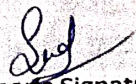


LESSON PLAN (Even Semester) Session 2023-24

Class : B.A / B.Sc. Ist Year

Subject: Vector Calculus

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Mrs. Sudesh Kumari		Unit-I	
	1 Jan to 15 Jan	Scalar and Vector product of three vectors, Product of four vectors Reciprocal vectors, Vector Differentiation	
	16 Jan to 31 Jan	Scalar Valued ^{pt} functions, Vector Valued point functions, derivative along a curve, directional derivatives.	
	1 Feb to 15 Feb	Unit-II Gradient of a scalar point function, geometrical Interpretation of grad ϕ , character of gradient as a point function. Divergence and	
	16 Feb to 29 Feb	Curl of Vector point function, character of div $\vec{F}$ and curl $\vec{F}$ as point function. Gradient, divergence and curl of sums	
	1 March to 15 March	and product and their related vector identities. Laplacian operator. Unit-III Orthogonal Curvilinear Co-ordinates. I	Assignment
	16 March to 31 March	Conditions for orthogonality, Fundamental triad of mutually orthogonal unit vectors. Gradient, divergence, curl and laplacian operators in terms of orthogonal	Test
	1 April to 15 April	Curvilinear Co-ordinates, Cylindrical Co-ordinates, spherical Co-ordinates Unit-IV Vector integration, line integral	Assignment II
	16 April to till Exam	Surface integral, volume integral Theorem of Gauss, Green, Stokes and problems based on these.	


Teacher's Signature

LESSON PLAN (Even Semester) Session 2023-24

Class : B.A/B.Sc. 2nd Year

Programming in C
Subject: 2 Numerical Method.

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Mr. Sudesh Kumari	1 Jan to 15 Jan	Unit-I Programmer's model of a Computer. Algorithms. Flow charts, Data types, operators and expressions, Input/outputs functions. Unit-II Decision Control struct.	
	16 Jan to 31 Jan	Decision statements, logical and conditional statements. Implementation of loops. Switch statement and Case Control structures. Functions, Preprocessor and Arrays.	
	1 Feb to 15 Feb	Unit-III String : character data type, standard string handling functions, Arithmetic operations on characters. Structures Definition, using structures, use of	
	16 Feb to 29 Feb	structures in arrays and arrays in structure. Pointer, Pointer data type, Pointers and arrays. Pointers and functions. Solution of algebraic and Transcendental	
	1 March to 15 March	Equation :- Bisection method, Regula-falsi Method, Secant method, Newton-Raphson Method. Newton's iterative method for	Assignment I
	16 March to 31 March	finding root of a number, Order of Convergence of above methods. Unit-IV Simultaneous linear algebraic	Test
	1 April to 15 April	eqn :- Gauss elimination method, Gauss-Jordan Method, Triangularization method, Crout's method, Cholesky decomposition method. Iterative	Assignment II
	16 April to Hill Exam	method, Jacobi's method, Gauss-Seidel's method. Relaxation method.	

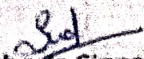
Sud
Teacher's Signature

LESSON PLAN (Even Semester) Session 2023-24

Class : B.A / B.Sc. 3rd Year

Subject: Dynamic

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Mrs. Sudesh Kumari		Unit-I	
	1 Jan to 15 Jan	Velocity and acceleration along radial, transverse, tangential and Normal directions. Relative velocity and acceleration. Simple harmonic	
	16 Jan to 31 Jan	Motion. Elastic strings. Unit-II :- Mass, Momentum and force. Newton's laws of motion. Work, Power	
	1 Feb to 15 Feb	and Energy. Definitions of Conservative forces and Impulsive forces.	
	16 Feb to 29 Feb	Unit-III Motion on smooth and rough Plane Curves. Projectile motion of a particle in a plane.	
	1 March to 15 March	Velocity angular velocity.	Assignment I
	16 March to 31 March	Unit-IV :- General motion of a rigid body :- Central orbits, Kepler's	Test
	1 April to 15 April	Law of motion. Motion of a Particle in three dimensions.	Assignment II
	16 April to till Exam	Acceleration in terms of different co-ordinate systems.	


Teacher's Signature

LESSON PLAN (Even Semester) Session 2023-24

(Mathematics)

Class : B.A & B.Sc Ist year (2nd Sem).

