

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

NPTEL Video Course - Agriculture - NOC:Basic Crop Production Practices (BCPP)

Subject Co-ordinator - Prof. J. R. Yadav, Dr. Vinod Kumar, Dr. Sharwan Kumar Shukla

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction
- Lecture 2 - Irrigation and irrigation needs
- Lecture 3 - Source of Irrigation
- Lecture 4 - Importance of crops and classification
- Lecture 5 - Crop rotation principle
- Lecture 6 - Importance of vegetable and classification
- Lecture 7 - Paddy crop production
- Lecture 8 - Sorghum crop production
- Lecture 9 - Pearl millet crop production
- Lecture 10 - Maize crop production
- Lecture 11 - Pigeon pea crop production
- Lecture 12 - Green gram crop production
- Lecture 13 - Black gram crop production
- Lecture 14 - Cowpea crop production
- Lecture 15 - Groundnut crop production
- Lecture 16 - Sesame crop production
- Lecture 17 - Soybean crop production
- Lecture 18 - Sunflower crop production
- Lecture 19 - Mango crop production
- Lecture 20 - Guava crop production
- Lecture 21 - Banana crop production
- Lecture 22 - Papaya crop production
- Lecture 23 - Tomato crop production
- Lecture 24 - Brinjal crop production
- Lecture 25 - Chili crop production
- Lecture 26 - Okra crop production

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NPTEL Video Course - Agriculture - NOC:GIS in Ag-Essentials and Applications (GIS)

Subject Co-ordinator - Dr. Venkataraman Balaji, Dr. R. Nagarajan

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction
- Lecture 2 - Our Agriculture Practices and Lessons
- Lecture 3 - Climate and Scale of Change
- Lecture 4 - Course Corrections
- Lecture 5 - Modified Agriculture - Precision Agriculture
- Lecture 6 - Modified Agriculture Practice - Climate Smart Agriculture
- Lecture 7 - Maps and Information in Practice
- Lecture 8 - Geographical Information System (GIS)
- Lecture 9 - Types of input
- Lecture 10 - Analysis - Map overlay
- Lecture 11 - Buffering and Perspective View
- Lecture 12 - GIS Type and Available GIS Softwares
- Lecture 13 - Village Cadastral Map and Property Card
- Lecture 14 - Cadastral Maps and Contents
- Lecture 15 - Creation of Cadastral Information Base
- Lecture 16 - Land Information System
- Lecture 17 - Creation of Village Boundary Based Basin Analysis
- Lecture 18 - Village Information System
- Lecture 19 - Needs and Weather Forecast
- Lecture 20 - Cloud Types and Rain Bearing Clouds
- Lecture 21 - Weather Satellites and Cloud Pattern Reading
- Lecture 22 - Rainfall and Supplementary Irrigation
- Lecture 23 - Synergistic Use
- Lecture 24 - Surface Rainfall - Run off Assessment and Model
- Lecture 25 - Soil and Water Assessment Tools (SWAT) Model
- Lecture 26 - Groundwater Availability
- Lecture 27 - Groundwater Potential Mapping
- Lecture 28 - Water Storage and Water Availability and Release
- Lecture 29 - Growth of Crop Area in Command Area and Impact Climate Change

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- Lecture 30 - Impact of Climate on Agriculture
- Lecture 31 - Crop Water Requirement and Distribution Loss
- Lecture 32 - Village Agriculture and Other Water Demand and Supply Source
- Lecture 33 - Water Security Assessment
- Lecture 34 - Land Degradation
- Lecture 35 - Water Logging
- Lecture 36 - Water Balance Under Different Rainfall
- Lecture 37 - Drought and Characteristics
- Lecture 38 - Drought Vulnerability and Risk Assessment
- Lecture 39 - Monitoring and Warning
- Lecture 40 - Drought Monitoring
- Lecture 41 - Drought Risk and Vulnerability Assessment
- Lecture 42 - GIS in Sustainable Agriculture
- Lecture 43 - Assessment of Existing Water Storage Structures and Rehabilitation
- Lecture 44 - Sustainable Development and Agriculture
- Lecture 45 - Climate Change and Drought
- Lecture 46 - GIS and Drought Management

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

NPTEL Video Course - Agriculture - NOC:Integrated Pest Management (IPM)

