepts of Financial Statements – Nature
WEEK 5	Analysis & Interpretations of financial statements – Tools
WEEK 6	Comparative Financial statements - Common size statements
WEEK 7	Funds Flow Analysis – Funds from Operation, Sources and Uses of Funds, Preparation of Schedule of Changes in Working Capital
WEEK 8	Construction of Funds Flow Statement –Marginal Uses of fund flow analysis and its Limitations - Cash Flow Analysis – Cash from Operation
WEEK 9	Preparation of Cash Flow Statement – Uses and Limitations – Distinction between Funds Flow and Cash Flow
WEEK 10	Standard Costing – Advantage and Limitations of standard costing – Standard Hour – Standard cost card
WEEK 11	Variance analysis – Relevance of standard cost for variance analysis – Significance of variance analysis
WEEK 12	Computation of Material Variances – Labour Variances
WEEK 13	Concept of Budget & Budgetary control – Nature and objectives of budgetary control – Establishing a system of Budgetary control
WEEK 14	- Advantages & limitations –Types of Budgets - Preparation of sales budget , selling & distribution cost budget
WEEK 15	Production budget, purchases budget, Cash budget, Fixed and Flexible budgets –Master budget - Zero base budgeting

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOC2

Name of the Subject: Labour Legislation

Subject In charge : Dr.S.SARAVANAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Labour legislation –Need- Features – Advantages
WEEK 2	The Factories Act, 1948 – Objects, amendments, definitions, approval, Licensing and registration of factories, health, safety and welfare,
WEEK 3	provisions relating to hazardous processes – employments of women and children
WEEK 4	The Trade Unions Act, 1926 –objects of the act- registration of Trade unions
WEEK 5	cancellation of registration and appeal – rights - duties and liabilities – Dissolution
WEEK 6	The Industrial Disputes Act, 1947 – definitions – Authorities under the Act – disputes – arbitration – award and settlement – lay-off and retrenchment, strikes and lock outs – closure
WEEK 7	The Workmen’s Compensation Act, 1923 – Objects – Employer’s liability for compensation
WEEK 8	calculation of compensation – distribution of compensation – notice and claim
WEEK 9	Disablement-part and full-award of compensation
WEEK 10	The Employees State Insurance Act, 1948 – Objects –
WEEK 11	Definitions – administration of the scheme
WEEK 12	General provisions of the Corporation Committee and Council
WEEK 13	The Payment of Wages Act, 1936 – definition – rules for payment of wages –
WEEK 14	deductions from wages - The Minimum Wages Act, 1948 –
WEEK 15	Objects-provisions of the Minimum Wages Act

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOC3

Name of the Subject: Services Marketing

Subject In charge : Dr.S.BAMA

WEEK	TOPICS TO BE COVERED
WEEK 1	Services marketing – meaning – Nature – Concept – Growth
WEEK 2	Classification of Services – Characteristics of services and their marketing implications
WEEK 3	Essential elements of marketing mix in services marketing
WEEK 4	Services product strategy – Service product planning and development
WEEK 5	Branding of services – Service pricing strategy
WEEK 6	service pricing policy – psychology of services – pricing customer perception
WEEK 7	Services promotion strategy – concepts – objectives
WEEK 8	Advertising – Limitations – Public relations – Publicity
WEEK 9	Public services – Strategy of Services communication – Internal and External Communication
WEEK 10	Services distribution strategy – Concepts – Factors governing the choice of Direct Sales
WEEK 11	Delivery of Services through intermediaries – outsources services distribution
WEEK 12	Franchising – Service distribution through agents and brokers
WEEK 13	Customer relationship management (CRM) – Introduction – concepts – Advantages – Components
WEEK 14	Advantages of establishing structural relationship strategy
WEEK 15	customized relationship strategy – Developing customer loyalty

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOE1

Name of the Subject: Human Resource Development

Subject In charge : Dr.E.L.C.THIRUVARANGANATHAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction of HRM – Definition, importance, concept, objectives of Human Resource Management
WEEK 2	Strategic Human Resource Management – Human Resource Policies, Need, Type and Scope of Human Resource Management
WEEK 3	Emerging challenges of human resource management – role of HR managers
WEEK 4	Human Resources Planning – Process, Forecasting, Demand & Supply – qualitative and quantitative dimension-
WEEK 5	job analysis and job design – Assessing Human resource requirements – Human resource forecasting
WEEK 6	job description & specification – job design – job characteristics approach to job design – succession planning
WEEK 7	Recruitment, selection, training & Development – factors affecting recruitment
WEEK 8	sources of recruitment internal external – e-recruitment-selection process-orientation process- training & development objectives and needs
WEEK 9	training process – methods of training – tools and aids – evaluation of the training program
WEEK 10	Compensation Management – performance appraisal - job evaluation – base compensation and supplementary compensations – pay band system
WEEK 11	performance appraisal – concept, objectives and methods – traditional and modern methods – MBO – employee counseling
WEEK 12	job changes – transfer and promotion – Human Resource Audit
WEEK 13	E-HRM-impact of HRM practice on organization performance –
WEEK 14	contemporary issues in HRM – quality circle –
WEEK 15	labour and international organization (I&O)

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOD1

Name of the Subject: Modern Banking

Subject In charge : B.ANANDAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Meaning and Definition of banking
WEEK 2	classification of banks
WEEK 3	Modern functions of Commercial bank
WEEK 4	ATM – ECS - e-banking - credit card – debit card –
WEEK 5	difference between credit card and debit card – Internet Banking -
WEEK 6	Different types of Accounts and Deposits
WEEK 7	Reserve Bank of India – Functions of RBI
WEEK 8	Credit control – Types of credit control
WEEK 9	Qualitative credit control and Quantitative credit control
WEEK 10	Negotiable Instruments - Meaning and Definition of Cheques
WEEK 11	essential characteristics of Cheques – Drafting of Cheque – crossing
WEEK 12	Material alteration – Endorsement – Closing of Accounts
WEEK 13	Loans and Advances – Principles of sound lending
WEEK 14	forms of Loans and Advances – classifications of loans and advances
WEEK 15	Precautions to be taken by a banker in lending Loans and Advances– Types of Securities

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBSBE2

Name of the Subject: Leadership and communication skills

Subject In charge : Dr.S.BAMA

WEEK	TOPICS TO BE COVERED
WEEK 1	Leadership – Nature, Characteristics or Features of leadership – Objectives of leadership
WEEK 2	Functions or Role of a leader – Qualities of a good leader – skills of a leader
WEEK 3	Leader Vs. Manager – Leadership and management
WEEK 4	Leadership styles – Autocratic leadership – Democratic leadership
WEEK 5	Laissez-Faire leadership or Free Rein leadership – Bureaucratic leadership style
WEEK 6	Supportive leadership – Charismatic leaders
WEEK 7	Communication – Elements of Communication – Process of Communication – Essentials of Communication
WEEK 8	Functions of Communication – Features of communication
WEEK 9	Benefits of Communication – Principles of effective communication
WEEK 10	Methods or types of communication – Formal communication – merits and demerits
WEEK 11	Informal communication or Grapevine – merits and demerits – Rumour – Reasons for spread of rumours – Negative impact of rumours
WEEK 12	Methods to deal with rumours – Formal Vs. informal communication
WEEK 13	Oral communication – written communication – downward communication
WEEK 14	upward communication – Horizontal communication – Types of communication networks
WEEK 15	Barriers to communication – Steps to overcome barriers to communication

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PCCOC1

Name of the Subject: Income Tax Law and Practice - I

Subject In charge : Dr.S.SARAVANAN

WEEK	TOPICS TO BE COVERED
WEEK 1	History of Income tax in India – objectives of taxation – canons of taxation – characteristics of good tax system
WEEK 2	definition of tax –classification of taxes – distinction between direct and indirect tax - Income Tax Act – Current Finance Act
WEEK 3	Agricultural income – Assessee – Assessment Year – Income – Person – Previous Year – Exempted incomes
WEEK 4	Residential Status and Incidence of Tax – Classification of residential status of Taxable entities
WEEK 5	Residential status of an Individual – Resident – Basic conditions - Additional conditions – Non-resident
WEEK 6	Residential status of a firm, AOP – Residential status of companies- incidence of tax and residential status
WEEK 7	Heads of Income – Income under the head Salaries – Features
WEEK 8	Allowances – Fringe Benefits – Perquisites – Profits in lieu of salary
WEEK 9	Provident Fund – Deductions – Computation of salary income
WEEK 10	Income from House property – Annual value
WEEK 11	Determination – Deductions
WEEK 12	Computation of Income from House Property
WEEK 13	Profits and Gains of Business or Profession – Definition – Chargeability – Admissible deduction
WEEK 14	Inadmissible expense – Computation of Business Income(excluding firms and companies)
WEEK 15	Computation of Professional Income

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOC2

Name of the Subject: Applied Costing

Subject In charge : Dr.N.BARATHI DASAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Cost Accounting – Meaning and Definition – Financial Accounting Vs Cost accounting – Relationship of cost accounting with management accounting -
WEEK 2	Nature and significance of Cost Accounting – Essentials of good costing system - Elements of cost – Cost concepts and preparation of cost sheet –
WEEK 3	Methods of Costing -job order Costing – Process Costing- Materials – Issue of materials – Pricing of material issued
WEEK 4	Labour – types of labour cost – Methods of time keeping – Idle time - overtime – labour turnover
WEEK 5	Preparation of Pay Roll – Wage payment and incentive system – Overhead – meaning and classification of overheads – Departmentalization of Overheads- Allocation - Apportionment – Re-apportionment
WEEK 6	Absorption of Overhead cost – Difference between cost allocation and apportionment and Reapportionment – treatment of over and under absorbed overheads
WEEK 7	Process costing – Comparison between joint costing and process costing – costing procedure under process costing
WEEK 8	Process Losses – Inter process profit – Equivalent production – methods of computing equivalent units- Evaluation of equivalent production
WEEK 9	Joint product and by products costing – accounting for joint products & by-products
WEEK 10	Marginal costing – Salient features – Marginal costing and absorption costing - Break – Even analysis – Cost – Volume-profit analysis
WEEK 11	Application of Marginal costing for Business decision making --- Determination of sales mix-
WEEK 12	Exploring new markets- Make or buy decisions- Change versus status quo - expand or contract
WEEK 13	shut down or continue - Inflation Accounting – Human Resource Accounting
WEEK 14	Reconciliation of cost and financial statement –
WEEK 15	Contract Costing – Escalation clause.

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOC3

Name of the Subject: International Business

Subject In charge : Dr.E.L.C.THIRUVARANGANATHAN

WEEK	TOPICS TO BE COVERED
WEEK 1	International business – meaning – features – factors - International Business Environment
WEEK 2	Means of engaging in International Business – External Influences of International Business
WEEK 3	The Human and Cultural Environments facing Business – Political influence on International Business
WEEK 4	International Trading Environment – WTO – TRIM
WEEK 5	TRIP – IPR - Country Evaluation and Selection
WEEK 6	International Economic Organizations - Multinational enterprises – meaning – features -
WEEK 7	Impact of the Multinational Enterprise: Evaluating the Impact of the MNE
WEEK 8	Economic Impact of the MNE – Operational and Political Impact of International Business – Balance of Payments
WEEK 9	International Financial Management – meaning – role -
WEEK 10	International Monetary System - Foreign Exchange Rates: Basics, Transaction and Economic Exposure –
WEEK 11	Foreign Direct Investment – Strategies: Export and Import Strategies,.
WEEK 12	Collaborative Strategies, Sourcing and Production Strategies
WEEK 13	Recent developments in International Business
WEEK 14	E-business Strategy – International Product Decisions
WEEK 15	Global Supply Chain Management: International Logistics and Distribution

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOC4

Name of the Subject: Business Research Methods

Subject In charge : Dr.J.JAYAKUMAR

WEEK	TOPICS TO BE COVERED
WEEK 1	Meaning and Definition of Social Research – Objectives of Research
WEEK 2	Types of Research - Research process – Criteria of Good Research
WEEK 3	Maintaining Objectivity in Research – Problems Encountered by Researchers
WEEK 4	Problem Formulation – Identifying Research Problem – Sources of Research Problem –
WEEK 5	Techniques Involved in Defining a Research Problem – Research Design: Meaning and Importance of Research Design
WEEK 6	Types of Research Designs – Exploratory – Descriptive – Case Study Design
WEEK 7	Methods of Data Collection –Observation – Questionnaire & Interviewing – Guidelines for Constructing Questionnaire and Interview Schedule
WEEK 8	Sample Design: Defining Universe and Sampling Unit – Determining Sampling Frame – Probability and Non-Probability Sampling Methods – Sample Size Determination
WEEK 9	Sampling and Non-sampling Errors – Scaling Methods – Hypothesis; Hypothesis Formulation and Hypothesis Testing
WEEK 10	Descriptive statistics – Factor Analysis – Reliability test – Parametric Analysis
WEEK 11	T-test – ANOVA – Correlation – Regression
WEEK 12	Non-Parametric Analysis – Chi-square – Sign Test
WEEK 13	Report Writing – Kinds of Research Reports
WEEK 14	Steps in Report Writing – Layout of Research Report
WEEK 15	Mechanics in Writing a Research Report – Precautions in Writing a Research Report

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOE1

Name of the Subject: Consumer Rights and Education

Subject In charge : B.ANANDAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Consumer Movement in India- Definition of Consumer- Types of Consumer
WEEK 2	Problems of Consumer – Consumerism- Emerging concepts in consumerism
WEEK 3	Green Consumerism, Cyber Consumerism
WEEK 4	Right of Consumers- Responsibilities of Consumers
WEEK 5	unfair trade practices-Caveat emptor and Caveat Venditor
WEEK 6	Enforcement of Consumer rights through Public Interest Litigation
WEEK 7	Consumer Protection Act- Main Provisions –Redressal forums –District Level
WEEK 8	State Level and National Level - Powers and Functions
WEEK 9	Filing of Complaints Procedure Regulatory Authorities and OMBUDSMAN
WEEK 10	Prevention of Food Adulteration Act, 1954- Standards of Weights and Measures Act, 1976
WEEK 11	The Drugs and Magic Remedies (Objectionable Advertisement) Act 1954
WEEK 12	Consumer pressure groups-voluntary consumer organizations-Consumer Protection Councils
WEEK 13	Consumer awareness and Education in India: Lack of awareness- Lack of access to information
WEEK 14	Methods of creating awareness and promotion of Consumer rights and duties-
WEEK 15	Role of media in consumer education

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOD2

Name of the Subject: Principles of Insurance

Subject In charge : DR. J. JAYAKUMAR & DR.N. BARATHIDASAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction to insurance – Principles of Insurance
WEEK 2	Insurable interest – Indemnity – Subrogation
WEEK 3	Utmost good faith – Functions of Insurance
WEEK 4	Life insurance – Meaning – Advantages of Life insurance
WEEK 5	Procedure for effecting life insurance – Life insurance products or policies
WEEK 6	Joint life policy
WEEK 7	Fire Insurance – Meaning – Functions of fire insurance
WEEK 8	Kinds of fire policies
WEEK 9	Advantages of fire insurance
WEEK 10	Marine insurance – Types of marine insurance – Lloyd's policy
WEEK 11	Company policy – Difference between company policy and Lloyd's policy
WEEK 12	Types of Marine policies
WEEK 13	Miscellaneous insurance – Motor insurance
WEEK 14	Health insurance – Liability insurance
WEEK 15	Rural insurance

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCSBE3

Name of the Subject: Managerial skills

Subject In charge :Dr.V.RAVICHANDRAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Time Management
WEEK 2	Organisational Awareness
WEEK 3	Problem Solving
WEEK 4	Leadership Qualities
WEEK 5	Team work and office functional rule
WEEK 6	Being knowledgeable of Hierarchy in Office Conducting Interviews
WEEK 7	Conducting Meetings
WEEK 8	Writing Circulars, Agendas, Minutes of meetings
WEEK 9	Passing resolutions
WEEK 10	Business Communication, Email
WEEK 11	Project Proposals, Contracts
WEEK 12	Job Application and CV
WEEK 13	Office Etiquette, Dress Code
WEEK 14	Communication, Maintaining healthy work relationship
WEEK 15	Effective use of technology at workplace

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code:19PDCOC1

Name of the Subject: Income Tax Law and Practice – II

Subject In charge :Dr.S.SARAVANAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Capital Gains – Definition – Kind of Capital assets
WEEK 2	Exempted Capital Gains
WEEK 3	Computation of Capital Gains
WEEK 4	Income from Other Sources – Income chargeable to tax
WEEK 5	Deductions – Bond washing transactions
WEEK 6	Computation of income from other sources
WEEK 7	Set off and Carry forward of Losses
WEEK 8	Deductions from Gross Total Income
WEEK 9	Assessment of Individuals
WEEK 10	Computation of total income and tax liability
WEEK 11	Assessment of firms
WEEK 12	Administration of the income tax Act – income tax authorities – CBDT – powers
WEEK 13	Assessing officer - Procedure for assessment
WEEK 14	Types of assessment – Advance Payment of Tax – Deduction of tax at source
WEEK 15	Filing of return – Types of filing – PAN

