

Subject Code: 104

Subject Name: Business Mathematics

Unit I: Ratio, Proportion and Percentage **08Hrs.**

Ratio – Definition, Continued ratio, Inverse ratio, Proportion, Continued proportion, Direct proportion, Variation, Inverse Variation, Joint Variation, Percentage – Meaning and Computations of Percentages.

Unit II: Profit and Loss **08Hrs.**

Terms and Formulae, Trade discount, Cash Discount, Problems involving cost price, selling price, cash discount, trade discount, Introduction to Commission and Brokerage, Problems on Commission and Brokerage.

Unit III: Simple Interest and Compound Interest **08Hrs.**

Calculation of interest rate, period and amount by Simple and Compound Interest, calculation of compound interest when compounded monthly, quarterly, half yearly etc.

Unit IV: Simple Annuity **08Hrs.**

Certain Annuity, Contingent Annuity and Perpetual Annuity, Immediate Annuity, Annuity Due, calculation of EMI for housing loan by flat rate of interest and by reducing balance rate of interest, problems on deficiency and growth.

Unit V: Matrices **15Hrs.**

Multivariable data, Definition of Matrices, Types of Matrices, Algebra of Matrices, Determinants, Adjoint of a Matrix, Inverse of a Matrix using Adjoint Method, Homogeneous system of Linear Equations, Condition for Uniqueness of homogeneous system, solution of non-homogeneous system of Linear equations (only up to three variables), Condition for existence and uniqueness of solution, Solution using inverse of the coefficient matrix, Problems.

Unit VI: Permutations and Combinations

13Hrs.

Permutation of 'n' dissimilar objects taken 'r' at a time (with or without repetition), Combination of 'r' objects taken from 'n' objects, Applications.

Recommended Books:

1. Quantitative Methods by D. R. Agarwal
2. Discrete Mathematics by M. D. Bhagat and S. R. Patil
3. Mathematics and Statistics by A. V. Rayrikar and P. G. Dixit
4. Mathematics by J. K. Thukral