Subject Co-ordinator - Prof. M. Bheemanna, Prof. B.V. Patil, Prof. Prabhuraj A

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction
- Lecture 2 - Insect, abundance and diversity
- Lecture 3 - Insect classification based on economic importance
- Lecture 4 - Pest, causes for outbreaks and categories
- Lecture 5 - Pest, causes for outbreaks and categories (Continued...)
- Lecture 6 - Pest surveillance and methods of sampling
- Lecture 7 - Principles of Pest Management and History
- Lecture 8 - IPM, Definition and Concepts
- Lecture 9 - Ecological Methods of Pest Management - Legal and Cultural
- Lecture 10 - Ecological Methods of Pest Management - Cultural (Continued...)
- Lecture 11 - Ecological Methods of Pest Management - Cultural (Continued...)
- Lecture 12 - Ecological Methods of Pest Management - Physical
- Lecture 13 - Ecological Methods of Pest Management - Mechanical
- Lecture 14 - Host Plant Resistance
- Lecture 15 - Host Plant Resistance (Continued...)
- Lecture 16 - Biological Control - Predators
- Lecture 17 - Biological Control - Parasitoids
- Lecture 18 - Biological Control - Microbes
- Lecture 19 - Biological Control - Microbes
- Lecture 20 - Pest management by modifying insect behaviour
- Lecture 21 - Use of sex pheromones in pest management
- Lecture 22 - Use of attractants and repellants in pest management
- Lecture 23 - Pest management through radiation technology - Principles
- Lecture 24 - Sterile Insect Technique - case studies
- Lecture 25 - Pest management through botanicals
- Lecture 26 - Pest management through botanicals (Continued...)
- Lecture 27 - Chemical Control - History and classification
- Lecture 28 - Mode of Action of different insecticide groups
- Lecture 29 - Chemical Control - Considerations for Chemicals Integration

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- Lecture 30 - Insecticide Resistance and Management
- Lecture 31 - Insecticide as component of IPM
- Lecture 32 - Biotechnological Approaches in IPM
- Lecture 33 - Agro-ecosystem Analysis
- Lecture 34 - IPM in Paddy
- Lecture 35 - IPM in Paddy (Continued...)
- Lecture 36 - IPM in Pigeon pea
- Lecture 37 - IPM in Pigeon pea (Continued...)
- Lecture 38 - IPM in Groundnut
- Lecture 39 - IPM in Mustard and Soyabean
- Lecture 40 - IPM in Cotton
- Lecture 41 - IPM in Cotton (Continued...)
- Lecture 42 - IPM in Sugarcane
- Lecture 43 - IPM in Sugarcane (Continued...)
- Lecture 44 - IPM in Tomato
- Lecture 45 - IPM in Cabbage
- Lecture 46 - IPM in Mango
- Lecture 47 - IPM in Grapes

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NPTEL Video Course - Agriculture - NOC:Nutrition, Therapeutics and Health (NM)

Subject Co-ordinator - Dr. V. Vijaya Lakshmi (Instructor Incharge)

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction
Lecture 2 - Relationship between Food, Nutrition and Health 1
Lecture 3 - Relationship between Food, Nutrition and Health 2
Lecture 4 - Digestion, absorption and utilization of Nutrients 1
Lecture 5 - Digestion, absorption and utilization of Nutrients 2
Lecture 6 - Recommended dietary allowances
Lecture 7 - Carbohydrate
Lecture 8 - Fiber
Lecture 9 - Protein
Lecture 10 - Protein - health significance
Lecture 11 - Fat
Lecture 12 - Energy 1
Lecture 13 - Energy 2
Lecture 14 - Energy 3
Lecture 15 - Fat Soluble Vitamins 1
Lecture 16 - Fat Soluble Vitamins 2
Lecture 17 - Fat Soluble Vitamins 3
Lecture 18 - Water Soluble Vitamins 1
Lecture 19 - Water Soluble Vitamins 2
Lecture 20 - Water soluble Vitamins 3
Lecture 21 - Water soluble Vitamins 4
Lecture 22 - Major minerals 1
Lecture 23 - Major minerals 2
Lecture 24 - Trace minerals 1
Lecture 25 - Trace minerals 2
Lecture 26 - Water
Lecture 27 - Nutritional Disorders
Lecture 28 - Balanced diet and food groups
Lecture 29 - Food guide for selecting adequate diet, practical aspects of food selection

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- Lecture 30 - Meal planning
- Lecture 31 - Other aspects affecting food selection
- Lecture 32 - Food sanitation and hygiene
- Lecture 33 - Water Purification
- Lecture 34 - Therapeutic adaptation of normal diet
- Lecture 35 - Principles of therapeutic diet
- Lecture 36 - Diet during fevers
- Lecture 37 - Diet in lung disease
- Lecture 38 - Diet in GI disorders ^ constipation
- Lecture 39 - Diet during diarrhoea
- Lecture 40 - Diet in disorders of liver
- Lecture 41 - Diseases of gall bladder
- Lecture 42 - Diet in Diabetes
- Lecture 43 - Diseases of Heart and blood vessels
- Lecture 44 - Diet for myocardial infarction
- Lecture 45 - Diet in kidney disorders
- Lecture 46 - Diet in renal failure
- Lecture 47 - Diet in cancer
- Lecture 48 - Diet in metabolic disorders
- Lecture 49 - Diet in stress, burns and surgery

