Lesson Plan

Academic Session 2025-26

Class: M.Sc. Maths (1ˢᵗ sem)

Paper: Discrete Mathematics   **Name: Dr. Sushma**

Weeks	Month
	August 2025
Week 1	Recurrence Relations and Generating Functions,
Week 2	Some number sequences, Linear homogeneous recurrence relations, Nonhomogeneous recurrence relations
Week 3	, Non-homogeneous recurrence relations, Generating functions, Recurrences and generating functions
Week 4-5	Exponential generating functions. Statements Symbolic Representation and Tautologies,
	September 2025
Week 1	Quantifiers, Predicates and validity, Prepositional Logic. Lattices as partially ordered sets, their properties
Week 2	Lattices as Algebraic systems. Sub lattices, Direct products and Homomorphism
Week 3	Some special lattices e.g. complete, Complemented and Distributive Lattices. Boolean Algebras as Lattices
Week 4	Various Boolean Identities, The switching Algebra.Example, Subalgebras, Direct Products and Homomorphism
	October 2025
Week 1	Joint-irreducible elements,Atoms and Minterms, Boolean forms and their equivalence
Week 2	Minterm Boolean forms, Sum of Products, Cononical forms, Minimization of Boolean functions, Applications ofBoolean Algebra to Switching Theory (using AND, OR and NOT gates.) The Karnaugh method.
Week 3	Finite state Machines and their Transition table diagrams, Equivalence of Finite State, Machines, Reduced Machines
Week 3	, Homomorphism. Finite automata, Acceptors, Nondeterministic,
Week 4	Diwali Break

	November 2025
Week 1	Finite Automata and equivalence of its power to that of deterministic Finite automata, Moore and Mealy Machines.
Week 2	Grammars and Language: Phrase-Structure Grammars, Requiting rules, Derivation, Sentential forms,
Week 3	Language generated by a Grammar, Regular ,Context -Free and context sensitive grammars and Languages, Regular sets, Regular Expressions and the pumping Lemma.
Week 4	Tests and Assignments

Lesson Plan
Academic Session 2025-26

Subject-Mathematics   **Class-B.A/B.SC/B.SC Maths Hons-I sem**

Paper:- Programming in c &numerical methods   Name: Neeraj, Preeti

	Month
	JULY
Week 3 - 4	Programmer's model of a computer Algorithms, Flow charts,
	Data types, Operators and expressions
	AUGUST
Week 1	Input / outputs functions
Week 2	Decisions control structure: Decision statements, Logical and conditional statements
Week 3	Implementation of Loops,
Week 4	Switch Statement & Case control structures
Week 5	Functions, Preprocessors and Arrays.
	SEPTEMBER
Week 1	Strings: Character Data Type, Standard String handling Functions Arithmetic Operations on Characters. Structures:
Week 2	Definition, using Structures ,Use of Structures in Arrays and Arrays in Structures.
Week 3	Pointers: Pointers Data type, Pointers and Arrays, Pointers and Functions.
Week 4	Solution of Algebraic and Transcendental equations: Bisection method, Regula-Falsi method
	OCTOBER
week 1	Secant method, Newton-Raphson's method. Newton's iterative method for finding pth root of a number, Order of convergence of above methods.
Week 2	Simultaneous linear algebraic equations: Gauss-elimination method,
Week 3	**Diwali Break**
Week 4	Gauss-Jordan method, Triangularization method (LU decomposition method).
Week 5	Crout's method, Cholesky Decomposition method. Iterative method
	NOVEMBER
week 1	Jacobi's method, Gauss-Seidal's method, Relaxation method
Week 2	Test and Assignment

Name of Teacher : Dr. Rekha Dahiya
Class and Section: B. Sc III
Subject: MATHEMATICS
Paper: Groups and Rings
July
Week 4: Definition of group and its brief introduction, examples of group and general properties.

