

TEACHING PLAN –EVEN 2021-2022

A. GENERAL INFORMATION

Name of the Faculty	:	Dr. N.Sarala
Department	:	Mathematics
Programme	:	M.Sc
Programme Code	:	PSM
Name of the Paper	:	Fuzzy sets and its Applications
Lecture Hours / Practical Hours	:	90 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To introduce the fundamental of Fuzzy Set Theory and its connection with Fuzzy Logic.• To Particular emphasis is given to a comprehensive coverage of operations on fuzzy sets.• To Analyse the various types of Fuzzy Arithmetic Operations.• To introduce the various relations of fuzzy Relations.• The concept of fuzzy measure is introduced.	<p>On completion of the course, the student will be able to</p> <ul style="list-style-type: none">• Understand the concept of fuzzy theory and its application in real life problems.• Acquire the knowledge about the uncertainty environment through the fuzzy sets that incorporates imprecision and subjectivity into the model formulation and solution process.• Understand the concept of fuzzy numbers and linguistic variables to solving the uncertainty problems.• Concepts and properties of crisp relations are discussed and to	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method,• Laboratory Method• Project Method,• Problem Solving Method

	<p>demonstrate their generalized application to fuzzy relations.</p> <ul style="list-style-type: none"> the concept of fuzzy measure provides general frame work for dealing with ambiguity. 	
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> Basic Concepts of Crisp sets and Fuzzy set Additional Properties of α – cut Representation of Fuzzy Set Extension Principles for Fuzzy set 	21.02.22 to 08.03.22	4 Hrs 3 Hrs 4 Hrs 4 Hrs	-	-
Unit II	<ul style="list-style-type: none"> Types of operations Fuzzy complements Fuzzy Intersection: t-Norms Fuzzy Unions: t-Conorms. Combinations of Operations 	09.03.22 to 25.03.22	4 Hrs 4 Hrs 4 Hrs 3 Hrs	-	-
Unit III	<ul style="list-style-type: none"> Fuzzy numbers Linguistic variables Arithmetic operations on intervals Arithmetic operations on Fuzzy numbers. 	26.03.21 to 13.04.22	4 Hrs 4 Hrs 4 Hrs 3 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> Binary Fuzzy Relations Binary Relations on a Single Set Fuzzy Equivalence Relations 	17.04.22 to 06.05.22	3 Hrs 3 Hrs 3 Hrs	-	-

	<ul style="list-style-type: none"> Fuzzy Compatibility Relations Fuzzy Ordering Relations. 		3 Hrs		
			3 Hrs		
Unit V	<ul style="list-style-type: none"> Individual Decision Making Multi person Decision Making Fuzzy Ranking Method Fuzzy Linear Programming 	09.05.22 to 27.05.22	4 Hrs 4 Hrs 4 Hrs 3 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date 09.03.22, 16.03.22, 11.4.22, 19.4.22,
Assignment	12.5.22
Quiz	12.3.22, 16.4.22
Seminar	18.04.22
Tutor Ward Meeting	04.05.22, 1.5.22
	Every Saturday

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Dr..R.Vanitha
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Graph Theory
Lecture Hours	:	90 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To know about graph, paths and circuits• To understand the concept of Trees and fundamental circuits.• To identify cut-sets and cut-vertices in a graph.• To gain the knowledge of Planar and Dual graphs• To know the concept of matrix representation of graphs and coloring	<p>Learners will be able to</p> <ul style="list-style-type: none">• Define Basic Concepts of graph theory and present proofs for the most important theorems.• Compute spanning trees cut-sets and cut-vertices.• Identify planar graphs.• Understand the Dual graphs and matrix representation of graphs• Enumerate chromatic number and colouring of graphs	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Definition of graphs and examples • Paths and circuits • Euler Graphs • Hamiltonian paths and circuits 	21.02.2022 to 05.03.2022	2 Hrs 5 Hrs 4Hrs 4 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Trees and some properties • Distance and centers in a tree • Spanning trees • Fundamental circuits and cut-sets 	07.03.2022 to 22.03.2022	3 Hrs 4Hrs 4Hrs 4Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Cut-sets and some properties • Fundamental circuits • Connectivity and separability • Network flow 	23.03.2022 to 09.04.2022	4 Hrs 4 Hrs 4Hrs 3Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Planar graphs • Kuratowski's two graphs • Detection of planarity • Geometric Dual 	10.04.2022 to 25.04.2022	4Hrs 5Hrs 3 Hrs 3Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Incidence matrix • Circuit matrix and cut-set matrix • Chromatic number and polynomial • Matchings 	26.04.2022 to 12.05.2022	3 Hrs 4Hrs 4Hrs 4Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 21.03.2022, 10.04.2022,28.04.2022,15.5.22
Assignment	22.03.2022, 10.04.2022, 22.04.2022
Quiz	01.04.2022,19.05.2022
Seminar	23.03.2022,11.04.2022,22.04.2022,18.05.2022
Tutor Ward Meeting	Monthly Once



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TEACHING PLAN

A.GENERAL INFORMATION

Name of the Faculty	:	Dr.R.VANITHA
Department	:	Mathematics
Programme	:	M.Sc
Programme Code	:	PSM
Name of the Paper	:	Complex Analysis
Lecture Hours	:	90 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• Study the concept of complex integration.• Analyze singular points, Taylor's series & Cauchy's Theorem.• Advance property of harmonic functions.• Learn about infinite Partial fractions and Canonical Products.• Analyze relation between both Harmonic and Gamma Functions.	<p>Learners will be able to</p> <ul style="list-style-type: none">• Acquired concept of complex integration.• Apply Cauchy's theorem in complex valued functions.• Analyse harmonic function.• Evaluate infinite products and canonical products.• Develop the knowledge of Gamma functions.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Sets and Elements- connectedness-compactness • Continuous functions - Topological spaces • Conformality • Linear transformation 	21.02.2022 to 05.03.2022	4 Hrs 4 Hrs 4 Hrs 3 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Le integral- definition and some examples • Cauchy's theorem for a rectangle • Cauchy's theorem for a disk • Higher derivatives 	27.01.2022 to 13.02.2022	4 Hrs 3Hrs 4 Hrs 4 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Tayler's theorem • Zers and poles • Simple connectivity • General Statement of Cauchy's theorem 	15.02.2022 to 03.03.2022	3Hrs 3Hrs 3 Hrs 3Hrs 3 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Haronic function • Mean value property theorem • Poisson formula • Schwartz's theorem • Reflection Principle theorem. 	04.03.2022 to 20.03.2022	3Hrs 3Hrs 3Hrs 3Hrs 3Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Weierstrass theorem • Taylor's series • Partial fractions • Infinite product • Canonical product 	22.03.2022 to 10.04.2022	4 Hrs 3Hrs 4Hrs 4Hrs	-	-

D.ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 21.03.2022,10.04.2022,28.04.2022
Assignment	15.03.2022, 15.04.2022,10.5.22
Quiz	28.04.2022
Seminar	15.04.2022 to 25.04.2022
Tutor Ward Meeting	Monthly Once



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A. GENERAL INFORMATION

Name of the Faculty : **Mrs. M. Prabavathy**
Department : **Mathematics**
Programme : **B.Sc**
Programme Code : **USM**
Name of the Paper : **Number Theory**
Lecture Hours : **60 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To interpret the concepts of divisibility, prime number and prime-factorization.• To learn some kind of number theoretic functions such as Greatest integer function, Mobius function.• To know about famous conjectures in number theory.• To acquire the	<p>Learners will be able to</p> <ul style="list-style-type: none">• State the nature of find the prime factorization and divisor, sum, product of a given natural number.• Understand the concept of Mobius function, Mobius Inversion formula and Mobius pair.• Gain knowledge about Famous conjectures in number theory .• Solve System of linear congruences using the well-known Chinese Remainder	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

<p>knowledge of congruences, residue classes and solutions of linear congruences.</p> <ul style="list-style-type: none"> To study the methods to classify numbers as quadratic residues and quadratic non-residues. 	<p>theorem.</p> <ul style="list-style-type: none"> Apply the Law of Quadratic Reciprocity and other methods to classify numbers as quadratic residues and quadratic non-residues. 	
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> Prime and composite numbers , Coprimes and Sieve of Eratathenes Euclid's theorem Unique factorization, Fundamental theorem of Arithmetic Positional representation of Integers. Number of divisors,Sum of divisors, Arithmetic functions. 	21.02.2022 to 10.03.2022	2 Hrs 3 Hrs 2 Hrs	-	-

			2 Hrs		
Unit II	<ul style="list-style-type: none"> • Perfect number • integer function • Mobious function and Inversion formula and its converse 	11.03.2022 to 26.03.2022	3 Hrs 3 Hrs 3 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Distribution of Primes • Fermat conjecture, Fermat numbers and Gold Bach' S conjecture • Mersenne numbers, Gap theorem and Infinity of primes 	28.03.2022 to 13.04.2022	3 Hrs 3 Hrs 3 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Congruence : Definition and Residue classes • Complete and least residue system • Linear congruences • Solution of congruences and Chinese remainder theorem 	18.04.2022 to 05.04.2022	2 Hrs 2 Hrs 3 Hrs 2 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Quadratic reciprocity: Quadratic residues and non residues, Eulers Criterion. 	06.04.2022 to 25.04.2022	3 Hrs 3 Hrs	-	-

	<ul style="list-style-type: none"> • Primitive roots is a quadratic non residues, Legendre symbol • Gauss lemma and Quadratic reciprocity law 		3 Hrs		
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D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 28.03.2022, 26.04.2022,20.05.2022
Assignment	22.03.2022, 10.04.2022 and 12.05.2022
Quiz	
Seminar	01.05.2022,04.06.2022
Tutor Ward Meeting	23.04.2022,11.05.2022,12.05.2022,18.05.2022
Mentor Mentee Meeting	Monthly Once Weekly Once