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

NPTEL Video Course - Agriculture - NOC:Weather Forecast in Agriculture and Agro-advisory (WF)

Subject Co-ordinator - Dr. R. Nagarajan, Co Faculty, Dr.T.N.Balasubramanian (Rtd.), Instructor Incharge

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction

Lecture 2 - Basic aspects of Atmosphere, Climate, Weather

Lecture 3 - Basic aspects of Rainfall and their application in crop production

Lecture 4 - Basic aspects of Temperature and their application in crop production

Lecture 5 - Basic aspects of Relative humidity, Cloud cover and their application in crop production

Lecture 6 - Basic aspects of wind, wind direction and their application in crop production

Lecture 7 - Three weather codes and crop production

Lecture 8 - Crop production risks and their management

Lecture 9 - Weather sensitive crops, stages and farm operations

Lecture 10 - Crop-weather interactions and definition

Lecture 11 - Crop-Weather Interactions

Lecture 12 - Crop-Weather Interactions

Lecture 13 - Crop-Weather Interactions

Lecture 14 - Crop-Weather Interactions

Lecture 15 - Crop-Weather Interactions

Lecture 16 - Genesis of weather forecast in India and Abroad

Lecture 17 - Types of weather forecast and details

Lecture 18 - Types of weather forecast and details (Continued...)

Lecture 19 - Simple methods of verification of weather forecast with real event

Lecture 20 - Traditional knowledges on weather forecast and their validity

Lecture 21 - Weather thumb rules and their validity

Lecture 22 - Development and component of agro advisory for weather forecast

Lecture 23 - Development and component of agro advisory for weather forecast (Continued...)

Lecture 24 - Model agro advisories for selected five days weather forecast

Lecture 25 - Mass communication mode of agro advisories and their effectiveness

Lecture 26 - Discussion on weather forecast and agro advisory from different website

Lecture 27 - Role of climate manager on farm management decision based on weather forecast at village level a

Lecture 28 - Development of selected weather window for issuing agro advisory - case study from Tamil Nadu

Lecture 29 - Model of agro advisory for 54 selected weather window of Tamil Nadu for rice

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- Lecture 30 - Response farming- a type of farm planning being practiced in Australia considering seasonal climate
- Lecture 31 - Case study in India on the adoption of weather based crop production - Crop management
- Lecture 32 - Case study in India on the adoption of weather based crop production - Pest and disease management
- Lecture 33 - Case study in India on the adoption of weather based animal production
- Lecture 34 - Cost benefit analysis for the case study done on crop management
- Lecture 35 - Cost benefit analysis for the case study done on animal management
- Lecture 36 - Summary

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NPTEL Video Course - Agriculture - NOC:ICT Basics

Subject Co-ordinator - Prof. T.V. Prabhakar

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction
Lecture 2 - Highlights Week 0 and 1
Lecture 3 - What is ICT?
Lecture 4 - Architecture of a Computer
Lecture 5 - Architecture of a Phone
Lecture 6 - What is the Internet?
Lecture 7 - What is WWW?
Lecture 8 - Highlights Week 2
Lecture 9 - Phones, Smart Phones, Phablets, Tablets
Lecture 10 - Introduction to Android
Lecture 11 - Network Architectures - Part-1 (Introduction to Computer Networks)
Lecture 12 - Network Architectures - Part-2 (Overview of Network Architecture)
Lecture 13 - Network Architectures - Part-3 (Architecture of Internet)
Lecture 14 - Mobile Wireless Communications - Introduction (Module-1)
Lecture 15 - Mobile Wireless Communication (Module-2)
Lecture 16 - Highlights Week 3
Lecture 17 - Adaptive and Responsive Websites
Lecture 18 - Data management
Lecture 19 - Knowledge Representation
Lecture 20 - Knowledge Representation Techniques
Lecture 21 - Expert Systems
Lecture 22 - Highlights Week - 4
Lecture 23 - Speech Recognition
Lecture 24 - Speech Synthesis
Lecture 25 - Identity Management - Part 1
Lecture 26 - Identity Management - Part 2
Lecture 27 - Location Recognition - Part 1
Lecture 28 - Location Recognition - Part 2
Lecture 29 - Parameter Sensing

