

Government College for Women, Hisar

Lesson Plan

Session 2024-25 Even Semester

Class : BA-II/B.Sc-II	Teacher Name : Mr. Anil Budania
Subject : PDE & SF	Subject Code : CML-406
Date	Topics
01/01/2025-04/01/2025	UNIT-I Partial differential equations: Formation, order and degree
06/01/2025-11/01/2025	Linear and Non-Linear Partial differential equations of the first order. Complete solution, singular solution, General solution
13/01/2025-18/01/2025	Solution of Lagrange's linear equations, Charpit's general method of solution
20/01/2025-25/01/2025	Compatible systems of first order equations, Jacobi's method
27/01/2025-01/02/2025	UNIT-II Linear partial differential equations of second and higher orders, Linear and non-linear homogeneous and non-homogeneous equations with constant coefficients
03/02/2025-08/02/2025	Partial differential equation with variable coefficients reducible to equations with constant coefficients, their complimentary functions and particular integrals
10/02/2025-15/02/2025	Equations reducible to linear equations with constant coefficients
17/02/2025-22/02/2025	Method of separation of variables: Solution of Laplace's equation, Wave equation (one and two dimensions)
24/02/2025-01/03/2025	Diffusion (Heat) equation (one and two dimension) in Cartesian Co-ordinate system
Minor-I/Assignments	Sessional Test
03/03/2025-08/03/2025	UNIT-III Classification of linear partial differential equations of second order, hyperbolic, parabolic and elliptic types, Reduction of second order linear partial differential equations to Canonical (Normal) forms and their solutions
10/03/2025-15/03/2025	Solution of linear hyperbolic equations, Monge's method for partial differential equations of second order
17/03/2025-22/03/2025	Cauchy's problem for second order partial differential equations
24/03/2025-29/03/2025	Characteristic equations and characteristic curves of second order partial differential equation
31/03/2025-05/04/2025	Series solution of differential equations – Power series method. Bessel equation and its solution: Bessel functions and their properties
Minor-II/Assignments	Sessional Test
07/04/2025-12/04/2025	Convergence, recurrence, Relations and generating functions, Orthogonality of Bessel functions
14/04/2025-19/04/2025	Legendre differential equation and its solution: Legendre function and its properties- Recurrence Relations and generating functions

21/04/2025-26/04/2025	Orthogonality of Legendre polynomial. Rodrigues' Formula for Legendre Polynomial.
28/04/2025-03/05/2026	Revision

Signature

Government College for Women, Hisar

Lesson Plan

Session 2024-25 Even Semester

Class : BA-III/B.Sc-III NM	Teacher Name : Dr. Harsha, Sonal
Subject : Mechanics-II	Subject Code : BAMH 305(i),CML606(i)
Date	Topics
01/01/2025-04/01/2025	UNIT-I Analytical conditions of equilibrium of coplanar forces:Equilibrium of three forces
06/01/2025-11/01/2025	Conditions of equilibrium, trigonometric theorem's, conditions of equilibrium of co-oplanar forces
13/01/2025-18/01/2025	Friction, definition of friction and basic laws, problems based on equilibrium of rods and ladders
20/01/2025-25/01/2025	Centre of gravity of uniform rod and thin uniform lamina
27/01/2025-01/02/2025	UNIT-II Motion of a particle attached to an elastic string, Hooke's law
03/02/2025-08/02/2025	Motion of horizontal and vertical elastic string, Definition of Work, Power and Energy
10/02/2025-15/02/2025	Work done by a variable force, work done in stretching an elastic string, principle of work and energy
17/02/2025-22/02/2025	Conservative system of forces, principle of conservation of energy, impulse of constant forces and variable forces
24/02/2025-01/03/2025	UNIT-III Motion of a particle on smooth curves
Minor-I/Assignments	Sessional Test
03/03/2025-08/03/2025	Motion on the outside and inside of a smooth vertical circle
10/03/2025-15/03/2025	Cycloidal Motion
17/03/2025-22/03/2025	Motion on a rough curve under gravity
24/03/2025-29/03/2025	UNIT-IV Projectile motion of a particle in a plane
31/03/2025-05/04/2025	Velocity at any point of the trajectory, directions of projection for a particle
Minor-II/ Assignments	Sessional Test