Subject: Number theory and trigonometry

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Dr. Pooja Goel.	01-Jan. to 15 Jan.	Divisibility, G.C.D (Greatest Common Divisors), L.H.M. of Primes, Fundamental Th ^m of Arithmetic, Linear Congruen.	
	16 Jan. to 31 Jan.	Fermat's th ^m , Wilson's th ^m , Linear diophantine eqn in two variables, change of order of Integration.	1st Assignment
	1 Feb. to 15 Feb.	Complete Residue system, Euler's function, Chinese Remainder Th ^m , change of interval. Quadratic	
	16 Feb. to 29 Feb.	Residues, Legendre Symbols, Greatest Integer funct., Gauss Reciprocity law	Test
	1 Mar. to 15 Mar.	Mobius Inversion formulae, De - Moivre's Theorem and its applications.	
	16 Mar. to 31 Mar.	Expansions of trigonometric functions.	2nd Assignment
	1 April to 15 Apr.	Direct circular and hyperbolic functions and its properties.	
	16 April to Till date	Inverse circular & Hyperbolic functions and their properties, Logarithm of a complex quantity.	

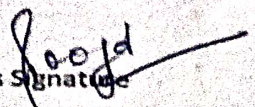
Teacher's Signature

LESSON PLAN (Even Semester) Session 2023-24

Class : B.A & B.Sc 2nd year (4th Sem) .

Mathematics
Subject: Special function
and integral transform

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Dr. Pooja Bhoel.	01-Jan to 15 Jan.	Power series of the function Bessel eq ⁿ and its functions	
	16 Jan. to 31 Jan.	Bessel equations and its function Legendre's function and eq ⁿ	1st Assignment
	1 Feb. to 15 Feb.	Legendre function and its eq ⁿ and Hermite's equation.	
	16 Feb. to 29 Feb.	Laplace Transform. Inverse Laplace Transform	Test.
	1 Mar. to 15 March	Use of Laplace transform and its functions.	
	16 Mar. to 31 March	Solution of Differential and its functions.	2nd Assignment
	1 April to 15 April.	Four Transformation and its functions	
	16 April to Till date	Solution of Differential equation.	

Teacher's Signature 

LESSON PLAN (Even Semester) Session 2023-24

(Mathematics)

Class : B.A & B.Sc. (3rd year) (Hr Sem)

Subject: Real & Complex Analysis

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Dr. Pooja Goel.	01-Jan to 15 Jan.	Jacobians :- But chain rule for Jacobian, Functional dependence and its Theorems	
	16 Jan to 31 Jan.	Beta & Gamma functions :- Symmetry of Beta function, All other forms of Beta function	
	1 Feb. to 15 Feb.	Gamma functions :- Recurrence formula for Gamma functions. Relation between beta & Gamma fun.	1st Assignment
	16 Feb to 29 Feb.	Fourier Series :- Piecewise monotonic function, Euler's formula. Properties of fourier Co-efficients	Test
	1 Mar. to 15 Mar.	Properties of fourier co-efficients, Examples Based on fourier series for even & odd function.	
	16 March to 31 Mar.	Calculus of Complex functions. Harmonic function. Stereographic projection	2nd Assignment
	1 April to 15 Ap.	Limit & Continuity of complex function, Analytic function. C-R equations	
	16 April to Till date	Elementary functions and Mobius transformation. Cross ratio, Inverse points & critical mapping	

Teacher's Signature

LESSON PLAN (Even Semester) Session 2023-24

Class : B.A/BSC Sem VI

Subject: Mathematics
Paper :- Linear Algebra

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Sh. Satnam	1-Jan. to 15-Jan.	Vector Spaces, Subspaces, Sum and Direct sum of Subspaces, Linear span, L.I. & L.D. subset of v.s. finitely generated v.s. Existence thm for basis of a finitely generated v.s.	
	16-Jan. to 31-Jan.	Finite dim. v.s. Invariance of the no. of elements of bases sets, Dim., Quotient space and its dim., Homo. & Isomorphism of v.s. Linear Transformation and Linear	
	1-Feb. to 14-Feb.	Forms of a v.s. Vector space of all the L.T. Dual spaces, Bidual spaces, Annihilator of subspaces of finite dim. v.s. Null space.	Ass-1
	15-Feb. to 29-Feb.	Range space of L.T. Rank & Nullity Thm. Algebra of L.T. minimal poly. of a L.T., Singular and Non-Singular L.T. Matrix of a L.T.	Test-1
	01-March to 22-March	Change of basis, Eigenvalues and Eigen vectors of L.T. Inner product space Cauchy-Schwarz inequality	Ass-2
	01-April to 15-April	Orthogonal vectors, orthogonal complements, orthogonal set and basis, Bessel's inequality for finite dim. v.s. Gram Schmidt orthogonalization process	Test-2
	16 April to till Exam	Adjoint of a L.T. and its properties Unitary Linear Transformation Revision	