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- Lecture 30 - Highlights Week-5
- Lecture 31 - Social Networking - Part 1
- Lecture 32 - Social Networking - Part 2
- Lecture 33 - Blogs
- Lecture 34 - Facebook
- Lecture 35 - Twitter
- Lecture 36 - 3G WCDMA (Module- 3)
- Lecture 37 - 4G Mobile Wireless WiMAX (Module-4)
- Lecture 38 - Advanced Wireless Technologies (Module-5)
- Lecture 39 - LTE, WLAN, Bluetooth and Future
- Lecture 40 - Highlights Week-6
- Lecture 41 - Introduction to Cloud Computing
- Lecture 42 - Introduction to Cloud Services
- Lecture 43 - Cloud Service Providers
- Lecture 44 - GIS Application in Agriculture - Part 1
- Lecture 45 - GIS Application in Agriculture - Part 2

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NPTEL Video Course - Agriculture - NOC:Momentum Transfer in Process Engineering

Subject Co-ordinator - Prof. Tridib Kumar Goswami

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1

Lecture 2

Lecture 3

Lecture 4

Lecture 5

Lecture 6

Lecture 7

Lecture 8

Lecture 9

Lecture 10

Lecture 11 - Application of Navier Stokeâ s equation for finding out viscosity - Part 2

Lecture 12 - Application of Navier Stokeâ s equation for finding out viscosity - Part 3

Lecture 13 - Flow through pipes

Lecture 14 - Hagen-poiseuille equation from Navier stokes equation

Lecture 15 - Fanning friction factor

Lecture 16 - Moodyâ s chart

Lecture 17 - Laminar and turbulent flow in a pipe

Lecture 18 - Flow through flat and parallel plates

Lecture 19 - Flow of film or film flow

Lecture 20 - Problems and solution of falling film

Lecture 21 - Flow through annulus - Part 1

Lecture 22 - Flow through annulus - Part 2

Lecture 23 - Stokeâ s law

Lecture 24 - Flow through flat plates or slits

Lecture 25 - Problems and solution for flow through flat plates or slits

Lecture 26 - Compressible fluid flow

Lecture 27 - Flow through nozzle - I

Lecture 28 - Flow through nozzle - II

Lecture 29 - Flow through nozzle - problems and solutions

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- Lecture 30 - Nozzle flow- problems and solutions
- Lecture 31 - Sonic velocity
- Lecture 32 - Sonic velocity - Mach number
- Lecture 33 - Variable fluid flow
- Lecture 34 - Variable fluid flow - problems and solutions
- Lecture 35 - Variable fluid flow - problems and solutions (Continued...)
- Lecture 36 - Pneumatic conveying
- Lecture 37 - Problem on Pneumatic conveying - Part 1
- Lecture 38 - Problem on Pneumatic conveying - Part 2
- Lecture 39 - Non Newtonian fluid flow - Part 1
- Lecture 40 - Non Newtonian fluid flow - Part 2
- Lecture 41 - Velocity profile for Non Newtonian fluid
- Lecture 42 - Average velocity for Non Newtonian fluid
- Lecture 43 - Problems and solution of Non Newtonian fluid - Part 1
- Lecture 44 - Problems and solution of Non Newtonian fluid - Part 2
- Lecture 45 - Flow of Non Newtonian fluid through slit
- Lecture 46 - Generalized coefficient of Reynolds number
- Lecture 47 - Flow through packed beds
- Lecture 48 - Ergun's equation- derivation - Part 1
- Lecture 49 - Ergun's equation- derivation - Part 2
- Lecture 50 - Solving problems on Ergun's equation
- Lecture 51 - Solving problems on Ergun's equation
- Lecture 52 - Fluidization
- Lecture 53 - Fluidized bed flow
- Lecture 54 - Problem of Fluidized bed condition - Part 1
- Lecture 55 - Problem of Fluidized bed condition - Part 2
- Lecture 56 - Problem and solution
- Lecture 57 - Problem and solution
- Lecture 58 - Problem and solution
- Lecture 59 - Problem and solution
- Lecture 60 - Problem and solution with comprehension of course

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NPTEL Video Course - Agriculture - NOC:Farm Machinery