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code: 19PDCOC2

Name of the Subject: Financial markets and Institutions

Subject In charge : Dr.J.JAYAKUMAR

WEEK	TOPICS TO BE COVERED
WEEK 1	Financial markets - meaning - definition - role - functions - constituents - financial instruments
WEEK 2	Money market: meaning - characteristics - importance - general functions - segments - financial institutions - characteristics of developed money market
WEEK 3	Call money market: meaning - features - benefits - Indian call money market
WEEK 4	Commercial paper market: meaning –features - importance - developed bill market - shortcomings of Indian bill market - Bill Market Scheme, 1952 and 1970 - Bill market Scheme, 1970
WEEK 5	Certificate of Deposit (CD) market: meaning - features - Treasury Bill Market: meaning - Treasury Bills - general features - Indian TBs – Benefits
WEEK 6	Gilt-edged securities market: meaning - features - importance of gilt-edged market and Govt. bonds
WEEK 7	Capital Market: Meaning –characteristics – Stock exchange – features and functions – Listing – National Stock Exchange –
WEEK 8	New Issues Market (NIM) – meaning – Advantages - NIM and secondary market – methods of marketing securities – intermediaries in NIM –
WEEK 9	Book building – insider trading and investor protection
WEEK 10	Financial service institutions – Clearing Corporation of India Limited – settlement of risks
WEEK 11	risk management system – benefits – CRISIL – range of services – CIBIL – credit information – credit assessment
WEEK 12	mechanism – credit information report – DFHIL – ICRA – OTCEI – NSDL
WEEK 13	Financial Institutions –meaning – special characteristics – cooperative banking institutions
WEEK 14	National Housing Bank – functions and working – EXIM bank of India – functions and working – NABARD – functions and working
WEEK 15	RBI – functions and working – NBFCs – FIIs – role and danger – IMF – World Bank – IFC – ADB

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code: 19PDCOE1

Name of the Subject: Security Analysis and Portfolio Management

Subject In charge : Dr.N.BARATHI DASAN

Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

WEEK	TOPICS TO BE COVERED
WEEK 1	Investment-definition, Nature and scope of investment management
WEEK 2	investment objectives – Features of an Investment programme
WEEK 3	Types of investment alternatives
WEEK 4	Risk and return-Concept of Risk and return
WEEK 5	Types of risk – Systematic, Unsystematic and other risks
WEEK 6	Measurement of risk and return
WEEK 7	Approaches to security analysis – Fundamental analysis
WEEK 8	Economic, Industry and Company analysis
WEEK 9	Technical analysis – Chart methods
WEEK 10	Efficient market theory
WEEK 11	Random Walk Theory
WEEK 12	Options and futures-put, call, valuation, characteristics and difference
WEEK 13	Portfolio Management – Process – Principles of portfolio management
WEEK 14	Markowitz theory – Sharpe's Optimization
WEEK 15	Dow Theory-CAPM – SML – CML

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code: 19PDCOE2

Name of the Subject: Customer Relationship Management

Subject In charge : Dr.V.RAVICHANDRAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Customer information Database – Customer Profile Analysis – Customer perception-
WEEK 2	Expectations analysis – Customer Behavior in relationship perspectives; individual and group customers
WEEK 3	Customer life time value – Selection of Profitable customer segments
WEEK 4	Elements of CRM – CRM Process – Strategies for Customer acquisition
WEEK 5	Retention and Prevention of defection – Models of CRM
WEEK 6	CRM road map for business applications
WEEK 7	Strategic CRM planning process – Implementation issues – CRM Tools- Analytical CRM – Operational CRM
WEEK 8	Call centre management – Role of CRM Managers – CRM Implementation Road Map
WEEK 9	Developing a Relationship Orientation – Customer-centric Marketing Processes – Customer retention plans
WEEK 10	Concept of Quality – Meaning and Definition of Service Quality - Factors influencing customer expectations and perceptions
WEEK 11	Types of Service Quality – Service Quality Dimensions – Service Quality Gaps
WEEK 12	Measuring Service Quality – Service Quality measurement Scales
WEEK 13	CRM Solutions – Data Warehousing – Data mining for CRM –
WEEK 14	CRM software packages – The Technological Revolution
WEEK 15	Relationship Management – Changing Corporate Cultures

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code: 19PDSBE4

Name of the Subject: Personality Development

Subject In charge : Dr.V.RAVICHANDRAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Definition of Personality– Determinants
WEEK 2	Heredity- Environment-Situation
WEEK 3	Self Awareness- Benefits of Self-Awareness
WEEK 4	Self-analysis-Behaviour
WEEK 5	Motivation-Modes of thinking
WEEK 6	Modes of acting - Modes of interacting
WEEK 7	The “Big Five” Model:-Extroversion-
WEEK 8	Agreeableness-Emotional Stability Conscientiousness
WEEK 9	Openness to experience- Self-monitoring
WEEK 10	Traits For Building Positive Personality
WEEK 11	Chief traits for building Personality
WEEK 12	Conscious Programming-Subconscious Programming
WEEK 13	Personal Grooming:- Men-Dress – Shirts- trousers – Ties
WEEK 14	Socks – Shoes –Belts - Watches –Hairstyles. Women -Dress
WEEK 15	Hair – Shoes /Sandal – Bags– Accessories

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code:19PACOC1 Name of the Subject: Advanced Corporate Accounting & Accounting Standards
Subject In charge : Dr.S.SARAVANAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Accounts of Banking Companies – Legal provisions
WEEK 2	Capital adequacy norms – Rebate on Bills Discounted
WEEK 3	Preparation of Final Accounts
WEEK 4	Insurance Company accounts – Nature of Insurance business –
WEEK 5	Accounts of Life Insurance Business – Accounts of General Insurance Business
WEEK 6	IRDA Regulations Regarding Preparation of Financial Statements
WEEK 7	Holding company accounts -Theory
WEEK 8	Consolidated final statement of Holding companies and subsidiary companies (excluding intercompany holdings and Owings)
WEEK 9	treatment of dividends and Bonus Issue
WEEK 10	Introduction-Double Entry System and Double Account System
WEEK 11	Double Account System-Features of Double Account System-Advantages and Disadvantages
WEEK 12	Accounts of Electricity Companies and Railways - Replacement and Renewals
WEEK 13	Accounting Standards – Indian and International Accounting Standards –
WEEK 14	Accounting Standards 1,3,6,10,14,21 and 29
WEEK 15	Advantages – Disadvantages of Accounting Standards

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code: 19PACOC2

Name of the Subject: Advanced Financial Management

Subject In charge : Dr.S.BAMA

WEEK	TOPICS TO BE COVERED
WEEK 1	Financial management- Meaning – Nature and Scope of finance
WEEK 2	Financial Goal- Profit vs. Wealth maximization – Finance Functions – Investment
WEEK 3	Financing – Dividend Decisions (Theory only)
WEEK 4	Sources of Finance: short term finance & long term finance - Purpose – Sources
WEEK 5	Security Financing, Internal Financing, Loan Financing and other Innovative sources of Financing
WEEK 6	Factors determining the source of finance
WEEK 7	Cost of capital –Meaning – Significance of cost of capital
WEEK 8	calculation of cost of debt – preference capital – equity capital – retained earnings
WEEK 9	combined cost of capital (weighted) - cost of equity – approaches to equity capital-dividend, CAPM.(Theory and Problem)
WEEK 10	Capital structure Theories – Traditional and M.M hypotheses –
WEEK 11	Determining Capital structure in practice- Leverages – Operating, Financial and Combined leverages
WEEK 12	Measurement of leverages – Effects of operating and financial leverage on profit.
WEEK 13	Management of working capital – Meaning – Significance – types of working capital
WEEK 14	Calculating operating cycle period – Estimation of working capital requirements – Management of Receivables and Inventory
WEEK 15	Dividend Policies – Issues in dividend decisions – Walter’s model – Gordon’s model- MM hypothesis

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code: 19PACOC3

Name of the Subject: Insurance and Risk Management

Subject In charge : Dr.J.JAYAKUMAR

WEEK	TOPICS TO BE COVERED
WEEK 1	Need for Insurance – Major Types of Insurance and their Features – Importance of Insurance Industry
WEEK 2	Role of Insurance in Economic Development – Insurance and Social Security – Reforms in the Insurance Sector- IRDA
WEEK 3	Privatization and Liberalization in India- Indian Insurance Market- New Entrants to the Indian Insurance Market
WEEK 4	Nature of Life Insurance-Principles of Insurance-Terms used in Insurance- Life Insurance Product – Various Schemes
WEEK 5	Role of Insurance-Factors influencing Demand for Insurance - First Premium – Renewal – Mode of Premium Payment – Limited Period Payment and Single Premium
WEEK 6	Lapse & Revival – Paid Up Policy – Deferment Period – Nomination & Assignment of Policy – Bonus – Surrender Value
WEEK 7	Introduction of General Insurance- Concept and Need
WEEK 8	Essential Features and Requirements of Fire Policy, Loss of Profits Policy, Marine Cargo Policy
WEEK 9	Marine Hull Policy and Motor Insurance Policy including Vehicle and Third Party Insurance
WEEK 10	Life and Non-Life Insurers Firms in India: Public Sector Pioneers in Life and General Insurance Activities
WEEK 11	Role of Insurance Agents and Brokers – Surveyors – Medical Examiners – Third Party Administrators
WEEK 12	Regulators: Insurance Regulatory and Development Authority (IRDA) of India- Insurance Councils – Ombudsmen
WEEK 13	Risk and risk management process – Risk identification
WEEK 14	Evaluation – Risk management techniques – Insurance and Risk management techniques
WEEK 15	selecting and implementing risk management techniques

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code: 19PACOE1

Name of the Subject: Organizational Behaviour

Subject In charge : Dr.V.RAVICHANDRAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Definition, nature and importance of Organizational behaviour, historical background of organizational behaviour
WEEK 2	relationship between Organizational behaviour and the individual, theoretical framework (Cognitive, behaviouristic and cognitive)
WEEK 3	limitations of Organizational behaviour
WEEK 4	Perception - importance and factors influencing perception, interpersonal perception - Learning – classical, operant & social cognitive approaches, managerial implications
WEEK 5	Emotions – emotional intelligence – Attitudes – values and attitudes, behaviour relationship – sources, importance
WEEK 6	components of attitude, relationship between behaviour and attitude, job attitude, barriers to change attitude
WEEK 7	Personality – types-factors influencing personality theories – trait theories – Motivation
WEEK 8	definition & concept of motive & motivation, the content theories of motivation (Maslow & Hierarchy and Herzerg's two factor model theory)
WEEK 9	the process theories (Vroom's expectancy and porter and lawler model)
WEEK 10	Organizational structure formation – groups in organizations - influence group dynamics
WEEK 11	Organizational change – meaning and definition and nature of organizational change
WEEK 12	types of organizational change forces that act as stimulants to change, how to overcome the resistance to change
WEEK 13	Leadership – concept of leadership, styles and trait approach, contingency approach, contemporary leadership, meaning and significance of contemporary leadership
WEEK 14	Communication – communication, function, process, barriers, forms
WEEK 15	Stress management – stressors in work place, individual differences an experiencing stress – managing workplace stress

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: I

Subject Code: 19PASBE1

Name of the Subject: Employability skills

Subject In charge : Dr.S.BAMA

WEEK	TOPICS TO BE COVERED
WEEK 1	Making presentations – introducing oneself – introducing a topic
WEEK 2	answering questions – individual presentation practice - Creating effective PPTs
WEEK 3	presenting the visuals effectively
WEEK 4	Using appropriate body language in professional contexts
WEEK 5	gestures, facial expressions, etc. - Preparing job applications
WEEK 6	writing covering letter and resume
WEEK 7	Applying for jobs online - email
WEEK 8	job portals- Participating in group discussions
WEEK 9	understanding group dynamics - brainstorming the topic
WEEK 10	Training in soft skills - persuasive skills –
WEEK 11	People skills – questioning skills
WEEK 12	clarifying skills – mock GD
WEEK 13	Attending job interviews – answering questions confidently
WEEK 14	Interview etiquette – dress code
WEEK 15	body language – mock interview

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOC1

Name of the Subject: Accounting for management

Subject In charge : Dr.N.BARATHI DASAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction to Financial, Cost and Management Accounting
WEEK 2	Management accounting Vs Financial Accounting
WEEK 3	Management Accounting Vs Cost Accounting
WEEK 4	Concepts of Financial Statements – Nature
WEEK 5	Analysis & Interpretations of financial statements – Tools
WEEK 6	Comparative Financial statements - Common size statements
WEEK 7	Funds Flow Analysis – Funds from Operation, Sources and Uses of Funds, Preparation of Schedule of Changes in Working Capital
WEEK 8	Construction of Funds Flow Statement –Marginal Uses of fund flow analysis and its Limitations - Cash Flow Analysis – Cash from Operation
WEEK 9	Preparation of Cash Flow Statement – Uses and Limitations – Distinction between Funds Flow and Cash Flow
WEEK 10	Standard Costing – Advantage and Limitations of standard costing – Standard Hour – Standard cost card
WEEK 11	Variance analysis – Relevance of standard cost for variance analysis – Significance of variance analysis
WEEK 12	Computation of Material Variances – Labour Variances
WEEK 13	Concept of Budget & Budgetary control – Nature and objectives of budgetary control – Establishing a system of Budgetary control
WEEK 14	- Advantages & limitations –Types of Budgets - Preparation of sales budget , selling & distribution cost budget
WEEK 15	Production budget, purchases budget, Cash budget, Fixed and Flexible budgets –Master budget - Zero base budgeting

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOC2

Name of the Subject: Labour Legislation

Subject In charge : Dr.S.SARAVANAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Labour legislation –Need- Features – Advantages
WEEK 2	The Factories Act, 1948 – Objects, amendments, definitions, approval, Licensing and registration of factories, health, safety and welfare,
WEEK 3	provisions relating to hazardous processes – employments of women and children
WEEK 4	The Trade Unions Act, 1926 –objects of the act- registration of Trade unions
WEEK 5	cancellation of registration and appeal – rights - duties and liabilities – Dissolution
WEEK 6	The Industrial Disputes Act, 1947 – definitions – Authorities under the Act – disputes – arbitration – award and settlement – lay-off and retrenchment, strikes and lock outs – closure
WEEK 7	The Workmen’s Compensation Act, 1923 – Objects – Employer’s liability for compensation
WEEK 8	calculation of compensation – distribution of compensation – notice and claim
WEEK 9	Disablement-part and full-award of compensation
WEEK 10	The Employees State Insurance Act, 1948 – Objects –
WEEK 11	Definitions – administration of the scheme
WEEK 12	General provisions of the Corporation Committee and Council
WEEK 13	The Payment of Wages Act, 1936 – definition – rules for payment of wages –
WEEK 14	deductions from wages - The Minimum Wages Act, 1948 –
WEEK 15	Objects-provisions of the Minimum Wages Act

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOC3

Name of the Subject: Services Marketing

Subject In charge : Dr.S.BAMA

WEEK	TOPICS TO BE COVERED
WEEK 1	Services marketing – meaning – Nature – Concept – Growth
WEEK 2	Classification of Services – Characteristics of services and their marketing implications
WEEK 3	Essential elements of marketing mix in services marketing
WEEK 4	Services product strategy – Service product planning and development
WEEK 5	Branding of services – Service pricing strategy
WEEK 6	service pricing policy – psychology of services – pricing customer perception
WEEK 7	Services promotion strategy – concepts – objectives
WEEK 8	Advertising – Limitations – Public relations – Publicity
WEEK 9	Public services – Strategy of Services communication – Internal and External Communication
WEEK 10	Services distribution strategy – Concepts – Factors governing the choice of Direct Sales
WEEK 11	Delivery of Services through intermediaries – outsources services distribution
WEEK 12	Franchising – Service distribution through agents and brokers
WEEK 13	Customer relationship management (CRM) – Introduction – concepts – Advantages – Components
WEEK 14	Advantages of establishing structural relationship strategy
WEEK 15	customized relationship strategy – Developing customer loyalty

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TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOE1

Name of the Subject: Human Resource Development

Subject In charge : Dr.E.L.C.THIRUVARANGANATHAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction of HRM – Definition, importance, concept, objectives of Human Resource Management
WEEK 2	Strategic Human Resource Management – Human Resource Policies, Need, Type and Scope of Human Resource Management
WEEK 3	Emerging challenges of human resource management – role of HR managers
WEEK 4	Human Resources Planning – Process, Forecasting, Demand & Supply – qualitative and quantitative dimension-
WEEK 5	job analysis and job design – Assessing Human resource requirements – Human resource forecasting
WEEK 6	job description & specification – job design – job characteristics approach to job design – succession planning
WEEK 7	Recruitment, selection, training & Development – factors affecting recruitment
WEEK 8	sources of recruitment internal external – e-recruitment-selection process-orientation process- training & development objectives and needs
WEEK 9	training process – methods of training – tools and aids – evaluation of the training program
WEEK 10	Compensation Management – performance appraisal - job evaluation – base compensation and supplementary compensations – pay band system
WEEK 11	performance appraisal – concept, objectives and methods – traditional and modern methods – MBO – employee counseling
WEEK 12	job changes – transfer and promotion – Human Resource Audit
WEEK 13	E-HRM-impact of HRM practice on organization performance –
WEEK 14	contemporary issues in HRM – quality circle –
WEEK 15	labour and international organization (I&O)