AUGUST
Week 1: Theorems on group, introduction of subgroups and its examples, subgroup criterion, product, intersection and union of subgroup.
Week 2: Cyclic groups and its examples and theorems, Euler function and its generators of groups.
Week 3: Introduction of cosets of a subgroup, theorems on cosets, Index of a subgroup, Lagrange`s theorem and its consequences, introduction to Normal subgroups and simple groups
Week 4: Examples and theorems on Normal subgroups, concept of quotient groups, examples and theorems on quotient groups.
Week 5 : Introduction to Homomorphism and isomorphism of groups and examples, Kernel of homomorphism and Fundamental theorem, Automorphism.
SEPTEMBER
Week 1 : Examples and theorems on automorphism and Inner automorphism, Normalizer of a subgroup and examples, centre of a group.
Week 2 : Definition of permutation group and alternating group, related theorems, Caley theorem
Week 3: Introduction to Rings and related examples and theorems, integral domain and its examples, introduction to Field and examples.
Week 4 : Theorems on fields and integral domain, subring of a ring and examples, characteristic of ring and field and related theorems.
OCTOBER
Week1: Introduction to ideal, their examples, sum, product, intersection, union and related theorems.
Week 2 : Principal ideal and principal ideal domain, their examples and theorems.
Week 4/5: Maximal and prime ideal, idempotent and nilpotent element in ring, concept of quotient ring, ring homomorphism and its examples, Fundamental theorem on homomorphism.
NOVEMBER
Week 1 : Field of quotient of an integral domain, divisibility in the ring. Unit, prime and irreducible element in ring and their examples.
Week 2 : Introduction to polynomial ring, polynomial over ring and integral domain, GCD and LCM in ring, Euclidean ring, its example and theorems, theorems on prime and irreducible element
Week 3: Unique factorization domain and its examples and theorems.
: Division algorithm, irreducibility of polynomial over ring and integral domain, mod-p and the Eisenstein`s criterion for irreducibility of polynomials.

Lesson Plan

Academic Session 2025-26

Class: M.Sc. Maths (1ˢᵗ sem)

Paper: Graph Theory   Name: Dr. Sushma

Weeks	Month
	August 2025
Week 1	Definition and types of graph,
Week 2	Walk,path and circuit ,connected and disconnected graph
Week 3	Applications on graph operation on graph
Week 4-5	Graph representation isomorphism of graphs
	September 2025
Week 1	Eularian and hamiltonian path, Shortest path in weighted graph .
Week 2	**The travelling salesman problem ,planar graph**
Week 3	Detection of planarity and Kuratowski theorem
Week 4	Graph colouring, revision and test
	October 2025
Week 1	Directed graph tree and tree terminology,
Week 2	Rooted label trees
Week 3	Prefix code, binary search tree
Week 3	,Tree traversa,revision test
Week 4	Diwali Break
	November 2025
Week 1	Spanning trees and cut sets, Minimum spanning trees
Week 2	Karuskal algorithms , prime algorithm
Week 3	Decision trees, sorting method.

LESSON PLAN
Session: 2025-26 (ODD SEM)   Name of Teacher- Dr. Savita Deswal

WEEKS	SYLLABUS
July	
Week 1	Chapter: Continuous functions, uniform continuity
August	
Week 1	Assignments : Examples based on continuity Chapter: Discuss the problem
Week 2	chapter: The derivative and mean value theorems
Week 3	Chapter: The derivative and mean value theorems, Lagrange's mean value theorem, Darboux's theorem, Rolle's theorem, Taylor's theorem Assignments: Examples related to mean value theorems
Week 4	Chapter: Maclaurin's theorem, Cauchy's mean value theorem
September	
Week 1	Chapter: Indeterminate forms
Week 2	Chapter: Limit and continuity of functions of two variables *Assignments: Examples*
Week 3	Chapter: and continuity of functions of two variables and Partial differentiation *Assignments: Examples*
Week 4	Chapter: Partial differentiation-Homogeneous functions, Euler's theorem *Assignments: Questions based on Euler's theorem*
October	
Week 1	Chapter: Differentiability of functions of two variables *Assignments: Definitions related to differentiability*
Week 2	Chapter: Differentiability of a function of two variables- Implicit function theorem *Assignments: Questions based on excercise*
Week 3	Chapter: Maximum and minimum of a function of two variables, Lagrange's method of undetermined multipliers *Assignments: Examples*
Week 4	Chapter: Curves in space ,introduction to curves, Circle of curvature and spherical curvature, normal plane *Assignments: Examples*
November	
Week 1	Chapter: Circle of curvature and spherical curvature *Assignments: Examples*
Week 2	Chapter: Concept of a surface and envelopes Chapter: Involutes and evolutes