Subject Co-ordinator - Prof. VK Tewari

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Importance of Farm Machines in the Contest of Enhance Production, Multiple Cropping, Labour Scarce
- Lecture 2 - Ploughing and first opening of the soil, the design and component details
- Lecture 3 - Tractor, implement and soil force consideration for tillage implement design
- Lecture 4 - Tractor, implement and soil force consideration for tillage implement design
- Lecture 5 - Mechanics of rotavator or rotary tillers
- Lecture 6 - Design of a tractor PTO operated rotavator
- Lecture 7 - Tractor implement hitching systems
- Lecture 8 - Mechanics of tractor implement hitch system and traction prediction models
- Lecture 9 - Laboratory class on traction and tire testing
- Lecture 10 - Combination tillage implements for efficient land preparation
- Lecture 11 - LASER guided land leveller
- Lecture 12 - Introduction of seeding operation
- Lecture 13 - Types of seed metering devices and their operation
- Lecture 14 - Types of fertilizer metering, furrow opening and soil covering devices
- Lecture 15 - Equipment for seeding and planting
- Lecture 16 - Equipment for precision planting
- Lecture 17 - Equipment for Paddy Transplanting
- Lecture 18 - Microcontroller based uniform seed rate application system
- Lecture 19 - GPS based automatic Variable rate fertilizer applicator
- Lecture 20 - Embedded GPS integrated Variable Rate Fertilizer Applicator
- Lecture 21 - Design of a seeding equipment - PART 1
- Lecture 22 - Design of a seeding equipment - PART 2
- Lecture 23 - Design of a seeding equipment - PART 3
- Lecture 24 - Design a tractor drawn seed drill for a 40 hp tractor - I
- Lecture 25 - Design a tractor drawn seed drill for a 40 hp tractor - II
- Lecture 26 - Testing of tractor operated seeding equipment
- Lecture 27
- Lecture 28
- Lecture 29

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- Lecture 30
- Lecture 31
- Lecture 32 - Farm machines for interculture operation
- Lecture 33 - Performance of weeding blades of a push-pull weeder
- Lecture 34 - Advanced level machinery for inter and intra row weeding
- Lecture 35 - Tractor mounted contact type microcontroller based improved variable rate herbicide applicator
- Lecture 36 - Design of manually operated weeding equipment
- Lecture 37 - Plant protection equipment/machinery
- Lecture 38 - Selection and design of plant protection equipment/machinery
- Lecture 39 - Manually operated knapsack-cum-boom sprayer
- Lecture 40 - Performance evaluation of sprayer
- Lecture 41 - Testing and certification of spraying equipment
- Lecture 42 - Problems based on the design and selection of spraying equipment - I
- Lecture 43 - Problems based on the design and selection of spraying equipment - II
- Lecture 44 - Advanced level spraying equipment
- Lecture 45 - Advanced level spraying equipment
- Lecture 46 - Harvesting equipment
- Lecture 47 - Machines for harvesting cereal crops, root and fruit crops
- Lecture 48 - Combine Harvester
- Lecture 49 - Advanced technology approach for cotton harvesting
- Lecture 50 - Threshing operation and equipment
- Lecture 51 - Design of threshing equipment
- Lecture 52 - Performance evaluation and testing of thresher
- Lecture 53 - Conservation Agriculture
- Lecture 54 - Materials for construction of farm machinery
- Lecture 55 - Machinery for Land Drainage, Land Reclamation and Estate Maintenance Part - I
- Lecture 56 - Machinery for Land Drainage, Land Reclamation and Estate Maintenance Part - II
- Lecture 57 - Machinery for Land Drainage, Land Reclamation and Estate Maintenance Part - III
- Lecture 58 - Machinery Selection and Management - Part 1
- Lecture 59 - Machinery Selection and Management - Part 2
- Lecture 60 - Epilogue

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NPTEL Video Course - Agriculture - NOC:Irrigation and Drainage

Subject Co-ordinator - Prof. Damodhara Rao Mailapallli

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1
Lecture 2
Lecture 3
Lecture 4
Lecture 5
Lecture 6 - Field water balance
Lecture 7 - Evapotranspiration
Lecture 8 - Crop water requirement
Lecture 9 - Irrigation Scheduling
Lecture 10 - Introduction
Lecture 11 - Irrigation Water Conveyance
Lecture 12 - Irrigation channel design
Lecture 13 - Measurement of Irrigation Water
Lecture 14 - Measurement of Irrigation Water
Lecture 15 - Tutorial
Lecture 16
Lecture 17
Lecture 18
Lecture 19
Lecture 20
Lecture 21
Lecture 22
Lecture 23
Lecture 24
Lecture 25
Lecture 26 - Irrigation Wells
Lecture 27 - Aquifer Properties
Lecture 28 - Well Hydraulics - 1
Lecture 29 - Well Hydraulics - 2

