

CC: 302: Business Mathematics: II (Core Course)

Theory: Credit: 4 (100 %)

Total Marks: 100

Unit	Topics Covered	Wt.
I	Linear Programming Introduction of Operation Research, Meaning of linear programming, Mathematical formulation of LP Problem for two variables, solution of LP problems by Graphical and Simplex Method.	25%
II	Transportation Problems Formulation of transportation problem its initial basic feasible solution by North-West Corner rule , Matrix minima (least cost method), Vogel's Approximation Method (VAM) and optimum solution by modified distribution method, degeneracy and its resolution. Assignment Problems: - Assignment problem and its optimum solution by Hungarian method.	25%
III	Permutation & Combination Fundamental rule of counting, Meaning and Properties of Permutation, Permutation of n-different things, Permutation of similar things, permutation when things are repeated, Restricted Permutation, Meaning and properties of Combination, Restricted Combination, Some results of Permutation and Combination.	15%
IV	Differentiation and its Application Definition of derivatives of a function, derivatives of explicit, composite and implicit functions, derivatives of exponent ion and logarithmic function, rules of differentiation (without proof), logarithmic differentiation, higher order derivatives, maximal and minimum.	20%
V	Sequences and Series: Sequences: Introduction, Types of sequence, Arithmetic progression (A.P), Geometric progression (G.P). Series : Introduction, Types of series, Arithmetic series (A.P)	15%

Reference Books:

1. *Operation research and statistical analysis* By P. K. Gupta and manmohan S.Chand.Co.
2. *Quantitative techniques in management* by Tata McGraw Publishing Company Limited, New Delhi.
3. *Elements of Business Mathematics* by Soni, Sharma & Saxena, Pitamber Publication Co.
4. *Mathematics for Management* by Bronson and Richard Bronson.