07/04/2025-12/04/2025	Range and time of flight on an inclined plane
14/04/2025-19/04/2025	Direction of projection for a given velocity and a given range
21/04/2025-26/04/2025	Range and time of flight down an inclined plane
28/04/2025-03/05/2026	Revision

<p style="text-align: center;">Lesson Plan Session 2024-25 Even Semester</p>	
Class : BA-III/B.Sc-III CS	Teacher Name : Ms Sonal
Subject : Mechanics-II	Subject Code : BAMH 305(i),CML606(i)
Date	Topics
01/01/2025-04/01/2025	UNIT-I Analytical conditions of equilibrium of coplanar forces:Equilibrium of three forces
06/01/2025-11/01/2025	Conditions of equilibrium, trigonometric theorem's, conditions of equilibrium of co-oplanar forces
13/01/2025-18/01/2025	Friction, definition of friction and basic laws, problems based on equilibrium of rods and ladders
20/01/2025-25/01/2025	Centre of gravity of uniform rod and thin uniform lamina
27/01/2025-01/02/2025	UNIT-II Motion of a particle attached to an elastic string, Hooke's law
03/02/2025-08/02/2025	Motion of horizontal and vertical elastic string, Definition of Work, Power and Energy
10/02/2025-15/02/2025	Work done by a variable force, work done in stretching an elastic string, principle of work and energy
17/02/2025-22/02/2025	Conservative system of forces, principle of conservation of energy, impulse of constant forces and variable forces
24/02/2025-01/03/2025	UNIT-III Motion of a particle on smooth curves
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03/03/2025-08/03/2025	Motion on the outside and inside of a smooth vertical circle
10/03/2025-15/03/2025	Cycloidal Motion
17/03/2025-22/03/2025	Motion on a rough curve under gravity
24/03/2025-29/03/2025	UNIT-IV Projectile motion of a particle in a plane
31/03/2025-05/04/2025	Velocity at any point of the trajectory, directions of projection for a particle
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07/04/2025-12/04/2025	Range and time of flight on an inclined plane
14/04/2025-19/04/2025	Direction of projection for a given velocity and a given range
21/04/2025-26/04/2025	Range and time of flight down an inclined plane
28/04/2025-03/05/2026	Revision

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Lesson Plan

Session 2024-25 Even Semester

Class : BA-III/B.Sc-III NM	Teacher Name : Dr. Harsha
Subject : Real And Complex Analysis	Subject Code : BAMH 306(i),CML607(i)
Date	Topics
01/01/2025-04/01/2025	UNIT-I Definition and examples of metric spaces
06/01/2025-11/01/2025	Limit points,interior points, open and closed sets
13/01/2025-18/01/2025	Closure and interior, boundry points, subspaces of a metric space
20/01/2025-25/01/2025	Equivalent metrics, Cauchy sequences ,Completeness, Cantor's intersection theorem
27/01/2025-01/02/2025	UNIT-II Baire's category theorem,Contraction principle, Continuous functions
03/02/2025-08/02/2025	Uniform Continuity, Compactness of metric spaces, sequential compactness
10/02/2025-15/02/2025	Bolzano-Weierstrass property, total boundedness
17/02/2025-22/02/2025	finite intersection property, continuity in relation with compactness
24/02/2025-01/03/2025	UNIT-III Improper integral and their convergence
Minor-I/Assignments	Sessional Test
03/03/2025-08/03/2025	Comparison tests, Abel's test
10/03/2025-15/03/2025	Dirichlet's tests, Frullani's integral
17/03/2025-22/03/2025	Integral as a function of a parameter
24/03/2025-29/03/2025	Continuity and Differentiability of an integral as a function of parameter
31/03/2025-05/04/2025	Integrability of an integral as a function of parameter
Minor-II/ Assignments	Sessional Test
07/04/2025-12/04/2025	Topology of Complex Numbers
14/04/2025-19/04/2025	Calculus of complex Functions
21/04/2025-26/04/2025	Calculus of complex Functions