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBCOD1

Name of the Subject: Modern Banking

Subject In charge : B.ANANDAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Meaning and Definition of banking
WEEK 2	classification of banks
WEEK 3	Modern functions of Commercial bank
WEEK 4	ATM – ECS - e-banking - credit card – debit card –
WEEK 5	difference between credit card and debit card – Internet Banking -
WEEK 6	Different types of Accounts and Deposits
WEEK 7	Reserve Bank of India – Functions of RBI
WEEK 8	Credit control – Types of credit control
WEEK 9	Qualitative credit control and Quantitative credit control
WEEK 10	Negotiable Instruments - Meaning and Definition of Cheques
WEEK 11	essential characteristics of Cheques – Drafting of Cheque – crossing
WEEK 12	Material alteration – Endorsement – Closing of Accounts
WEEK 13	Loans and Advances – Principles of sound lending
WEEK 14	forms of Loans and Advances – classifications of loans and advances
WEEK 15	Precautions to be taken by a banker in lending Loans and Advances– Types of Securities

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PBSBE2

Name of the Subject: Leadership and communication skills

Subject In charge : Dr.S.BAMA

WEEK	TOPICS TO BE COVERED
WEEK 1	Leadership – Nature, Characteristics or Features of leadership – Objectives of leadership
WEEK 2	Functions or Role of a leader – Qualities of a good leader – skills of a leader
WEEK 3	Leader Vs. Manager – Leadership and management
WEEK 4	Leadership styles – Autocratic leadership – Democratic leadership
WEEK 5	Laissez-Faire leadership or Free Rein leadership – Bureaucratic leadership style
WEEK 6	Supportive leadership – Charismatic leaders
WEEK 7	Communication – Elements of Communication – Process of Communication – Essentials of Communication
WEEK 8	Functions of Communication – Features of communication
WEEK 9	Benefits of Communication – Principles of effective communication
WEEK 10	Methods or types of communication – Formal communication – merits and demerits
WEEK 11	Informal communication or Grapevine – merits and demerits – Rumour – Reasons for spread of rumours – Negative impact of rumours
WEEK 12	Methods to deal with rumours – Formal Vs. informal communication
WEEK 13	Oral communication – written communication – downward communication
WEEK 14	upward communication – Horizontal communication – Types of communication networks
WEEK 15	Barriers to communication – Steps to overcome barriers to communication

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: I M.COM

Semester: II

Subject Code: 19PCCOC1

Name of the Subject: Income Tax Law and Practice - I

Subject In charge : Dr.S.SARAVANAN

WEEK	TOPICS TO BE COVERED
WEEK 1	History of Income tax in India – objectives of taxation – canons of taxation – characteristics of good tax system
WEEK 2	definition of tax –classification of taxes – distinction between direct and indirect tax - Income Tax Act – Current Finance Act
WEEK 3	Agricultural income – Assessee – Assessment Year – Income – Person – Previous Year – Exempted incomes
WEEK 4	Residential Status and Incidence of Tax – Classification of residential status of Taxable entities
WEEK 5	Residential status of an Individual – Resident – Basic conditions - Additional conditions – Non-resident
WEEK 6	Residential status of a firm, AOP – Residential status of companies- incidence of tax and residential status
WEEK 7	Heads of Income – Income under the head Salaries – Features
WEEK 8	Allowances – Fringe Benefits – Perquisites – Profits in lieu of salary
WEEK 9	Provident Fund – Deductions – Computation of salary income
WEEK 10	Income from House property – Annual value
WEEK 11	Determination – Deductions
WEEK 12	Computation of Income from House Property
WEEK 13	Profits and Gains of Business or Profession – Definition – Chargeability – Admissible deduction
WEEK 14	Inadmissible expense – Computation of Business Income(excluding firms and companies)
WEEK 15	Computation of Professional Income

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOC2

Name of the Subject: Applied Costing

Subject In charge : Dr.N.BARATHI DASAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Cost Accounting – Meaning and Definition – Financial Accounting Vs Cost accounting – Relationship of cost accounting with management accounting -
WEEK 2	Nature and significance of Cost Accounting – Essentials of good costing system - Elements of cost – Cost concepts and preparation of cost sheet –
WEEK 3	Methods of Costing -job order Costing – Process Costing- Materials – Issue of materials – Pricing of material issued
WEEK 4	Labour – types of labour cost – Methods of time keeping – Idle time - overtime – labour turnover
WEEK 5	Preparation of Pay Roll – Wage payment and incentive system – Overhead – meaning and classification of overheads – Departmentalization of Overheads- Allocation - Apportionment – Re-apportionment
WEEK 6	Absorption of Overhead cost – Difference between cost allocation and apportionment and Reapportionment – treatment of over and under absorbed overheads
WEEK 7	Process costing – Comparison between joint costing and process costing – costing procedure under process costing
WEEK 8	Process Losses – Inter process profit – Equivalent production – methods of computing equivalent units- Evaluation of equivalent production
WEEK 9	Joint product and by products costing – accounting for joint products & by-products
WEEK 10	Marginal costing – Salient features – Marginal costing and absorption costing - Break – Even analysis – Cost – Volume-profit analysis
WEEK 11	Application of Marginal costing for Business decision making --- Determination of sales mix-
WEEK 12	Exploring new markets- Make or buy decisions- Change versus status quo - expand or contract
WEEK 13	shut down or continue - Inflation Accounting – Human Resource Accounting
WEEK 14	Reconciliation of cost and financial statement –
WEEK 15	Contract Costing – Escalation clause.

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOC3

Name of the Subject: International Business

Subject In charge : Dr.E.L.C.THIRUVARANGANATHAN

WEEK	TOPICS TO BE COVERED
WEEK 1	International business – meaning – features – factors - International Business Environment
WEEK 2	Means of engaging in International Business – External Influences of International Business
WEEK 3	The Human and Cultural Environments facing Business – Political influence on International Business
WEEK 4	International Trading Environment – WTO – TRIM
WEEK 5	TRIP – IPR - Country Evaluation and Selection
WEEK 6	International Economic Organizations - Multinational enterprises – meaning – features -
WEEK 7	Impact of the Multinational Enterprise: Evaluating the Impact of the MNE
WEEK 8	Economic Impact of the MNE – Operational and Political Impact of International Business – Balance of Payments
WEEK 9	International Financial Management – meaning – role -
WEEK 10	International Monetary System - Foreign Exchange Rates: Basics, Transaction and Economic Exposure –
WEEK 11	Foreign Direct Investment – Strategies: Export and Import Strategies,.
WEEK 12	Collaborative Strategies, Sourcing and Production Strategies
WEEK 13	Recent developments in International Business
WEEK 14	E-business Strategy – International Product Decisions
WEEK 15	Global Supply Chain Management: International Logistics and Distribution

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOC4

Name of the Subject: Business Research Methods

Subject In charge : Dr.J.JAYAKUMAR

WEEK	TOPICS TO BE COVERED
WEEK 1	Meaning and Definition of Social Research – Objectives of Research
WEEK 2	Types of Research - Research process – Criteria of Good Research
WEEK 3	Maintaining Objectivity in Research – Problems Encountered by Researchers
WEEK 4	Problem Formulation – Identifying Research Problem – Sources of Research Problem –
WEEK 5	Techniques Involved in Defining a Research Problem – Research Design: Meaning and Importance of Research Design
WEEK 6	Types of Research Designs – Exploratory – Descriptive – Case Study Design
WEEK 7	Methods of Data Collection –Observation – Questionnaire & Interviewing – Guidelines for Constructing Questionnaire and Interview Schedule
WEEK 8	Sample Design: Defining Universe and Sampling Unit – Determining Sampling Frame – Probability and Non-Probability Sampling Methods – Sample Size Determination
WEEK 9	Sampling and Non-sampling Errors – Scaling Methods – Hypothesis; Hypothesis Formulation and Hypothesis Testing
WEEK 10	Descriptive statistics – Factor Analysis – Reliability test – Parametric Analysis
WEEK 11	T-test – ANOVA – Correlation – Regression
WEEK 12	Non-Parametric Analysis – Chi-square – Sign Test
WEEK 13	Report Writing – Kinds of Research Reports
WEEK 14	Steps in Report Writing – Layout of Research Report
WEEK 15	Mechanics in Writing a Research Report – Precautions in Writing a Research Report

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOE1

Name of the Subject: Consumer Rights and Education

Subject In charge : B.ANANDAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Consumer Movement in India- Definition of Consumer- Types of Consumer
WEEK 2	Problems of Consumer – Consumerism- Emerging concepts in consumerism
WEEK 3	Green Consumerism, Cyber Consumerism
WEEK 4	Right of Consumers- Responsibilities of Consumers
WEEK 5	unfair trade practices-Caveat emptor and Caveat Venditor
WEEK 6	Enforcement of Consumer rights through Public Interest Litigation
WEEK 7	Consumer Protection Act- Main Provisions –Redressal forums –District Level
WEEK 8	State Level and National Level - Powers and Functions
WEEK 9	Filing of Complaints Procedure Regulatory Authorities and OMBUDSMAN
WEEK 10	Prevention of Food Adulteration Act, 1954- Standards of Weights and Measures Act, 1976
WEEK 11	The Drugs and Magic Remedies (Objectionable Advertisement) Act 1954
WEEK 12	Consumer pressure groups-voluntary consumer organizations-Consumer Protection Councils
WEEK 13	Consumer awareness and Education in India: Lack of awareness- Lack of access to information
WEEK 14	Methods of creating awareness and promotion of Consumer rights and duties-
WEEK 15	Role of media in consumer education

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCCOD2

Name of the Subject: Principles of Insurance

Subject In charge : DR. J. JAYAKUMAR & DR.N. BARATHIDASAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Introduction to insurance – Principles of Insurance
WEEK 2	Insurable interest – Indemnity – Subrogation
WEEK 3	Utmost good faith – Functions of Insurance
WEEK 4	Life insurance – Meaning – Advantages of Life insurance
WEEK 5	Procedure for effecting life insurance – Life insurance products or policies
WEEK 6	Joint life policy
WEEK 7	Fire Insurance – Meaning – Functions of fire insurance
WEEK 8	Kinds of fire policies
WEEK 9	Advantages of fire insurance
WEEK 10	Marine insurance – Types of marine insurance – Lloyd's policy
WEEK 11	Company policy – Difference between company policy and Lloyd's policy
WEEK 12	Types of Marine policies
WEEK 13	Miscellaneous insurance – Motor insurance
WEEK 14	Health insurance – Liability insurance
WEEK 15	Rural insurance

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: III

Subject Code: 19PCSBE3

Name of the Subject: Managerial skills

Subject In charge :Dr.V.RAVICHANDRAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Time Management
WEEK 2	Organisational Awareness
WEEK 3	Problem Solving
WEEK 4	Leadership Qualities
WEEK 5	Team work and office functional rule
WEEK 6	Being knowledgeable of Hierarchy in Office Conducting Interviews
WEEK 7	Conducting Meetings
WEEK 8	Writing Circulars, Agendas, Minutes of meetings
WEEK 9	Passing resolutions
WEEK 10	Business Communication, Email
WEEK 11	Project Proposals, Contracts
WEEK 12	Job Application and CV
WEEK 13	Office Etiquette, Dress Code
WEEK 14	Communication, Maintaining healthy work relationship
WEEK 15	Effective use of technology at workplace

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code:19PDCOC1

Name of the Subject: Income Tax Law and Practice – II

Subject In charge :Dr.S.SARAVANAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Capital Gains – Definition – Kind of Capital assets
WEEK 2	Exempted Capital Gains
WEEK 3	Computation of Capital Gains
WEEK 4	Income from Other Sources – Income chargeable to tax
WEEK 5	Deductions – Bond washing transactions
WEEK 6	Computation of income from other sources
WEEK 7	Set off and Carry forward of Losses
WEEK 8	Deductions from Gross Total Income
WEEK 9	Assessment of Individuals
WEEK 10	Computation of total income and tax liability
WEEK 11	Assessment of firms
WEEK 12	Administration of the income tax Act – income tax authorities – CBDT – powers
WEEK 13	Assessing officer - Procedure for assessment
WEEK 14	Types of assessment – Advance Payment of Tax – Deduction of tax at source
WEEK 15	Filing of return – Types of filing – PAN

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VYASARPADI, CHENNAI-39

PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code: 19PDCOC2

Name of the Subject: Financial markets and Institutions

Subject In charge : Dr.J.JAYAKUMAR

WEEK	TOPICS TO BE COVERED
WEEK 1	Financial markets - meaning - definition - role - functions - constituents - financial instruments
WEEK 2	Money market: meaning - characteristics - importance - general functions - segments - financial institutions - characteristics of developed money market
WEEK 3	Call money market: meaning - features - benefits - Indian call money market
WEEK 4	Commercial paper market: meaning –features - importance - developed bill market - shortcomings of Indian bill market - Bill Market Scheme, 1952 and 1970 - Bill market Scheme, 1970
WEEK 5	Certificate of Deposit (CD) market: meaning - features - Treasury Bill Market: meaning - Treasury Bills - general features - Indian TBs – Benefits
WEEK 6	Gilt-edged securities market: meaning - features - importance of gilt-edged market and Govt. bonds
WEEK 7	Capital Market: Meaning –characteristics – Stock exchange – features and functions – Listing – National Stock Exchange –
WEEK 8	New Issues Market (NIM) – meaning – Advantages - NIM and secondary market – methods of marketing securities – intermediaries in NIM –
WEEK 9	Book building – insider trading and investor protection
WEEK 10	Financial service institutions – Clearing Corporation of India Limited – settlement of risks
WEEK 11	risk management system – benefits – CRISIL – range of services – CIBIL – credit information – credit assessment
WEEK 12	mechanism – credit information report – DFHIL – ICRA – OTCEI – NSDL
WEEK 13	Financial Institutions –meaning – special characteristics – cooperative banking institutions
WEEK 14	National Housing Bank – functions and working – EXIM bank of India – functions and working – NABARD – functions and working
WEEK 15	RBI – functions and working – NBFCs – FIIs – role and danger – IMF – World Bank – IFC – ADB

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PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code: 19PDCOE1

Name of the Subject: Security Analysis and Portfolio Management

Subject In charge : Dr.N.BARATHI DASAN

Dr.AMBEDKAR GOVERNMENT ARTS COLLEGE (AUTONOMOUS),

WEEK	TOPICS TO BE COVERED
WEEK 1	Investment-definition, Nature and scope of investment management
WEEK 2	investment objectives – Features of an Investment programme
WEEK 3	Types of investment alternatives
WEEK 4	Risk and return-Concept of Risk and return
WEEK 5	Types of risk – Systematic, Unsystematic and other risks
WEEK 6	Measurement of risk and return
WEEK 7	Approaches to security analysis – Fundamental analysis
WEEK 8	Economic, Industry and Company analysis
WEEK 9	Technical analysis – Chart methods
WEEK 10	Efficient market theory
WEEK 11	Random Walk Theory
WEEK 12	Options and futures-put, call, valuation, characteristics and difference
WEEK 13	Portfolio Management – Process – Principles of portfolio management
WEEK 14	Markowitz theory – Sharpe's Optimization
WEEK 15	Dow Theory-CAPM – SML – CML

VYASARPADI, CHENNAI-39

PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code: 19PDCOE2

Name of the Subject: Customer Relationship Management

Subject In charge : Dr.V.RAVICHANDRAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Customer information Database – Customer Profile Analysis – Customer perception-
WEEK 2	Expectations analysis – Customer Behavior in relationship perspectives; individual and group customers
WEEK 3	Customer life time value – Selection of Profitable customer segments
WEEK 4	Elements of CRM – CRM Process – Strategies for Customer acquisition
WEEK 5	Retention and Prevention of defection – Models of CRM
WEEK 6	CRM road map for business applications
WEEK 7	Strategic CRM planning process – Implementation issues – CRM Tools- Analytical CRM – Operational CRM
WEEK 8	Call centre management – Role of CRM Managers – CRM Implementation Road Map
WEEK 9	Developing a Relationship Orientation – Customer-centric Marketing Processes – Customer retention plans
WEEK 10	Concept of Quality – Meaning and Definition of Service Quality - Factors influencing customer expectations and perceptions
WEEK 11	Types of Service Quality – Service Quality Dimensions – Service Quality Gaps
WEEK 12	Measuring Service Quality – Service Quality measurement Scales
WEEK 13	CRM Solutions – Data Warehousing – Data mining for CRM –
WEEK 14	CRM software packages – The Technological Revolution
WEEK 15	Relationship Management – Changing Corporate Cultures