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- Lecture 30 - Tutorial
- Lecture 31 - Introduction
- Lecture 32 - Centrifugal Pump
- Lecture 33 - Centrifugal Pumps
- Lecture 34 - Pump Characteristic Curves
- Lecture 35 - Tutorial
- Lecture 36 - Management of salt affected soils
- Lecture 37 - Management of salt affected soils
- Lecture 38 - Agricultural Drainage
- Lecture 39 - Agricultural Drainage
- Lecture 40 - Tutorial
- Lecture 41
- Lecture 42
- Lecture 43
- Lecture 44
- Lecture 45
- Lecture 46 - Subsurface Drainage Design - 1
- Lecture 47 - Subsurface Drainage Design - 2
- Lecture 48 - Subsurface Drainage Design - 3
- Lecture 49 - Subsurface Drainage Design - 4
- Lecture 50 - Tutorial
- Lecture 51 - Surface drainage system design - 1
- Lecture 52 - Surface drainage system design - 2
- Lecture 53 - Non-conventional drainage
- Lecture 54 - Economics of drainage project
- Lecture 55 - Tutorial
- Lecture 56 - Case study of drainage system
- Lecture 57 - Drainage Model
- Lecture 58 - Irrigation Efficiency
- Lecture 59 - Irrigation Economics
- Lecture 60 - Irrigation model

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NPTEL Video Course - Agriculture - NOC:Fundamentals of Food Process Engineering

Subject Co-ordinator - Prof. Jayeeta Mitra

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Importance Of Rheology In Food
- Lecture 2 - Food Rheology
- Lecture 3 - Food Rheology
- Lecture 4 - Food Rheology
- Lecture 5 - Food Rheology
- Lecture 6 - Measurements of Rheological Properties
- Lecture 7 - Measurements of Rheological Properties
- Lecture 8 - Rheological Properties of Viscoelastic Food
- Lecture 9 - Rheological Properties of Viscoelastic Food
- Lecture 10 - Rheological Properties of Viscoelastic Food
- Lecture 11 - Thermal Processing And Microbial Death Kinetics
- Lecture 12 - Thermal processing and microbial death kinetics
- Lecture 13 - Thermal processing and microbial death kinetics (Continued...)
- Lecture 14 - Thermal processing and microbial death kinetics (Continued...)
- Lecture 15 - Thermal processing and microbial death kinetics (Continued...)
- Lecture 16 - Evaporation and concentration
- Lecture 17 - Evaporation and concentration
- Lecture 18 - Evaporation and concentration
- Lecture 19 - Evaporation and concentration
- Lecture 20 - Evaporation and concentration
- Lecture 21 - Heat Exchangers
- Lecture 22 - Heat Exchangers
- Lecture 23 - Heat Exchangers
- Lecture 24 - Heat Exchangers
- Lecture 25 - Heat Exchangers
- Lecture 26 - Drying Technology
- Lecture 27 - Drying Technology
- Lecture 28 - Drying Technology
- Lecture 29 - Drying Technology

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- Lecture 30 - Drying Technology
- Lecture 31 - Freezing and Freeze Drying
- Lecture 32 - Freezing and Freeze Drying
- Lecture 33 - Freezing and Freeze Drying
- Lecture 34 - Freezing and Freeze Drying
- Lecture 35 - Freezing and Freeze Drying
- Lecture 36 - Size Reduction
- Lecture 37 - Size Reduction (Continued...)
- Lecture 38 - Size Reduction (Continued...)
- Lecture 39 - Size Reduction (Continued...)
- Lecture 40 - Size Reduction (Continued...)
- Lecture 41 - Mechanical Separation Techniques
- Lecture 42 - Mechanical Separation Techniques
- Lecture 43 - Mechanical Separation Techniques
- Lecture 44 - Mechanical Separation Techniques
- Lecture 45 - Mechanical Separation Techniques
- Lecture 46 - Mixing and agitation
- Lecture 47 - Mixing and agitation (Continued...)
- Lecture 48 - Mixing and agitation (Continued...)
- Lecture 49 - Mixing and agitation (Continued...)
- Lecture 50 - Mixing and agitation (Continued...)
- Lecture 51 - Leaching and Extraction
- Lecture 52 - Leaching and Extraction (Continued...)
- Lecture 53 - Leaching and Extraction (Continued...)
- Lecture 54 - Leaching and Extraction (Continued...)
- Lecture 55 - Leaching and Extraction (Continued...)
- Lecture 56 - Non Thermal Processing
- Lecture 57 - Non Thermal Processing (Continued...)
- Lecture 58 - Non Thermal Processing (Continued...)
- Lecture 59 - Non Thermal Processing (Continued...)
- Lecture 60 - Non Thermal Processing (Continued...)