	Revision

LESSON PLAN
Session: 2025-26 (ODD SEM)   Name of Teacher- Dr. Savita Deswal
Class- B.Sc. Single Major 1st Semester   Subject- Vector Calculus

WEEKS	SYLLABUS
July	
Week 1	Introduction scalar point function and vector point function
Week 2	Scalar and Vector Multiple products of vectors,, differentiation of vectors,Product of four vectors
August	
Week 1	Reciprocal vectors: scalars and vector point function, derivatives along curve Directional derivatives Class test
Week 2	Gradient of scalar point function, Tangent planes and Normal lines. Examples Problem discussion
Week 3	Divergence of vector point function
Week 4	Curl of vector point function sums and product and their related vector identify Problem discussion test
September	
Week 1	Double integral, double integral in polar coordinates, change of order, change in variable
Week 2	Triple integral in cylindrical coordinates and spherical coordinates, change of order in triple integral, volume integral
Week 3	Laplacian operatorVector integration Numericals, Problems
Week 4	Vector integration, Problems of line integral Presentations Unit -4 Surface integral and volume integral
October	
Week 1	Gauss and Green theorem
Week 2	1 Stoke throrem
Week 3	Orthogonal curvilinear coordinates Condition for orthogonality, fundamental triad of mutually orthogonal unit vectors test
Week 4	Gradient, divergence ,curl and Revision

November	
Week 1	Laplacian operator in term of curvilinear coordinates spherical and cylindrical coordinates
Week 2	Problem discussion Revision
vWEEKS	**SYLLABUS**

July	
Week 1	Introduction scalar point function and vector point function
Week 2	Scalar and Vector Multiple products of vectors,, differentiation of vectors,Product of four vectors

August	
Week 1	Reciprocal vectors: scalars and vector point function, derivatives along curve Directional derivatives Class test
Week 2	Gradient of scalar point function, Tangent planes and Normal lines. Examples Problem discussion
Week 3	Divergence of vector point function
Week 4	Curl of vector point function sums and product and their related vector identify Problem discussion test

September	
Week 1	Double integral, double integral in polar coordinates, change of order, change in variable
Week 2	Triple integral in cylindrical coordinates and spherical coordinates, change of order in triple integral, volume integral
Week 3	Laplacian operatorVector integration Numericals, Problems
Week 4	Vector integration, Problems of line integral Presentations Unit -4 Surface integral and volume integral

October	
Week 1	Gauss and Green theorem
Week 2	1 Stoke throrem

Week 3	Orthogonal curvilinear coordinates Condition for orthogonality, fundamental triad of mutually orthogonal unit vectors test
Week 4	Gradient, divergence ,curl and Revision
November	
Week 1	Laplacian operator in term of curvilinear coordinates spherical and cylindrical coordinates
Week 2	Problem discussion Revision

Name of the Assistant/Associate Professor: Dr. Preeti
Class and Section: M.Sc. 2nd Year (Maths) (3rd Sem)
Subject: MATHEMATICS (code: 25MAT203DS04)
Paper: <u>Ordinary Differential Equations</u>
<u>JULY</u>
Week 5- Preliminaries.
<u>AUGUST</u>
WEEK 1- ε-approximate solution, Cauchy-Euler construction of an ε-approximate solution of an initial value problem, Equicontinuous family of functions, Ascoli-Arzela Lemma.
Week 2- Cauchy - Peano existence theorem. Lipschitz condition, Picard - Lindelof existence and uniqueness theorem for $dy/dt = f(t,y)$, Solution of initial-value problems by Picard method, Dependence of solutions on initial conditions.
Week 3- Linear systems, Matrix method for homogeneous first order system of linear differential equations, Fundamental set of solutions, Fundamental matrix of solutions.
Week 4- Wronskian of solutions, Basic theory of the homogeneous linear system, Abel-Liouville formula, Non-homogeneous linear system, Unit test.
Week 5- Strum Theory, Self-adjoint equations of the second order, Abel formula, Strum Separation theorem, Strum Fundamental comparison theorem.
<u>SEPTEMBER</u>
Week 1- Nonlinear differential systems, Phase plane, Path, Critical points, Autonomous systems.
Week 2- Isolated critical points, Path approaching a critical point, Path entering a critical point.