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A. GENERAL INFORMATION

Name o. f the Faculty : **Mrs. M. Prabavathy**
Department : **Mathematics**
Programme : **M.Sc**
Programme Code : **PSM**
Name of the Paper : **Functional Analysis**
Lecture Hours : **90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none"> • To learn the concepts of Banach Spaces, Bounded linear operators, Reflexive spaces. • To study the three structure theorems of Functional Analysis viz., Hahn-Banach theorem, Open mapping theorem and Uniform boundedness principle. • To acquire knowledge about Hilbert spaces and operator theory on Hilbert spaces. • To know the proof of well known spectral mapping theorem. • To gain a knowledge about Banach algebra and spectral theory on 	<p>Learners will be able to</p> <ul style="list-style-type: none"> • Understand the concept of Normed linear spaces, dual spaces, weak convergence. • Apply the idea of the Hahn Banach theorem and open mapping theorem. • Analyze linear operators on a Hilbert space. • Evaluate Orthonormal basis. • Demonstrate spectral theory. 	<ul style="list-style-type: none"> • Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method, • Problem Solving Method • Seminar Method • Demonstration Method

Banach algebra.		
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • The definition and some examples • Continuous linear transformations • The Hahn-Banach theorem • The natural imbedding of N in N^{**} 	21.02.2022 to 11.03.2022	4 Hrs 4 Hrs 4 Hrs 3 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • The definition and some simple properties • Orthogonal complements • Orthonormal sets • The conjugate space H^* 	12.03.2022 to 28.03.2022	4 Hrs 4 Hrs 4 Hrs 3 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • The open mapping theorem and the conjugate of an operator • The adjoint of an operator • Self-adjoint operators • Normal & unitary operators • Projections 	29.03.2022 to 19.04.2022	5 Hrs 2 Hrs 3 Hrs 2 Hrs 3 Hrs	-	-

Unit IV	<ul style="list-style-type: none"> • Matrices and Determinants • The spectrum of an operator • The spectral theorem, A survey of the situation 	20.04.2022 to 09.05.2022	5 Hrs 4 Hrs 6 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • The definition & some examples • Regular and singular elements • Topological divisor of zero and the spectrum, formula for the spectral radius • The radical & semi-simplicity. 	10.05.2022 to 26.05.2022	4 Hrs 3 Hrs 4 Hrs 4 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 27.03.2022,18.04.2022,04.05.2022
Assignment	05.04.2022, 18.05.2022
Quiz	12.05.2022
Seminar	15.05.2022 to 25.05.2022
Tutor Ward Meeting	Monthly Once

Mentor Mentee Meeting	Weekly Once
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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Mrs.M.Prabavathy**
Department : **Mathematics**
Programme : **B.Sc**
Programme Code : **USM**
Name of the Paper : **Environmental Studies**
Lecture Hours : **30 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
To learn the multidisciplinary nature of environmental studies (a).Definition (b). Scope and importance , Need for public Awareness	Learners will be able to <ul style="list-style-type: none">• Understand the importance of natural resources• Learn the energy needs.• Interpret social issues	<ul style="list-style-type: none">• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Definition, scope and importance of Environmental studies 	21.02.2022 to 16.03.2022	6 Hrs	-	-
Unit II	<p>Natural Resources</p> <ul style="list-style-type: none"> • Forest Resources: Use and over Exploitation, deforestation timber extraction, mining, clams and their effects on forests and tribal people. • Water Resources: Use and over Exploitation of surface and ground water • Mineral Resources: Use and over Exploitation, Environmental Effects of extracting and using Mineral Resources. • Food Resources: Changes caused by agriculture and over grazing effects of modern agriculture, fertilizer – pesticide problems 	17.03.2022 to 09.04.2022	6 Hrs	-	-
Unit III	Glowing Energy needs Renewable and Non – renewable	10.04.2022 to	6 Hrs	-	-

	<p>Energy Resources – Role of an individual in conservation of natural Resources.</p> <p>Ecosystems and Biodiversity</p> <p>(a) Concept of an Ecosystem</p> <p>(b) Structure and function of an Ecosystem</p> <p>(c) Producers, Consumers and Decomposers</p> <p>(d) Energy flow in the Ecosystem</p> <p>(e) Structure and function of the following ecosystem</p> <p>(1) Forest Ecosystem</p> <p>(2) Pond Ecosystem</p>	30.04.2022			
Unit IV	<p>Biodiversity – definition – Types – Genetic species and ecosystem, diversity</p> <p>(a) Values of biodiversity</p> <p>(b) India as a mega – diversity nation</p> <p>Environmental pollution:</p> <p>(a) Air Pollution</p> <p>(b) Water Pollution</p> <p>(c) Soil Pollution</p> <p>(d) Marine Pollution</p> <p>(e) Noise Pollution</p> <p>(f) Solid Waste Management causes and effects and</p>	01.05.2022 to 18.05.2022	6 Hrs	-	-

	<p>control measures of urban and industrial wastes and ecosystem.</p> <p>(g) Role of an individual in prevention of pollution</p> <p>(h) Disaster management, floods, earthquake and cyclone.</p>				
Unit V	<p>Social issues and the environment</p> <p>(a) Water conservation, rain water harvesting and water shed management</p> <p>(b) Environmental Protection Act</p> <p>(c) Public Awareness</p> <p>(d) Environment and Human Health</p> <p>(e) Women and Child Care</p> <p>(f) Role of Information Technology in environment and human health.</p>	19.05.2022 to 07.06.2022	6 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 26.03.2022, 28.04.2022
Assignment	12.04.2022, 08.05.2022
Quiz	18.05.2022
Seminar	11.04.2022, 18.05.2022, 02.06.2022
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Dr.G.SUDHA
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Complex Analysis
Lecture Hours	:	90 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To provide the knowledge about analytic functions.• To acquire the Knowledge in elementary and bilinear transformations.• To explore the Complex Integration.• To develop the series expansions• To find the residues using poles	<p>Learners will be able to</p> <ul style="list-style-type: none">• Understand the basic concepts of complex numbers and Cauchy-Riemann equations in Cartesian and polar coordinates..• Know the analytic functions, harmonic functions ,elementary and bilinear transformation concepts.• Understand the applications of complex integrations.• 4 Understand the series expansions of Taylor's and Laurent's series.• Solve the definite integrals using the concepts of residues.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Functions of complex variable • C.R. Equations • Analytic functions • Harmonic functions. 	21.02.2022 to 28.02.2022	3 Hrs 4 Hrs 4 Hrs 4 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Elementary transformation • Bilinear transformation • Cross ratio • Fixed points of bilinear transformation 	01.03.2022 to 21.03.2022	4 Hrs 4 Hrs 3 Hrs 4 Hrs		
Unit III	<ul style="list-style-type: none"> • Definite integral • Cauchy's theorem • Cauchy's integral formula • Higher derivatives. 	22.03.2022 to 18.04.2022	4 Hrs 4 Hrs 3 Hrs 4 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Taylor's series • Laurent series • zeros of analytic functions • Singularities 	19.04.2022 to 30.04.2022	4 Hrs 4 Hrs 3 Hrs 4 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Residues • Cauchy's residue theorem • Evaluation of definite integrals . 	02.05.2022 to 20.05.2022	5 Hrs 5 Hrs 5 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 21.03.2022, 10.04.2022, 28.04.2022
Assignment	15.03.2022, 15.04.2022, 10.05.2022
Quiz	28.04.2022
Seminar	15.04.2022 to 25.04.2022
Tutor Ward Meeting	Every Saturday



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Dr.G.SUDHA**
Department : **Mathematics**
Programme : **M. Sc**
Programme Code : **PSM**
Name of the Paper : **Differential Geometry and Tensors**
Lecture Hours : **90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To introduce the notion of surfaces and their properties.• To study geodesics and differential geometry of surfaces.• Make the student to learn about tangent spaces, surfaces, Gauss map,• To develop the Scope of Tensor Analysis.• To know the concepts, Geodesics on surfaces and curvature of plane curves.	<p>Learners will able to</p> <ul style="list-style-type: none">• Understand the concept of Vector fields.• Analyze surfaces and Vector field on surfaces.• Understand Gauss map- Geodesics.• Acquired knowledge about the scope of tensor analysis.• Find the proof of theorems under the application of Christoffel's Symbols.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Theory of space curves • Arc length, Tangent and Osculating Plane • Curvature and Torsion • Osculating Circle and Osculating Sphere 	28.01.2022 to 16.02.2022	4 Hrs 4 Hrs 4 Hrs 3 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Surface and Nature of the points • Tangent plane and Surface normal • Helicoids • Metric on a surface and First fundamental Theorem 	17.02.2022 to 11.03.2022	3 Hrs 4 Hrs 4 Hrs 4 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Tensor notations- Christoffel Symbol • Gauss Equations • Weingarten Equations • Mainardi Codazzi Equations 	12.03.2022- to 18.04.2022	2 Hrs 2 Hrs 2 Hrs 3 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Invariance • Transformation of co-ordinates- Properties of Admissible Transformation of co-ordinates • Transformation by variance and contra variance • Contra variant and covariant 	19.04.2022 to	1 Hr 1 Hr 1 Hr 1 Hr 1 Hr	-	-

	<p>Tensors</p> <ul style="list-style-type: none"> • Tensor character of covariant and contra variant laws • Algebra of tensors, Quotient laws • Symmetric and Skew Symmetric Tensors – Relative Tensors 	30.04.2022	1 Hr		
			1 Hr		
			2 Hr		
Unit V	<ul style="list-style-type: none"> • Christoffel's Symbols • Transformation of Christoffel's Symbols • Covariant differentiation of Tensors • Ricci's Theorem- Ricci Tensor • Riemann Christoffel Tensor- Properties of Riemann Tensor • Bianchi's Identities • Einstein Tensor 	02..05.2022 to 20.05.2022	3 Hr	-	-
			2 Hr		
			3 Hr		
			2 Hr		
			2 Hr		
			1 Hr		

