

Syllabus for B.Sc-IT Course

at S.P.College

SEMESTER -- I

COURSE TITLE --- MATHEMATICS-I

COURSE CODE-BIT- 102

UNIT I

TRIGONOMETRIC FUNCTIONS

Introduction, Angles, Circular Functions or Trigonometric Functions, Trigonometric Identities, Addition & Subtraction Formulae with its simple applications, Relation between Trigonometric Functions of Multiple and Sub-multiple of Angles.

UNIT II

COMPLEX NUMBERS

Definition, Geometrical representation Argands Diagram, Modulus, Amplitude of a Complex Number, Properties of Complex Numbers, De-Moivers Theorem for Rational Index and its applications.

UNIT III

QUADRATIC EQUATIONS, MATRICES AND DETERMINANTS

Solutions of Quadratic Equations , Relation between roots and Co-efficients, Nature of Roots, Formation of Quadratic Equations with given roots. Linear & Quadratic In equations and Linear Programming.

Introduction, Matrices, Operations on Matrices, Determinants, Adjoint and Inverse of a Matrix . Simple Applications.

UNIT IV

SEQUENCE & SERIES

Definitions with examples of Arithmetic Progression (A.P), Geometric Progression (G.P), Harmonic Progression (H.P), Arithmetic Mean, Geometric Mean, Harmonic Mean. Sum to n terms of an Arithmetic Progression and Geometric Progression. Sum to Infinity of G.P. Series. Application for Evaluating $\sum n$, $\sum n^2$ and $\sum n^3$.

BOOKS RECOMMENDED:-

1. Mathematics Text Book for Class XI Part I & II. (Published by N.C.E.R.T).
2. Mathematics Text Book for Class XII Part I & II (Published by N.C.E.R.T).

SUGGESTED READINGS:-

1. Complex Trigonometry By M. L. Sad or M.R. Puri.
2. A Text Book of Mathematics By R. S. Aggarwal.