

Bridge Course For I B.Tech

Subject: Mathematics

Bridge Course Teaching Schedule & Syllabus Academic Year 2026-27

S.No	Title	Topics to be Covered	No. of hours
1.	Arithmetic and Geometric Progressions	General term and Sum of Finite and Infinite terms	3
2.	Binomial Theorem	Statement and basic applications	2
3.	Matrices	Basic concept of Matrices—Types of Matrices-Addition of Matrices--Scalar Multiple of a Matrix—Matrix Multiplication-Transpose of a Matrix-Adjoint of a Matrix—Inverse of a Matrix—Determinants—Properties solutions of linear system of equations-Matrix inversion method & Cramer's Rule	10
4.	Partial Fractions	Resolving $f(x)/g(x)$ in to partial fractions for $g(x)$ having repeated and non-repeated roots, irreducible factors	3
5.	Permutations and combinations	Definition of linear permutation, basics of counting, permutations and combinations with and without repetitions	5
6.	Trigonometry	Definitions, ratios in compound angles, multiple and sub multiple angles, inverse trigonometry functions, hyperbolic functions	5
7.	Limits and continuity	Basic definition of Limit and its properties, standard forms, definition of continuity,	4
8	Differentiation	Basic Definition-Elementary Properties-derivatives of Algebraic and special functions	8
9.	Partial Differentiation	Basic definition—Properties- 2 nd and higher order partial differentiation	3
10.	Integration	Basic Definition—Elementary Properties-Integrals of various functions—Formulas & Problems definite integrals-Interpretation of Integral as an Area	8

Total Hours =51