**Lesson Plan**

(Odd Semester, 2025-2026)

Vibha Goyal, Assistant Professor, Mathematics

Class: B.A/B.sc l(lst sem)

SUSGC, Matak Majri, KNL

Name of the Course: Calculus

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| Month | Theory | Practical |
| July and August | ɛ-δ definition of limit and continuity of a real valued function, Basic properties of limits, Types of discontinuities,  Application of L’Hospital rule to indeterminate forms, Successive differentiation, Leibnitz' theorem, Taylor’s and Maclaurin’s series expansion with different forms of remainder. | Find derivatives of algebraic, trigonometric, exponential andlogarithmic functions.Problems of successive differentiation. |
| September | Asymptotes: Horizontal, vertical and oblique asymptotes for algebraic curves, Asymptotes for polar curves, Intersection of a curve and its asymptotes, Curvature and radius of curvature of curves ,(cartesian, parametric, polar & intrinsic forms), Newton’s method, | Class 8Test |
| October | Multiple points, Node, Cusp, Conjugate point, Tests for concavity and convexity, Points of inflexion, Tracing of curves, Reduction formulae. | Problems of curve tracing when equation is given inCartesian coordinates, polar form  Problem of determination of radius of curvature expressed in Cartesian coordinates. |
| November | Rectification, intrinsic equation of a curve, Quadrature, Areabounded by closed curves, | Assignment and class test |