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Lesson Plan

Session 2024-25 Even Semester

Class : BA-III/B.Sc-III CS	Teacher Name : Ms Sonal
Subject : Real And Complex Analysis	Subject Code : BAMH 306(i),CML607(i)
Date	Topics
01/01/2025-04/01/2025	UNIT-I Definition and examples of metric spaces
06/01/2025-11/01/2025	Limit points,interior points, open and closed sets
13/01/2025-18/01/2025	Closure and interior, boundry points, subspaces of a metric space
20/01/2025-25/01/2025	Equivalent metrics, Cauchy sequences ,Completeness, Cantor's intersection theorem
27/01/2025-01/02/2025	UNIT-II Baire's category theorem,Contraction principle, Continuous functions
03/02/2025-08/02/2025	Uniform Continuity, Compactness of metric spaces, sequential compactness
10/02/2025-15/02/2025	Bolzano-Weierstrass property, total boundedness
17/02/2025-22/02/2025	finite intersection property, continuity in relation with compactness
24/02/2025-01/03/2025	UNIT-III Improper integral and their convergence
Minor-I/Assignments	Sessional Test
03/03/2025-08/03/2025	Comparison tests, Abel's test
10/03/2025-15/03/2025	Dirichlet's tests, Frullani's integral
17/03/2025-22/03/2025	Integral as a function of a parameter
24/03/2025-29/03/2025	Continuity and Differentiability of an integral as a function of parameter
31/03/2025-05/04/2025	Integrability of an integral as a function of parameter
Minor-II/ Assignments	Sessional Test
07/04/2025-12/04/2025	Topology of Complex Numbers
14/04/2025-19/04/2025	Calculus of complex Functions
21/04/2025-26/04/2025	Calculus of complex Functions

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Session 2024-25 Even Semester

Class : BA-II/B.Sc-II	Teacher Name : Mr. Anil Budania
Subject : Mechanics-I	Subject Code : CML-407
Date	Topics
01/01/2025-04/01/2025	UNIT-I Forces in two dimension (co-planner), triangle law and polygon law of forces
06/01/2025-11/01/2025	Lami's theorem, resultant of concurrent and coplanar forces, conditions of equilibrium of concurrent forces
13/01/2025-18/01/2025	Parallel forces: like parallel and unequal unlike parallel forces, resultant and centre of parallel forces
20/01/2025-25/01/2025	Moments and Couples.
27/01/2025-01/02/2025	UNIT-II Forces in three dimensions, Poinot's central axis
03/02/2025-08/02/2025	conditions for the reduction of a general system of forces in space to a single force, equations of central axis
10/02/2025-15/02/2025	Wrenches: Definition and basic laws, resultant wrench of two wrenches, locus of the central axis of two wrenches
17/02/2025-22/02/2025	Null lines and null planes.
24/02/2025-01/03/2025	UNIT-III Velocity and acceleration along a plane curve, component of velocity and acceleration in radial, transverse, tangential and normal directions
Minor-I/Assignments	Sessional Test
03/03/2025-08/03/2025	Relative velocity and acceleration
10/03/2025-15/03/2025	Holi Vacations
17/03/2025-22/03/2025	Simple harmonic motion (SHM)
24/03/2025-29/03/2025	UNIT-IV Newton's laws of motion, Central Orbits, differential equations of Central Orbits in polar form and in pedal form
31/03/2025-05/04/2025	areal velocity, elliptic, hyperbolic and parabolic orbit, velocity in a circle, apse and apsidal distances
Minor-II/Assignments	Sessional Test
07/04/2025-12/04/2025	definition and laws, velocity from infinity, Kepler's laws of planetary motion
14/04/2025-19/04/2025	equivalence of Kepler's laws of planetary motion and Newton's law of gravitation
21/04/2025-26/04/2025	motion under the inverse square law.

