

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

NPTEL Video Course - Civil Engineering - NOC:Optimization methods for Civil engineering

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Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction to Optimization
Lecture 2 - Classical Optimization
Lecture 3 - Introduction to Linear Problem
Lecture 4 - General system of equations
Lecture 5 - Simplex Method
Lecture 6 - Solution of Linear Problem using Excel Solver
Lecture 7 - Bracketing Method
Lecture 8 - Region Elimination Methods
Lecture 9 - Gradient Based Method and Examples
Lecture 10 - Convex Function
Lecture 11 - Line Search Methods for Multi-Variable Problems
Lecture 12 - Quadratic Approximation Method
Lecture 13 - Constrained Optimization I: Equality constraints
Lecture 14 - Constrained Optimization II: Inequality constraints
Lecture 15 - Constrained Optimization III: Penalty function methods
Lecture 16 - Introduction to Metaheuristic Optimization
Lecture 17 - Genetic Algorithms - Part I
Lecture 18 - Genetic Algorithms - Part II
Lecture 19 - Genetic Algorithms - Part III
Lecture 20 - Real Coded Genetic Algorithms
Lecture 21 - Multi-modal optimization
Lecture 22 - Introduction to R
Lecture 23 - GA using R (Unconstrained problem)
Lecture 24 - GA using R (Constrained problem)
Lecture 25 - Constraint Handling in GAs
Lecture 26 - Evolution Strategies (ESs)
Lecture 27 - Particle swarm optimization
Lecture 28 - Introduction to R - Part II
Lecture 29 - Multi-objective Genetic Algorithms

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- Lecture 30 - Introduction to Differential Evolution
- Lecture 31 - Introduction to Matlab
- Lecture 32 - Optimization using Matlab (Classical methods)
- Lecture 33 - A tutorial on Differential Evolution
- Lecture 34 - NSGA II Using R
- Lecture 35 - Optimization using MATLAB
- Lecture 36 - Optimization using Excel Solver
- Lecture 37 - Multi-objective Genetic Algorithms using MATLAB
- Lecture 38 - Solution of a Design Problem Using MATLAB