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VYASARPADI, CHENNAI-39**

PG AND RESEARCH DEPARTMENT OF COMMERCE

TEACHING PLAN (ODD SEMESTER)

CLASS: M.COM (GENERAL)

CLASS: II M.COM

Semester: IV

Subject Code: 19PDSBE4

Name of the Subject: Personality Development

Subject In charge : Dr.V.RAVICHANDRAN

WEEK	TOPICS TO BE COVERED
WEEK 1	Definition of Personality– Determinants
WEEK 2	Heredity- Environment-Situation
WEEK 3	Self Awareness- Benefits of Self-Awareness
WEEK 4	Self-analysis-Behaviour
WEEK 5	Motivation-Modes of thinking
WEEK 6	Modes of acting - Modes of interacting
WEEK 7	The “Big Five” Model:-Extroversion-
WEEK 8	Agreeableness-Emotional Stability Conscientiousness
WEEK 9	Openness to experience- Self-monitoring
WEEK 10	Traits For Building Positive Personality
WEEK 11	Chief traits for building Personality
WEEK 12	Conscious Programming-Subconscious Programming
WEEK 13	Personal Grooming:- Men-Dress – Shirts- trousers – Ties
WEEK 14	Socks – Shoes –Belts - Watches –Hairstyles. Women -Dress
WEEK 15	Hair – Shoes /Sandal – Bags– Accessories

PG English Hour Distribution 2020-2021 (Odd Semester)

First Year MA syllabus (Semester I)				
S.N	Paper Name	Units	Staff- I HR EACH	PIC
1.	Old English to Elizabethan Times 19PAENC1 (6 hrs)	I POETRY- 1.Chaucer 2.Spenser 3.Wyatt & Surrey	AS	AS
		II POETRY- 1.Sydney 2.John Donne	AS	
		III PROSE-1.Thomas Moore 2.Bacon	SA	
		IV DRAMA-1. Kyd 2. Marlowe	AL	
		V DRAMA-1.Ben Jonson 2. Nash	KL	
2.	Shakespeare 19PAENC2 (6 hrs)	I. Shakespeare's Sonnets 18,78,116	SRE	NS
		II TRAGEDY-Othello	SA	
		III COMEDY-Twelfth Night	NS	
		IV HISTORICAL PLAY- Henry V	KL	
		V CRITICAL ESSAYS-- A. Greenblatt B. Manish Trivedi	VKS	
3.	Jacobean to Augustan Period 19PAENC3 (6 hrs)	I POETRY	SS	
		II PROSE	VKS	
		III CRITICAL ESSAY Dr. Jonson	VKS	VKS
		IV DRAMA Goldsmith	SS	
		V NOVEL Daniel Defoe	SS	
4.	English Language Teaching and Grammar Usages 19PAENC4 (6hrs)	I GRAMMAR	RS	
		II VOCABULARY	SRE	SRE
		III HISTORY OF ENGLISH LANGUAGE TEACHING	SS	
		IV MAJOR THEORIES	RS	
		V DIGITAL LEARNING	SRE	
5.	Major Elective I Mass Communication and Journalism (4 hrs) 19PAENE1	I (1 to 6) SUBUNITS- 1,2,3-SA 4- GR,5, 6- SRE	Shared by 3 AP	SRE
		II	GR	
		III	SRE	
		IV	SA	
		V	SRE (Only 2 hrs)	
6.	Non Major Elective SS1 Employability skills 19PASBE1 (2 hrs)	Unit 1 to 5	RS- I HR	RS
7.	Extra Disciplinary Non Major elective I English for competitive exams 19PAEND1 (2 hrs)	Unit 1 to 5	AS – I HR	AS

Second Year MA Syllabus (Semester III)				PIC
S No	Paper Name	Units	Staff	
1.	Literary Criticism I 19PCENC1 (6 hrs)	I M.H. Abrams	AS	VKS
		II T.E.Hulme D.H.Lawrence	RS	
		III Edmund Wilson Cleanth Brooks	VKS	
		IV C.G.Jung Lionel Trilling	SS	
		V Gerald Genette Jean Paul Sartre	VKS	
2.	Modern Literature 19PCENC2 (6 hrs)	I POETRY-W.B.Yeats, D.H.Lawrence	NS	AL
		II Chitra Banerjee Divakaruni	GR	
		III Bernard Shaw	KL	
		IV Badami	AL	
		V William Golding Joseph Conrad	AS	
3.	Indian English Literature I 19PCENC3 (6 hrs)	I POETRY Chapters 1 to 5	SRE	AL
		II PROSE -Vivekananda Tagore	AL	
		III NOVEL- Raja Rao R.K.Narayan	NS	
		IV DRAMA- Tagore (II&IV-1 hr)	AL	
		V SHORT NOVEL- Khushwant Singh Anita Desai	AL	
4.	Modern European Drama 19PCENC4 (6 hrs)	I John Osborne	NS	AL
		II Anton Chekov	GR	
		III Samuel Beckett	NS	
		IV Jean Genet	AL	
		V Eugene Ionesco	AL	
5.	Major Elective IV Feminism 19PCENE1 (4 hrs)	I Introduction (1 to 7)	1 to 4- NS; 5 to 7- SA	SA
		II POETRY- Wright,Sexton,Moore,Angelou	NS	
		III DRAMA-Marsha Norman	AL	
		IV PROSE -Woolf	AL	
		V FICTION- (Kunal Basu) SHORT STORY (Nathaniel Hawthorne, Susan Gaspell)	SA	
6.	Non major elective ss3 Managerial Skills (2hrs) 19PCSBE3	Units 1 to 5	Tutor's paper	SS3
7.		Internship		

DEPARTMENT OF COMPUTER SCIENCE
DR.AMBEDKAR GOVERNMENT ARTS COLLEGE, VYSARPADI
M.Sc. COMPUTER SCIENCE
TEACHING PLAN –ODD SEMESTER (2020-2021)

**CLASS M.Sc. COMPUTER SCIENCE –I YEAR-
SEMESTER I**
SUBJECT CODE: 19PACSC1
SUBJECT NAME: DESIGN AND ANALYSIS OF ALGORITHMS (THEORY)
SUBJECT IN-CHARGE: B.JAYAPRADHA

WEEK	TOPIC TO BE COVERED
WEEK 1	Introduction: Algorithm Definition – Algorithm Specification and Performance
WEEK 2	Analysis-Asymptotic Notations. Elementary Data Structures- Introduction
WEEK3	Stacks and Queues – Trees – Graphs and its operations
WEEK4	Divide and Conquer: The General Method – Binary Search – Finding The Maximum And Minimum.
WEEK5	Merge Sort and Quick Sort
WEEK 6	Selection sort - Stassen's Matrix Multiplication
WEEK 7	The Greedy Method: General Method - Knapsack Problem - Tree Vertex Splitting
WEEK 8	Job Sequencing With Deadlines - Minimum Cost Spanning Trees – Prim's method
WEEK 9	Minimum Cost Spanning Trees –Krushakal Algorithms - Single Source Shortest path
WEEK 10	Dynamic Programming: The General Method – Multistage Graphs
WEEK 11	All-Pairs Shortest Paths - String Editing
WEEK 12	0/1 Knapsack - The Travelling Salesperson Problem.
WEEK 13	Backtracking: The General Method – The 8-Queens Problem – Sum of Subsets
WEEK 14	Graph Coloring – Hamiltonian Cycles
WEEK 15	Knapsack Problem Branch and Bound: General Method - 0/1 Knapsack Problems.

**Dr. AMBEDKAR GOVERNEMENT ARTS COLLEGE(A), VYASARPADI,
CHENNAI- 600039
PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE
LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)**

DEGREE: M.Sc., COMPUTER SCIENCE
COURSE CODE:
COURSE NAME: ADVANCED WEB TECHNOLOGY
SEMESTER NO: I
STAFF NAME: Prof.D.KRISHNAKUMAR

WEEK	TOPICS TO BE COVERED
Week-1	.NET Frame work, CLR, .NET Class Library. C#: C# Language Basics- Variables and Data types-Variable Operations-Conditional Logic-Loops
Week-2	C#: Methods-Building Basic Class-Value types and Reference types-Understanding Namespaces and Assemblies.
Week-3	The Anatomy of a Web Form, Writing Code, Visual Studio Debugging, The Anatomy of an ASP.NET Application
Week-4	Server controls: The HTML Control Classes, Page Class, Application Events,
Week-5	Web Control Classes, List Controls, Table Controls, Web Control Events and AutoPostBack.
Week-6	Exception Handling, Page Tracing, State Management: View State, Transferring information between Pages, Cookies, Session States,
Week-7	Session States Configuration, Application State. Understanding Validation.
Week-8	Rich Controls: Calendar-AdRotator, Pages with multiple Views, User Controls
Week-9	ADO.NET: The Data Provider Model, Direct Data Access, Disconnected Data Access.
Week-10	Data Binding: Single Value Data Binding, Repeated Value Data Binding.
Week-11	GridView Control, Formatting the GridView, Selecting a GridView Row, Editing with the GridView, Sorting and Paging the GridView.
Week-12	Files and Streams: File System Information, Reading and Writing with Streams, Allowing File Uploads.
Week-13	XML: The XML Classes, Website Security: Authentication and Authorization, Forms Authentication, Windows Authentication.
Week-14	Component: Creating a Component, Properties and State, Data Access Components, Object Data Source.
Week-15	Caching: Output Caching, Data Caching-, Caching with Dependencies.

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Class : I M.Sc Computer Science Semester:I
 Subject Code: 19PACSC3 Subject Name: Advanced Database Management System
 Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Relational and parallel Database Design: Basics, Entity Types
Week-2	Relationship Types, ER Model, ER-to-Relational Mapping algorithm.
Week-3	Normalization: Functional Dependency, 1NF, 2NF, 3NF, BCNF and 4NF.
Week-4	Parallel Databases : I/O Parallelism, Interquery Parallelism, Intraquery Parallelism
Week-5	Intraoperation Parallelism, Interoperation Parallelism, Query Optimization.
Week-6	Distributed and Object based Databases: Architecture, Distributed data storage, Distributed transactions
Week-7	Commit protocols, Concurrency control, Distributed Query Processing.
Week-8	Spatial Database: Spatial Database Characteristics, Spatial Data Model, Spatial Database Queries, Techniques of Spatial Database Query.
Week-9	Logic based databases: Complex Data Types, Structured Types and Inheritance, Table Inheritance, array and Multiset
Week-10	Object Identity and Reference Types, Object Oriented versus Object Relational.
Week-11	XML Databases: XML Hierarchical data model, XML Documents, DTD, XML Schema, XML Querying
Week-12	XHTML, Illustrative Experiments. Temporal Databases: Introduction, Intervals,
Week-13	Packing and Unpacking Relations, Generalizing the relational Operators
Week-14	Database Design, Integrity Constraints, Multimedia Databases: Multimedia Sources,
Week-15	Multimedia Database Queries, Multimedia Database Applications.

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**LESSON PLAN
ACADEMIC YEAR- 2020-2021 (ODD SEMESTER)**

DEGREE: M.Sc COMPUTER SCIENCE

COURSE CODE: 19PACSE1B

COURSE NAME: DATA MINING

SEMESTER NO: I

STAFF NAME : Dr K.SHYAMALA

WEEK	TOPICS TO BE COVERED
Week-1	Introduction: Data mining – Kind of Data – Kinds of Patterns – Major issues in Data mining
Week-2	Data Warehouse - Introduction of Functionalities – Classification
Week-3	Introduction to Data Warehousing – Modeling: Data cube and OLAP
Week-4	Data Preprocessing: Preprocessing the Data – Data cleaning
Week-5	Data Integration, Data reduction
Week-6	Data Transformation and Data discretization
Week-7	Mining Association Rules: Basic Concepts - Frequent item set mining
Week-8	Mining Multilevel associations – Mining Multi dimensional associations
Week-9	Mining Quantitative associative rules – mining rare patterns and negative patterns
Week-10	Classification and Prediction: Introduction – Decision Tree Induction
Week-11	Bayesian Classification – Rule based Classification
Week-12	Classification of Back Propagation. Prediction – Classifier Accuracy.
Week-13	Cluster Analysis: Introduction – Types of Data in Cluster Analysis – Requirements of Cluster analysis
Week-14	Partitioning Methods – Hierarchical Methods
Week-15	Density Based Methods – Data mining applications

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LESSON PLAN
ACADEMIC YEAR- 2021-2022 (ODD SEMESTER)**

DEGREE: M.Sc., COMPUTER SCIENCE
COURSE CODE:
COURSE NAME: DIGITAL IMAGE PROCESSING
SEMESTER NO: III
STAFF NAME: Prof.D.KRISHNAKUMAR

WEEK	TOPICS TO BE COVERED
Week-1	Fundamentals: Image Sensing and Acquisition, Image Sampling and Quantization, relationship between Pixels, Random noise: Gaussian Markov Random Field, σ -field,
Week-2	Linear and Non-linear Operations, Image processing models: Causal, Semi-causal, Non-causal models. Colour Models: colour Fundamentals.
Week-3	Colour Models: colour Models, Pseudo-colour Image Processing, Full colour Image Processing, colour Transformation, Noise in colour Images.
Week-4	Spatial Domain: Enhancement in spatial domain: Point processing; Mask processing.
Week-5	Smoothing Spatial Filters, Sharpening Spatial Filters. Frequency Domain: Image transforms, FFT, DCT.
Week-6	Karhunen-Loeve transform, Hotelling's T^2 transform, Wavelet transforms and their properties. Image filtering in frequency domain.
Week-7	Edge Detection: Types of edges, threshold, zero-crossing..
Week-8	Gradient operators: Roberts, Prewitt, and Sobel operators; residual analysis based technique.
Week-9	Canny edge detection , Edge features and their applications
Week-10	Image Compression: Fundamentals, Image Compression Models, Elements of Information Theory.
Week-11	Error Free Compression: Huff-man coding; Arithmetic coding; Wavelet transform based coding;
Week-12	Lossy Compression: FFT, DPCM, MRFM based compression, Wavelet transform based, Image Compression standards.
Week-13	Image Segmentation: Detection and Discontinuities, Edge Linking and Boundary Deduction.
Week-14	Threshold, Region-Based Segmentation, Segmentation by Morphological watersheds.
Week-15	The use of motion in segmentation, Image Segmentation based on colour.

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LESSON PLAN
ACADEMIC YEAR- 2020-2021 (ODD)

DEGREE: M.Sc., COMPUTER SCIENCE

COURSE CODE: 19PCCSC2

COURSE NAME: Internet of Things

SEMESTER NO: 3

STAFF NAME: Dr. G. Sekar

WEEK	TOPICS TO BE COVERED
Week-1	Introduction: Physical Design of IoT and Logical Design of IoT. IoT Enabling Technologies.
Week-2	IoT Levels & Deployment Templates. IoT Architecture: M2M (Machine to Machine) high-level architecture.
Week-3	IETF architecture for IoT and Open Geospatial Consortium (OGC) Architecture.
Week-4	IoT and M2M: Introduction to M2M, Differences between IoT and M2M. SDN and NFV for IoT.
Week-5	Need for IoT System Management: SNMP and Network operator requirements. NETCONF-YANG.
Week-6	Basic IoT Protocols: M2M, WSN, SCADA, RFID, IEEE 802.15.4 and Security.
Week-7	IoT Platforms Design Methodology IoT: Ten steps in IoT design methodology. IoT Physical Devices & Endpoints.
Week-8	RASPERRY PI - Raspberry Pi Interfaces.
Week-9	Programming Raspberry Pi with Python.
Week-10	Data Analytics for IoT. Basics of Hadoop ecosystem. Software & Management Tools.
Week-11	Cloud Storage Models & Communication APIs.
Week-12	Cloud for IoT. Amazon Web Services for IoT.
Week-13	Case Studies and Real-World Applications: Real world design constraints
Week-14	IoT applications: Asset management, Industrial automation and smart grid.
Week-15	IoT applications: Commercial building automation and Smart cities.