ACTIVITIES:

Activities Name	Details
Unit Test	21.03.2022, 12.04.2022, 06.05.2022
Assignment	16.02.2022, 25.03.2022, 25.04.2022
Quiz	18.04.2022
Seminar	28.04.2022, 04.05.2022, 09.05.2022, 12.05.2022, 16.05.2022, 17.05.2022, 18.05.2022



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Dr.G.SUDHA
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Numerical Methods with C Programming (P)
Lecture Hours	:	30 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• Logics, variables, constants, expressions and operators which will help them to create programs, applications in C.• Learning the basic programming construction and functions to modify the programs in programming in C.• Programming skills to use conditional statements, user defined functions, arrays.• The objective of the course is to familiarize the students about different numerical techniques.	<p>The student will be able to understand,</p> <ul style="list-style-type: none">• Declaration of variables, constants, expressions and operators.• Declaration and uses of functions and arrays.• develop their programming skills with programming environment with C program structure.• Learn how to obtain numerical solution of nonlinear equations using bisection, secant, Newton	<ul style="list-style-type: none">• Chalk & Talk Method• Lecture Method• Discussion Method

<ul style="list-style-type: none"> • Solving algebraic and transcendental equations, large linear system of equations, differential equations, approximating functions by polynomials upto a given desired accuracy, finding approximate value of definite integrals of functions etc. and to solve numerical problems using C. 	<p>and fixed-point iterations methods and convergence analysis of these methods.</p> <ul style="list-style-type: none"> • Solve simultaneous system of equations numerically. • Familiar with calculation and interpretation of errors in numerical method. • Familiar with programming with numerical packages like C Programming. 	
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
UNIT I	<ul style="list-style-type: none"> • Solving a Quadratic Equation. • Sum of series (Sine , Cosine , e^x) • Ascending and descending order of numbers. 	28.01.2022 to 16.02.2022		6 Hrs	-
UNIT II	<ul style="list-style-type: none"> • Largest and smallest of given numbers. • Sorting names in alphabetical order. • Finding factorial, generating Fibonacci numbers using recursive 	17.02.2022 to 11.03.2022		6 Hrs	-

	functions.				
UNIT III	<ul style="list-style-type: none"> • Matrix Manipulations (Addition, subtraction and Multiplication). • Mean Standard Deviation and Variance. • Solving equations by Bisection method 	12.03.2022- to 18.04.2022		6 Hrs	
UNIT IV	<ul style="list-style-type: none"> • Solving equations by False position method • Solving equations by Newton –Raphson method • Gauss elimination method of solving simultaneous equations 	19.04.2022 to 30.04.2022		6 Hrs	
UNIT V	<ul style="list-style-type: none"> • GAUSS-Seidel method of solving simultaneous equations • Euler method ,Trapesoidel and Simpson’s 1/3 rd rule of integration • R-K Fourth order method of solving differential equations. 	02..05.2022 to 20.05.2022		6 Hrs	

D. ACTIVITIES:

Activities Name	Details
Test	Program Test Date: 21.03.2022, 12.04.2022, 06.05.2022
Assignment	-
Quiz	-
Seminar	-
Tutor Ward Meeting	Every Saturday



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TEACHING PLAN - EVEN SEMESTER

A. GENERAL INFORMATION

Name of the Faculty	:	Mrs.P.Hameetha Begum
Department	:	Mathematics
Programme	:	B.Sc (Mathematics)
Programme Code	:	USM
Name of the Paper	:	Sequences & Series
Lecture Hours	:	60 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To lay a good foundation for sequences.• To study the behaviour of series and its convergence.• To find the convergence of series using different tests.• To learn about the Binomial Theorem, Exponential series and Logarithmic series.• To acquire the knowledge of summing of series.	<p>Learners will be able to</p> <ul style="list-style-type: none">• Calculate the limits of sequences and to work with the infinite sequences.• Interpret the concepts of series as the sum of a sequence.• Apply the various techniques in testing the convergence of the series.• Find the missing term and the greatest term of a series using Binomial expansion.• Evaluate the summation of some difference series.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

C. **PLAN OF THE WORK:**

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> Limit of a sequence & Convergence Theorems on limits Cauchy's first Theorem on limit, Upper and lower bounds of an aggregate Bounded sequences , Upper and lower limits of a sequence - Cauchy's general principle of convergence Monotonic sequence, Monotonic sequence always tends to a limit finite or infinite. 	21.02.2022 to 05.03.2022	3 Hrs 3 Hrs 3 Hrs 3 Hrs	-	-
Unit II	<ul style="list-style-type: none"> Sum to infinity – Definition of convergence, divergence and oscillation convergence of Geometric series, some general theorems on infinite series Series of positive terms - Comparison tests , Convergence of summation $1/n^k$, D' Alembert's ratio test , Raabe's test , Simple Problems. 	07.03.2022 to 22.03.2022	4 Hrs 4 Hrs 4 Hrs	- Σ	-
Unit III	<ul style="list-style-type: none"> Cauchy's Condensation test Cauchy's root test - Simple problems Alternating series with 	23.03.2022 to 09.04.2022	4 Hrs 4 Hrs 4 Hrs	-	-

	problems.				
Unit IV	<ul style="list-style-type: none"> Binomial Theorem for a rational index Exponential and Logarithmic series Summation of series Approximations using these theorems. 	11.04.2022 to 25.04.2022	4 Hrs 3 Hrs 3 Hrs 2 Hrs	-	-
Unit V	<ul style="list-style-type: none"> General summation of series successive difference series Recurring series. 	26.04.2022 to 12.05.2022	6 Hrs 6 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 15.03.2022,6.04.2022, 9.05.2022
Assignment	18.03.2022, 13.04.2022.16.05.2022
Quiz	18.04.2022,25.05.2022 (Objective Type Questions)
Seminar	10.03.2022, 29.03.2022, 08.04.2022, 29.04.2022
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Mrs.P.Hameetha Begum
Department	:	Mathematics
Programme	:	M.Sc (Mathematics)
Programme Code	:	PSM
Name of the Paper	:	Linear Algebra
Lecture Hours	:	90 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To learn the various aspects of systems of Linear equations.• To know the representations of transformations by Matrices.• To study Algebra of Polynomials.• To acquire the knowledge of	<p>Learners will be able to</p> <ul style="list-style-type: none">• Develop the knowledge about application of matrices in solving linear equations.• Represent the linear transformations by matrices.• Acquire the knowledge of Algebra of Polynomials• Apply the concepts of the Primary	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

<p>Determinants and its Properties.</p> <ul style="list-style-type: none"> To interpret the importance of Diagonalization and the Primary Decomposition Theorem. 	<p>Decomposition Theorem</p> <ul style="list-style-type: none"> Determine the uniqueness of determinants and annihilating polynomials. 	
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
<p>Unit I</p>	<ul style="list-style-type: none"> Systems of linear Equations Matrices and Elementary Row operations Row-reduced echelon Matrices Matrix Multiplication Invertible Matrices Bases and Dimension 	<p>21.02.2022 to 07.03.2022</p>	<p>3 Hrs 3 Hrs 3 Hrs 3 Hrs 3 Hrs</p>	<p>-</p>	<p>-</p>
<p>Unit II</p>	<ul style="list-style-type: none"> The Algebra of linear transformations Isomorphism of Vector Spaces Representations of Linear Transformations by Matrices 	<p>08.03.2022 to 22.03.2022</p>	<p>3 Hrs 3 Hrs 3 Hrs</p>	<p>-</p>	<p>-</p>

	<ul style="list-style-type: none"> • Linear Functionals • The Double Dual • The Transpose of a Linear Transformation 		3 Hrs 3 Hrs 3 Hrs		
Unit III	<ul style="list-style-type: none"> • The algebra of polynomials • Lagrange Interpolation • Polynomial Ideals • The prime factorization of a polynomial • Commutative rings • Determinant functions 	23.03.2022 to 09.04.2022	3 Hrs 3 Hrs 3 Hrs 3 Hrs 3 Hrs 3 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Permutations and the uniqueness of determinants • Classical Adjoint of a (square) matrix • Inverse of an invertible matrix using determinants • Characteristic values • Annihilating polynomials 	11.04.2022 to 25.04.2022	4 Hrs 4 Hrs 4 Hrs 3 Hrs 3 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Invariant subspaces • Simultaneous triangulation and simultaneous Diagonalization • Direct-sum Decompositions • Invariant Direct sums • Primary Decomposition theorem 	26.04.2022 to 12.05.2022	4 Hrs 4 Hrs 4 Hrs 3 Hrs 3 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 15.03.2022, 6.04.2022, 9.05.2022
Assignment	18.03.2022, 13.04.2022, 16.05.2022
Quiz	18.04.2022, 25.05.2022 (Objective Type Questions)
Seminar	25.04.2022 to 20.05.2022
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Dr.P.Jamuna devi**

Department : **Mathematics**

Programme : **B.Sc**

Programme Code : **USM**

Name of the Paper : **Astronomy**

Lecture Hours : **90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• Introduce the exciting world of astronomy to the learners.• Help the learners to study spherical trigonometry in the field of astronomy.• Conceptualize the structure of the solar system and the universe• Classify and explain the reason for the differences between the planets in our solar system, stars in the sky and types of galaxies in the	<p>On completion of the course, learners will be able to</p> <ul style="list-style-type: none">• Gain the knowledge to use mathematics to perform calculations on celestial bodies.• Understand the use of our galaxy to contrast and compare it with other galaxies as to type, content, age, luminosity, motion and size.• Apply the principle findings, common applications, current problems, fundamental techniques and underlying theory of the astronomy.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

universe <ul style="list-style-type: none"> • Relate the earth, our sun, our galaxy and in general, our location to the rest of the universe. 	<ul style="list-style-type: none"> • Analyze the size, age structure and motion of the universe over all using cosmological models. • Understand the phases of moon and occurrence of Eclipse. 	
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Relevant properties of a sphere • Relevant formulae of Spherical trigonometry. • Celestial Sphere • Celestial coordinates • Simple problems 	04.01.2022 to 20.01.2022	3 Hrs 3 Hrs 3 Hrs 3 Hrs 3 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • The Earth • Zones of Earth • Dip of Horizon • Twilight • Simple Problems 	25.01.2022 to 08.02.2022	2 Hrs 3 Hrs 4 Hrs 4 Hrs 2 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Astronomical Refraction • Tangent Formulae • Cassini's Formulae • Properties • Simple Problems 	11.02.2022 to 26.02.2022	3 Hrs 3 Hrs 3 Hrs 3 Hrs	-	-