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NPTEL Video Course - Agriculture - NOC:Soil and Water Conservation Engineering

Subject Co-ordinator - Prof. Rajendra Singh

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction
- Lecture 2 - Soil erosion causes and types
- Lecture 3 - Factors affecting soil erosion and effects of soil erosion
- Lecture 4 - Soil erosion - Mechanics
- Lecture 5 - Water erosion control measures
- Lecture 6 - Soil loss estimation
- Lecture 7 - Erosivity and Erodibility
- Lecture 8 - Modification in Universal soil loss equation - Part I
- Lecture 9 - Modification in Universal soil loss equation - Part II
- Lecture 10 - Soil loss measurement
- Lecture 11 - Bunds - Introduction
- Lecture 12 - Contour Bunds
- Lecture 13 - Problems on Contour Bunds
- Lecture 14 - Graded Bunds
- Lecture 15 - Problems on Graded Bunds
- Lecture 16 - Terrace - Introduction
- Lecture 17 - Bench Terraces
- Lecture 18 - Problems on Bench Terraces
- Lecture 19 - Broad-base Terraces
- Lecture 20 - Problems on Broad-base Terraces
- Lecture 21 - Grassed Waterways
- Lecture 22 - Problems on Grassed Waterways
- Lecture 23 - Parabolic Grassed Waterways
- Lecture 24 - GATE Questions on Various Topics Covered
- Lecture 25 - Introduction-Gully Control Measures
- Lecture 26 - Gully Control Measures (Permanent Structures)
- Lecture 27 - Design Considerations- Permanent Gully Control Structures
- Lecture 28 - Basics of Open Channel Hydraulics - 1
- Lecture 29 - Basics of Open Channel Hydraulics - 2

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- Lecture 30 - Hydraulic Design of Drop Spillway
- Lecture 31 - Hydraulic Design of drop Spillway in different Flow Conditions
- Lecture 32 - Hydraulic Design Components
- Lecture 33 - Structural Design of Drop Spillway - 1
- Lecture 34 - Structural Design of Drop Spillway - 2
- Lecture 35 - Structural Design of Drop Spillway - 3
- Lecture 36 - Structural Design of Drop Spillway - 4
- Lecture 37 - GATE Question
- Lecture 38 - Drop Inlet Spillway
- Lecture 39 - Drop Inlet Spillway (Continued...)
- Lecture 40 - Introduction-Drop Inlet Spillway
- Lecture 41 - Drop Inlet Spillway Design - I
- Lecture 42 - Numerical Problems
- Lecture 43 - Ogee Spillway
- Lecture 44 - Chute Spillway
- Lecture 45 - Chute Spillway Design - I
- Lecture 46 - Chute Spillway Design - II
- Lecture 47 - Energy Dissipation
- Lecture 48 - Wind Erosion and Control Basics
- Lecture 49 - Design of Wind Breaks
- Lecture 50 - Design of Shelterbelts
- Lecture 51 - Formation of Sand Dunes
- Lecture 52 - Stabilization of Sand Dunes
- Lecture 53 - Land Capability Classes
- Lecture 54 - Improving Land Capability
- Lecture 55 - Sediment and Its Transportation
- Lecture 56 - Sediment Sampling

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

NPTEL Video Course - Agriculture - NOC:Dairy and Food Process and Products Technology

Subject Co-ordinator - Prof. Tridib Kumar Goswami

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Preamble of the Subject
- Lecture 2 - What is Food and Nutrients
- Lecture 3 - Nutritional Value of the Nutrients
- Lecture 4 - Best Way of Storage of Food Materials
- Lecture 5 - Preservation Techniques
- Lecture 6 - Temperature Quotient and Its Impact
- Lecture 7 - Food Additives
- Lecture 8 - Quality of Food
- Lecture 9 - Quality of Food (Continued...)
- Lecture 10 - Emerging Technology
- Lecture 11 - Emerging Technology (Continued...)
- Lecture 12 - Food Laws - Why?
- Lecture 13 - Food Laws of India
- Lecture 14 - Standards in India
- Lecture 15 - Hygiene and Other Controls in India
- Lecture 16 - Physico-Chemical Properties of Milk
- Lecture 17 - Milk - What is it
- Lecture 18 - Milk - How it looks?
- Lecture 19 - Milk - Constituents
- Lecture 20 - Constituents of Milk
- Lecture 21 - Milk Fat
- Lecture 22 - Milk Fat (Continued...)
- Lecture 23 - Milk Fat (Continued...)
- Lecture 24 - Milk Fat (Continued...)
- Lecture 25 - Protein
- Lecture 26 - Protein (Continued...)
- Lecture 27 - Amino Acids
- Lecture 28 - Amino Acids (Continued...)
- Lecture 29 - Milk Protein

