LESSON PLAN

Government College Mahendergarh DR REENU YADAV

Class-B.Sc. 1st year Semester-1st Session(2025-2026)

Subject – Mathematics (calculus)

1	Sectoin A	Definition of limit and continutity of a real valued function, Basic properties of limits Types of discontinuous .
2	Sectoin A: cont	Differentiability of function , Application of L'Hospital rule to inderminate forms ,successive differentiton.
3	Sectoin A: cont	Taylors and Maclaurins series expeansion with different forms of remainder.
4	Sectoin B	Asympototes Horizental ,vertical and oblique asympototes for a algebraic curves Asymptotes for polar curves.
5	Sectoin B: cont	Intersection of a curve and its asymptotes , Curvatures and radius of curvature of curves.
6	Sectoin B: cont	Cartesian, parametric, polar& intrinsic forms , Newton method Center of curvature and circle of curvature.
7	Sectoin C	Multiple points, Node conjugate point, tests for coacavity and convexity.
8	Sectoin C: cont	Points of inflexion, Tracing of curves , Reduction formula.
9	Sectoin D	Rectification, intrinsic equation of a curve, Quadrature.
10	Sectoin D: cont	Area bounded by closed curves Volumes and surfaces of solids of revolution.

Govt.P.G. College Mahendergarh Session: 2025-2026

Haryana

Lesson Plan

SUBJECT: MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

Semester:1st class---BCA

Subject code-- 108

No. Of Week	Section Name	
1.	Section A:	Sets, Subsets, Equal Sets Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, Practical Application of Set Thoery.
2.	Section A: Cont.	Properties of Relations, Equivalence Relation, Partial Order Relation Function: Domain and Range, Onto, Into and One to One Functions, Composite and Inverse Functions.
3.	Section B:	Introduction, Measurement of angles, Trigonometric functions, relation between trigonomatric funcation, signs of trigonometric funcation, trignomatric funcation of standard angles , Basisc of Inverse Trigonomatric Funcation.
4.	Section B:Cont.	Limit at a point, Properties of limit, Computation of limits of various types of funcations, Continuty of a funcation at a point , Continuity over an interval.
5.	Section C:	Derivative of a function, Derivatives of Sum, Differences, Product &Quotient of functions,
6.	Section C: Cont.	Derivatives of polynomial, trigonometric, exponential, logarithmic, inverse trigonometric.
7.	Section C: Cont.	And implicit functions, Logarithmic Differentiation, Chain Rule and differentiation by substitution.
8.	Section C: Cont.	implicit functions, Logarithmic Differentiation, Chain Rule and differentiation by substitution.
9.	Section D:	Definition, Types of Matrices, Addition, Subtraction, Scalar Multiplication and Multiplication of Matrices.
10.	Section D: Cont.	Definition , Minors, Cofactors, Properties of Determinants, Applications of determinants in finding area of triangle, Adjoint of a matrix , Inverse of a matrix, Solving a system of linear equations using matrix method.

LESSON PLAN

Government College Mahendergarh DR REENU YADAV

Class-B.Sc. 3rd year Semester-5th Session(2025-2026)

Subject – Mathematics (Numerical Analysis)

1	Section A	Finite Differences operators and their relations. Finding the missing terms and effect of error ina difference tabular values, Interpolation with equal intervals.
2	Section A: cont	Newton's forward and Newton's backward interpolation formulae. Interpolation with unequal intervals.
3	Section A: cont	Newton's divided difference, Lagrange's Interpolation formulae, Hermite Formula.
4	Section B	Central Differences: Gauss forward and Gauss's backward interpolation formulae, Sterling, Bessel Formula.
5	Section B: cont	Probability distribution of random variables, Binomial distribution.
6	Section B: cont	Poisson's distribution, Normal distribution: Mean, Variance and Fitting.
7	Section C	Numerical Differentiation: Derivative of a function using interpolation formulae as studied in Sections –I & II.
8	Section C: cont	Eigen Value Problems: Power method, Jacobi's method, Given's method.
9	Section C : cont	House-Holder's method, QR method, Lanczos method.
10	Section D	Numerical Integration: Newton-Cote's Quadrature formula, Trapezoidal rule, Simpson's one-third and three-eighth rule, Chebychev formula, Gauss Quadrature formula.
11	Section D: cont	Numerical solution of ordinary differential equations: Single step methods-Picard's method. Taylor's series method, Euler's method, Runge-Kutta Methods. Multiple step methods.
12	Section D: cont	Predictor-corrector method, Modified Euler's method, Milne-Simpson's method.