Week 3- Types of critical points- Center, Saddle points, Spiral points, Node points, Stability of critical points, Asymptotically stable points.
Week 4- Unstable points, Critical points and paths of linear systems. Almost linear systems.
OCTOBER
Week 1- Nonlinear conservative dynamical system, Dependence on a parameter, Unit Test.
Week 2- Liapunov direct method, Limit cycles, Periodic solutions, Bendixson nonexistence criterion.
WEEK 3- **DIWALI BREAK**
Week 4- PoincoreBendixson theorem (statement only), Index of a critical point. Strum-Liouville problems, Discussion.
Week 5- Orthogonality of characteristic functions.
NOVEMBER
Week 1 -Discuss problems And Take Test
Week 2- Numerical Problems and Presentations
Week 3 – Revision And Take Test
Week 4- Revision And Take Test

Lesson plan session 2025 -26

Teachers name Dr. Rekha Dahiya

Class. BSc 1   section. A (sem 1)

Paper   Introductory mathematics

Subject.   MDC mathematics

July	
Week 3	Numbers,HCF of numbers
Week 4 /5	LCM of numbers
August	
Week 1	Decimal and fraction, simplification
Week 2	Square root and cube root
Week 3	Surds and indices
Week 4/5	Decimal and fraction
September	
Week 1	problem on number averages and percentage
Week 2	Profit and loss
Week 3	ratio and proportion
Week 4/5	problem on ages
October	
Week 1	Partnership
Week 2	**Diwali break**
Week 3	time and work
Week 4/5	Time and distance
November	
Week 1	Problem on trains,mixture problem
Week 2	problem based on calendar and clock
Week 3	Revision

LESSON PLAN (2025-26)
B.com. 2 (minor), Semester-III

Paper name.   operation   Research
Teacher's name: Dr. Rekha Dahiya

July
Week.3.   Linear programming problems (LPP):
week 4/5.   Introduction to linear programming problems (LPP),
August
week 1.   Mathematical formulation of the linear programming problems with illustrations. Graphical method used for solving linear programming problem.
week2.   Feasible region of LPP, unbounded solution to the LPP in graphical method, Canonical and standard form of LPP.
week 3.   Simplex Method: Basic and non basic variables, Theory of Simplex method
week 4/5 optimality and unboundlessness, Simplex algorithm,
September
week 1.   Simplex method in tableau format. Introduction to artificial variables,
week 2.   Two –phase simplex method, Big-M method, Degeneracy problem in simplex method.
week 3.   Transportation Problem: Introduction to transportation problem,
week 4/5Initial basic feasible solution to transportation problem using North-West Corner, Least Cost Method and Vogel's approximation Method.
october
week 1 Optimal solution to transportation problem using MODI method,
week 2. Unbalanced transportation problem
week 3   diwali break
week 4/5. Degeneracy in transportation problem.
November
week 1 Assignment Problem: Introduction to assignment problem,
week 2Mathematical formulation of assignment problem, Solution to assignment problem using Hungarian method.
week 3.   Revision

Name of the Assistant/Associate Professor: Dr Kusum, Dr Neeraj, Dr Shalini
Class and Section: B.Sc. III, B.A.III, B.Sc. III Hons
Subject: MATHEMATICS
Paper: Numerical analysis
July
Week 4:   **Finite difference operator, Forward and backward difference operator, Central diff. operator, fundamental theorem of diff. operator, operator E and their properties.**
August
Week 1:   **Effect of error in tabular value, relation b/w different operator, definition of terms interpolation and extrapolation, definition of term interpolation with equal intervals**