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Class : II M.Sc Computer Science

Semester:III

Subject Code: 19PCCSC3

Subject Name: Machine Learning

Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Learning Problems – Perspectives and Issues – Concept Learning
Week-2	Version Spaces and Candidate Eliminations – Inductive bias
Week-3	Decision Tree learning – Representation – Algorithm – Heuristic Space Search.
Week-4	Neural networks and genetic algorithms :neural network representation – problems
Week-5	Perceptrons – Multilayer Networks and Back Propagation Algorithms –
Week-6	Advanced Topics – Genetic Algorithms – Hypothesis Space Search – Genetic Programming – Models of Evaluation and Learning.
Week-7	Bayesian and computational learning : bayes theorem – concept learning – maximum likelihood – minimum description length principle – bayes optimal classifier
Week-8	Gibbs algorithm – naïve bayes classifier – bayesian belief network – em algorithm
Week-9	Probability Learning – Sample Complexity – Finite and Infinite Hypothesis Spaces – Mistake Bound Model
Week-10	Instant Based Learning : K- Nearest Neighbour Learning – Locally weighted Regression
Week-11	Radial basis functions – case based learning.
Week-12	Learning Sets of Rules – Sequential Covering Algorithm – Learning Rule Set – First Order Rules – Sets of First Order Rules
Week-13	Induction on Inverted Deduction – Inverting Resolution – Analytical Learning
Week-14	Perfect domain theories – explanation base learning – focl algorithm
Week-15	Reinforcement learning – task – Q-learning – temporal difference learning

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Teaching Plan (ODD- Semester (2020-21))

Class : II M.Sc Computer Science Semester:III
Subject Code: 19PCCSC4 Subject Name: Machine Learning using Python- Lab
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Intoduction about Basic Input / Output in python,Comments,Variables,Datatype
Week-2	Simple Programs in python
Week-3	Introduction of all libraries in python
Week-4	Demonstrate Scipy library
Week-5	Implement and demonstrate the FIND-S algorithm for finding the most specific hypothesis based on a given set of training data samples. Read the training data from a .CSV file
Week-6	For a given set of training data examples stored in a .CSV file, implement and demonstrate the Candidate-Elimination algorithm to output a description of the set of all hypotheses consistent with the training examples
Week-7	Write a program to demonstrate the working of the decision tree based ID3 algorithm. Use an appropriate data set for building the decision tree and apply this knowledge to classify a new sample.
Week-8	Bayesian Theorem
Week-9	Naive Bayesian
Week-10	Write a program to construct a Bayesian network considering medical data. Use this model to demonstrate the diagnosis of heart patients using standard Heart Disease Data Set.
Week-11	Build an Artificial Neural Network by implementing the Backpropagation algorithm and test the same using appropriate data sets.
Week-12	Write a program to implement k-Nearest Neighbour algorithm to classify the iris data set. Print both correct and wrong predictions.
Week-13	Locally weighted Regression Algorithm.

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Class : II M.Sc Computer Science
Subject Code: 19PCSBE3
Subject In Charge: Mrs.N.Vanitha

Semester: III
Subject Name: Managerial Skills

Week	Topics to be Covered
Week-1	Intoduction about Time Management ,Advantage and Disadvantages
Week-2	Organisational Awareness and it importance
Week-3	Problem Solving, Leadership Qualities, Merits and demerits
Week-4	Team work and office functional rule, Advantage and disadvantages
Week-5	Being knowledgeable of Hierarchy in Office
Week-6	Conducting Interviews and its importance
Week-7	Conducting Meetings and its benefits
Week-8	Writing Circulars and its importance
Week-9	Agendas, Minutes of meetings and Passing resolutions
Week-10	Business Communication and about its importance Email
Week-11	Project Proposals Contracts and its importance
Week-12	Job Application and Curriculum vitae
Week-13	Office Etiquette Dress Code
Week-14	Communication Maintaining healthy work relationship
Week-15	Effective use of technology at workplace

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LESSON PLAN
ACADEMIC YEAR- 2020-2021 (EVEN)

DEGREE: M.Sc., COMPUTER SCIENCE

COURSE CODE: 19PBCSC1

COURSE NAME: Distributed Operating System

SEMESTER NO: 2

STAFF NAME: Dr. G. Sekar

WEEK	TOPICS TO BE COVERED
Week-1	Introduction to Distributed Systems: Advantages of Distributed Systems over centralized Systems. Advantages of Distributed Systems over Independent Systems.
Week-2	Hardware Concepts. Software Concepts. Design Issues: Transparency, Flexibility, Reliability, Performance and Scalability
Week-3	Communication in Distributed Systems: Layered Protocols.
Week-4	Communication Models: The Client-Server Model. Remote Procedure Call. Group Communication.
Week-5	Synchronization in Distributed Systems: Clock Synchronization and Mutual Exclusion. Election Algorithms.
Week-6	Deadlocks in Distributed Systems: Distributed Deadlock Detection and distributed Deadlock Prevention.
Week-7	Processes and Processors in Distributed Systems: Threads. System Models. Processor Allocation.
Week-8	Design issues and Implementation issues. Processor allocation algorithms. Distributed File Systems: Distributed File System Design.
Week-9	Distributed File System Implementation. Trends in Distributed File Systems.
Week-10	Distributed Shared Memory: Introduction, Consistency Models: Strict, Sequential, Causal and Weak Consistencies.
Week-11	Page Based Distributed Shared Memory: Replication, Granularity, achieving sequential consistency.
Week-12	Finding the owner and copies. Object-Based Distributed Shared Memory.
Week-13	Multiprocessor Systems: Bus based Multiprocessor, Ring based Multiprocessor and NUMA Multiprocessor.
Week-14	Basic Model of Real Time Distributed Systems: Characteristics, Applications of Real Time Systems. Fault Tolerance in Distributed Systems.
Week-15	Features of Android Operating System and Linux Operating Systems.

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Teaching Plan (EVEN- Semester (2020-21))

Class : I M.Sc Computer Science Semester:II
Subject Code: 19PBCSC2 Subject Name: Advanced Java Programming
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Introduction – Servlet Architecture - Servlet Life Cycle-Generic Servlet
Week-2	Http Servlet-Performing URL redirection-Session Tracking-
Week-3	Using JDBC in Servlets. Introduction – JDBC Architecture
Week-4	Types of Drivers-Statement- Resultset - Prepared Statement
Week-5	Batch Update - Callable Statement-Creating a New Database and Table with JDBC.
Week-6	Java Beans :The Component Model-JavaBeans Architecture-Writing simple beans
Week-7	EJB : EJB Component Model-Enterprise JavaBeans-Entity Beans
Week-8	Session Bean-Message driven beans and its examples
Week-9	Overview – Developing Applications with RMI: Declaring & Implementing Remote Interfaces
Week-10	Stubs & Skeletons, Registering Remote Objects, Writing RMI Clients
Week-11	Pushing Data from RMI Servlet and its examples
Week-12	Introduction JSP - Examining MVC and - Working with Variables
Week-13	JSP - JSP Scripting Elements & Directives
Week-14	Scopes - Error Pages and Example of JSP programs
Week-15	Using Java Beans in JSP and its Example.

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Class : I M.Sc Computer Science Semester:II
Subject Code: 19PBCSC4 Subject Name: Advanced Java Programming lab
Subject In Charge:Mrs.N.Vanitha

Week	Topics to be Covered
Week-1	Intoduction of Netbeans Intregrated development environment
Week-2	Simple programs in netbeans
Week-3	Servlet program
Week-4	HTML to Servlet Communication
Week-5	Designing Online Applications with JSP
Week-6	Creating JSP program using JavaBeans
Week-7	Working with Enterprise JavaBeans
Week-8	Performing Java Database Connectivity
Week-9	Implement a Client/Server application using RMI
Week-10	Update a given Table using Batch Update.
Week-11	Designing Employee Details Applications with JSP
Week-12	Program for Payroll using JDBC
Week-13	Creating Mark Sheet using Tables with JSP.

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**LESSON PLAN
ACADEMIC YEAR- 2020-2021 (EVEN SEMESTER)**

DEGREE: M.Sc COMPUTER SCIENCE
COURSE CODE: 19PBCSE1B
COURSE NAME: SCIENTIFIC COMPUTING
SEMESTER NO: II
STAFF NAME : Dr K.SHYAMALA

WEEK	TOPICS TO BE COVERED
Week-1	Introduction to Scientific Computing – Applications - Bisection methods
Week-2	Fixed point Iteration method – Newton Raphson method
Week-3	Graffe’s squaring method – Secant method
Week-4	Solution of Simultaneous linear equations – Matrix Inversion method
Week-5	Gauss Elimination – Gauss Jordan methods
Week-6	Gauss Seidel method – Gauss Jacobi iterative methods
Week-7	Newton’s divided difference interpolating polynomials – Lagrange’s and Hermite’s polynomials
Week-8	Newton forward and backward difference formula – String’s and Bessel’s Central difference formula
Week-9	Numerical differentiation using Newton’s forward and backward interpolation formula
Week-10	Numerical integration – Introduction - Trapezoidal rule
Week-11	Simpon’s 1/3 and 3/8 rules
Week-12	Double integral using Trapezoidal and Simpson’s rules
Week-13	Taylor series method for simultaneous first order and second order differential equations
Week-14	Modified Euler’s method – Runge Kutta method for simultaneous differential equations
Week-15	RK second order and fourth order methods

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ACADEMIC YEAR 2020-21
(EVEN SEMESTER)

Subject Name : OPTIMIZATION TECHNIQUES
 Subject Code : 19PDMAC2
 Semester : IV
 Staff in Charge :Dr.S.KARTHIGEYAN

Week	Topics to be Covered
Week-1	Unit I : Integer Linear Programming: Introduction – Importance of Integer Programming Problem
Week-2	Unit I : Gomory's Cutting Plane Method.
Week-3	Unit I : Branch and Bound Method.. Unit II : Goal Programming : Introduction - Concept of Goal Programming
Week-4	Unit II : Goal Programming Model formulation – Graphical Solution Method of Goal Programming. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Unit II : Modified Simplex method of Goal Programming.
Week-6	Unit III : Classical Optimization Techniques: Introduction – Unconstrained Optimization – Constrained Multi-variable Optimization with Equality Constraints
Week-7	Unit III : Lagrangian Method - Constrained Multi-variable Optimization with inequality Constraints – Kuhn-Tucker conditions.
Week-8	Unit III : Non-linear Programming Problem: Introduction – Formulation of NLPP – General NLPP – Graphical solution. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV : Quadratic Programming: Introduction – Kuhn-Tucker conditions .
Week-10	Unit IV : General Quadratic Programming Problem – Wolfe's Modified simplex method
Week-11	Unit IV : Beale's Method. Unit V : Dynamic Programming: Introduction – Bellman's Principle of Optimality.
Week-12	Unit V : Minimum Path problem – Single additive constraint: Multiplicative separable return
Week-13	Unit V : Additively separable return – Single multiplicative constraint: Additively

	separable return.
Week-14	Revision.
Week-15	Model Examinations.

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ACADEMIC YEAR 2020-21
(EVEN SEMESTER)

Subject Name :Partial Differential equations
Subject Code :19PBMAC3
Semester :II
Staff in Charge :Dr.J. Desdemona Kirubavathi

Week	Topics to be Covered
Week-1	Unit I Formation and solution of PDE of first order,Cauchy problem, Orthogonal surfaces
Week-2	Compatible systems,Charpits method
Week-3	Classification and canonical forms of PDE
Week-4	Unit II Elliptic Differential equations-Derivation of Laplace and Poisson equation,BVPs, Variables separable solution FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Dirichlet and Neumann problem for a rectangle, Interior and exterior Dirichlet problem for a circle
Week-6	Interior Neumann problem for a circle, Solution of Laplace equation in cylindrical and spherical coordinates
Week-7	Unit III Parabolic differential equations- Derivation and elementary solution of diffusion equation, Separation of Variables method
Week-8	Solution of diffusion equation in cylindrical and spherical coordinates SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV Hyperbolic differential equations-Occurence and solution of wave equation (1D), solution by canonical reduction,D Alembert solution, Vibrating string problem
Week-10	Riemann Volterra solution, separable method,simple problems
Week-11	Solution of 1D wave equation in cylindrical and spherical coordinates, Uniqueness theorem
Week-12	Unit V Solution of PDE using Laplace Transforms
Week-13	Solution of PDE using Fourier transforms
Week-14	Revision

Week-15	Model Examination
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(EVEN SEMESTER)

Subject Name : **Personality Development**
Subject Code :19PDSBE4
Semester : **II**
Staff in Charge : K.THULUKKANAM

Week	Topics to be Covered
Week-1	Unit I: Personality definition, determinants,heredity.
Week-2	Environment and situation.
Week-3	Self awareness and benefits of self awareness.
Week-4	Unit II :Enhancing self awareness: self analysis,behaviour and motivation. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Modes of thinking,modes of acting and modes of interacting.
Week-6	Unit III: The BIG FIVE model: Extroversion,agreeableness.
Week-7	Emotional stability and conscientiousness.
Week-8	Openness to experience and self-monitoring. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV:Traits for building positive personality: Chief traits for building personality.
Week-10	Concious programming and subconscious programming.
Week-11	Unit V: Personal grooming: Men dress,shirts,trousers,ties,socks,shoes belts and watches.
Week-12	Women dress, hair,shoes /sandal,bags.
Week-13	Accessories.
Week-14	Revision.
Week-15	Model Examinations.

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(ODD /EVEN SEMESTER)

Subject Name : **Real Analysis-II**
Subject Code : 19PBMAC2
Semester : **II**
Staff in Charge : K.THULUKKANAM

Week	Topics to be Covered
Week-1	UNIT-I : Measure on the Real line - Lebesgue Outer Measure .
Week-2	Measurable sets.
Week-3	Measurable Functions.
Week-4	UNIT-II : Integration of Functions of a Real variable - Integration of Non-negative functions . FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	The General Integral , Riemann and Lebesgue Integrals.
Week-6	UNIT-III : Fourier Series and Fourier Integrals - Introduction and Orthogonal system of functions .
Week-7	The theorem on best approximation - The Fourier series of a function relative to an orthonormal system.
Week-8	Properties of Fourier Coefficients and The Riesz-Fischer Theorem. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT-IV : Multivariable Differential Calculus - Introduction - The Directional derivative - Directional derivative and continuity.
Week-10	The total derivative and The total derivative expressed in terms of partial derivatives - The matrix of linear function.
Week-11	The Jacobian matrix and The chain rule - The mean - value theorem for differentiable functions - A sufficient condition for differentiability.
Week-12	UNIT-V : Implicit Functions and Extremum Problems : Functions with non-zero Jacobian determinants .

Week-13	The inverse function theorem- and The Implicit function theorem.
Week-14	Revision.
Week-15	Model Examinations.

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(EVEN SEMESTER)

Subject Name : TOPOLOGY
 Subject Code : 19PBMAC4
 Semester : II
 Staff in Charge : DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I: The definition and some Examples- Elementary concepts - open bases and open sub bases
Week-2	UNIT I: weak topologies - The function Algebras $C(X, \mathbb{R})$ and $C(X, \mathbb{C})$.
Week-3	UNIT II: Compactness: Compact Spaces – Products of Spaces
Week-4	UNIT II: Tychonoffs Theorem and locally compact spaces. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT. UNIT III: Compactness for metric spaces
Week-5	UNIT III: Ascoli's Theorem – Separation: T_1 – spaces and Hausdorff spaces- Completely Regular spaces and Normal spaces
Week-6	UNIT III: Separation: T_1 – spaces and Hausdorff spaces
Week-7	UNIT III: Completely Regular spaces
Week-8	UNIT III: Normal spaces SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT.
Week-9	UNIT IV: Urysohn's Lemma and The Tietze extension theorem
Week-10	UNIT IV: The Urysohn's imbedding Theorem
Week-11	UNIT IV: Connected spaces
Week-12	UNIT V: The Components of a space – Totally disconnected spaces
Week-13	UNIT V: locally connected spaces. Approximation: The Weierstrass approximation Theorem.

Week-14	Revision.
Week-15	Model Examinations.

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(EVEN SEMESTER)

Subject Name :COMPLEX ANALYSIS
 Subject Code :19PDMAC1
 Semester :IV
 Staff in Charge :DR.A.SAROJINI

Week	Topics to be Covered
Week-1	UNIT I:Cauchy's Integral Formula: Definition of Analytic Function and Introduction to Complex Integration,The Index of a point with respect to a closed curve,The integral formula,Higher Derivatives.
Week-2	UNIT I:Local properties of Analytic functions: Removable singularities,Taylor's Theorem,Zeros and Poles.
Week-3	UNIT I: The Local Mapping,The maximum principle. UNIT II:The General form of Cauchy's Theorem: Chains and Cycles.
Week-4	UNIT II:Simple continuity,Homology,The General statement of Cauchy's Theorem,Proof of Cauchy's Theorem. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT II:Calculus of Residues: The Residue Theorem,The Argument Principle.
Week-6	UNIT III:Harmonic Functions: Definition of Harmonic function and basic properties,Mean Value Property.
Week-7	UNIT III:Poisson Formula. Harmonic functions and Power series expansions: Schwarz Theorem,The Reflection Principle.
Week-8	UNIT III:Weierstrass's Theorem,Taylor's series,Laurent series. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT.
Week-9	UNIT IV:Partial Fractions and Factorization: Partial Fractions,Infinite Products.
Week-10	UNIT IV:Canonical Products,Gamma function. UNIT V:Simply Periodic Functions: Representation by Exponentials.

