

Lesson Plan for the Subject Calculus

Session (2025-26)

Class: B.Sc./B.A. 1st Year (1st Sem) (Math Major)

Aug. 2025

Unit 1 :

ϵ - δ definition of limit and continuity of a real valued function, Basic properties of limits, Types of discontinuities, Differentiability of functions, Application of L'Hospital rule to indeterminate forms, Successive differentiation, Leibnitz theorem, Taylor's and Maclaurin's series expansion with different forms of remainder.

Sep. 2025

Unit 2 :

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, Centre of curvature and circle of curvature.

Oct. 2025

Unit 3 :

Multiple points, Node, Cusp, Conjugate point, Tests for concavity and convexity, Points of inflexion, Tracing of curves, Reduction formulae.

Nov .2025

Unit 4 :

Rectification, intrinsic equation of a curve, Quadrature, Area bounded by closed curves, Volumes and surfaces of solids of revolution.

Group Discussions, Mid Term Exams, Assignments and Revision.

Lesson Plan for the Subject Business Mathematics

Session (2025-26)

Class: B.Com 1st Year (1st Sem) (Math Minor)

Aug. 2025

Unit 1 :

Set Theory: Representation of sets, equivalent sets, power set, complement of a set. Venn Diagrams: Union and intersection of sets, De-Morgan's laws; Logical statements and truth tables.

Sep. 2025

Unit 2 :

Logarithms: Laws of operation, log tables; Arithmetic and geometric progression.

Oct. 2025

Unit 3 :

Matrices and Determinants: Definition of a matrix, order, equality, types of matrices; Operations on matrices: Addition, multiplication and multiplication with a scalar and their simple properties. Determinant of a square matrix (upto 3x 3 order): Properties of determinants, minors, co-factors and applications of determinants in finding the area of triangle, adjoint and inverse of a square matrix, solutions of a system of linear equations by examples.

Nov. 2025

Unit 4 :

Compound interest and annuities: Different types of interest rates, types of annuities, present value and amount of an annuity (including the case of continuous compounding), valuation of simple loans and debentures, problems related to sinking funds.

Group Discussions, Mid Term Exams, Assignments and Revision.

Lesson Plan for the Session 2025-26
Class: B.A. 1st Year (1st Sem.)
Subject: Basic Calculus (Math Minor)

Aug 2025

Chapter-1: Limit, Continuity and Derivability

Chapter 2: Indeterminate Forms

Sep 2025

Chapter 3: Successive differentiation

Chapter 4: Taylor's and Maclaurin's series expansions

Oct 2025

Chapter 5: Asymptotes

Nov 2025

Chapter 6: Reduction Formulae

Revision, Tests and Assignments

Lesson Plan for the Subject Differential Equations
Session (2025-26)
Class : B.Sc./B.A. 2nd Year (3rd Sem) (Math Major)

Aug. 2025

Unit 1 :

Chapter 1 : Differential Equations of First Order and First Degree

Chapter 2 : Exact Differential Equations

Chapter 3 : Equations of First Order but not of First Degree

Chapter 4 : Orthogonal Trajectories

Sep. 2025

Unit 2 :

Chapter 5 : Linear Differential Equations with Constant Co-efficients

Chapter 6 : Cauchy - Euler Equations

Chapter 7 : Linear Differential Equations of Second order with variable coefficients

Oct. 2025

Unit 3 :

Chapter 8 : Ordinary simultaneous differential equations

Chapter 9 : Total Differential Equations

Chapter 10 : First Order Linear Partial Differential Equations

Nov .2025

Unit 4 :

Chapter 11 : First Order Non Linear Partial Differential Equations

Chapter 12 : Second Order Linear Partial Differential Equations with Constant Coefficients

Group Discussions ,Mid Term Exams , Assignments and Revision.

Lesson Plan for the Subject Linear Algebra

Session (2025-26)

Class : B.Sc./B.A. 3rd Year (5th Sem)

Aug. 2025

Unit 1 :

Vector Space and Subspaces, Basis and Dimension, Quotient Space.

Sep. 2025

Unit 2 :

Linear Transformations, Rank and Nullity.

Oct. 2025

Unit 3 :

Inner Product Spaces

Nov .2025

Unit 4 :

Linear operator on IPS, Algebra of Linear

Transformations & Matrix of a linear Transformation.

Group Discussions, Mid Term Exams, Assignments and Revision.

Statistical Inference**Aug 2025****Unit - I**

Parameter and statistic, sampling distribution and standard error of estimate. Point and interval estimation, Unbiasedness, Efficiency, Consistency and Sufficiency. Method of maximum likelihood estimation.

Unit - II**Sept.2025**

Null and alternative hypotheses, Simple and composite hypotheses, Critical region, Level of significance, One tailed and two tailed tests, Types of errors, Neyman- Pearson Lemma.

Unit - III

01 Oct. 2025 to 20 Oct . 2025

Definition of Chi-square statistic, Chi-square tests for goodness of fit and independence of attributes. Student t-distribution, properties of t-distribution, significance test of single mean and difference between two sample means.

UNIT-IV

21 Oct 2025 to 15 Nov. 2025

Snedcor's F-statistics. Testing for the mean and variance of univariate normal distributions, Testing of equality of two means and two variances of two univariate normal distributions. Related confidence intervals. Analysis of variance (ANOVA) for one-way and two-way classifications.