Week 2:   **Finite difference operator, Forward and backward difference operator, Central diff. operator, fundamental theorem of diff. operator, operator E and their properties**
Week 3: Effect of error in tabular value, relation b/w different operator, definition of terms interpolation and extrapolation, definition of term interpolation with equal intervals
Week 4   **Interpolation with unequal intervals, difference b/w interpolation with equal intervals, Newton formula for forward and backward interpolation, problems, subdivision of interval**
September
Week 1: interpolation with equal intervals and examples.   **Divided difference formula and theorems, newton divided difference and ordinary difference and examples.**
Week 2: lagrange interpolation formula and examples. , Hermite formula and examples.
Week 3: Gauss forward and backward interpolation and related examples
Week 4: Bessel formula, Sterling formula and examples and problems . Test

October
Week 1: Probability distribution of random variables , binomial distribution and examples., Poisson distribution and examples.
Week 2: Normal distribution and examples, problems, Numerical differentiation derivative of interpolation formula, Eigen value formula
Week 3: Diwali Break
Week 4: Power method examples and problems, **Jacobi method and examples., Given method and examples and problems, House holder method and examples., QR method, lanczo method, examples**

November
Week 1: Newton quotes quadrature formula, Trapezoidal rule, Simpsons one third rule and examples.
Week 2: Simpsons three eight rule ,Chebychev formula and Gauss quadrature formula ,examples
Week 3: Single step method, Picard method, Tailor series and Euler method, Runga kutta method and multiple step method and examples.
Week 4: Revision, Tests and Assignments

LESSON PLAN

Session: 2025-26 (ODD SEM)
Name of Teacher- Dr. Parvesh Kumari, Dr. Ridam
Class- B.Sc. Non-medical & Hons. -5th Semester
Subject- Groups & Rings

WEEKS	SYLLABUS
July	
Week 3	Definition of a group with examples and simple properties of Group, Subgroups and Subgroup criteria.
Week 4	Generation of groups, cyclic groups, cosets, Left and Right cosets, Index of a subgroup.
August	
Week 1	Coset decomposition, Lagranges theorem and its consequences
Week 2	Normal subgroups, Quotient groups
Week 3	Homomorphism, Isomorphism
Week 4	Automorphism and Inner automorphism of a group
September	
Week 1	Automorphism Cont.
Week 2	Permutation Groups
Week 3	Introduction to Rings, Subrings, Integral Domains and Fields
Week 4	Characteristic of a ring, Ring Homo.
October	
Week 1	Ideals and Quotient Rings
Week 2	Euclidean Rings
Week 3	Break
Week 4	Euclidean Rings Cont.
November	
Week 1	Polynomial Rings
Week 2	Polynomial Rings Cont. and Revision

Lesson Plan

Academic Session: 2025-26

Class: M.Sc. Maths (1st Sem)

Paper: Analytical Number Theory   **Name: Dr. Preety**

Weeks	Month
	August 2025
Week 1	Distributions of primes, Fermat numbers
Week 2	Mersene numbers, Farey series and some results
Week 3	Approximation of irrational nos by rationals
Week 4	Hurwitz theorem, Irrationality of e and pie.
Week 5	Test of 1st section
	September 2025
Week 1	The Airthmetic in Zn, The group Un, Primitive roots
Week 2	The group of quadratic residues Qn, Quadratic residues for prime power moduli
Week 3	Algebraic structure of Un and Qn
Week 4	Test of IInd section
	October 2025
Week 1	Riemann Zeta function and its convergence, Applications of Prime numbers
Week 2	Diophantine equations, Representation of numbers by two or four squares
Week 3	**Diwali Break**
Week 4	Warning problem, Four square theorem, The numbers g(k) and G(k) and lower bounds for g(k) and G(k)
	November 2025
Week 1	Airthmetic functions, Definitions and examples and simple properties
Week 2	Perfect numbers, Mobius inversion formula
Week 3	Mobius function , The order and average order of the function n
Week 4	Seminar on important topics, Tests and Assignments

Lesson Plan

Academic Session: 2025-26

Class: M.Sc. Maths (1st Sem)

