Operation Research and Optimization Techniques
Code: CS 511
Credits: 4

Introduction
Introduction to OR modeling approach and various real life situations

Linear programming problems
Basic LPP and applications, Various components of LP problem formulation

Solving Linear Programming problem
Solving LPP using
• simultaneous equations and Graphical Method
• Simplex Method and extensions
• Sensitivity analysis , Duality theory
• Revised Simplex, Transportation and assignment problems.

Network Analysis
Shortest paths, Maximal flow including PERT-CPM

Integer programming
Basic concepts, formulation, solution and applications

Dynamic programming
Modeling, Optimization, Replacement

Game theory
Introduction, Decisions under risk, Decisions under uncertainty

Queuing Theory
Introduction, basic definitions and notations, axiomatic derivation of the arrival & departure distributions for Poission Queue, Poission Queuing Model, M/M/1 queues in series, application