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Lesson Plan

Session 2024-25 Even Semester

Class : BA-III/B.Sc-III NM	Teacher Name : Dr. Harsha
Subject : Linear Algebra	Subject Code : BAMH 304(i),CML605(i)
Date	Topics
01/01/2025-04/01/2025	UNIT-I Vector spaces, subspaces, sum and Direct sum of subspaces
06/01/2025-11/01/2025	Linear span, Linearly Independent and Dependent subsets of a vector space
13/01/2025-18/01/2025	Finitely generated vector space, Existence theorem for basis of a finitely generated vector space
20/01/2025-25/01/2025	Finite Dimensional vector spaces, Dimensions, Quotientspace and its dimension
27/01/2025-01/02/2025	UNIT-II Homomorphism and isomorphism of vector spaces, Linear transformations
03/02/2025-08/02/2025	Linear forms of a vectoe space, vector space of all the linear transformations
10/02/2025-15/02/2025	Null space,Range space of a linear transformation
17/02/2025-22/02/2025	Rank and Nullity Theorem and related problems
24/02/2025-01/03/2025	UNIT-III Algebra of Linear transformations
Minor-I/Assignments	Sessional Test
03/03/2025-08/03/2025	Minimal Polynomial of a linear transformation, Singular and Non -Singular linear transformations
10/03/2025-15/03/2025	Matrix of a linear transformation, change of basis
17/03/2025-22/03/2025	Eigen values and Eigen vectors of a Linear Transformations
24/03/2025-29/03/2025	UNIT-IV Inner product spaces, Cauchy-Schwarz inequality
31/03/2025-05/04/2025	Orthogonal complements, Orthogonal sets and Basis
Minor-II/Assignments	Sessional Test
07/04/2025-12/04/2025	Bessel's inequality for finite Dimensional vector spaces
14/04/2025-19/04/2025	Gram-Schmidt Orthogonalisation process, Adjoint of a Linear transformation and its properties
21/04/2025-26/04/2025	Unitary linear transformations

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Government College for Women, Hisar

Lesson Plan

Session 2024-25 Even Semester

Class : BA-III/B.Sc-III CS	Teacher Name : Ms Sonal
Subject : Linear Algebra	Subject Code : BAMH 304(i),CML605(i)
Date	Topics
01/01/2025-04/01/2025	UNIT-I Vector spaces, subspaces, sum and Direct sum of subspaces
06/01/2025-11/01/2025	Linear span, Linearly Independent and Dependent subsets of a vector space
13/01/2025-18/01/2025	Finitely generated vector space, Existence theorem for basis of a finitely generated vector space
20/01/2025-25/01/2025	Finite Dimensional vector spaces, Dimensions, Quotientspace and its dimension
27/01/2025-01/02/2025	UNIT-II Homomorphism and isomorphism of vector spaces, Linear transformations
03/02/2025-08/02/2025	Linear forms of a vectoe space, vector space of all the linear transformations
10/02/2025-15/02/2025	Null space,Range space of a linear transformation
17/02/2025-22/02/2025	Rank and Nullity Theorem and related problems
24/02/2025-01/03/2025	UNIT-III Algebra of Linear transformations
Minor-I/Assignments	Sessional Test
03/03/2025-08/03/2025	Minimal Polynomial of a linear transformation, Singular and Non -Singular linear transformations
10/03/2025-15/03/2025	Matrix of a linear transformation, change of basis
17/03/2025-22/03/2025	Eigen values and Eigen vectors of a Linear Transformations
24/03/2025-29/03/2025	UNIT-IV Inner product spaces, Cauchy-Schwarz inequality
31/03/2025-05/04/2025	Orthogonal complements, Orthogonal sets and Basis
Minor-II/ Assignments	Sessional Test
07/04/2025-12/04/2025	Bessel's inequality for finite Dimensional vector spaces
14/04/2025-19/04/2025	Gram-Schmidt Orthogonalisation process, Adjoint of a Linear transformation and its properties
21/04/2025-26/04/2025	Unitary linear transformations