Paper: Complex Analysis   **Name: Dr. Parul Singh**

Weeks	Month
	August 2025
Week 1	Function of Complex Variable, Continuity and Differentaibity, Ananlytic functions and its property
Week 2	Cauchy Riemann Equation, Power series and Radius of Convergence
Week 3	Examples on Radius of Convergence, differentiability od sum function of power series
Week 4	Branches of many valued functions with reference to arg z, log z, complex exponential function
Week 5	Test of 1st section , Path in region, Contour, complex integration
	September 2025
Week 1	Cauchy theorem, Cauchy Integral formula + Group wise Seminar on above topics.
Week 2	Higher order derivatives, Complex intergral as a function of upper limit
Week 3	Morera theorem, Cauchy inequality, Liouville Theorem, Taylor Theorem
Week 4	Zeros of analytic function, Laurent series, Isolated Singularities
	October 2025
Week 1	Cassorati- Weisrstrass theorem, Limit point of zeroes and pole
Week 2	Maximum modulus principle, Schwarz Lemma, Meromorphic functions, Argument Principle
Week 3	**Diwali Break**
Week 4	Rouche Theorem, fundamental theorem of algebra, inverse function theorem, Revision and test
	November 2025
Week 1	Calculus of residues, Cauchy residue theorem Conformal mappings
Week 2	Equation of integrals, Space of analytic functions and completeness, Hurwitz theorem
Week 3	Montel Theorem, Riemann mapping theorem, discuss some short question on entire syllabus
Week 4	Seminar on important topics, Tests and Assignments

Lesson Plan

Academic Session: 2025-26

Class: B.com 1st Sem

Paper: Basic Mathematics   **Name: Dr. Parul Singh**

Weeks	Month
	July 2025
Week 3	Differentiation
Week 4	Differentiation of Logarithmic and Exponential functions
	August 2025
Week 1	Partial differentiation
Week 2	Total Differentials, Maxima and Minima
Week 3	Maxima and Minima continue
Week 4	Test of 1st and 2nd chapter and revision of 1st section
Week 5	Indefinite Integration
	September 2025
Week 1	Indefinite Integration continue, Definite integration
Week 2	Test
Week 3	Definite integration
Week 4	Application on Integration
	October 2025
Week 1	Algebra on Matrices
Week 2	Algebra on Matrices continue
Week 3	**Diwali Break**
Week 4	Revision on Matrices and Test
	November 2025
Week 1	Determinant, System of linear equations
Week 2	Revision, Tests and Assignments

Lesson Plan

Academic Session: 2025-26

Classes: B. Sc 1ˢᵗ Sem, B. Sc 1ˢᵗ Sem (Hon.), B. A 1ˢᵗ Sem

Paper: Functions of Algebra   **Name: Dr. Parul Singh, Dr. Yashpal**

Weeks	Month
	July 2025
Week 3	Chapter 1:Relations and Functions
Week 4	Invertibility and inverse of a function
	August 2025
Week 1	Chapter 2: Relation between the roots and coefficients of an equation
Week 2	To find condition that roots of given equation satisfies a given relation
Week 3	Chapter 3:Transformation of equations
Week 4	Chapter 3 continued with test of first chapter, rivision and doubts class along with test
Week 5	Chapter 4:Descarte's rule of signs
	September 2025
Week 1	Chapter 5: Solution of cubic and biquadratic equations
Week 2	Doubts and Problems of chapter 4 and 5 with their tests
Week 3	Chapter 6: Matrices
Week 4	Matrices continued with problems
	October 2025
Week 1	Chapter 7: Rank of a matrix
Week 2	Linear dependence and independence of row and column matrices
Week 3	**Diwali Break**
Week 4	Chapter 8: Applications of Matrices to a system of linear equation
	November 2025
Week 1	Chapter 9: Eigens values, eigen vectors and chacteristics equation of a matrix
Week 2	Rivision of syllabus with assignments and Test.

