

**LESSON PLAN 2023-24 (Odd Sem.)**

**Class: B.A/B.sc-Ist Sem. (Mathematics)**

**Name :- Dr Vinod Kumar**

**Sub:- Calculus**

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
<b>JULY</b>	-----	-----	-----	Definition of the limit of a function. Basic properties of limits and problems.	Assignment
<b>AUG.</b>	Continuous functions and problems classification of discontinuities. and problems	Differentiability. and related problems	Successive differentiation and related problems. Assignment	Successive differentiation and related problems.	Leibnitz theorem. and related problems
<b>SEPT.</b>	Assignment, Test	Maclaurin and Taylor series expansions and related problems	Asymptotes in Cartesian coordinates, intersection of curve and its asymptotes,	asymptotes in polar coordinates, and related problems Assignment, Test	Curvature, radius of curvature for Cartesian curves, parametric curves, polar curves. Newton's method and related problems.
<b>OCT.</b>	Radius of curvature for pedal curves. Tangential polar equations. Centre of curvature. Circle of curvature. Chord of curvature and problems.	Evolutes. Tests for concavity and convexity. Points of inflexion. Multiple points. Cusps, nodes & conjugate points. Type of cusps and related problems.	Tracing of curves in Cartesian, parametric and polar coordinates. and related problems	Reduction formulae. Rectification, intrinsic equations of curve. and related problems	Reduction formulae Related problems Assignment, Test
<b>NOV.</b>	Quadrature (area) Sectorial area, Area bounded by closed curves and related problems	Volumes and surfaces of solids of revolution, Theorems of Pappu's and Guilden and related problems.	Assignment, Test and Diwali Holiday	Revision(if any)	Revision(if any)

Teacher Signature

**LESSON PLAN 2023-24 (Odd Sem.)**

**Class: B.A/B.sc-IIIrd Sem. (Mathematics)**

**Name :-Dr Vinod Kumar**

**Sub:- Statics**

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
JULY	-----	-----	-----	Introduction and Basics of Statics, Composition and resolution of forces	Discuss problems, Assignment,
AUG.	Composition and resolution of forces and Exercise	Parallel forces. and related problems. Assignment.	Moments and related problems.	Couples and related problems	Analytical conditions of equilibrium of coplanar forces. and related problems
SEPT.	Assignment, Test	Analytical conditions of equilibrium of coplanar forces and related problems.	Friction. and problems.	Centre of Gravity and related problems. Assignment, Test	Centre of Gravity and related problems
OCT.	Virtual work and related problems	Forces in three dimensions. Poinsots central axis and related problems.	Wrenches and related problems.	Null lines and planes and related problems.	Stable and unstable equilibrium.
NOV.	Stable and unstable equilibrium. Assignment, Test and Revision	Assignment, Test and Revision (if any)	Diwali Holiday Revision (if any)	Revision(if any)	Revision(if any)

Teacher Signature

**LESSON PLAN -2023-24 (Odd Sem.)**

**Class: B.A/B.sc-Vth Sem. (Mathematics)**

**Name :-Dr Vinod Kumar**

**Sub:- Numerical Analysis**

Month	1st Week	2nd Week	3rd Week	4th Week	5th Week
<b>JULY</b>	-----	-----	-----	Finite Differences operators and their relations. Finding the missing terms and effect of error in a difference tabular values and related problems	Interpolation with equal intervals and Exercise
<b>AUG.</b>	Newton's forward and Newton's backward interpolation formulae and related problems	Interpolation with unequal intervals. and related problems. Assignment	Newton's divided difference related problems.	Lagrange's Interpolation formulae and related problems	Hermite Formula. and related problems
<b>SEPT.</b>	Assignment, Test	Central Differences: Gauss forward and Gauss's backward interpolation formulae, and related problems.	Sterling, Bessel Formula and related problems	Probability distribution of random variables, Binomial distribution and problems. Assignment, Test	Poisson's distribution, Normal distribution: Mean, Variance and Fitting. and related problems.
<b>OCT.</b>	Numerical Differentiation: Derivative of a function using interpolation formulae as studied in Sections –I & II. and related problems.	Eigen Value Problems: Power method, Jacobi's method, Given's method, House-Holder's method, QR method, Lanczos method and related problems	Numerical Integration: Newton-Cote's Quadrature formula, Trapezoidal rule, Simpson's one-third and three-eighth rule, Chebychev formula, Gauss Quadrature formula. and related problems.	Numerical solution of ordinary differential equations: Single step methods- Picard's method. Taylor's series method, Euler's method, and related problems	Runge-Kutta Methods. Multiple step methods; Predictor-corrector method,
<b>NOV.</b>	Modified Euler's method, Milne-Simpson's method.	Assignment, Test and Revision (if any)	Assignment, Test and Diwali Holiday	Revision(if any)	Revision(if any)

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