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Revision

Government College for Women, Hisar

Lesson Plan

Session 2024-25 Even Semester

Class : BA-III/B.Sc-III NM	Teacher Name : Dr. Harsha, Sonal
Subject : Solid Geometry	Subject Code : BAMH 307(i),CML608(i)
Date	Topics
01/01/2025-04/01/2025	UNIT-I Central Conicoids
06/01/2025-11/01/2025	Equation of tangent plane
13/01/2025-18/01/2025	Director sphere
20/01/2025-25/01/2025	Normal to the conicoids
27/01/2025-01/02/2025	Polar plane of a point
03/02/2025-08/02/2025	Envelopeing cone of a conicoid
10/02/2025-15/02/2025	Envelopeing cylinder of a conicoid
17/02/2025-22/02/2025	UNIT-II Paraboloids
24/02/2025-01/03/2025	Circular section
Minor-I/Assignments	Sessional Test
03/03/2025-08/03/2025	plane sections of conicoids
10/03/2025-15/03/2025	plane sections of conicoids
17/03/2025-22/03/2025	Generating lines
24/03/2025-29/03/2025	confocal conicoids
31/03/2025-05/04/2025	confocal conicoids
Minor-II/ Assignments	Sessional Test
07/04/2025-12/04/2025	Reduction of second degree equations
14/04/2025-19/04/2025	Reduction of second degree equations
21/04/2025-26/04/2025	Revision

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Lesson Plan

Session 2024-25 Even Semester

Class : BA-III/B.Sc-III CS	Teacher Name : Ms Sonal
Subject : Solid Geometry	Subject Code : BAMH 307(i),CML608(i)
Date	Topics
01/01/2025-04/01/2025	UNIT-I Central Conicoids
06/01/2025-11/01/2025	Equation of tangent plane
13/01/2025-18/01/2025	Director sphere
20/01/2025-25/01/2025	Normal to the conicoids
27/01/2025-01/02/2025	Polar plane of a point
03/02/2025-08/02/2025	Envelopeing cone of a conicoid
10/02/2025-15/02/2025	Envelopeing cylinder of a conicoid
17/02/2025-22/02/2025	UNIT-II Paraboloids
24/02/2025-01/03/2025	Circular section
Minor-I/Assignments	Sessional Test
03/03/2025-08/03/2025	plane sections of conicoids
10/03/2025-15/03/2025	plane sections of conicoids
17/03/2025-22/03/2025	Generating lines
24/03/2025-29/03/2025	confocal conicoids
31/03/2025-05/04/2025	confocal conicoids
Minor-II/ Assignments	Sessional Test
07/04/2025-12/04/2025	Reduction of second degree equations
14/04/2025-19/04/2025	Reduction of second degree equations
21/04/2025-26/04/2025	Revision