Teacher's Signature
(Aashu K. Math)

LESSON PLAN (Even Semester) Session 2023-24

Class : B.A. / B.Sc. Sem IV

Subject: Mathematics
Paper: Sequence & Series

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Sh. Satnam	1-Jan to 15-Jan	Bdd. of the set of real numbers, L. u. band g. u. b. of a set. Nbd's, interior pts. isolated pts. Limit pts. Open sets closed sets, Interior of a set.	
	16-Jan to 31-Jan	Closure of a set of real numbers and their proof. Bolzano Weierstrass thm on cover compact sets Heine Borel theorem. Real sequence and their convergence.	
	1-Feb to 14-Feb	Thm on limit of sequence Bdd. and Monotone sequence Cauchy's sequence Cauchy's general principle of convergence, subsequence, limits. Infinite series	Assn: -1
	15-Feb to 29-Feb	Convergence and Divergence of infinite series Comparison of positive terms infinite series Cauchy's general principle of convergence of series Convergence & Div of G.S. p-series	Test - 1
	01-March to 22-March	Infinite series: D-Alembert's Ratio Test, Raabe's Test D-morgan & Bertrand Test Cauchy's nth roots test Gauss Test Cauchy's Integral test.	
	01-April to 15-April	Cauchy Condensation test. Alternating Series Leibnitz Test absolute & conditional convergence Arbitrary series Abel's Lemma Abel's Test + Dirichlet Test, Interchange formula	Assn - 2
	16-April to till Exam	and Removal of Parentheses Dirichlet Thm Remain Thm Multiplication of series Cauchy product of series Convergence and absolute convergence of Infinite product. <u>Revision</u>	Test - 2

Teacher's Signature

LESSON PLAN (Even Semester) Session 2023-24

Class : B.A./B.Sc Sem II

Subject: Mathematics
Paper: Ordinary Diff. equ

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Sh. Satnam	1- Jan. to 15- Jan.	Geometrical meaning of a D.E. Exact D.E. Integrating factors. First order higher degree equations. Solvable for x, y, p. Lagrange's Equations.	
	16- Jan. to 31- Jan.	Clairaut's Equations. Equation reducible to Clairaut's equation/ form. Singular solutions	
	1- Feb. to 14- Feb.	Orthogonal trajectories in Cartesian Coordinates and Polar Coordinates. Self orthogonal family of Curves	Ass. - 1
	15- Feb. to 29- Feb.	Linear D.E. with Const Co-efficients. Homogeneous linear ordinary Diff. Equations. Equation Reducible to Homogeneous	Test - 1
	01- March to 22- March	L.D.E. of 2nd order. Reduction to Normal form. Transformation of the equation by changing the dependent/independent variable. Solution by operators of Non-Homo. Linear D.E. Reduction of order of a D.E. Method of V.O.P.	
	01- April to 15- April	Method of U.C, O.S. D.E. Solution of Simil. D.E. involving D.E. Sim. Equation of the form $\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R}$. Total D.E. Condition for $Pdx + Qdy + Rdz = 0$ to be exact	Ass. - 2
	16- April to till exam	General method of solving $Pdx + Qdy + Rdz = 0$ by taking one variable coefficient as constant method of A.E. Revision	Test - 2

Teacher's Signature
(Asstt. Prof, Maths)

LESSON PLAN (Even Semester) Session 2023-24

Class : B.B.A. Sem II

Subject: Business Mathematics
(B.B.A - 25)

Name of Assistant Professor	Period	Topics to be covered	Assignments/ Test
Sh. Satnam	1-Jan to 15-Jan	Theory of Sets :- Meaning & Def, examples of set elements, types, presentation and equality of sets, Union and intersection of sets. Compliment & difference of sets.	
	16-Jan to 31-Jan	Venn Diagram, Cartesian product of two sets. Indices & logarithms, arithmetic and geometric progressions.	
	1-Feb. to 14-Feb.	Sum of first n natural numbers. Sum of squares and cubes of first n natural numbers.	Assignments-1
	15-Feb. to 29-Feb.	Linear & Quadratic Equation. Permutations & Combinations and Binomial Theorem (Positive index)	Test-1
	01-March to 22-March	Differentiation and Integration of standard algebraic functions.	Assignment-2
	01-April to 15-April	Matrices: Definition, types, properties addition and multiplication, transpose and inverse of matrix.	
	16-April to till Exam	Properties of determinants. Solution of simultaneous linear equations and Revision	Test-2

Teacher's Signature
(Asst Prof, Mathematics)