Unit IV	• Keplers laws of Planetary motion		3 Hrs	-	-
	• Newton's Deductions	01.03.2022	3 Hrs		
	• Three Anomalies of Earth	to	3 Hrs		
	• Relations between them	11.03.2022	3 Hrs		
	• Simple Problems		3 Hrs		
Unit V	• Moon	12.03.2022	3 Hrs	-	-
	• Phases of moon	to	3 Hrs		
	• Harvest moon, Metonic Cycle	29.03.2022	3 Hrs		
	• Lunar Mountain, Earth Shine, tides		3 Hrs		
	• Eclipses		3 Hrs		

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 21.01.2022, 09.02.2022, 28.02.2022
Assignment	22.01.2022, 10.02.2022, 12.03.2022
Quiz	01.03.2022, 13.03.2022 (Objective Type Questions)
Seminar	23.01.2022, 11.02.2022, 02.03.2022, 18.03.2022
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Dr.P.Jamuna Devi
Department	:	Mathematics
Programme	:	M.Sc
Programme Code	:	PSM
Name of the Paper	:	PARTIAL DIFFERENTIAL EQUATIONS
Lecture Hours	:	90 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none"> • To give an in-depth knowledge of solving partial differential equations and apply them in scientific and engineering problems. • To study the other aspects of PDE • To familiar with the modeling assumptions and derivatives that lead to Partial Differential Equations • Be competent using classical solution methods • Recognize the major classification of PDE's and the qualitative differences between the classes of Equations 	<p style="text-align: center;">On completion of the course, the learners will be able to</p> <ul style="list-style-type: none"> • Understand the concept of classification of pde and solve Pfaffian differential equations. • Apply Charpit's method and Jacobi's method in solving pde and also have knowledge in solving non-linear PDE • Solve second order PDE and apply them in real life problems. • Analyze various techniques involved in solving boundary value problem. • Solve Wave equation and Heat conduction Equation using PDE. 	<ul style="list-style-type: none"> • Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method, • Problem Solving Method • Seminar Method • Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • First Order P.D.E • Curves and Surfaces • Genesis of first order P.D.E. Classification of integrals , linear equations of the first order • Pfaffian differential equations • Compatible systems. 	04.01.2022 to 25.01.2022	2 Hrs 2 Hrs 3 Hrs 4 Hrs 4 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Charpit's method • Jacobi's method • Integral surfaces through a given curve • Non-linear first order P.D.E. • The definition and some simple properties 	27.01.2022 to 14.02.2022	3 Hrs 3 Hrs 3 Hrs 3 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Second Order P.D.E – Genesis of second order P.D.E. • Classification of second order P.D.E, The dimensional wave equation • Vibration of a infinite string • Vibration of a Semi-infinite string • Vibration of a string of finite length –Vibration of a string of finite length (Method of separation of variables). 	15.02.2022 to 03.03.2022	3 Hrs 3 Hrs 3 Hrs 3 Hrs	-	-

Unit IV	<ul style="list-style-type: none"> • Laplace's equation • Boundary value problems • Maximum and minimum principles • The cauchy problem • The dirichlet problem for the upper half plane • The Neumann problem for the upper half plane. 	04.03.2022 to 21.03.2022	2 Hrs 2 Hrs 2 Hrs 3 Hrs 3 Hrs 3 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Heat conduction problem • Infinite rod case • Finite rod case • Duhamel's principle • Wave equation • Heat conduction equation • Kelvin's inversion theorem. 	22.03.2022 to 10.04.2022	2 Hrs 2 Hrs 2 Hrs 2 Hrs 3 Hrs 2 Hrs	-	-

ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 27.01.2022,15.02.2022,04.03.2022
Assignment	05.03.2022, 18.03.2022
Quiz	12.04.2022(Objective Type Questions)
Seminar	15.02.2022 to 25.02.2022
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Mrs.U.Elayarani
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Numerical Methods with C Programming (T)
Lecture Hours	:	48 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• Logics, variables, constants, expressions and operators which will help them to create programs, applications in C.• Learning the basic programming construction and functions to modify the programs in programming in C.• Programming skills to use conditional statements, user defined functions, arrays.• The objective of the course is to familiarize the students about different numerical techniques.• Solving algebraic and transcendental equations, large linear system of equations, differential equations, approximating functions by	<p>The student will be able to understand,</p> <ul style="list-style-type: none">• Declaration of variables, constants, expressions and operators.• Declaration and uses of functions and arrays.• Develop their programming skills with programming environment with C program structure.• Learn how to obtain numerical solution of nonlinear equations using bisection, secant, Newton and fixed-point iterations methods and convergence	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

<p>polynomials upto a given desired accuracy, finding approximate value of definite integrals of functions etc. and to solve numerical problems using C.</p>	<p>analysis of these methods.</p> <ul style="list-style-type: none"> • Solve simultaneous system of equations numerically. • Familiar with calculation and interpretation of errors in numerical method. • Familiar with programming with numerical packages like C Programming. 	
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Structure of C programs- Constants, Variables and Data types • Operators and Expressions- Mathematical functions • Input and output operators. 	21.02.2022 to 18.03.2022	3 Hrs 3 Hrs 3 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Handling of character strings - Arithmetic operations on characters • String handling functions • User defined functions - Recursion. 	21.03.2022 to 04.04.2022	4 Hrs 3 Hrs 2 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Bisection method, false position method and Newton Raphson method • Solving simultaneous 	05.04.2022 to 20.04.2022	3 Hrs 3 Hrs	-	-

	algebraic equations - Gauss-Seidel method • Gauss elimination method.		3 Hrs		
Unit V	<ul style="list-style-type: none"> • Newtons forward and backward difference formulae • Lagranges interpolation formula - • Numerical integration using Trapezoidal and Simpsons one-third rules • Solution of ODE"s - Euler method and Runge-Kutta fourth order method. 	21.04.2022 to 05.05.2022	3 Hrs 3 Hrs 3 Hrs 3 Hrs	-	-

ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 28.02.2022, 14.03.2022, 04.04.2022, 06.05.2022
Assignment	22.03.2022, 15.03.2022, 27.04.2022
Quiz	20.05.2022
Seminar	20.05.2022, 22.05.2022, 03
Tutor Ward Meeting	Every Saturday

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Mrs.U.Elayarani
Department	:	Mathematics
Programme	:	M.Sc
Programme Code	:	PSM
Name of the Paper	:	Classical Dynamics
Lecture Hours	:	90 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To give a detailed knowledge of the mechanical system of particles.• To formulate Lagrange's Equations of motion for the set of generalized coordinates.• To study some special applications of Lagrange's Equations like Rayleigh's Dissipation function and Gyroscopic systems.• To develop the applications of Hamilton's equations.• To study the applications of Hamilton - Jacobi Equation.	<p>On completion of the course, the student will be able to</p> <ul style="list-style-type: none">• Understand a detailed knowledge of the mechanical system of particles.• Analyse the lagrange's equations of motion for the set of generalized coordinates.• Develop some special applications of lagrange's equations like rayleigh's dissipation function and gyroscopic systems.• Understand the applications of hamilton's equations.• Understand the applications	<ul style="list-style-type: none">• Power Point• E - Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

	of Hamilton – Jacobi Equation.	
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Introductory concepts: The Mechanical System • Generalised Co-ordinates – Constraints • Virtual Work – Energy & Momentum. 	21.02.2022 to 18.03.2022	5 Hrs 5 Hrs 5 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Lagrange’s Equations: Derivation of Lagrange’s Equations – • Examples • Integrals of the Motion. 	21.03.2022 to 04.04.2022	6 Hrs 4 Hrs 5 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Special Applications of Lagrange’s Equations: Rayleigh’s Dissipation function • Impulsive Motion • Gyroscopic Systems • Velocity – Dependent Potentials. 	05.04.2022 to 20.04.2022	4 Hrs 3 Hrs 4 Hrs 4 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Hamilton’s Equations: Hamilton’s Principle • Hamilton’s Equations • Other Variational Principles. 	21.04.2022 to 05.05.2022	5 Hrs 5 Hrs 5 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Hamilton - Jacobi Theory : Hamilton’s Principle function 	06.05.2022 to	5 Hrs	-	-

	<ul style="list-style-type: none"> The Hamilton - Jacobi Equation Separability. 	18.05.2022	5 Hrs		
			5 Hrs		

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 25.02.2022, 12.03.2022, 04.04.2022, 05.05.2022
Assignment	04.04.2022,06.05.2022
Quiz	22.03.2022
Seminar	15.03.2022,27.04.2022
Tutor Ward Meeting	Every Saturday



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Mrs.U.Elayarani
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Numerical Methods with C Programming (P)
Lecture Hours	:	30 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• Logics, variables, constants, expressions and operators which will help them to create programs, applications in C.• Learning the basic programming construction and functions to modify the programs in programming in C.• Programming skills to use conditional statements, user defined functions, arrays.• The objective of the course is to familiarize the students about different numerical techniques.• Solving algebraic and transcendental equations, large linear system of equations, differential equations, approximating functions by	<p>The student will be able to understand,</p> <ul style="list-style-type: none">• Declaration of variables, constants, expressions and operators.• Declaration and uses of functions and arrays.• Develop their programming skills with programming environment with C program structure.• Learn how to obtain numerical solution of nonlinear equations using bisection, secant, Newton and fixed-point iterations methods and convergence analysis of these methods.• Solve simultaneous system of	<ul style="list-style-type: none">• Chalk & Talk Method• Lecture Method• Discussion Method

