

Operations Research (OR) (3-0-0)

Foundational Concepts: Introduction to Operations Research, Formulation of Linear Programming Problem, Graphical Method, Simplex Method, Sensitivity Analysis and Duality, Integer Programming, Dynamic Programming.

Logistics Optimization and Project Management: Transportation and Assignment Problems, North West Corner Rule (NCWR), Least Cost Method (LCM), Vogel's Approximation Problem (VAM), Travelling Salesman Problem, Game Theory, Minimax, Maximin Criteria and Optimal Strategies, Critical Path Method (CPM), Program Evaluation and Review Technique (PERT).

Applications: AI in Operations Research, Operations Research in Machine Learning, Financial Portfolio Optimization, Risk Management Models, IT Service Management, Business Process Optimization.

Texts/Reference Books

1. Introduction to Operations Research by H. A. Taha.
2. Introduction to Operations Research by Hillier and Lieberman