

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

NPTEL Video Course - Civil Engineering - NOC:Water Supply Engineering

Subject Co-ordinator - Prof. Manoj Kumar Tiwari

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Background and Course Introduction
- Lecture 2 - Water Sources and Availability
- Lecture 3 - Water Uses
- Lecture 4 - Water Supply Key Issues and Concerns
- Lecture 5 - Urban water services and water supply systems
- Lecture 6 - Urban water services and water supply systems
- Lecture 7 - Components of Water Demand
- Lecture 8 - Fluctuations in Water Demand
- Lecture 9 - Concept of Design Period and Design Population Need to Forecast Population Population Forecasting
- Lecture 10 - Demand Forecasting and Design Capacities
- Lecture 11 - Water Sources and Collection of Water
- Lecture 12 - Surface Water Intakes
- Lecture 13 - Surface Water Intakes Systems
- Lecture 14 - Groundwater Intake
- Lecture 15 - Well Interferences, Well losses and Efficiency
- Lecture 16 - Raw water Conveyance and Pumping
- Lecture 17 - Practice Problems
- Lecture 18 - Raw Water Storage
- Lecture 19 - Treated Water Storage
- Lecture 20 - Placement, Design and Construction of Storage Reservoirs
- Lecture 21 - Practice Problems on Reservoir Capacity Estimation
- Lecture 22 - Water Quality and Water Pollutants
- Lecture 23 - Water Quality Parameters
- Lecture 24 - Philosophy of Water Treatment
- Lecture 25 - Water Treatment Units Screening and Aeration
- Lecture 26 - Water Treatment Units Sedimentation
- Lecture 27 - Practice Problems On Sedimentation
- Lecture 28 - Coagulation and Flocculation
- Lecture 29 - Coagulation and Flocculation

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- Lecture 30 - Coagulation and Flocculation
- Lecture 31 - Filtration Theory and Slow Sand Filters
- Lecture 32 - Rapid Sand Filter
- Lecture 33 - Rapid Sand Filters and Pressure Filters
- Lecture 34 - Practice Problems Coagulation Flocculation and Filtration
- Lecture 35 - Disinfection Basic
- Lecture 36 - Chlorination
- Lecture 37 - Other Disinfection Method
- Lecture 38 - Sludge Management
- Lecture 39 - Advanced and Alternate Treatment Systems
- Lecture 40 - Advanced Oxidation Processes and Membrane Process
- Lecture 41 - Practice Problems
- Lecture 42 - Basic of Water Distribution System
- Lecture 43 - Water Distribution Networks
- Lecture 44 - Analysis of Water Distribution Networks
- Lecture 45 - Problems on Pipe Flow and Water Distribution Network
- Lecture 46 - Water Losses in Water Distribution System
- Lecture 47 - Water Balance for Water Loss Assessment and Performance Indicators
- Lecture 48 - Water Loss Detection and Control
- Lecture 49 - Practice Problems on Water Audit and Water Loss Estimation
- Lecture 50 - Continuous (24\*7) water supply systems
- Lecture 51 - District metered area (DMA) for zoning in water distribution networks
- Lecture 52 - Software for water distribution networks design and analysis
- Lecture 53 - Demonstration on EPANET and GEMS
- Lecture 54 - Concept of smart water supply systems
- Lecture 55 - Smart Metering and sensing devices
- Lecture 56 - IoT and Automation in Water Supply
- Lecture 57 - Example of Automation and Smart Water Supply Systems
- Lecture 58 - Economics of Water Supply Systems
- Lecture 59 - Capital and Operational Cost of Water Supply System
- Lecture 60 - Pricing Waters
- Lecture 61 - Pricing Waters (Continued...)
- Lecture 62 - Case studies and Practice Problem on Water Pricing