28/04/2025-03/05/2026

Revision

Government College for Women, Hisar

Lesson Plan

Session 2024-25 Even Semester

Subject : Calculus	Class : BA-I/B.Sc-I(PS)
Subject Code : C24MA	Teacher Name : Mr. Anil Budania
Date	Topics
14/01/2025-18/01/2025	Unit-I ϵ - δ definition of the limit of a function. Basic properties of limits
20/01/2025-25/01/2025	Continuous functions and classification of discontinuities.
27/01/2025-01/02/2025	Differentiability.
03/02/2025-08/02/2025	Successive differentiation
10/02/2025-15/02/2025	Leibnitz theorem. Maclaurin's and Taylor's series expansions
17/02/2025-22/02/2025	Maclaurin's and Taylor's series expansions
24/02/2025-01/03/2025	Unit-II Indeterminate forms. Limit and continuity of real valued functions of two variables
Minor-I/Assignments	Partial differentiation, Total differentials
03/03/2025-08/03/2025	Partial derivatives of Composite functions & Implicit functions using change of variables
10/03/2025-15/03/2025	Holi Vacations
17/03/2025-22/03/2025	Unit - III Homogenous functions & Euler's theorem on homogeneous functions.
24/03/2025-29/03/2025	Taylor's theorem for functions of two variables.
31/03/2025-05/04/2025	Differentiability of real valued functions of two variables
Minor-II/ Assignments	Sessional Test
07/04/2025-12/04/2025	Schwarz's and Young's theorem
14/04/2025-19/04/2025	Unit - IV Maxima, minima and saddle points of functions of two variables
21/04/2025-26/04/2025	Lagrange's method of multipliers
28/04/2025-03/05/2026	Beta and Gamma Functions
05/05/2025-10/05/2027	Double and triple integrals
12/05/2025-17/05/2028	Double and triple integrals
19/05/2025-24/05/2029	Revision

Government College for Women, Hisar

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Session 2024-25 Even Semester

Subject : Financial Mathematics	Class : BA-I/B.Com I
Subject Code : C24MDC219T	Teacher Name : Mrs. Sonal
Date	Topics
17/02/2025-22/02/2025	Simple interest, bank discount, Compound interest
24/02/2025-01/03/2025	Growth and depreciation of value and population
03/03/2025-08/03/2025	Annuities, future value and present value of annuity
10/03/2025-15/03/2025	Holi Vacations
17/03/2025-22/03/2025	total amount of annuity and application of annuity
24/03/2025-29/03/2025	Data: raw and organised data
31/03/2025-05/04/2025	frequency and grouped data
Minor-I/ Assignments	Sessional Test
07/04/2025-12/04/2025	Representation of data : Pictograph, Bar graph, Double Bar graph
14/04/2025-19/04/2025	Histogram, Pie chart
21/04/2025-26/04/2025	Chance and probability
Minor-II/ Assignments	Sessional Test
28/04/2025-03/05/2026	Chance, random experiment
05/05/2025-10/05/2027	Equally likely outcomes as events
12/05/2025-17/05/2028	Probability
19/05/2025-24/05/2029	Revision

Government College for Women, Hisar

Lesson Plan

Session 2024-25 Even Semester

Subject : Contribution of Indian Mathematicians	Class : BA-I/B.Sc I(PS)
Subject Code : C24VAC114T	Teacher Name : Mrs. Sonal
Date	Topics
17/02/2025-22/02/2025	Contribution in ancient and medieval Period
24/02/2025-01/03/2025	Development of Indian mathematics during vedic and ancient period
03/03/2025-08/03/2025	Mathematical ideas in the Vedas and Manuscripts in Indian mathematics
10/03/2025-15/03/2025	Holi Vacations
17/03/2025-22/03/2025	Mathematical contribution of Baudhayana, Pingala, Aryabhata
24/03/2025-29/03/2025	Brahmagupta, Bhaskaracharya and Lilavati
31/03/2025-05/04/2025	Kerala School of Mathematics, Madhava of Sangamagrama, overview of Historical backgrounds and their contribution
Minor-I/ Assignments	Sessional Test
07/04/2025-12/04/2025	Contribution in Modern period: Srinivasa Ramanujan, Satyendra Nath Bose ,Radhanath Sikdar, D.R. Kaprekar: Early life, education, challenges, achievement and their contribution
14/04/2025-19/04/2025	Introduction to prestigious Ramanujan Award, Field Medal, Abel Prize
21/04/2025-26/04/2025	Biography and contribution of Mathematicians from India
Minor-II/ Assignments	Sessional Test
28/04/2025-03/05/2026	Subrahmanyam Chandrasekhar
05/05/2025-10/05/2027	C.R. Rao, S.R. Srinivasa Varadhan
12/05/2025-17/05/2028	Akshay Venkutesh, Hurish Chandra
19/05/2025-24/05/2029	Revision