<p>polynomials upto a given desired accuracy, finding approximate value of definite integrals of functions etc. and to solve numerical problems using C.</p>	<p>equations numerically.</p> <ul style="list-style-type: none"> • Familiar with calculation and interpretation of errors in numerical method. • Familiar with programming with numerical packages like C Programming. 	
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
UNIT I	<ul style="list-style-type: none"> • Solving a Quadratic Equation. • Sum of series (Sine , Cosine , e^x) • Ascending and descending order of numbers. 	21.02.2022 to 18.03.2022		6 Hrs	-
UNIT II	<ul style="list-style-type: none"> • Largest and smallest of given numbers. • Sorting names in alphabetical order. • Finding factorial, generating Fibonacci numbers using recursive functions. 	21.03.2022 to 04.04.2022		6 Hrs	-
UNIT III	<ul style="list-style-type: none"> • Matrix Manipulations (Addition, subtraction and Multiplication). • Mean Standard Deviation and Variance. • Solving equations by Bisection method 	05.04.2022 to 20.04.2022		6 Hrs	

UNIT IV	<ul style="list-style-type: none"> • Solving equations by False position method • Solving equations by Newton –Raphson method • Gauss elimination method of solving simultaneous equations 	<p style="text-align: center;">21.04.2022 to 05.05.2022</p>		6 Hrs	
UNIT V	<ul style="list-style-type: none"> • GAUSS-Seidel method of solving simultaneous equations • Euler method , Trapezoidal and Simpson’s 1/3 rd rule of integration • R-K Fourth order method of solving differential equations. 	<p style="text-align: center;">06.05.2022 to 18.05.2022</p>		6 Hrs	

D. ACTIVITIES:

Activities Name	Details
Test	Program Test Date: 16.03.2022 , 22.04.2022 and 06.05.2022
Assignment	-
Quiz	-
Seminar	-
Tutor Ward Meeting	Every Saturday



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Mrs.U.Elayarani**
Department : **Mathematics**
Programme : **B.Sc**
Programme Code : **USM**
Name of the Paper : **Statistical Programming Using SPSS**
Lecture Hours : **30 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<p>There are three objectives to the assignment.</p> <ul style="list-style-type: none">• Securing the SPSS software• Securing the data for the SPSS assignments• Learning about the SPSS interface	<p>On completion of the course, the students will be able to</p> <ul style="list-style-type: none">• Understand how to start SPSS• Define a variety of statistical variables• Enter basic data into SPSS• Carry out a statistical analysis that can test hypotheses.	<ul style="list-style-type: none">❖ Chalk & Talk Method❖ Lecture Method

C. **PLAN OF THE WORK:**

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none">• Finding Mean, Median and Mode• Standard Deviation	21.02.2022 to 18.03.2022	-	6 Hrs	-
Unit II	<ul style="list-style-type: none">• Simple and Multiple Bar• Pie Diagram	21.03.2022 to 04.04.2022	-	6 Hrs	-
Unit III	<ul style="list-style-type: none">• Histogram• Correlation	05.04.2022 to 20.04.2022	-	6 Hrs	-
Unit IV	<ul style="list-style-type: none">• Regression• Paired t Test	21.04.2022 to 05.05.2022	-	6 Hrs	-
Unit V	<ul style="list-style-type: none">• Chi Square Test	06.05.2022 to 18.05.2022	-	6 Hrs	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 15.03.2022 , 21.04.2022
Assignment	-
Quiz	-
Seminar	-
Tutor Ward Meeting	Every Saturday



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Dr.L.JENNATHUNNISHA
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Integral Calculus
Lecture Hours / Practical Hours	:	2 Hrs / Week / Lecture Hours-30 hrs

B. ABOUT THE COURSE

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To inculcate the basics of integration.• To study some applications of definite integrals.• To know the techniques for integration.• To find area under plane curves using integration.• To understand the consequences of Beta and Gamma function	<ul style="list-style-type: none">• Find the solutions of the integral.• Solve the integration by parts.• Find the area of plane curves using Cartesian and polar coordinates• Find the area by changing the given order of integration.• Understand the concepts of Beta and Gamma functions.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method point.

C. PLAN OF THE WORK

Unit / Modules	Topic to be covered	Proposed date	Lecture Hours	Practical Hours	Remarks
Unit II Content- 12 Hrs Assessment -3 Hrs Total - 15 Hrs	<ul style="list-style-type: none">• Definite integrals• Integration by Parts• Reduction formula,• Bernoulli's Formula	21.2.2022 to 31.3.2022	4 hrs 3 hrs 6 hrs 2 hr		-
Unit V Content- 12 Hrs Assessment -3 Hrs Total - 15Hrs	<ul style="list-style-type: none">• Beta & Gamma functions and the relation between them• Integration using Beta & Gamma functions.	04.04.2022 to 28.5.2022	7 hrs 8 hrs	-	-

D. ACTIVITIES

Activities Name	Details
Test	Monthly Test- Unit-I (23.3.2022) CIA / Mid Semester – Unit-I , Unit-II and Unit-III(3 Units) (18.04.2022 to 25.04.2022) CIA / Model Examination -Unit-I – unit V (5 Units) (21.05.2022 to 28.05.2022) AssignmentI – Unit –I and Unit –II (22.3.2022)
Assignment	Assignment II – Unit –III and Unit – V (10.4.2022 and 22.04.2022)
Quiz	1.04.2022,19.05.2022
Seminar	23.03.2022,4.04.2022,22.04.2022,18.05.2022
Tutorial Ward Meeting	Monthly once
Mentor Mentee Meeting	Weekly once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : Dr.L.JENNATHUNNISHA
Department : Mathematics
Programme : M.Sc
Programme Code : PSM
Name of the Paper : Probability Theory
Lecture Hours / Practical Hours : 4 ½ Hrs / Week / Lecture Hours-45 hrs

B. ABOUT THE COURSE

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To make a students to understand about fields, and Random variables.• To enable the students to learn about expectations, convergence in random variables and distribution functions.• To provide knowledge of the probability, random variables, estimation• To learn MGF, Characteristic function and limit theorems.• To understand the different types of distributions	<ul style="list-style-type: none">• Interpreted the field and sigma fields.• Analyze the Probability spaces.• Apply the concepts of random variables and distributions• Describe the ideas of expectation and characteristic functions..• Demonstrate the convergence of random variables.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK

Unit / Modules	Topic to be covered	Proposed date	Lecture Hours	Practical Hours	Remarks
Unit I Content- 15 Hrs Assessment -3 Hrs Total - 18 Hrs	<ul style="list-style-type: none"> • Axioms of Probability • Sample Space and events • Some propositions • Equally likely events • Probability as a continuous set function • Probability as a measure of belief 	21.2.2022 to 31.3.2022	2 hrs 2 hrs 3 hrs 6 hrs 4 hrs 1 hr	-	-
Unit II Content- 15Hrs Assessment -3 Hrs Total - 18Hrs	<ul style="list-style-type: none"> • Conditional Probability and independence • Conditional Probabilities- Bayle's Formula • Independent events- $P(IF)$ is a probability 	04.04.2022 to 28.5.2022	8hrs 8 hrs 2 hrs	-	-

D. ACTIVITIES

Activities Name	Details
Test	Monthly Test- Unit-I (23.3.2022) CIA / Mid Semester – Unit-I , Unit-II and Unit-III(3 Units) (18.04.2022 to 25.04.2022) CIA / Model Examination -Unit-I – unit V (5 Units) (21.05.2022 to 28.05.2022)
Assignment	Assignment I – Unit –I and Unit –II (22.3.2022) Assignment II – Unit –III and Unit – V (10.4.2022 and 22.04.2022)
Quiz	1.04.2022,19.05.2022
Seminar	23.03.2022,4.04.2022,22.04.2022,18.05.2022
Tutorial Ward Meeting	Monthly once
Mentor Mentee Meeting	Weekly once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Dr.L.JENNATHUNNISHA
Department	:	Physics
Programme	:	M.Sc
Programme Code	:	PSM
Name of the Paper	:	Numerical Methods with C++ Programming
Lecture Hours / Practical Hours	:	5 Hrs / Week / Lecture Hours-90 hrs

B. ABOUT THE COURSE

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To learn numerical methods of computing certain mathematical quantities, construction and evaluation of a function and solution of an ordinary differential equation and C++ Computer programming necessary for numerical simulation of physical problems..• Know about the basic theory of errors, their analysis, estimation with examples of simple experiments in physics..• In the laboratory course, learn the fundamentals of the C and C++ programming languages and their Applications in solving simple physical problems involving interpolations, differentiations, integration, differential equations as well as finding the roots	<ul style="list-style-type: none">• To equip the students with sufficient knowledge base of physics so that they do not find any difficulty pursuing higher education.• Trained practical exposures which could equip the students to space the challenges in Physics• Demonstrate the convergence of random variables• Learn how to obtain numerical solution of nonlinear equations using bisection, secant, Newton and fixed-point iterations methods .	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method point.