Week-11	UNIT V:The Fourier Developments,Functions of Finite order. Doubly Periodic Functions: The Period Module.
Week-12	UNIT V:Unimodular Transformations,Canonical basis,General Properties of Elliptic functions.
Week-13	UNIT V:The Weierstrass Theory: The Weierstrass P function,The functions $\zeta(z)$ and $\sigma(z)$,The Differential Equation.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : Fluid Dynamics
Subject Code : 19PDMAE1C
Semester : IV
Staff in Charge : A.R. RAGAVAN

Week	Topics to be Covered
Week-1	UNIT-I : Kinematics of Fluids in motion. Real fluids and Ideal fluids- Velocity of a fluid at a point, Stream lines , path lines , steady and unsteady flows- Velocity potential - The vorticity vector
Week-2	Local and particle rates of changes - Equation of continuity - Worked examples - Acceleration of a fluid
Week-3	UNIT –II: Equations of motion of a fluid. Pressure at a point in a fluid at rest.- Pressure at a point in a moving fluid
Week-4	Euler’s equation of motion - Bernoulli’s Equation – Examples FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT –III: Some three dimensional flows. Introduction- Sources, sinks and doublets
Week-6	Images in a rigid infinite plane
Week-7	Axi symmetric flows : Stokes stream function
Week-8	UNIT-IV : Some two dimensional flows : Meaning of two dimensional flow – Use of Cylindrical polar coordinates - The stream function SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	The complex potential for two dimensional , irrotational, incompressible flow - Complex velocity potentials for standard two dimensional flows - Some worked examples
Week-10	Two dimensional Image systems - The Milne Thompson circle Theorem and some of its applications.
Week-11	UNIT-V : Stress components in a real fluid. - Relations between Cartesian components of stress- Translational motion of fluid element
Week-12	The rate of strain quadric and principle stresses - Some further properties of the rate of strain quadric - Stress analysis in fluid motion - Relation between stress and rate of strain
Week-13	The coefficient of viscosity and Laminar flow - The Navier – Stokes equations of motion of a Viscous fluid

Week-14	Revision
Week-15	Model Examination

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Subject Name : FUNCTIONAL ANALYSIS
 Subject Code : 19PDMAC3
 Semester : IV
 Staff in Charge : Dr. G.PALANI

Week	Topics to be Covered
Week-1	<u>Unit-1:</u> Banach Spaces : Definition – Some examples.
Week-2	<u>Unit-1:</u> Banach Spaces : Continuous Linear Transformations.
Week-3	<u>Unit-1:</u> Banach Spaces : The Hahn-Banach Theorem . <u>Unit-2:</u> The natural embedding of N in N^{**} .
Week-4	<u>Unit-2:</u> - Open mapping theorem –closed graph theorem. First Internal Assessment Test.
Week-5	<u>Unit-2:</u> Conjugate of an operator.
Week-6	<u>Unit-3:</u> Hilbert Spaces - Definition and properties.
Week-7	<u>Unit-3:</u> Hilbert Spaces – Bessel's inequality – Orthogonal complements.
Week-8	<u>Unit-3:</u> Hilbert Spaces - Orthonormal sets. Second Internal Assessment Test.
Week-9	<u>Unit-4:</u> Conjugate space H^* - Adjoint of an operator – Self-adjoint operator.
Week-10	<u>Unit-4:</u> Conjugate space H^* - Normal and Unitary Operators.
Week-11	<u>Unit-4:</u> Projections. <u>Unit-5:</u> Preliminaries on Banach Algebras : Definition and some examples.
Week-12	<u>Unit-5:</u> Preliminaries on Banach Algebras: Regular and singular elements – Topological divisors of zero.
Week-13	<u>Unit-5:</u> Preliminaries on Banach Algebras : Spectrum – the formula for the spectral radius – the radical and semi-simplicity.

Week-14	Revision
Week-15	Model Exam

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Subject Name : LEADERSHIP & COMMUNICATION SKILLS
 Subject Code : 19PBSBE2
 Semester : II
 Staff in Charge : Dr.SHIRLEY GLORIA D.K.

Week	Topics to be covered
Week-1	UNIT I: Leadership-Nature, characteristics or features of leadership-objectives of leadership.
Week-2	UNIT I: Functions or role of a leader-Qualities of a good leader-skills of a leader.
Week-3	UNIT I: Leader Vs Manager-Leadership and management. UNIT II: Leadership styles-Autocratic leadership-Democratic leadership
Week-4	UNIT II: Laissez-Faire leadership or free rein leadership-Bureaucratic leadership style FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT II: Supportive leadership-Charismatic leaders.
Week-6	UNIT III: Communication-Elements of communication-Process of communication.
Week-7	UNIT III: Functions of communication-Features of communication-.
Week-8	UNIT III: Benefits of communication-Principles of communication SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: Methods or types of communication-Formal communication-Merits and demerits-informal communication or grapevine.
Week-10	UNIT IV: Merits and demerits-Rumour-Reasons for spread of rumours-Negative impact of rumours-methods to deal with rumours.
Week-11	UNIT IV: Formal Vs informal communication. UNIT V : Oral communication-Written communication-downward communication
Week-12	UNIT V: Upward communication-Horizontal communication-Types of communication networks.

Week-13	UNIT V: Barriers to communication-Steps to overcome barriers to communication..
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name :Linear Algebra
 Subject Code :19PBMAC1
 Semester :II
 Staff in Charge :Babu.O.S

Week	Topics to be Covered
Week-1	UNIT I:Linear transformations – Isomorphism of vector spaces
Week-2	Representations of linear transformations by matrices – Linear functionals.
Week-3	UNIT II:The algebra of polynomials –Polynomial ideals
Week-4	The prime factorization of a polynomial
Week-5	Determinant functions. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-6	UNIT III:Permutations and the uniqueness of determinants – Classical adjoint of a (square) matrix
Week-7	Inverse of an invertible matrix using determinants
Week-8	Characteristic values – Annihilating polynomials. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: “Diagonalization” Invariant subspaces – Simultaneous triangulations
Week-10	Simultaneous diagonalization – Direct-sum decompositions
Week-11	Invariant direct sums – Primary decomposition theorem.
Week-12	UNIT V: “The Rational and Jordan forms” Cyclic subspaces – Cyclic decompositions theorem (Statement only)
Week-13	Generalized Cayley – Hamilton theorem - Rational forms – Jordan forms.
Week-14	Revision.
Week-15	Model Examination.

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Subject Name : MATHEMATICS FOR COMPETITIVE EXAMINATIONS
 Subject Code : 19PBMA1
 Semester : II
 Staff in Charge : DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I: Problems of Ages,
Week-2	UNIT I: Surds and indices.
Week-3	UNIT II: Profit and Loss,
Week-4	UNIT II: Ratio and Proportions. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT UNIT III: Time
Week-5	UNIT III: work,
Week-6	UNIT III: Time and distance
Week-7	UNIT III: Time and distance
Week-8	UNIT III: Time and work SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: Permutations and
Week-10	UNIT IV: Combinations
Week-11	UNIT IV: Permutations and Combinations
Week-12	UNIT V: Stocks
Week-13	UNIT V: Shares.

Week-14	Revision.
Week-15	Model Examinations.

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Subject Name :Mechanics PG
 Subject Code :19PDMAC4
 Semester :IV
 Staff in Charge :O S Babu

Week	Topics to be Covered
Week-1	UNIT-I: Mechanical Systems: The Mechanical system- Generalized coordinates
Week-2	Constraints - Virtual work
Week-3	Energy and Momentum
Week-4	UNIT-II: Lagrange's Equations: Derivation of Lagrange's equation- Examples FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Integrals of the motion
Week-6	UNIT-III: Hamiltonian's Equations: Hamiltonian's Principle - Hamiltonian's Equations
Week-7	Other variational principles.
Week-8	UNIT-IV: Hamilton-Jacobi Theory: Hamilton's Principle function SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Hamilton –Jacobi Equation
Week-10	Separability.
Week-11	UNIT-V: Canonical Transformation: Differential forms and generating functions
Week-12	Special Transformations
Week-13	Lagrange and Poisson brackets.
Week-14	Revision

Week-15	Model Examination
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Subject Name : NUMERICAL ANALYSIS
 Subject Code : 19PBMAE1A
 Semester : II
 Staff in Charge : Mrs.D.KALPANA

Week	Topics to be Covered
Week-1	UNIT 1 : The solution of nonlinear equations $f(x)=0$.The solution of linear system $AX=B$. Chapter 2 : sec 2.1 to 2.4
Week-2	Chapter 2: sec 2.6 to 2.7
Week-3	Chapter3:sec3.3 to 3.5
Week-4	Chapter3:sec 3.6 ,3.7 FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT 2:Interpolation and polynomial approximation – Curve fitting. Chapter 4 :sec 4.1 , 4.2
Week-6	Chapter 4 :sec 4.3 ,4.4
Week-7	Chapter5 :sec5.1 ,5.2
Week-8	UNIT 3: Numerical Differentiation – Numerical Integration Chapter6 :sec6.1,6.2 SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Chapter 7 :sec 7.1,7.2
Week-10	UNIT 4 :Solution of ordinary differential equations Chapter 9:sec 9.1,9.2,9.3
Week-11	Chapter 9: sec 9.4,9.5,9.6
Week-12	UNIT 5: Solution of partial differential equations Chapter 10 : sec 10.1,10.2
Week-13	Chapter :10.3
Week- 14	Revision

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Subject Name :Mechanics PG
 Subject Code :19PDMAC4
 Semester :IV
 Staff in Charge :O S Babu

Week	Topics to be Covered
Week-1	UNIT-I: Mechanical Systems: The Mechanical system- Generalized coordinates
Week-2	Constraints - Virtual work
Week-3	Energy and Momentum
Week-4	UNIT-II: Lagrange's Equations: Derivation of Lagrange's equation- Examples FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Integrals of the motion
Week-6	UNIT-III: Hamiltonian's Equations: Hamiltonian's Principle - Hamiltonian's Equations
Week-7	Other variational principles.
Week-8	UNIT-IV: Hamilton-Jacobi Theory: Hamilton's Principle function SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Hamilton –Jacobi Equation
Week-10	Separability.
Week-11	UNIT-V: Canonical Transformation: Differential forms and generating functions
Week-12	Special Transformations
Week-13	Lagrange and Poisson brackets.
Week-14	Revision

Week-15	Model Examination
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Subject Name : NUMERICAL ANALYSIS
 Subject Code : 19PBMAE1A
 Semester : II
 Staff in Charge : Mrs.D.KALPANA

Week	Topics to be Covered
Week-1	UNIT 1 : The solution of nonlinear equations $f(x)=0$.The solution of linear system $AX=B$. Chapter 2 : sec 2.1 to 2.4
Week-2	Chapter 2: sec 2.6 to 2.7
Week-3	Chapter3:sec3.3 to 3.5
Week-4	Chapter3:sec 3.6 ,3.7 FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT 2:Interpolation and polynomial approximation – Curve fitting. Chapter 4 :sec 4.1 , 4.2
Week-6	Chapter 4 :sec 4.3 ,4.4
Week-7	Chapter5 :sec5.1 ,5.2
Week-8	UNIT 3: Numerical Differentiation – Numerical Integration Chapter6 :sec6.1,6.2 SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Chapter 7 :sec 7.1,7.2
Week-10	UNIT 4 :Solution of ordinary differential equations Chapter 9:sec 9.1,9.2,9.3
Week-11	Chapter 9: sec 9.4,9.5,9.6
Week-12	UNIT 5: Solution of partial differential equations Chapter 10 : sec 10.1,10.2
Week-13	Chapter :10.3
Week- 14	Revision

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Subject Name : OPTIMIZATION TECHNIQUES
Subject Code : 19PDMAC2
Semester : IV
Staff in Charge :Dr.S.KARTHIGEYAN

Week	Topics to be Covered
Week-1	Unit I : Integer Linear Programming: Introduction – Importance of Integer Programming Problem
Week-2	Unit I : Gomory's Cutting Plane Method.
Week-3	Unit I : Branch and Bound Method.. Unit II : Goal Programming : Introduction - Concept of Goal Programming
Week-4	Unit II : Goal Programming Model formulation – Graphical Solution Method of Goal Programming. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Unit II : Modified Simplex method of Goal Programming.
Week-6	Unit III : Classical Optimization Techniques: Introduction – Unconstrained Optimization – Constrained Multi-variable Optimization with Equality Constraints
Week-7	Unit III : Lagrangian Method - Constrained Multi-variable Optimization with inequality Constraints – Kuhn-Tucker conditions.
Week-8	Unit III : Non-linear Programming Problem: Introduction – Formulation of NLPP – General NLPP – Graphical solution. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV : Quadratic Programming: Introduction – Kuhn-Tucker conditions .
Week-10	Unit IV : General Quadratic Programming Problem – Wolfe's Modified simplex method
Week-11	Unit IV : Beale's Method. Unit V : Dynamic Programming: Introduction – Bellman's Principle of Optimality.
Week-12	Unit V : Minimum Path problem – Single additive constraint: Multiplicative separable return
Week-13	Unit V : Additively separable return – Single multiplicative constraint: Additively

	separable return.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name :Partial Differential equations
Subject Code :19PBMAC3
Semester :II
Staff in Charge :Dr.J. Desdemona Kirubavathi

Week	Topics to be Covered
Week-1	Unit I Formation and solution of PDE of first order,Cauchy problem, Orthogonal surfaces
Week-2	Compatible systems,Charpits method
Week-3	Classification and canonical forms of PDE
Week-4	Unit II Elliptic Differential equations-Derivation of Laplace and Poisson equation,BVPs, Variables separable solution FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Dirichlet and Neumann problem for a rectangle, Interior and exterior Dirichlet problem for a circle
Week-6	Interior Neumann problem for a circle, Solution of Laplace equation in cylindrical and spherical coordinates
Week-7	Unit III Parabolic differential equations- Derivation and elementary solution of diffusion equation, Separation of Variables method
Week-8	Solution of diffusion equation in cylindrical and spherical coordinates SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV Hyperbolic differential equations-Occurence and solution of wave equation (1D), solution by canonical reduction,D Alembert solution, Vibrating string problem
Week-10	Riemann Volterra solution, separable method,simple problems
Week-11	Solution of 1D wave equation in cylindrical and spherical coordinates, Uniqueness theorem
Week-12	Unit V Solution of PDE using Laplace Transforms
Week-13	Solution of PDE using Fourier transforms
Week-14	Revision

Week-15	Model Examination
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Subject Name : **Personality Development**
 Subject Code :19PDSBE4
 Semester : **II**
 Staff in Charge : K.THULUKKANAM

Week	Topics to be Covered
Week-1	Unit I: Personality definition, determinants,heredity.
Week-2	Environment and situation.
Week-3	Self awareness and benefits of self awareness.
Week-4	Unit II :Enhancing self awareness: self analysis,behaviour and motivation. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	Modes of thinking,modes of acting and modes of interacting.
Week-6	Unit III: The BIG FIVE model: Extroversion,agreeableness.
Week-7	Emotional stability and conscientiousness.
Week-8	Openness to experience and self-monitoring. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	Unit IV:Traits for building positive personality: Chief traits for building personality.
Week-10	Concious programming and subconscious programming.
Week-11	Unit V: Personal grooming: Men dress,shirts,trousers,ties,socks,shoes belts and watches.
Week-12	Women dress, hair,shoes /sandal,bags.
Week-13	Accessories.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : **Real Analysis-II**
Subject Code : 19PBMAC2
Semester : **II**
Staff in Charge : K.THULUKKANAM

Week	Topics to be Covered
Week-1	UNIT-I : Measure on the Real line - Lebesgue Outer Measure .
Week-2	Measurable sets.
Week-3	Measurable Functions.
Week-4	UNIT-II : Integration of Functions of a Real variable - Integration of Non-negative functions . FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	The General Integral , Riemann and Lebesgue Integrals.
Week-6	UNIT-III : Fourier Series and Fourier Integrals - Introduction and Orthogonal system of functions .
Week-7	The theorem on best approximation - The Fourier series of a function relative to an orthonormal system.
Week-8	Properties of Fourier Coefficients and The Riesz-Fischer Theorem. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT-IV : Multivariable Differential Calculus - Introduction - The Directional derivative - Directional derivative and continuity.
Week-10	The total derivative and The total derivative expressed in terms of partial derivatives - The matrix of linear function.
Week-11	The Jacobian matrix and The chain rule - The mean - value theorem for differentiable functions - A sufficient condition for differentiability.
Week-12	UNIT-V : Implicit Functions and Extremum Problems : Functions with non-zero Jacobian determinants .

Week-13	The inverse function theorem- and The Implicit function theorem.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : TOPOLOGY
 Subject Code : 19PBMAC4
 Semester : II
 Staff in Charge : DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I: The definition and some Examples- Elementary concepts - open bases and open sub bases
Week-2	UNIT I: weak topologies - The function Algebras $C(X, \mathbb{R})$ and $C(X, \mathbb{C})$.
Week-3	UNIT II: Compactness: Compact Spaces – Products of Spaces
Week-4	UNIT II: Tychonoffs Theorem and locally compact spaces. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT. UNIT III: Compactness for metric spaces
Week-5	UNIT III: Ascoli's Theorem – Separation: T_1 – spaces and Hausdorff spaces- Completely Regular spaces and Normal spaces
Week-6	UNIT III: Separation: T_1 – spaces and Hausdorff spaces
Week-7	UNIT III: Completely Regular spaces
Week-8	UNIT III: Normal spaces SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT.
Week-9	UNIT IV: Urysohn's Lemma and The Tietze extension theorem
Week-10	UNIT IV: The Urysohn's imbedding Theorem
Week-11	UNIT IV: Connected spaces
Week-12	UNIT V: The Components of a space – Totally disconnected spaces
Week-13	UNIT V: locally connected spaces. Approximation: The Weierstrass approximation Theorem.

