NPTEL Video Course - Civil Engineering - Water Resources Systems : Modeling Techniques and Analysis

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Co-ordinating Institute - IISc - Bangalore

Lecture 1 - Introduction
Lecture 2 - Definitions and types of systems
Lecture 3 - Optimization
Lecture 4 - Optimization
Lecture 5 - Constrained optimization (1)
Lecture 6 - Constrained optimization (2)
Lecture 7 - Kuhn-Tucker conditions and Introduction to Linear Programming
Lecture 8 - Linear Programming
Lecture 9 - Linear Programming
Lecture 10 - Linear Programming
Lecture 11 - Linear Programming
Lecture 12 - Linear Programming
Lecture 13 - Linear Programming
Lecture 14 - Introduction to Dynamic Programming
Lecture 15 - Dynamic Programming
Lecture 16 - Dynamic Programming
Lecture 17 - Dynamic Programming
Lecture 18 - Simulation
Lecture 19 - Multi-objective planning
Lecture 20 - Reservoir sizing
Lecture 21 - Reservoir capacity using Linear Programming (1)
Lecture 22 - Reservoir capacity using Linear Programming (2)
Lecture 23 - Reservoir operation
Lecture 24 - Multi-reservoir systems
Lecture 25 - Stationary policy using Dynamic Programming
Lecture 26 - Hydropower generation
Lecture 27 - Basic probability theory (1)
Lecture 28 - Basic probability theory (2)
Lecture 29 - Chance constrained Linear Programming for reservoir operation and design (1)
Lecture 30 - Chance constrained Linear Programming for reservoir operation and design (2)
Lecture 31 - Stochastic Dynamic Programming for reservoir operation (1)
Lecture 32 - Stochastic Dynamic Programming for reservoir operation (2)
Lecture 33 - Stochastic Dynamic Programming for reservoir operation (3)

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Lecture 34 - Fuzzy optimization (1)
Lecture 35 - Fuzzy optimization (2)
Lecture 36 - Fuzzy optimization for water quality control and reservoir operation
Lecture 37 - Conjunctive use of ground and surface water
Lecture 38 - Hydropower optimization
Lecture 39 - Crop yield optimization
Lecture 40 - Multi-basin and multi-reservoir systems
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