Lesson Plan

Academic Session: 2025-26

Class: M.Sc. Maths (3rd Sem)

Paper: Functional Analysis   **Name: Dr. Kusum**

Weeks	Month
	July, 2025
Week 5	Normed linear spaces, Metric on normed linear spaces, Completion of a normed spaces
	August, 2025
Week 1	Banach Spaces, Subspace of a Banach space, Holder and Minkowski inequality
Week 2	Completeness of quotient spaces of normed linear spaces, Completeness of different spaces.
Week 3	Incomplete normed spaces. Problem discussion and test.
Week 4	Finite dimensional normed linear spaces and subspaces.
	September 2025
Week 1	Bounded linear transformation, Equivalent formation of continuity
Week 2	Spaces of bounded linear transformations
Week 3	Continuous linear functional, Conjugate spaces
Week 4	Hahn Banach extension theorem, Problem discussion, Seminar and test.
	October 2025
Week 1	Riesz representation theorem for bounded linear functionals on L^p and C[a,b]
Week 2	Second conjugate spaces, Reflexive space, Uniform bounded principle and its consequences.
Week 3	**Diwali Break**
Week 4	Open mapping theorem and its application, projection, closed graph theorem
	November 2025
Week 1	Equivalent norms, Weak and strong convergence, Equivalence in finite dimensional spaces
Week 2	Weak sequential compactness, Solvability of linear equations in Banach spaces.
Week 3	Compact operator and its relation with continuous operator, Compactness of L.T., and Compact operators and its properties.
Week 4	Seminar on important topics, Tests and Assignments

Lesson Plan

Academic Session: 2025-26

Class: B.Sc. 3rd Sem(SEC)

Paper: Operations Research Techniques   **Name: Dr. Kusum**

Weeks	Month
	July 2025
Week 5	Definition, Scope, methodology and application of OR. Types of OR models
	August 2025
Week 1	Concept of optimization, Formation of LPP,
Week 2	Requirements for an LPP, Advantage and limitation of LP, Graphical solution
Week 3	Graphical solution of LPP
Week 4	Problem discussion and Test
	September 2025
Week 1	Principle of simplex methods, Basic solution
Week 2	Cases of simplex method
Week 3	Two phase and Big M method
Week 4	Problem discussion, seminar and test
	October 2025
Week 1	Duality in LPP
Week 2	Transportation problem and its different cases
Week 3	**Diwali Break**
Week 4	Assignment problem and its cases
	November 2025
Week 1	Unbalanced Assignment problem, crew assignment and travelling salesman problem
Week 2	Game theory and its cases, Problem discussion and Test

Lesson Plan

Academic Session: 2025-26

Class: M.Sc. Maths (3ʳᵈ Sem)

Paper: Functional Analysis   **Name: Dr. Kusum**

Weeks	Month
	July, 2025
Week 5	Normed linear spaces, Metric on normed linear spaces, Completion of a normed spaces
	August, 2025
Week 1	Banach Spaces, Subspace of a Banach space, Holder and Minkowski inequality
Week 2	Completeness of quotient spaces of normed linear spaces, Completeness of different spaces.
Week 3	Incomplete normed spaces. Problem discussion and test.
Week 4	Finite dimensional normed linear spaces and subspaces.
	September 2025
Week 1	Bounded linear transformation, Equivalent formation of continuity
Week 2	Spaces of bounded linear transformations
Week 3	Continuous linear functional, Conjugate spaces
Week 4	Hahn Banach extension theorem, Problem discussion, Seminar and test.
	October 2025
Week 1	Riesz representation theorem for bounded linear functionals on L^p and C[a,b]
Week 2	Second conjugate spaces,Reflexive space, Uniform bounded principle and its consequences.
Week 3	**Diwali Break**
Week 4	Open mapping theorem and its application, projection, closed graph theorem
	November 2025
Week 1	Equivalent norms, Weak and strong convergence, Equivalence in finite dimensional spaces
Week 2	Weak sequential compactness, Solvability of linear equations in Banach spaces.
Week 3	Compact operator and its relation with continuous operator, Compactness of L.T., and Compact operators and its properties.
Week 4	Seminar on important topics, Tests and Assignments

Lesson Plan

Academic Session: 2025-26

Class: B.Sc. 3rd Sem(SEC)

