NPTEL Video Course - Agriculture - NOC:Micro Irrigation Engineering

Subject Co-ordinator - Prof. Kamlesh Narayan Tiwari

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Micro-Irrigation: Introduction and Scope
Lecture 2 - Fundamentals of Fluid Mechanics and its Application in MI
Lecture 3 - Soil Water Concept
Lecture 4 - Soil Water Constants and Infiltration
Lecture 5 - Tutorial 1 - Numerical Examples on Fluid Mechanics and Soil water
Lecture 6 - Evapotranspiration
Lecture 7 - Determination of Evapotranspiration
Lecture 8 - Crop Coefficients and Crop Water Requirement
Lecture 9 - Demonstration of Agro Metrological Instruments
Lecture 10 - Demonstration of Lysimeter
Lecture 11 - Tutorial 2 - Numerical Examples on Crop Water Requirement
Lecture 12 - Irrigation Scheduling
Lecture 13 - Soil and Plant Water Monitoring Instruments
Lecture 14 - Measurement of Irrigation Water
Lecture 15 - Irrigation Efficiency
Lecture 16 - Tutorial 3 - Numerical Examples on Irrigation water Management
Lecture 17 - Introduction of Water Lifts and Pumps
Lecture 18 - Variable Displacement Pumps
Lecture 19 - Irrigation Water Quality
Lecture 20 - Tutorial 4 - Numerical Examples on Water Measurements and Pumps
Lecture 21 - Irrigation methods
Lecture 22 - Micro Irrigation System: Concept and Types
Lecture 23 - Drip Irrigation: Introduction and Types
Lecture 24 - Drip Irrigation: Design Considerations and System Layout
Lecture 25 - Types and Selection of Emission Devices
Lecture 26 - Hydraulics Drip Irrigation System Pipe Network
Lecture 27 - Tutorial 5 - Numerical Example on Design of Drip Irrigation System
Lecture 28 - Fertigation
Lecture 29 - Fertigation Application Methods

Lecture 30 - Drip Irrigation: Filtration System
Lecture 31 - Tutorial 6 - Numerical Examples on Emission Devices and Fertigation
Lecture 32 - Installation and Operation of Drip Irrigation System
Lecture 33 - Maintenance of Drip Irrigation System
Lecture 34 - Demonstration of Drip Irrigation Components and Evaluation of Drip Emitter
Lecture 35 - Soil Water Movement under Drip Emitter
Lecture 36 - Design and Development of Drip Emitter
Lecture 37 - Tutorial 7- Numerical Examples on Drip Irrigation System
Lecture 38 - Micro Sprinkler Irrigation System
Lecture 39 - Bubbler Irrigation System
Lecture 40 - Sprinkler Irrigation System
Lecture 41 - Sprinkler Irrigation System Design
Lecture 42 - Performance Evaluation of Sprinkler Irrigation System
Lecture 43 - Tutorial 8 - Numerical Examples on Sprinkler Irrigation System
Lecture 44 - Tutorial 9 - Numerical Examples on Design of Sprinkler Irrigation System
Lecture 45 - Sprinkler Irrigation System: Layout, Installation, Operation and Maintenance
Lecture 46 - Standards and Quality Assurance of MIS Components
Lecture 47 - Standards and Quality Assurance of Sprinkler Irrigation System Components
Lecture 48 - Solar Photovoltaic System for Irrigation - Part 1
Lecture 49 - Solar Photovoltaic System for Irrigation - Part 2
Lecture 50 - Tutorial 10 - Numerical Examples on Solar PV Irrigation System
Lecture 51 - Automation of Micro Irrigation System - Part 1
Lecture 52 - Automation of Micro Irrigation System - Part 2
Lecture 53 - Automation of Micro Irrigation System - Part 3
Lecture 54 - Automation of Micro Irrigation System - Part 4
Lecture 55 - Economic Analysis of Micro Irrigation System - Part 1
Lecture 56 - Economic Analysis of MIS - Part 2
Lecture 57 - Economic Analysis of MIS - Part 3
Lecture 58 - Tutorial 11- Numerical Examples on Economics of Micro Irrigation System
Lecture 59 - Precision Agriculture
Lecture 60 - Micro Irrigation Engineering: Epilogue