Week-14	Revision.
Week-15	Model Examinations.

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Subject Name :COMPLEX ANALYSIS
 Subject Code :19PDMAC1
 Semester :IV
 Staff in Charge :DR.A.SAROJINI

Week	Topics to be Covered
Week-1	UNIT I:Cauchy's Integral Formula: Definition of Analytic Function and Introduction to Complex Integration,The Index of a point with respect to a closed curve,The integral formula,Higher Derivatives.
Week-2	UNIT I:Local properties of Analytic functions: Removable singularities,Taylor's Theorem,Zeros and Poles.
Week-3	UNIT I: The Local Mapping,The maximum principle. UNIT II:The General form of Cauchy's Theorem: Chains and Cycles.
Week-4	UNIT II:Simple continuity,Homology,The General statement of Cauchy's Theorem,Proof of Cauchy's Theorem. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT II:Calculus of Residues: The Residue Theorem,The Argument Principle.
Week-6	UNIT III:Harmonic Functions: Definition of Harmonic function and basic properties,Mean Value Property.
Week-7	UNIT III:Poisson Formula. Harmonic functions and Power series expansions: Schwarz Theorem,The Reflection Principle.
Week-8	UNIT III:Weierstrass's Theorem,Taylor's series,Laurent series. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT.
Week-9	UNIT IV:Partial Fractions and Factorization: Partial Fractions,Infinite Products.
Week-10	UNIT IV:Canonical Products,Gamma function. UNIT V:Simply Periodic Functions: Representation by Exponentials.

Week-11	UNIT V:The Fourier Developments,Functions of Finite order. Doubly Periodic Functions: The Period Module.
Week-12	UNIT V:Unimodular Transformations,Canonical basis,General Properties of Elliptic functions.
Week-13	UNIT V:The Weierstrass Theory: The Weierstrass P function,The functions $\zeta(z)$ and $\sigma(z)$,The Differential Equation.
Week-14	Revision.
Week-15	Model Examinations.

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Subject Name : Fluid Dynamics
Subject Code : 19PDMAE1C
Semester : IV
Staff in Charge : A.R. RAGAVAN

Week	Topics to be Covered
Week-1	UNIT-I : Kinematics of Fluids in motion. Real fluids and Ideal fluids- Velocity of a fluid at a point, Stream lines , path lines , steady and unsteady flows- Velocity potential - The vorticity vector
Week-2	Local and particle rates of changes - Equation of continuity - Worked examples - Acceleration of a fluid
Week-3	UNIT –II: Equations of motion of a fluid. Pressure at a point in a fluid at rest.- Pressure at a point in a moving fluid
Week-4	Euler’s equation of motion - Bernoulli’s Equation – Examples FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT –III: Some three dimensional flows. Introduction- Sources, sinks and doublets
Week-6	Images in a rigid infinite plane
Week-7	Axi symmetric flows : Stokes stream function
Week-8	UNIT-IV : Some two dimensional flows : Meaning of two dimensional flow – Use of Cylindrical polar coordinates - The stream function SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	The complex potential for two dimensional , irrotational, incompressible flow - Complex velocity potentials for standard two dimensional flows - Some worked examples
Week-10	Two dimensional Image systems - The Milne Thompson circle Theorem and some of its applications.
Week-11	UNIT-V : Stress components in a real fluid. - Relations between Cartesian components of stress- Translational motion of fluid element
Week-12	The rate of strain quadric and principle stresses - Some further properties of the rate of strain quadric - Stress analysis in fluid motion - Relation between stress and rate of strain
Week-13	The coefficient of viscosity and Laminar flow - The Navier – Stokes equations of motion of a Viscous fluid

Week-14	Revision
Week-15	Model Examination

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Subject Name : FUNCTIONAL ANALYSIS
 Subject Code : 19PDMAC3
 Semester : IV
 Staff in Charge : Dr. G.PALANI

Week	Topics to be Covered
Week-1	<u>Unit-1:</u> Banach Spaces : Definition – Some examples.
Week-2	<u>Unit-1:</u> Banach Spaces : Continuous Linear Transformations.
Week-3	<u>Unit-1:</u> Banach Spaces : The Hahn-Banach Theorem . <u>Unit-2:</u> The natural embedding of N in N^{**} .
Week-4	<u>Unit-2:</u> - Open mapping theorem –closed graph theorem. First Internal Assessment Test.
Week-5	<u>Unit-2:</u> Conjugate of an operator.
Week-6	<u>Unit-3:</u> Hilbert Spaces - Definition and properties.
Week-7	<u>Unit-3:</u> Hilbert Spaces – Bessel's inequality – Orthogonal complements.
Week-8	<u>Unit-3:</u> Hilbert Spaces - Orthonormal sets. Second Internal Assessment Test.
Week-9	<u>Unit-4:</u> Conjugate space H^* - Adjoint of an operator – Self-adjoint operator.
Week-10	<u>Unit-4:</u> Conjugate space H^* - Normal and Unitary Operators.
Week-11	<u>Unit-4:</u> Projections. <u>Unit-5:</u> Preliminaries on Banach Algebras : Definition and some examples.
Week-12	<u>Unit-5:</u> Preliminaries on Banach Algebras: Regular and singular elements – Topological divisors of zero.
Week-13	<u>Unit-5:</u> Preliminaries on Banach Algebras : Spectrum – the formula for the spectral radius – the radical and semi-simplicity.

Week-14	Revision
Week-15	Model Exam

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Subject Name : LEADERSHIP & COMMUNICATION SKILLS
 Subject Code : 19PBSBE2
 Semester : II
 Staff in Charge : Dr.SHIRLEY GLORIA D.K.

Week	Topics to be covered
Week-1	UNIT I: Leadership-Nature, characteristics or features of leadership-objectives of leadership.
Week-2	UNIT I: Functions or role of a leader-Qualities of a good leader-skills of a leader.
Week-3	UNIT I: Leader Vs Manager-Leadership and management. UNIT II: Leadership styles-Autocratic leadership-Democratic leadership
Week-4	UNIT II: Laissez-Faire leadership or free rein leadership-Bureaucratic leadership style FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-5	UNIT II: Supportive leadership-Charismatic leaders.
Week-6	UNIT III: Communication-Elements of communication-Process of communication.
Week-7	UNIT III: Functions of communication-Features of communication-.
Week-8	UNIT III: Benefits of communication-Principles of communication SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: Methods or types of communication-Formal communication-Merits and demerits-informal communication or grapevine.
Week-10	UNIT IV: Merits and demerits-Rumour-Reasons for spread of rumours-Negative impact of rumours-methods to deal with rumours.
Week-11	UNIT IV: Formal Vs informal communication. UNIT V : Oral communication-Written communication-downward communication
Week-12	UNIT V: Upward communication-Horizontal communication-Types of communication networks.

Week-13	UNIT V: Barriers to communication-Steps to overcome barriers to communication..
Week-14	Revision.
Week-15	Model Examinations.

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ACADEMIC YEAR 2020-21
(EVEN SEMESTER)

Subject Name :Linear Algebra
 Subject Code :19PBMAC1
 Semester :II
 Staff in Charge :Babu.O.S

Week	Topics to be Covered
Week-1	UNIT I:Linear transformations – Isomorphism of vector spaces
Week-2	Representations of linear transformations by matrices – Linear functionals.
Week-3	UNIT II:The algebra of polynomials –Polynomial ideals
Week-4	The prime factorization of a polynomial
Week-5	Determinant functions. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-6	UNIT III:Permutations and the uniqueness of determinants – Classical adjoint of a (square) matrix
Week-7	Inverse of an invertible matrix using determinants
Week-8	Characteristic values – Annihilating polynomials. SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: “Diagonalization” Invariant subspaces – Simultaneous triangulations
Week-10	Simultaneous diagonalization – Direct-sum decompositions
Week-11	Invariant direct sums – Primary decomposition theorem.
Week-12	UNIT V: “The Rational and Jordan forms” Cyclic subspaces – Cyclic decompositions theorem (Statement only)
Week-13	Generalized Cayley – Hamilton theorem - Rational forms – Jordan forms.
Week-14	Revision.
Week-15	Model Examination.

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ACADEMIC YEAR 2020-21
(EVEN SEMESTER)

Subject Name : MATHEMATICS FOR COMPETITIVE EXAMINATIONS
 Subject Code : 19PBMA1
 Semester : II
 Staff in Charge : DR.M.K.PURUSHOTHKUMAR

Week	Topics to be Covered
Week-1	UNIT I: Problems of Ages,
Week-2	UNIT I: Surds and indices.
Week-3	UNIT II: Profit and Loss,
Week-4	UNIT II: Ratio and Proportions. FIRST INTERNAL ASSESSMENT TEST & ASSIGNMENT UNIT III: Time
Week-5	UNIT III: work,
Week-6	UNIT III: Time and distance
Week-7	UNIT III: Time and distance
Week-8	UNIT III: Time and work SECOND INTERNAL ASSESSMENT TEST & ASSIGNMENT
Week-9	UNIT IV: Permutations and
Week-10	UNIT IV: Combinations
Week-11	UNIT IV: Permutations and Combinations
Week-12	UNIT V: Stocks
Week-13	UNIT V: Shares.

Week-14	Revision.
Week-15	Model Examinations.

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Class : M.Sc. **Zoology** - I year Semester: I
Subject Code : 19AAZC1
Name of the Subject: **FUNCTIONAL MORPHOLOGY OF INVERTEBRATES**
Subject In charge : Dr K. MOHAN

Week	Topics to be Covered
Week -1	Principles of Animal Taxonomy, species concept
Week -2	Origin of coelome formation and its types
Week -3	Origin and Evolution of Metazoa
Week -4	Locomotion in Protozoa, pseudopodia, flagella and cilia
Week -5	Hydrostatic movement in Coelenterates and Feeding mechanism,
Week -6	Parasitic adaptation in helminthes and larval forms
Week -7	Theories on origion of metamerism
Week -8	Filter feeding in polycheata, Mollusca and Echinodermata
Week -9	Larval form and its evolutionary significance of Crustacean, Mollusca and Echinodermata
Week -10	Advanced nervous system in Annelids, Arthropods and mollusca
Week -11	Organs of excretion : nephridia, malphigian tubules.
Week -12	Organs of respiration gills, lungs and trachea
Week -13	Respiratory pigments and Mechanism of respiration in invertebrates.
Week -14	Structure and peculiarities of Minor phyla
Week -15	Affinities of Rotifera, Chaetogantha, phoronida, Endoprocta and Ectoprocta

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Class : M.Sc. Zoology - I year Semester: I
Subject Code : **19PAAZC2**
Name of the Subject: **Comparative Anatomy of Chordates**
Subject In charge : Dr K SAMYAPPAN

Week	Topics to be Covered
Week -1	Prochordate phylogeny-
Week -2	Evolutionary position of Ostracoderms, Placoderms in the evolution of the jawed vertebrates
Week -3	Origin and classification of vertebrates – Origin of mammals
Week -4	Vertebrate integument and its derivatives
Week -5	Evolution of heart in fishes, amphibians, reptiles, birds and mammals.
Week -6	Evolution of aortic arches and portal systems
Week -7	Comparative account of respiratory organs in fishes, amphibians, reptiles,
Week -8	Evolution of kidney and their ducts in vertebrates
Week -9	Comparative account of jaw suspensorium
Week -10	Comparison of forelimbs, hindlimbs, in amphibians, reptiles, birds and mammals
Week -11	Comparison of pectoral girdle and pelvic girdle in amphibians, reptiles, birds and mammals
Week -12	Types of vertebra and Vertebral column of vertebrates
Week -13	Sense organs – Receptors in vertebrates
Week -14	Comparative anatomy of the brain in vertebrates in relation to its functions
Week -15	Lateral line system and Electoreception in fishes

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Class : M.Sc. Zoology - I year Semester: I
Subject Code : **19PAAZC3**
Name of the Subject: **Evolution and Animal Behaviour**
Subject In charge : Dr T KUMARAN AND Dr R SARAIVANAN

Week	Topics to be Covered
Week -1	Emergence of Evolutionary theories- Lamarckism and Darwinism – concepts
Week -2	Evolutionary synthesis - Modern Synthetic theory of evolution
Week -3	Molecular Evolution - Role of genes in evolution - Evolution of gene families
Week -4	Modern understanding of Natural selection
Week -5	Polymorphism- Transient and Stable- Maintenance of Polymorphism
Week -6	Patterns and trends in Evolution – Microevolution, Macroevolution and Megaevolution
Week -7	Simpson's adaptive grid. Phylogenetic gradualism and punctuated equilibrium
Week -8	Population genetics- Metapopulations - Monitoring natural populations
Week -9	Human Evolution- Evolution of Anthropoid primates – The first Hominids - Origin of Modern man
Week -10	Classification of animal behaviour – Inborn animal behaviour- (Taxis, kinesis, Reflex, Instincts) - Acquired animal behavior
Week -11	Chronobiology - Biological clock- Biological rhythms in animals
Week -12	Sociobiology - Territoriality, Aggressive behavior and Sexual and Mating behaviour among animals
Week -13	Communication in animals – Types of communication in animals- Components
Week -14	Visual communication in honey bees and birds, Auditory (Vocal /Sound) communication in birds and mammals.
Week -15	Chemical communication – Pheromones of insects, Pheromones of mammals.

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Class : M.Sc. **Zoology** - I year Semester: I

Subject Code : **19PAAZE1**

Name of the Subject: **MICROBIOLOGY**

Subject In charge : Dr T MATHURAM

Week	Topics to be Covered
Week -1	Contribution of scientists to microbiology - Classification of microbes
Week -2	Ultra structure of bacteria Ultra structure of fungi, Yeast, Viruses - virioids and prions
Week -3	Sterilization techniques
Week -4	Culture media - Types of culture media, Pure culture techniques
Week -5	Staining techniques
Week -6	Microbial growth - Factors influencing microbial growth
Week -7	Microbial ecology
Week -8	Application of soil beneficial microbes in agriculture
Week -9	Biofuels - Biomining
Week -10	Nitrogen fixing bacteria
Week -11	Viral diseases
Week -12	Bacterial diseases
Week -13	Antibiotics and production of antibiotics
Week -14	Microbes in food - Dairy and Non Dairy products
Week -15	Food Spoilage - Food Preservation

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Class : M.Sc. Zoology - II year Semester: III

Subject Code : 19PCAZC1

Name of the Subject: **BIOCHEMISTRY AND BIOPHYSICS**

Subject In charge : Dr M.Sasikala

Week	Topics to be Covered
Week -1	Electronic configuration of atoms,Bonds,Covalent bonds,
Week -2	Vanderwal's force,hydrophilc and hydrophobic
Week -3	Nature of bonds,structure of biomolecules
Week -4	Structure of proteins, Ramachandran plot
Week -5	Enzymes-classification, kinetics,Inhibitory,Isoenzymes
Week -6	Carbohydrate metabolism, Bioenergetics,
Week -7	Protein metabolism,Lipid metabolism,Fattyacids
Week -8	pH,Acid base balance,Buffer system in blood
Week -9	Diffusion,Fick's&Donnan equilibrium,Osmotic pressure
Week -10	Law of Thermodynamics,entropy, enthalpy,open and closed and isolated,
Week -11	Glycogenesis, Glucuneogenesis, Glycogenolysis
Week -12	Oxidation of fatty acids, Biosynthesis of Cholesterol
Week -13	Ionizing radiation,exposure and dose,Autoradiography
Week -14	Biological effects of radiation,cellular effects
Week -15	Application of radioactive traces,radiation protection and therapy

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Class : M.Sc. Zoology - II year Semester: III

Subject Code : 19PCAZC2

Name of the Subject: **ANIMAL PHYSIOLOGY**

Subject In charge : Dr V.MATHIVANNAN

Week	Topics to be Covered
Week -1	Digestion and absorption in the gastrointestinal tract
Week -2	Role of gastrointestinal hormones in digestion
Week -3	Heart - Haemodynamics, origin and conduction of cardiac impulse. Pace maker , ECG, phases of cardiac cycle
Week -4	Respiratory physiology — Respiratory gases – uptake – respiratory pigments – O ₂ and CO ₂ dissociation curves –
Week -5	Respiratory adjustments - hypoxia and oxygen therapy , dyspnoea . Adaptations at High altitude - mountain sickness and acclimatization
Week -6	Stress Physiology
Week -7	Mechanism of excretion – physiology- counter current mechanism -
Week -8	Physiological adaptation to osmotic and ionic stress; mechanism of cell volume regulation
Week -9	Acclimation and acclimatization - Physiological adaptations of different environments
Week -10	Neurons – action potential – nerve impulse transmission – neurotransmitters
Week -11	Synapse structure - synaptic transmission , Neuro-degenerative diseases.
Week -12	Muscle contraction – Theories – Contractile proteins - molecular mechanism of muscle contraction. Energetics of muscle contraction
Week -13	Thermoregulation in poikilotherms and homeotherms - Endothermy
Week -14	Physiological response to body exercise - Meditation, Yoga and their effects
Week -15	Bioluminescence: light producing organs in invertebrates and vertebrates

