5303 I

2.11 : Operations Research

UNIT I

Introduction to operations research: Meaning, Models and Techniques. Linear programming: Definition, mathematical formulation of linear programming models, graphical and simplex methods for both maximising and minimising, duality

UNIT II

Transportation and Assignment problem, Investment analysis and Break –Even analysis

UNIT III

Game Theory: Concept of two –persons zero sum game, pure and mixed strategy games, saddle point, odds method and dominance methods for solving mixed strategy game.

Data Envelopment Analysis: Meaning and application of DEA (elementary)

UNIT IV

Queuing Theory: Single chain analysis Replacement Theory: Replacement of assets with deteriorates with time, replacement of assets which fail suddenly. Simulation

UNIT V

Network Analysis: application of PERT and CPM Network drawing, calculation of Floats, Project crushing. Inventory Management

Suggested Readings:
1. Agrawal, N.P.: Quantitative Techniques, Ramesh Book Depot, Jaipur.
2. Gupta P.K. and Hira D.S. :Operation Research, S. Chand &Company, New Delhi
3. Kapoor, V.K. : Operations Research,Sultan Chand & Sons, New Delhi
4. Kothari, C.R. : An Introduction to Operations Research, Vikas Publishing House
5. Vohra, N.D. : Quantitative Techniques in Management, Tata McGraw Hill, New Delhi