Paper: Operations Research Techniques   **Name: Dr. Kusum**

Weeks	Month
	July 2025
Week 5	Definition, Scope, methodology and application of OR. Types of OR models
	August 2025
Week 1	Concept of optimization, Formation of LPP,
Week 2	Requirements for an LPP, Advantage and limitation of LP, Graphical solution
Week 3	Graphical solution of LPP
Week 4	Problem discussion and Test
	September 2025
Week 1	Principle of simplex methods, Basic solution
Week 2	Cases of simplex method
Week 3	Two phase and Big M method
Week 4	Problem discussion, seminar and test
	October 2025
Week 1	Duality in LPP
Week 2	Transportation problem and its different cases
Week 3	**Diwali Break**
Week 4	Assignment problem and its cases
	November 2025
Week 1	Unbalanced Assignment problem, crew assignment and travelling salesman problem
Week 2	Game theory and its cases, Problem discussion and Test

Lesson Plan

Academic Session: 2025-26

Class: M.Sc. Maths (1ˢᵗ Sem)

Paper: Mathematical Statitics   **Name: Dr. Neeraj**

Weeks	Month
	August 2025
Week 1	Probability,approaches of probability
Week 2	Addition theorem, Boole inequality
Week 3	Conditional probability, multiplication theorem
Week 4	Independent events
Week 5	Bates theorem , Assignments
	September 2025
Week 1	Random variable and probability function
Week 2	Discrete and continuous random variables
Week 3	concept of bivariate random variables,joint and marginal function
Week 4	Mathematical expectations,M.G.F,presentation
	October 2025
Week 1	Discrete distribution (Uniform,bernoulli)
Week 2	Discrete distribution (Poisson,Geometic),Unit test 1
Week 3	**Diwali Break**
Week 4	Continuous distribution (uniform, exponential)
	November 2025
Week 1	continuous distribution (uniform, exponential,normal)
Week 2	Hypothesis testing,level of significance ,Unit test 2
Week 3	Test of significance,large sample test and difference between two means and proportion
Week 4	Seminar on important topics, Tests and Assignments

Name of Assistant Professor: - Dr. Mamta

Class and Section:- M.Sc. Math Semester -3rd

Subject: - Fluid Dynamics

Lesson Plan: (From 28ᵗʰ July 2025 to 30ᵗʰ November 2025)

Week	July
5	Introduction of Fluid Dynamics
	August
1	Eulerian Method & Its Examples, Lagrangian method and its example
2	Streamline, Path lines and it's examples, Streamline and its example and problems discussion
3	Vortex line and its related theorem and example, Test 1st Unit, Velocity Potential and its related theorem and example
4	Rotational and irrational motion and Its Examples, Equation of Continuity and all its form & Its Examples , Boundary Surface
5	Assignment, Acyclic and Cyclic Irrotational Motion , Kinetic Energy of Irrotational Flow
	September
1	Kelvin's Minimum Energy Theorem & Its Examples , Axially Symmetric Flows , Liquid Streaming Past a Fixed Sphere
2	Motion of Sphere through a liquid at rest at infinity, Problem of Above Topic, Equation of Motion of a Sphere
3	Three Dimensional Spaces ,Test - Unit 2, Source, Sink and Doublet and Their Images, Stoke's Stream Function and Its Example
4	Acceleration at a point of fluid Components of acceleration in cylindrical, Spherical Polar Coordinate, Problem of above Topic

Week	November
1	Assignments, Blasius Theorem, Two Dimensional Irrational motions produced by motions of circular
2	Co-axial cylinder in an infinite mass of liquid, problem of above Topic, Test-Unit
3	Revision &Test
4	Revision & Test

Week	October
1	Assignments, Pressure at a point of moving fluid and its examples ,Euler's and Lagrange's of motion, Bernoulli's equation and its example ,Impulsive motion, Stream Function ,Test -Unit 3
2	Irrational motion in Two dimensions, Complex Velocity Potential, Milne-Thomson and its example
4	Two Dimensions Source, Sink ,Doublets and their image, problem of above Topic