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Class : M.Sc. **Zoology** - II year Semester: III
Subject Code : **19PCAZC3**
Name of the Subject: **IMMUNOLOGY**
Subject In charge : Dr I MALAICHELVI

Week	Topics to be Covered
Week -1	Immunity and Types of Immunity, Lymphoid organs, Lymphocyte
Week -2	Immunogenicity, Antigenicity and Super antigens Immunoglobulins
Week -3	Organizatition and expression of Ig genes,Antibody Interaction
Week -4	Complement system, MHC and HLA antigens
Week -5	Molecular component and structure, differentiation of of T cells
Week -6	Molecular component and structure, differentiation of of B cells
Week -7	Humoral- mediated immune response
Week -8	Cell - mediated immune response, Antigen processing and presentation
Week -9	Cytokines – features, cytokines receptors
Week -10	Cell adhesion molecules, CTL and NK cell – mechanism of action
Week -11	Immunological tolerance- central , peripheral and acquired tolerance
Week -12	Hypersensitivity – types and Immunological reactions
Week -13	Autoimmunity and autoimmune diseases
Week -14	Tumor immunology-types,tumor antigens, Immune response to antigen
Week -15	Transplantation immunology, Immunological technique

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Class : M.Sc. Zoology - II year Semester: III

Subject Code : **19PCAZE1**

Name of the Subject: **BIOINSTRUMENTATION**

Subject In charge : Dr N.THIRUNAVUKKARASU

Week	Topics to be Covered
Week -1	Units of measurements
Week -2	Electron microscope (SEM & TEM), fluorescent microscope, phase contrast microscope, photomicrography
Week -3	chromosome banding techniques (G,C,Q,R. Banding). Flow cytometry - Fluorescence in situ hybridization - (FISH)
Week -4	Centrifugation
Week -5	UV- visible spectrophotometer- Beer Lambert Law. Principle and application of Flame photometer
Week -6	X-ray diffraction
Week -7	Chromatography- Paper, thin layer, column,.
Week -8	Chromatography - Ion exchange , GC and HPLC
Week -9	Electrophoresis: Paper, Agarose gel, and SDS-PAGE
Week -10	Histological techniques- Mechanism of staining and vital stains
Week -11	Histochemical Localization- DNA, RNA, protein, lipid and carbohydrates
Week -12	cryopreservation of cells, tissues, organs and organisms
Week -13	Animal Cell Culture
Week -14	Immunotechniques - Immunodiffusion, Immunoelectrophoresis,
Week -15	ELISA (Direct, Indirect and Competitive), RIA, Immunodetection - Immunoblotting technique

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Class : M.Sc. Zoology - II year

Semester: III

Subject Code : **19PCAZD1**

Name of the Subject: **MAMMALIAN ENDOCRINOLOGY**

Subject In charge : Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Classification of hormones based on chemical nature. Hormone secretions
Week -2	Hormone transport. Hormonal feedback in homeostasis- Negative and positive feed back mechanisms through endocrine axis.
Week -3	Mechanism of hormone action- Mechanism of action of peptide hormones
Week -4	Mechanism of action of Steroid hormones
Week -5	Hypothalamo-hypophyseal system - localization, chemistry and actions
Week -6	Thyroid gland - Biosynthesis of thyroid hormones, Control of secretion and Biological functions – Disorders- Hypothyroidism, Hyperthyroidism
Week -7	Parathyroid gland- Role of parathormone, calcitonin and vitamin D in calcium homeostasis
Week -8	Endocrine pancreas
Week -9	Adrenal cortex: Structure, Hormone secretion, Biosynthesis and Control of mineralocorticoid and glucocorticoid secretions.
Week -10	Adrenal medulla: Catecholamine biosynthesis, release and its physiological
Week -11	Disorders with reference to Addisons disease and Cushing's syndrome Disorders with reference to Gigantism, Acromegaly, Diabetes insipidus
Week -12	Testis: Organization and Hormone secretion – Chemical structure of
Week -13	Ovary: Structure - Hormone secretion- Chemical structure of estrogens
Week -14	Physiological role of estrogen, progesterone and relaxin . Hormones of placenta and their functions
Week -15	Physiological roles of glucocorticoids and mineralocorticoids

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Class : M.Sc. **Zoology** - I year Semester: II
Subject Code : **19PBAZC1**
Name of the Subject: **CELL AND MOLECULAR BIOLOGY**
Subject In charge : Dr V.Mathivannan

Week	Topics to be Covered
Week -1	Biomembranes - Molecular composition and arrangement
Week -2	Transport across cell membrane- Diffusion, active transport and pumps
Week -3	uniports, symports and antiport - Membrane potential - Co-transport by symports or antiports
Week -4	Microfilaments and microtubules-structure and dynamics – Role of Microtubulins in mitosis
Week -5	Cell movements- intracellular transport, role of kinesin and dynein.
Week -6	Cell-cell signalling - Cell surface receptors - Second messenger system - MAP kinase pathways - Signalling from plasma membrane to nucleus
Week -7	Cell- cell adhesion and Communication
Week -8	Gap junctions and connexions
Week -9	Cell cycle - cyclins and cyclin dependent kinases, Regulation of CDK -cyclin
Week -10	Genome Organization - Unique, repetitive, Non repetitive DNA, C- value paradox
Week -11	Morphological and Functional elements of Eukaryotic Chromosomes
Week -12	Eukaryotic DNA Replication and Enzymology. DNA repair – Direct, excision, Mismatch repair and recombinational repair
Week -13	Intracellular protein traffic - Protein synthesis on free and bound polysomes Golgi sorting, post-translational modifications - Biogenesis of mitochondria and nuclei - Trafficking mechanisms
Week -14	Biology of cancer - Oncogenes - Retroviral and Proto-oncogene. Tumor suppressor genes
Week -15	Apoptosis-definition, mechanism and significance - Genes involved in apoptosis

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Class : M.Sc. **Zoology** - I year Semester: II

Subject Code : **19PBAZC2**

Name of the Subject: **GENETICS**

Subject In charge : Dr R SARVANAN

Week	Topics to be Covered
Week -1	Concept of gene
Week -2	Codominance, incomplete dominance, gene interactions, pleiotropy, genomic imprinting
Week -3	linkage and crossing over, sex linkage, sex limited and sex influenced characters
Week -4	Gene mapping methods: Linkage maps, tetrad analysis, mapping with molecular markers
Week -5	Gene mapping methods: Linkage maps, tetrad analysis, mapping with molecular markers
Week -6	Extra chromosomal inheritance: Inheritance of Mitochondrial genes
Week -7	Microbial genetics: Methods of genetic transfers
Week -8	Human genetics: Pedigree analysis, lod score for linkage testing, karyotypes, genetic disorders
Week -9	Population Genetics: Genetic equilibrium
Week -10	Mutation: Types, causes and detection, mutant types
Week -11	Structural and numerical alterations of chromosomes
Week -12	Gene Recombination : Homologous and Non-homologous recombination.
Week -13	Gene regulation – genome analysis — RNA processing
Week -14	Eukaryotic transcription – Transcription Factors and regulation
Week -15	Eukaryotic translation - Control and regulation. Post translational modifications

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Class : M.Sc. **Zoology** - I year Semester: II
Subject Code : **19PBAZC3**
Name of the Subject: **Environmental Biology and Biodiversity Conservation**
Subject In charge : Dr K.Mohan

Week	Topics to be Covered
Week -1	Physical environment; biotic environment; biotic and abiotic interactions
Week -2	Habitat and Niche: Concept of habitat and niche; niche width and overlap; fundamental and realized niche
Week -3	Biogeochemical cycles – Gaseous and sedimentary cycle
Week -4	Population Ecology: Characteristics of a population
Week -5	concept of metapopulation
Week -6	Species Interactions: Types of interactions, interspecific competition
Week -7	Community Ecology: Nature of communities; community structure and attributes
Week -8	Ecological Succession
Week -9	Ecosystem structure and function
Week -10	Structure and function of Indian ecosystems
Week -11	Estuaries - Productivity of an estuary. Mangroves
Week -12	Environmental pollution and Bioremediation; global environmental change , e-waste management
Week -13	Biodiversity: status, monitoring and documentation; major drivers of biodiversity change; biodiversity management approaches.
Week -14	Conservation Biology: Principles of conservation, major approaches to management
Week -15	Biogeography: Major terrestrial biomes; theory of island biogeography

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Class : M.Sc. **Zoology** - I year Semester: II

Subject Code : **19PBAZE1**

Name of the Subject: **APPLIED ENTOMOLOGY**

Subject In charge : Dr T KUMARAN

Week	Topics to be Covered
Week -1	Outline classification- Classification of insects
Week -2	Metamorphosis – ametabolous, holometabolus and hemimetabolous development
Week -3	Insect Organization and structure
Week -4	Types of damage- injuries and loss caused to plants - factors governing the outbreak of pests.
Week -5	Pests affecting agricultural crops
Week -6	Pests affecting agricultural crops
Week -7	Sericulture Grainage Technology-Procedures for seed Selection for rearing
Week -8	Silk worm rearing-Chawaki rearing and Late age rearing techniques. Rearing appliances
Week -9	Mountages- Types and importance . Composition of cocoons – Physical
Week -10	Types of Honey bees for rearing- Bee rearing- Modern bee hive structure
Week -11	Honey extractor and extraction of honey, Chemical composition, nutritional and medicinal value of honey.
Week -12	Lac culture-Host plants for lac insect, Cultivation of lac - Inoculation.Swarming and harvesting of lac). Processing of lac..
Week -13	Vector borne diseases
Week -14	Pest management strategies and tools
Week -15	Hormone analogs - Integrated Pest Management (IPM)

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Class : M.Sc. **Zoology** - I year Semester: II
Subject Code : **19PBAZD1**
Name of the Subject: **BIostatistics and Bioinformatics**
Subject In charge : Dr K SAMYAPPAN AND Dr R SARAVANAN

Week	Topics to be Covered
Week -1	Collection and representation of data- Graphical and diagrammatic representation of data
Week -2	Measure of central tendency- Arithmetic mean - computation for (ungrouped , discrete and continuous frequency distributions) – median and mode
Week -3	Measures of dispersion- Standard deviation –Computations and Interpretations
Week -4	Hypothesis testing - null hypothesis - level of significance - degrees of freedom
Week -5	Test of significance: Chi-square test for goodness of fit, homogeneity
Week -6	Student's 't' test- Applications- Test of significance T-tests ANOVA- One way - Principle and applications , F test
Week -7	Correlation: Definition and types - simple, multiple, partial, linear, nonlinear, mutual, cause and effect, etc
Week -8	Regression analysis: derivation of regression equations between two variables- regression coefficient - construction of regression lines
Week -9	Computation of Karl Pearson's Co-efficient of correlation - testing its
Week -10	Information networks in bioinformatics- Biological databases – Nucleic acid databases - Protein sequence data bases
Week -11	Protein structural databases - MMDB, FSSP, SCOP and CATH.
Week -12	Sequence alignment - Global and local alignment - pair wise and multiple sequence alignment
Week -13	Bioinformatic tools - Homology and similarity search tools
Week -14	Molecular phylogenetics- Construction of phylogenetic tree
Week -15	Biomolecular structural visualization tools -RASMOL, SWISS PDB viewer - Data Retrieval systems- Locus Link, SRS, PubMed, Entrez

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Class : M.Sc. Zoology - II year Semester: IV
Subject Code : 19PDAZC1

Name of the Subject: **DEVELOPMENTAL BIOLOGY**

Subject In charge : Dr I MALAICHELVI

Week	Topics to be Covered
Week -1	Mechanism of gametogenesis, hormonal regulation , vitellogenesis
Week -2	Molecular events of fertilization, cell surface molecules in sperm egg recognition
Week -3	Factors affecting cleavage – molecular changes during cleavage
Week -4	Blastula formation , Morphogenetic movements,
Week -5	Embryonic fields- formation of germ layers ‘ Embryogenesis and symmetry
Week -6	Cell aggregation and differentiation in Dictyostelium – Axes and pattern formation in Drosophila
Week -7	Amphibia and chick – organogenesis – vulva formation in <i>Caenorhabditis elegans</i>
Week -8	Eye lens induction and limb development in frog, Differentiation of neurons- mammals
Week -9	Organizer concept – gradient theory and factors Embryonic induction –
Week -10	Placenta – classification and distribution , Implantation in Mammals
Week -11	Stem cells – Embryonic and adult – Application stemcell and Ethical issues
Week -12	Male and female infertility – Assisted reproductive technology
Week -13	Amniocentesis, contraceptives methods - Immunocontraceptives
Week -14	Metamorphosis in insect and Amphibia - regeneration
Week -15	Apoptosis-sensence-and its mechanism

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Class : M.Sc. Zoology - II year Semester: IV

Subject Code : 19PDAZC2

Name of the Subject: **BIOTECHNOLOGY**

Subject In charge : Dr M.SASIKALA

Week	Topics to be Covered
Week -1	recombinant DNA technology and gene cloning - Restriction enzymes and ligases. Genomic libraries - c-DNA libraries - Preparation of cDNA
Week -2	Types of vectors- Plasmids, cosmids, lambda phage vectors, shuttle vectors, YACS, BACS, Expression vectors in bacteria and eukaryotes, Cloning vector for mammalian cells - Simian Virus 40
Week -3	Screening for transformants - Characterisation of transformants
Week -4	Isolation and sequencing of DNA- Maxim- Gilbert, Sanger's dideoxy methods., PCR
Week -5	Molecular markers - RAPD, RFLP, AFLP
Week -6	Blotting techniques, DNA finger printing- Techniques and applications - Biochips and Biosensors
Week -7	Organ and Whole embryo culture Cell lines
Week -8	Somatic Animal cell fusion – Somatic Embryogenesis
Week -9	Tissue Engineering- Artificial skin and cartilage
Week -10	Human gene therapy- Types and Methods of gene therapy
Week -11	Design of bioreactor – Stages involved in fermentation process
Week -12	Fermentation products- Primary metabolites and Secondary metabolites
Week -13	Production and industrial applications of primary metabolites
Week -14	Immobilized enzymes and applications Enzymes technology - Industrial applications and uses of microbial enzymes
Week -15	Biotechnology Regulations- Biosafety- Hazards of Genetically modified organisms (GMO's) and GM foods .

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M.Sc., Degree Programme in Zoology
Teaching plan (EVEN semester – 2020 -21)

Class : M.Sc. **Zoology** - II year Semester: IV

Subject Code : **19PDAZE1**

Name of the Subject: **RESEARCH METHODOLOGY**

Subject In charge : Dr N.THIRUNAVUKKARASU

Week	Topics to be Covered
Week -1	Concepts of research
Week -2	Types of research
Week -3	Research formulation
Week -4	Defining and formulating the research problem
Week -5	Sample designs- Characteristics and different types of sample design.
Week -6	Data collection techniques
Week -7	Hypothesis- Null and alternate hypothesis, testing the hypothesis –Theory and principle
Week -8	Literature review
Week -9	Abstracting and indexing sources, reviews, monographs
Week -10	Sources of information - primary and secondary sources
Week -11	Scientific writing- characteristics - Presentation techniques
Week -12	Reference styles- Harvard and Vancouver systems.
Week -13	Project proposal writing
Week -14	Laboratory safety and IPR
Week -15	Bioethics: Working with man and animals - consent - animal ethical committees and constitution.

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Class : M.Sc. Zoology - II year Semester: IV

Subject Code : 19PDAZE2

Name of the Subject: **AQUACULTURE**

Subject In charge : Dr T MATHURAM

Week	Topics to be Covered
Week -1	Importance of Aquaculture - Present status, prospects and scope in India
Week -2	Types of Aquaculture
Week -3	Types of fish culture, Topography, site selection
Week -4	Control of parasites, predators Fish farm implements
Week -5	Fish feed and seed production - Hatchery techniques for freshwater organisms
Week -6	Shrimp Hatchery techniques - Shrimp culture technology
Week -7	Brackish water fish culture - Oyster culture
Week -8	Economic importance of lobster, sea urchin and sea cucumber
Week -9	Types of sea weeds
Week -10	Fish and Shrimp diseases and health management
Week -11	Non-infectious - environmental and nutritional diseases
Week -12	Different types of crafts and gears for fishing
Week -13	By products of fish industry
Week -14	Fisheries economics and marketing
Week -15	Central aquaculture research organization



Principal
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