

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

NPTEL Video Course - Agriculture - NOC:Water Quality Management Practices

Subject Co-ordinator - Prof. Gourav Dhar Bhowmick

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to Water Quality
- Lecture 2 - Classification of Major Water Pollutants
- Lecture 3 - Emerging Concerns in Wastewater Treatment in Global Scenario
- Lecture 4 - Environmental Legislation and Regulatory Standards
- Lecture 5 - Commonly used terminologies and definitions
- Lecture 6 - Collection and Preservation of Samples and the Measurement of pH, Acidity, Alkalinity
- Lecture 7 - Measurement of DO and Solids in wastewater (TSS/VSS/TDS), Turbidity
- Lecture 8 - Determination of BOD, COD and TOC
- Lecture 9 - Modelling of BOD and its relation with COD and TOC
- Lecture 10 - Determination of Nitrogen, Phosphorus and Microbial Counts
- Lecture 11 - Wastewater Treatment Classification and Plant Analysis
- Lecture 12 - Order of Reaction and Types of Reactors Used in Wastewater Treatment
- Lecture 13 - Concept of Mass Balance
- Lecture 14 - Overview of Sewage Treatment Plant
- Lecture 15 - Self-Purification and its Factors
- Lecture 16 - Screens
- Lecture 17 - Grit Chamber and its Classification - I
- Lecture 18 - Grit Chamber and its Classification - II and Skimming Tank
- Lecture 19 - Theory of Sedimentation and Introduction to Primary Sedimentation Tank and its Types
- Lecture 20 - PST: Performance factors affecting efficiency and design recommendations
- Lecture 21 - Equalization
- Lecture 22 - Neutralization, Dissolved Air Flootation
- Lecture 23 - Coagulation
- Lecture 24 - Flocculation
- Lecture 25 - Pre-aeration and other advanced primary treatment units
- Lecture 26 - Bacterial Metabolism and Their Use in Wastewater
- Lecture 27 - Factors Affecting Bacterial Growth and Wastewater Treatment Using Bacteria
- Lecture 28 - Role of enzymes and algae in biological wastewater treatment
- Lecture 29 - Important nomenclature on aerobic treatment units

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- Lecture 30 - Types of aeration used in aerobic treatment units and Analysis of Gas Transfer
- Lecture 31 - Activated Sludge Process: Description and Types
- Lecture 32 - Bacterial growth kinetics in ASP: Biomass mass balance and substrate mass balance
- Lecture 33 - Equalization Estimation of values of other operating parameters in ASP
- Lecture 34 - Numericals on ASP
- Lecture 35 - Sequencing Batch Reactor
- Lecture 36 - Trickling Filter- Physical Overview, Types and Process Description
- Lecture 37 - Aerated Lagoon, Fluidised Bed Bioreactor, Biological Active Filter
- Lecture 38 - Aerated Lagoons, Fluidized Bed Bioreactors, Biological Active Filters
- Lecture 39 - Rotating Biological Contactor and Hanging Sponge Reactor
- Lecture 40 - Membrane Bioreactor (MBR)
- Lecture 41 - Principles of Anaerobic process for wastewater treatment and Methane Production
- Lecture 42 - Types of Anaerobic Treatment Systems
- Lecture 43 - Factors Affecting Anaerobic Treatment Systems
- Lecture 44 - Designs of Anaerobic Reactors: UASB reactor - I
- Lecture 45 - Designs of Anaerobic Reactors: UASB reactor - II
- Lecture 46 - Pond System, Components, Factors and Terminologies
- Lecture 47 - Constructed Wetlands
- Lecture 48 - Bio-electrochemical Systems: Types and Definition
- Lecture 49 - Hybrid Bio-electrochemical Systems
- Lecture 50 - Modular Designs for Smart Cities
- Lecture 51 - Nitrification and Denitrification: Major factors
- Lecture 52 - Systems used for Nitrification and Denitrification, Anammox Process
- Lecture 53 - Biological Phosphorus Removal and Factors affecting it
- Lecture 54 - Advanced Oxidation Processes
- Lecture 55 - Other Tertiary treatment systems
- Lecture 56 - Disinfection of Wastewater
- Lecture 57 - Sludge Management
- Lecture 58 - Life-Cycle Costing
- Lecture 59 - Case studies
- Lecture 60 - Future of Sustainable Wastewater Treatment Technologies