equations	<ul style="list-style-type: none"> Solve simultaneous system of equations numerically. 	
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D. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> Curve fitting- Method of least Squares –Exponential and Power 	21.02.2022	5 Hrs	-	-
	<ul style="list-style-type: none"> Interpolation; Newton interpolation polynomial 	to 05.03.2022	6 Hrs		
	<ul style="list-style-type: none"> Lagrange Interpolation 		4Hrs		
Unit II	<ul style="list-style-type: none"> Solution of Linear and Non Linear equations. –Gauss elimination method, Gauss Jordon method 	7.03.2022	5Hrs	-	-
	<ul style="list-style-type: none"> Inverse of a matrix by Gauss elimination method 	to 22.03.2022	4Hrs		
	<ul style="list-style-type: none"> Roots of non linear equations Bisection method , Newton Rapshon method 		6Hrs		
Unit III	<ul style="list-style-type: none"> Numerical Integration and Differentiation ,Trapezoidal rule and Simpson’s rule 	23.03.2022	6 Hrs	-	-
	<ul style="list-style-type: none"> Errors in the formula 	to 09.04.2022	4 Hrs		
	<ul style="list-style-type: none"> Composite trapezoidal and Simpson’s rule, Simpson 3/8 rule, errors in the formula . 		5 Hrs		
Unit IV	<ul style="list-style-type: none"> Programming in C++- Constants and variables- I/O Operators and Statements 	10.04.2022	5Hrs	-	-
	<ul style="list-style-type: none"> Header files-, Main functions, 	to 25.04.2022	5Hrs		

	<p>Conditional Statements- switch statements-Void functions.</p> <ul style="list-style-type: none"> • Function program- For, while and do while statements- Break, continue and go to statements- Arrays. 		5 Hrs		
Unit V	<ul style="list-style-type: none"> • Least Squares Curve fitting- Straight line fit, Least Squares Curve fitting- exponential fit • One dimensional -Newton rapshon Method • Interpolation –Lagrange method • Numerical Integration – Composite trapezoidal rule and Composite simpson's 1/3 rule 	<p>26.04.2022 to 12.05.2022</p>	<p>3Hrs</p> <p>4 Hrs</p> <p>4 Hrs</p> <p>4Hrs</p>	-	-

E. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date 21.03.2022,10.4.2022,28.04.2022,15.05.2022
Assignment	22.3.2022,10.4.2022, 22.04.2022
Quiz	1.04.2022,19.05.2022 (Objective Type Questions)
Seminar	23.03.2022,11.04.2022,22.04.2022,18.05.2022
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Dr.L.JENNATHUNNISHA
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Environmental Studies
Lecture Hours	:	2 Hrs / Week / Lecture Hours-30 hrs

B. ABOUT THE COURSE

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To introduce Real Number System• To explore the concepts of neighborhoods and its related parameters.• To define continuous functions• To define Derivative and algebra of derivatives• To derive mean value theorems	<p>Learners will be able to</p> <ul style="list-style-type: none">• State the nature of number system and field axioms• Define open sets, closed sets, limit points, closure and interior of a set, compactness and connectedness• Differentiate continuous and discontinuous functions, uniform continuous functions.• State derivative function and Darboux's theorem• Prove intermediate value theorems	<ul style="list-style-type: none">• Power Point• E - Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method


C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • The multidisciplinary nature of environmental studies • Scope and importance , Need for public Awareness 	21.02.2022 to 9.03.2022	3Hrs 3Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Forest Resources: Use and over Exploitation, deforestation timber extraction, mining, dams and their effects on forests and tribal people. (a) Water Resources: Use and over Exploitation of surface and ground water (b) Mineral Resources: Use and over Exploitation, Environmental Effects of extracting and using Mineral Resources. (c) Food Resources: Changes caused by agriculture and over grazing effects of modern agriculture, fertilizer – pesticide problems. 	10.03.2022 to 28.03.2022	2 Hrs 2 Hrs 2 Hrs	-	-
Unit III	<ul style="list-style-type: none"> (a) Concept of an Ecosystem (b) Structure and function of an Ecosystem (c) Producers, Consumers and Decomposers 	29.03.2022 to 11.04.2022	1 Hr 1 Hr 1 Hr	-	-

	(d) Energy flow in the Ecosystem (e) Forest Ecosystem (f) Pond Ecosystem		1 Hr 1 Hr 1 Hr		
Unit IV	<ul style="list-style-type: none"> • Biodiversity – definition – Types – Genetic species and ecosystem, diversity • Values of biodiversity <ul style="list-style-type: none"> (a) India as a mega – diversity nation <p>Environmental pollution:</p>	12.04.2022 to 25.04.2022	3 Hrs 3 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Water conservation, rain water harvesting and water shed management • Environmental Protection Act <ul style="list-style-type: none"> (a) Public Awareness (b) Environment and Human Health (c) Women and Child Care (d) Role of Information Technology in environment and human health. 	26.04.2022 to 9.05.2022	3 Hrs 1 Hr 2 Hrs	-	-

D.ACTIVITIES:

Activities Name	Details
Test	Unit Test Date 21.03.2022,10.4.2022,28.04.2022,15.05.2022
Assignment	22.3.2022,10.4.2022, 22.04.2022
Quiz	1.04.2022,19.05.2022 (Objective Type Questions)
Seminar	23.03.2022,11.04.2022,22.04.2022,18.05.2022 Monthly Once
Tutor Ward Meeting	Weekly Once
Mentor Mentee Meeting	



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A. TEACHING PLAN

B. GENERAL INFORMATION

Name of the Faculty	:	Dr.I.Jannathul Firthouse
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Integral Calculus
Lecture Hours	:	60 Hrs

C. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To inculcate the basics of integration.• To study some applications of definite integrals.• To know the techniques for integration.• To find area under plane curves using integration.• To understand the consequences of Beta and Gamma function.	<ul style="list-style-type: none">• Find the solutions of the integral.• Solve the integration by parts.• Find the area of plane curves using Cartesian and polar coordinates• Find the area by changing the given order of integration• Understand the concepts of Beta and Gamma functions	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

D. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none">• Definition of Integrals and examples• Revision of all integrals• Simple Problems	21.02.2022 to 05.03.2022	1Hrs 4Hrs 4Hrs	-	-
Unit III	<ul style="list-style-type: none">• Geometrical Applications of Integration• Area Under Plane Curve• Cartesian Coordinates• Area of a closed Curve• Area in Polar coordinates	07.03.2022 to 09.04.2022	3Hrs 4Hrs 4Hrs 4Hrs	-	-
Unit IV	<ul style="list-style-type: none">• Double Integrals• Changing the order of Integration• Triple Integrals	10.04.2022 to 12.05.2022	4Hrs 5Hrs 3 Hrs 3Hrs	-	-

E. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 22.03.2022, 11.04.2022,27.04.2022,14.5.22
Assignment	21.03.2022, 8.04.2022, 20.04.2022
Quiz	02.04.2022,20.05.2022
Seminar	23.03.2022,11.04.2022,22.04.2022,18.05.2022
Tutor Ward Meeting	Monthly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Dr.I.Jannathul Firthouse
Department	:	Mathematics
Programme	:	B.Sc(Computer Science)
Programme Code	:	UCS
Name of the Paper	:	Allied Operations Research
Lecture Hours	:	60 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none"> • To define and formulate linear programming problems and appreciate their limitation • To train the students in network problems. • To train the students to solve the assignment problems, transportation problems. • To solve LPP using appropriate techniques and optimization solvers. • To develop mathematical skills to analyzed and solved integer programming and network models arising from a wide range of applications. 	<ul style="list-style-type: none"> • Formulate the given simplified description of a suitable real work problem as a linear programming models in general , standard and canonical forms • Solve Transportation and assignment Problems • Know Principles of Construction of Mathematical; Model of Conflicting situations and Mathematical Analysis • Methods of Operations Research be able to choose rational option in practical decision making problems using standard mathematical models of Operations Research • Have Skills in Analysis of Operations Research objectives , Mathematical Methods and Computerized systems 	<ul style="list-style-type: none"> • Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method, • Problem Solving Method • Seminar Method • Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Definition of L.P.P and Graphical Solution Method • Characteristic Feature of O.R • Canonical and Standard form of O.R • Linear programming formulations and graphical solution of two variables- Canonical and Standard forms of LPP . 	21.02.2022 to 05.03.2022	2Hrs 5Hrs 4Hrs 4Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Simplex method • Simplex method for $<,=,>$ constraints • Charner's method of penalties • Two phase simplex method 	07.03.2022 to 22.03.2022	3Hrs 4Hrs 4Hrs 4Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Transportation problems • Mathematical formulation of the problem • Degeneracy Transportation problem • Transportation Algorithm • Unbalanced transportation Problem- Assignment algorithm 	23.03.2022 to 09.04.2022	4Hrs 4Hrs 4Hrs 3Hrs	-	-

