LESSON PLAN

Session 2025-26

Subject- Mathematics **Class- B.A./B.Sc. Ist Year (Sem.-I)**
Paper- Calculus **Period- I**

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22 July 2025 to 16 August 2025

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. & Practicals.

17 August 2025 to 07 September 2025

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.& Practicals.

08 September 2025 to 07 October 2025

Multiple points, Node, Cusp, Conjugate point, Tests for concavity and convexity. Points of inflexion Tracing of curves in Cartesian, parametric and polar co-ordinates, Reduction formulae & Practicals.

08 October 2025 to 10 November 2025

Rectification, intrinsic equations of curve, Quadrature, Area bounded by closed curves. Volumes and surfaces of solids of revolution & Practicals **and one class Test.**

11 November 2025 to 24 November 2025

Revision

Principal
GOVT. COLLEGE
BEHRAMPUR (Bapauli)

PARVESH RANGA
(Assistant Professor in Mathematics)

LESSON PLAN

Session 2025-26

Subject- Mathematics **Class- B.A./B.Sc. III Year (Sem.-V)**
Paper- Sequence and series **Period- II**

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22 July 2025 to 16 August 2025

Boundedness of the set of real numbers, least upper bound and Greatest lower bound of a set. Archimedean, algebraic and ordered properties in R. The real number system as a complete ordered field. Neighbourhoods, interior points, isolated points, limit points, Open sets, closed sets, interior of a set, closure of a set in real numbers and their properties. Bolzano-Weierstrass theorem. Open covers, compact sets and Heine-Borel theorem. & Practicals.

17 August 2025 to 07 September 2025

Denumerable and non-denumerable sets, Denumerability of integers, rationals and non-denumerability of real numbers. Sequences: Real sequences and their convergence, Theorems on limit of sequence, Bounded and monotonic sequences, Cauchy's sequence, Cauchy general principle of convergence, Subsequences and subsequential limits, Limit superior and limit inferior. & Practicals.

08 September 2025 to 07 October 2025

Infinite series: Convergence and divergence of Infinite Series, Comparison tests of positive terms infinite series, Cauchy's general principle of Convergence of series, Convergence and divergence of geometric series, Hyper Harmonic series or p-series, D-Alembert's ratio test, Raabe's test, Logarithmic test, Cauchy's nth root test, De-Morgan and Bertrand's test, Gauss Test. Cauchy's integral test, Cauchy's condensation test. & Practicals.

08 October 2025 to 10 November 2025

Alternating series, Absolute and conditional convergence, Leibnitz test. Arbitrary series, Abel's and Dirichlet's test, Insertion and removal of parenthesis, Re-arrangement of terms in a series, Riemann's re-arrangement theorem and Pringsheim's theorem (statement only). Cauchy product of series (definitions and examples only). & Practicals **and one class Test.**

11 November 2025 to 24 November 2025

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PARVESH RANGA
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Lesson Plan of Mathematics Paper Course Code: CC/ B23-MAT-501

LESSON PLAN

Session 2025-26

Subject- Mathematics **Class- B.Com. Ist Year (Sem.-I)**
Paper- Introductory Mathematics **Period- IV**

22 July 2025 to 16 August 2025

Sets and their representations. Empty set. Finite and infinite sets. Subsets. Equal sets. Power sets. Universal set. Union and intersection of sets. Difference of two sets. Complement of a set. Venn diagram. De-Morgan's laws and their applications. An introduction to matrices and their types. Operations on matrices. Symmetric and skew-symmetric matrices. Minors. Co-factors. Determinant of a square matrix. Adjoint and inverse of a square matrix. Solutions of a system of linear equations up to order 3. & Practicals.

17 August 2025 to 07 September 2025

Complex numbers. Operations on complex numbers. Modulus and argument of a complex number. Linear inequalities. Algebraic solutions of linear inequalities in two variables and their graphical representation. Quadratic equations. Solution of quadratic equations & Practicals.

08 September 2025 to 07 October 2025

Arithmetic progression. Geometric progression. Harmonic progression. Arithmetic mean (A.M.). Geometric mean (G.M.). Harmonic mean (H.M.). Relation between A.M., G.M. and H.M. & Practicals.

08 October 2025 to 10 November 2025

Straight lines: Slope of a line and angle between two lines. Different forms of equation of a line: Parallel to co-ordinate axes. Point-slope form. Slope-intercept form. Two-point form. General form; Distance of a point from a straight line. Standard form of a circle and its properties. & Practicals **and one class Test.**

11 November 2025 to 24 November 2025

Revision

GOVT. COLLEGE
BEHRAMPUR (Baharul

PARVESH RANGA
(Assistant Professor in Mathematics)

LESSON PLAN

Session 2025-26

Subject- Mathematics
Paper- Quantitative Aptitude

Class- Second Year (Sem.-III)
Period- V

22 July 2025 to 16 August 2025

Linear Equations, Quadratic equations, System of algebraic equations in two variables and their applications in simple problems: Problems on ages, Clocks. & Practicals.

17 August 2025 to 07 September 2025

Time and distance: Problems based on trains, Boats and Streams, Pipes and Cistern. Work and time: Problems on work and time, Work and wages. & Practicals.

08 September 2025 to 07 October 2025

Simple interest, Compound Interest, Partnership. Basic idea of set theory to solve practical problems. Trigonometric ratios and identities, Height and distance. & Practicals.

08 October 2025 to 10 November 2025

Basic idea of Permutations and Combinations. Events and sample space, Probability. Data interpretation: Raw and grouped data, Bar Graph, Pie Chart, Mean, Median and Mode. & Practicals **and one class Test.**

11 November 2025 to 24 November 2025

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