

# NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Mathematics - Optimization

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Co-ordinating Institute - IIT - Kharagpur

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

- Lecture 1 - Optimization - Introduction
- Lecture 2 - Formulation of LPP
- Lecture 3 - Geometry of LPP and Graphical Solution of LPP
- Lecture 4 - Solution of LPP
- Lecture 5 - Big - M Method
- Lecture 6 - Two - Phase Method
- Lecture 7 - Special Cases in Simple Applications
- Lecture 8 - Introduction to Duality Theory
- Lecture 9 - Dual Simplex Method
- Lecture 10 - Post Optimality Analysis
- Lecture 11 - Integer Programming - I
- Lecture 12 - Integer Programming - II
- Lecture 13 - Introduction to Transportation Problems
- Lecture 14 - Solving Various types of Transportation Problems
- Lecture 15 - Assignment Problems
- Lecture 16 - Project Management
- Lecture 17 - Critical Path Analysis
- Lecture 18 - PERT
- Lecture 19 - Shortest Path Algorithm
- Lecture 20 - Travelling Salesman Problem
- Lecture 21 - Classical optimization techniques
- Lecture 22 - Unconstrained multivariable optimization
- Lecture 23 - Nonlinear programming with equality constraint
- Lecture 24 - Nonlinear programming KKT conditions
- Lecture 25 - Numerical optimization
- Lecture 26 - Numerical optimization
- Lecture 27 - Fibonacci Method
- Lecture 28 - Golden Section Methods
- Lecture 29 - Interpolation Methods

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- Lecture 30 - Unconstrained optimization techniques
- Lecture 31 - Unconstrained optimization techniques
- Lecture 32 - Nonlinear programming
- Lecture 33 - Interior and Exterior penalty Function Method
- Lecture 34 - Separable Programming Problem
- Lecture 35 - Introduction to Geometric Programming
- Lecture 36 - Constrained Geometric Programming Problem
- Lecture 37 - Dynamic Programming Problem
- Lecture 38 - Dynamic Programming Problem (Continued.)
- Lecture 39 - Multi Objective Decision Making
- Lecture 40 - Multi attribute decision making