Unit IV	<ul style="list-style-type: none"> • Sequencing Problems • Processing of n jobs through two machines • Processing of n jobs and k machines • Processing of 2 jobs and through m machines 	10.04.2022 to 25.04.2022	4Hrs 5Hrs 3 Hrs 3Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Networks • Rules of Network Construction • Time calculations in Networks • CPM computation 	26.04.2022 to 12.05.2022	3 Hrs 4Hrs 4Hrs 4Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 21.03.2022, 10.04.2022,28.04.2022,15.5.22
Assignment	22.03.2022, 10.04.2022, 22.04.2022
Quiz	01.04.2022,19.05.2022
Seminar	23.03.2022,11.04.2022,22.04.2022,18.05.2022
Tutor Ward Meeting	Monthly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Dr.I.Jannathul Firthouse
Department	:	Mathematics
Programme	:	M.Sc
Programme Code	:	PSM
Name of the Paper	:	Probability Theory
Lecture Hours	:	45 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To make the students to understand about fields, σ - fields and random variables.• To enable the students to learn about expectations, convergence in random variables and distribution functions.• To provide the knowledge of the Probability, Random Variables, estimation,• To learn MGF, characteristics function and limit theorems.• To understand different type of distributions.	<ul style="list-style-type: none">• Acquire the knowledge of random variables, distribution.• Understand the concept of expectation, characteristics function.• Demonstrate on Chebyshev inequality and various distributions .• Apply limit theorems to analyze stochastic convergence• Calculate probabilities by applying probability laws and theoretical results.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method• Problem Solving Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit III	<ul style="list-style-type: none">• Random variables• Distribution functions• Discrete random variables• Expected Value• Expectation of a function of random variable• Variance• Binomial random variable	21.02.2022 to 05.03.2022	4Hrs 4Hrs 4Hrs 3Hrs	-	-
Unit IV	<ul style="list-style-type: none">• Continuous random variables• Expectation and variance of continuous random variables• The uniform and normal random variables	06.03.2022 to 20.03.2022	4Hrs 3Hrs 4Hrs 4Hrs	-	-
Unit V	<ul style="list-style-type: none">• Jointly Distributed Random Variables• Joint distribution functions• Independent random Variable• Conditional distributions	22.03.2022 to 10.04.2022	3Hrs 4Hrs 5 Hrs 3 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test Assignment Quiz Seminar Tutor Ward Meeting	Unit Test Date: 20.03.2022,11.04.2022,24.04.2022 14.03.2022, 16.04.2022,12.5.22 27.04.2022 15.04.2022 to 25.04.2022 Monthly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Ms.P.Udhaya**
Department : **Mathematics**
Programme : **B.Sc**
Programme Code : **USM**
Name of the Paper : **Mechanics**
Lecture Hours : **90 Hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none"> • To make the learners to know the importance of this subject in the field of Mechanics. • To provide the basic knowledge of Equilibrium of a particle and Rigid bodies. • To learn the effect of Hanging strings and Suspension bridge. • To help the learners to study about the Impact, Impulsive forces and to about the Central Objects and the 	<p>At the end of the course learners will</p> <ul style="list-style-type: none"> • Understand and demonstrate the Equilibrium of a particle in static and dynamic. • Demonstrate and understands about the clear concept of Hanging strings and suspension bridge. • Have a clear clarification in the Impact of spheres and Impulsive forces. • Require good knowledge and understanding in the 	<ul style="list-style-type: none"> • Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method, • Problem Solving Method • Seminar Method • Demonstration Method

basics of Moment of Inertia. <ul style="list-style-type: none"> To develop a working knowledge to handle practical problems. 	Central Orbit and Moment of Inertia. <ul style="list-style-type: none"> Positive analysis and solve the practical problems of static and dynamic 	
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C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> Equilibrium of a Particle, triangle of Forces Lami's Theorem Moment of a Force General Motion of a Rigid Body Parallel Forces Varignon's Theorem Forces along the sides of a triangle Couples. 	09.08.2021 to 26.08.2021	4 Hrs 3 Hrs 4 Hrs 4 Hrs	-	-
Unit II	<ul style="list-style-type: none"> Hanging strings Equilibrium of a uniform homogeneous strings Suspension bridge Simple Problems. 	27.08.2021 to 03.09.2021	4 Hrs 2 Hrs 2 Hrs 4 Hrs 3 Hrs	-	-
Unit III	<ul style="list-style-type: none"> Rectilinear motions 	04.09.2021	5 Hrs	-	-

	<ul style="list-style-type: none"> under varying force • Simple Harmonic Motion S.H.M along a horizontal line • S.H.M. along a vertical line Projectiles • Forces on a Projectiles • Projectile projected on an inclined plane • Enveloping Parabola 	to 23.09.2021	4 Hrs 2 Hrs 4 Hrs		
Unit IV	<ul style="list-style-type: none"> • Impact • Impulsive Force • Impact of Spheres • Impact of two smooth spheres 	25.09.2021 to 13.10.2021	5 Hrs 5 Hrs 5 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Central orbits • General orbits • Central orbit • Conic as a centered orbit Moment of Inertia Perpendicular and Parallel axes theorems. 	18.10.2021 to 24.11.2021	3 Hrs 4 Hrs 4 Hrs		-

ACTIVITIES:

Activities Name	Details
Test	Unit Test: 23.08.2021,16.09.2021,07.10.21
Assignment	28.08.2021,01.10.2021
Quiz	21.09.2021
Seminar	30.11.2021 to 18.12.2021
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Ms.P.Udhaya
Department	:	Mathematics
Programme	:	B.sc
Programme Code	:	USM
Name of the Paper	:	Quantitative Aptitude
Lecture Hours	:	24 Hrs

A. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<p>To learn the problems solving techniques for aptitude problems</p> <p>To enable to learners prepare themselves for various competitive examinations.</p> <p>To enhance the problem solving skills, to improve the basic mathematical skills and to help learners who are preparing for any type of competitive examinations.</p> <p>Arithmetic ability test helps measure one's numerical ability.</p> <p>Quantitative aptitude questions includes ranking from pure numeric calculations to critical arithmetic reasoning.</p>	<ul style="list-style-type: none">• Solve the problems based on numbers.• Understand the concept of number and alphabet series and analogy• Solving problems on coding and blood relations.• Solving problems on sequential output tracing and direction sense test.• Solving puzzle problems.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method

B. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none">• Blood Relation• Puzzle Test	09.08.2021 to 26.08.2021	2 Hrs 2 Hrs 2 Hrs	-	-
Unit II	<ul style="list-style-type: none">• Number, Ranking and Time Series Test• Mathematical Operations	27.08.2021 to 03.09.2021	2 Hrs 2 Hrs 2 Hrs	-	-
Unit III	<ul style="list-style-type: none">• Arithmetical Reasoning	04.09.2021 to 23.09.2021	2 Hrs 2 Hrs	-	-
Unit IV	<ul style="list-style-type: none">• Inserting the Missing character	25.09.2021 to 13.10.2021	2 Hrs 2 Hrs	-	-
Unit V	<ul style="list-style-type: none">• Data sufficiency• Logical Sequence of Words.	18.10.2021 to 24.11.2021	2 Hrs 2 Hrs	-	-

C. ACTIVITIES:

Activities Name	Details
Test	Unit Test: 17.09.2021,07.10.21
Assignment	28.08.2021,04.10.2021
Quiz	21.09.2021
Seminar	30.11.2021 to 18.12.2021
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Ms.P.Udhaya
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Algebra and Calculus
Lecture Hours	:	90 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none"> • To train the students to solve the problems in the Theory of equations. • To apply the matrix models in Economics, Engineering , Physical, Environmental and Life science. • To identify the extreme of a function of an internal and classify them as minima, maxima or saddles using the first derivation test • To learn the basic concepts in the integration. • To learn the basic concepts in the differential equations. 	<ul style="list-style-type: none"> • Develop Critical thinking and problem solving skills in the context of Algebra and Calculus • Develop an appreciation of Matrix Models in Economics , Engineering and Physical Environmental and Life science • Explain the significance of the derivatives and able to apply techniques for the derivatives in Engineering and sciences • To Find Maxima and Minima , Critical Points and Inflection Points of Function and to determine the concavity of curves • Solve Basic applications Problems described by second Order Linear Differential equations with constant coefficient 	<ul style="list-style-type: none"> • Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method • Problem Solving Method • Seminar Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Relation between roots and coefficients • transformations of equations • diminishing , increasing and multiplying the roots by a constant • forming equations with the given roots • Descartes' rule of sign 	09.08.2021 to 26.08.2021	4 Hrs 3 Hrs 4 Hrs 4 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Singular matrices • Inverse of a non singular matrix using Adjoint method • Rank of a matrix • Characteristic equation , Eigen value , Eigen vectors • Cayley Hamilton theorem (proof not needed) 	27.08.2021 to 03.09.2021	4 Hrs 2 Hrs 2 Hrs 4 Hrs 3 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Maxima and Minima • concavity ,Convexity • Points of inflexion • Partial Differentiations • Euler's theorem • Total differential coefficients • Simple problems . 	04.09.2021 to 23.09.2021	5 Hrs 4 Hrs 2 Hrs 4 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Evaluation of integrals f types <p>1). $\int \frac{px+q}{ax^2+bx+c} dx$ 2). $\int \frac{px+q}{\sqrt{ax^2+bx+c}}$ 3).</p>	25.09.2021 to 13.10.2021	4 Hrs 3 Hrs	-	-

	$\int \frac{dx}{a+bsinx}$ 4). $\int \frac{dx}{a+bcosx}$ <ul style="list-style-type: none"> • Evaluation using integration by parts- properties of definite integrals • Fourier series in the range $(0, 2\pi)$ • Odd & even functions • Fourier Half range sine & cosine series. 		4 Hrs		
Unit V	<ul style="list-style-type: none"> • Variable separable • Linear equation • second order of types $(aD^2+bD+c)y=F(X)$ where a ,b ,c are constants and F(X) is one of the following types (i) e^{kx} (ii) $\sin(kx)$ or $\cos(kx)$ (iii) X^n, n being an integer (iv) $e^{kx}f(x)$. 	18.10.2021 to 24.11.2021	4 Hrs 2 Hrs 2 Hrs 4 Hrs 3 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test: 23.08.2021,123.09.2021,18.10.21
Assignment	28.08.2021,01.10.2021
Quiz	21.09.2021
Seminar	30.11.2021 to 18.12.2021
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once

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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Ms. S.P.Nivetha
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Analytical geometry of 3D
Lecture Hours	:	60 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none"> • To familiarize with the three dimensional surfaces and their properties. • To study the straight lines and its properties. • To learn the system of spheres generated by a sphere and plane. • To know the concepts of cone, the tangent lines and tangent plane at a point. • To inculcate the basics of cylinder along with their properties. 	<p>On the completion of the Course, Learners will be able to</p> <ul style="list-style-type: none"> • Understand the three dimensional space, angle between lines and planes. • Find the coplanar lines, skew lines and to find shortest distance between them. • Formulate the equation of sphere and their properties. • Form the equation of cone with a conic as guiding curve and the tangent lines. • Retrieve the equation of cylinder and right circular cylinder. 	<ul style="list-style-type: none"> • Power Point • E – Module • Chalk & Talk Method • Lecture Method • Discussion Method • Study Assignment Method, • Problem Solving Method • Seminar Method • Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> Coordinates in Space – Direction cosines of a line in space Angle between lines in space –Equation of a plane in normal form Angle between planes– Distance of a plane from a point 	21.02.2022 to 05.03.2022	4 Hrs 4 Hrs 4 Hrs	-	-
Unit II	<ul style="list-style-type: none"> Straight lines in space – line of intersection of planes – plane containing a line Coplanar lines – Skew lines and shortest distance between skew lines Length of the perpendicular from point to line. 	07.03.2022 to 22.03.2022	4 Hrs 4 Hrs 4 Hrs	-	-
Unit III	<ul style="list-style-type: none"> General equation of a sphere- Section of sphere by plane –tangent planes Condition of tangency – system of spheres generated by two spheres System of spheres generated by a sphere and plane. 	23.03.2022 to 09.04.2022	4 Hr 4 Hr 4 Hrs	-	-

Unit IV	<ul style="list-style-type: none"> Equation of a Cone with a conic as guiding curve – Quadric Cones with vertex at origin Condition that the general equation of the second degree should represent a cone The tangent lines and tangent plane at a point. 	10.04.2022 to 25.04.2022	4 Hrs 4 Hrs 4 Hrs	-	-
Unit V	<ul style="list-style-type: none"> Equation of a Cylinder Enveloping cylinder – the right circular cylinder Equation of a right circular cylinder. 	26.04.2022 to 12.05.2022	4 Hrs 4 Hrs 4 Hrs	-	-

ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 25.03.2022, 11.04.2022,15.05.2022
Assignment	22.03.2022, 10.04.2022,22.04.2022
Quiz	01.04.2022,19.05.2022(Objective Type Questions)
Seminar	23.03.2022,11.04.2022,22.04.2022,18.05.2022
Tutor Ward Meeting	Monthly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Ms. S.P.Nivetha
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Numerical methods and statistics
Lecture Hours	:	60 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To objectives of studying this module are to make familiarizes with the ways of solving complicated mathematical problems Numerically• To implement the Numerical methods in computational Problems• To Understand of the several available solutions of equations in one variable• Demonstrate the knowledge of probability and the standard statistical distributions.• Demonstrate the ability to apply linear, Non linear and Generalized linear methods.	<ul style="list-style-type: none">• To train the students in the numerical problems.• To train the students in solving statistical problems.• To implement numerical methods.• To apply numerical methods to obtain approximate solutions to mathematical problems.• To make the students gain wide knowledge in numerical methods and statistical.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Algebra and transcendental numbers • Bisection method • Iteration method • Newton backward and forward interpolation • Lagrange's interpolation. 	25.02.2022 to 08.03.2022	2 Hrs 3 Hrs 2 Hrs 2 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Numerical differentiation and integration • Trapezoidal rule • Simpson's rule • Guass elimination method • Guass Jacobi method 	18.03.2022 to 28.03.2022	3 Hrs 3 Hrs 3 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Numerical solution of ordinary differential equation • Runge kutta 2nd order and 4th order. 	31.03.2022 to 08.04.2022	3 Hrs 3 Hrs 3 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Measures of central tendency • Arithmetic mean • Measures of dispersion • Quartile deviation • Co efficient of variation 	10.04.2022 to 25.04.2022	2 Hrs 2 Hrs 3 Hrs 2 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Correlations • Karl pearsons coefficient • Spearman's rank correlation • Simple problems. 	26.04.2022 to 12.05.2022	3 Hrs 3 Hrs 3 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 30.03.2022, 09.04.2022,27.04.2022
Assignment	22.03.2022, 10.04.2022,22.04.2022
Quiz	01.04.2022,19.05.2022
Seminar	23.03.2022,11.04.2022,22.04.2022,18.05.2022
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Ms. S.P.Nivetha
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Calculus and Vector calculus
Lecture Hours	:	60 Hrs

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To differentiate the given function using Leibnitz Theorem• To introduce the notion of curvature, radius of curvature and Jacobians.• To integrate using Bernoulli formula• To study the differentiation of vectors.• To integrate simply by changing the order of the given integrations.	<p>On completion of the course, the student will be able</p> <ul style="list-style-type: none">• To calculate the nth derivatives of the function.• To sketch curves in Cartesian co ordinate systems.• To apply the reduction formulae for finding integration.• To find the area by changing the given order of integrations.• To understand the various properties of vector differentiation using Laplacian operator.	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Differentiation of the n^{th} derivative • Total differentiation 	04.01.2022 to 20.01.2022	6 hrs 3 hrs	-	-
Unit II	<ul style="list-style-type: none"> • Curvature • Radius of curvature • Jacobians of two or three variables 	25.01.2022 to 08.02.2022	3 Hrs 3 Hrs 3 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Integration • Double integrals • Triple integrals 	11.02.2022 to 26.02.2022	3 Hrs 3 Hrs 3 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • General properties of integrals • Evaluation of integrals with some types • Reduction 	01.03.2022 to 11.03.2022	2 Hrs 3Hrs 3 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Fourier series • Finding fourier coefficient • Periodic function with 2π & $2l$ • Use of Even and Odd functions • Half range sine & cosine series 	12.03.2022 to 29.03.2022	3 Hrs 3 Hrs 3 Hrs	-	-

D. ACTIVITIES:

E.

Activities Name	Details
Test	Unit Test Date: 21.03.2022, 09.04.2022,15.05.2022
Assignment	22.03.2022, 10.04.2022,22.04.2022
Quiz	01.04.2022,19.05.2022
Seminar	23.03.2022,11.04.2022,22.04.2022,18.05.2022
Tutor Ward Meeting	Monthly Once
Mentor Mentee Meeting	Weekly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty	:	Ms. S.P.Nivetha
Department	:	Mathematics
Programme	:	B.Sc
Programme Code	:	USM
Name of the Paper	:	Mathematics for competitive examinations II
Lecture Hours	:	30 Hrs

B. ABOUT THE COURSE:


Course Objectives	Course Outcomes	Teaching Methodology
<ul style="list-style-type: none">• To learn the problems solving techniques for aptitude problems.• To enable the students prepare themselves for various competitive examinations.• To develop and maintain problem solving skills.• To train them by conducting aptitude test based on verbal and quantitative skills.• To enhance the employability skills of students.	<p>On the completion of the Course, students will be able to</p> <ul style="list-style-type: none">• Understand the basic concept of quantitative ability.• Understand the knowledge of mathematical operations• Decipher arithmetical reasoning.• Solve logical reasoning.• Crack competitive examinations	<ul style="list-style-type: none">• Power Point• E – Module• Chalk & Talk Method• Lecture Method• Discussion Method• Study Assignment Method,• Problem Solving Method• Seminar Method• Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit I	<ul style="list-style-type: none"> • Number, Ranking and Time series Test: • Number Test • Ranking Test • Time sequence test 	01.03.2022 to 02.03.2022	1 Hrs 1 Hrs 1 Hrs	-	-
Unit II	<ul style="list-style-type: none"> • Mathematical Operations: • Problem solving by substitution. • Interchange of signs and numbers. • Deriving the appropriate conclusion. 	19.03.2022 to 21.03.2022	1 Hrs 1 Hrs 1 Hrs	-	-
Unit III	<ul style="list-style-type: none"> • Arithmetical Reasoning; • Calculation based problems- Data based question • Problem on ages • Venn diagram based questions 	28.03.2022 to 29.03.2022	1 Hr 1 Hr 1 Hrs	-	-
Unit IV	<ul style="list-style-type: none"> • Inserting the missing characters 	05.04.2022 to 06.04.2022	3 Hrs	-	-
Unit V	<ul style="list-style-type: none"> • Data sufficiency • Logical sequencing words • Logical Reasoning 	10.05.2022 to 11.05.2022	1 Hrs 1 Hrs 1 Hrs	-	-

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 25.01.2022, 10.02.2022,
Assignment	03.03.2022
Quiz	21.01.2022, 10.02.2022, 13.03.2022
Seminar	09.03.2022,16.03.2022(Objective Type
Tutor Ward Meeting	Questions) 23.01.2022,10.02.2022,02.03.2022,17.03.2022 Monthly Once



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TEACHING PLAN

A. GENERAL INFORMATION

Name of the Faculty : **Ms.S.P.Nivetha**
Department : **Mathematics**
Programme : **B.Sc**
Programme Code : **USM**
Name of the Paper : **Gender studies**
Lecture Hours : **12 hrs**

B. ABOUT THE COURSE:

Course Objectives	Course Outcomes	Teaching Methodology
<ol style="list-style-type: none">1. To make boys and girls aware of each others strength and weakness.2. To develop sensitivity towards both genders in order to lead an ethically enriched life.3. To promote attitudinal change towards a gender balanced ambience and women.		<ul style="list-style-type: none">❖ Power Point❖ E – Module❖ Chalk & Talk Method❖ Lecture Method❖ Discussion Method❖ Study Assignment Method,❖ Problem Solving Method❖ Seminar Method❖ Demonstration Method

C. PLAN OF THE WORK:

Unit / Modules	Topic to be covered	Proposed date	Lecture Hrs	Practical Hrs	Remarks
Unit-I	Concepts of Gender	21.02.2022 to 05.03.2022	1 hrs		
Unit-II	Women's Studies VS Gender studies	07.03.2022 to 15.02.2022	1 hrs		
Unit-III	Areas of Gender studies	18.03.2022 to 28.03.2022	1 hrs		
Unit-IV	Women Development and Gender Empowerment	05.04.2022 to 13.04.2022	1 hrs		
Unit-V	Womens Movements and Safeguarding Mechanism	02.05.2022 to 21.05.2022	1 hrs		

D. ACTIVITIES:

Activities Name	Details
Test	Unit Test Date: 28.03.2022 and 23.04.2022
Assignment	29.03.2022, 25.04.2022
Quiz	19.05.2022 (Objective Type Questions)
Seminar	27.03.2022, 05.04.2022, 29.04.2022



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