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

- Lecture 30 - Casein Micelle
- Lecture 31 - Whey Protein
- Lecture 32 - Whey Protein (Continued...)
- Lecture 33 - Lactoferrin
- Lecture 34 - Carbohydrates in Milk
- Lecture 35 - Small Constituents of Milk
- Lecture 36 - Enzymes in Milk
- Lecture 37 - Chemical and Microbial Spoilage of Milk and Milk Products
- Lecture 38 - Extrinsic Factors for Microbial Growth
- Lecture 39 - Natural or Other Type of Spoilage
- Lecture 40 - Packaging
- Lecture 41 - Milk Pasteurization
- Lecture 42 - Thermal Death Time
- Lecture 43 - Pasteurization Effectiveness
- Lecture 44 - Milk Pasteurization and Homogenization
- Lecture 45 - Milk Pasteurization and Homogenization (Continued...)
- Lecture 46 - Milk Homogenization
- Lecture 47 - Milk Centrifugation
- Lecture 48 - Types of Available Milk
- Lecture 49 - Types of Available Milk in the Market
- Lecture 50 - New Technologies in Dairy Industries
- Lecture 51 - Cheese
- Lecture 52 - Cheddar Cheese
- Lecture 53 - Ice Cream
- Lecture 54 - Process of Ice Cream Preparation
- Lecture 55 - Ice Cream Lilies
- Lecture 56 - Over Run and Calculation for Preparing Ice Cream Mix
- Lecture 57 - Transportation of Ice Cream vis a vis Frozen Foods
- Lecture 58 - Packaging of Food Materials
- Lecture 59 - Modified Atmosphere Packaging
- Lecture 60 - Flow Chart for Manufacturing Some Dairy and Food Products

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

NPTEL Video Course - Agriculture - NOC:Organic Farming for Sustainable Agricultural Production

Subject Co-ordinator - Prof. Dilip Kumar Swain

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Organic Farming
- Lecture 2 - Organic Farming
- Lecture 3 - Organic Farming and its Components
- Lecture 4 - Organic Farming Concepts and Principles
- Lecture 5 - Organic Farming Concepts and Principles (Continued...)
- Lecture 6 - SWOT Analysis of Organic Farming
- Lecture 7 - Sustainable Agriculture
- Lecture 8 - Key Indicators of Sustainable Agriculture
- Lecture 9 - Organic Farming and Climate Change
- Lecture 10 - Organic Farming and Climate Change (Continued...)
- Lecture 11 - Principles of Compost Production
- Lecture 12 - Vermicompost Production Technology
- Lecture 13 - Vermicompost Production Technology (Continued...)
- Lecture 14 - Vermicompost Production Technology (Continued...)
- Lecture 15 - Enriched Vermicompost Production Technology
- Lecture 16 - Vermicompost Quality and Marketing
- Lecture 17 - Introduction to Pest and Disease Management
- Lecture 18 - Pest and Disease Management in Organic Farming
- Lecture 19 - Level C Pest and Disease Management
- Lecture 20 - Level C Pest and Disease Management (Continued...)
- Lecture 21 - Introduction to Organic Crop Management
- Lecture 22 - Introduction to Organic Crop Management (Continued...)
- Lecture 23 - Organic Vegetable Crop Management
- Lecture 24 - Organic Vegetable Crop Management (Cereals)
- Lecture 25 - Organic Vegetable Crop Management (Cereals) (Continued...)
- Lecture 26 - Organic Field Crop Management (Pulse and Oilseed Crop)
- Lecture 27 - Organic Plantation Crop Management
- Lecture 28 - Organic Meat Production
- Lecture 29 - Introduction on transition to organic crop production

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- Lecture 30 - Crop planning and rotation design in organic system
- Lecture 31 - Crop planning and rotation design in organic system (Continued...)
- Lecture 32 - Integrated Farming System and Urban Agriculture
- Lecture 33 - Quality of Organic Food
- Lecture 34 - Natural Sources of Antioxidants for Health Defense
- Lecture 35 - Antioxidant Capacity of fruits and vegetables
- Lecture 36 - Organic Food and Human Health
- Lecture 37 - Organic Standard
- Lecture 38 - Organic Certification Process
- Lecture 39 - Operational Structure of Organic Certification
- Lecture 40 - Marketing of Organic Products

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

NPTEL Video Course - Agriculture - NOC:Novel Technologies for Food Processing and Shelf Life Extension

Subject Co-ordinator - Prof. Hari Niwas Mishra

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Course Introduction; Food Constituents and Functions
Lecture 2 - Quality and Safety Aspects of Food
Lecture 3 - Factors Affecting Quality During Processing and Storage
Lecture 4 - Role of Water in Food and its Shelf Life
Lecture 5 - Gelatinization and Retrogradation of Starch
Lecture 6 - Browning Reactions
Lecture 7 - Food Proteins
Lecture 8 - Principles of Food Preservation
Lecture 9 - Traditional Food Preservation Technologies - Part 1
Lecture 10 - Traditional Food Preservation Technologies - Part 2
Lecture 11 - High Pressure Processing of Food - Part 1
Lecture 12 - High Pressure Processing of Food - Part 2
Lecture 13 - Membrane Technology - Part 1
Lecture 14 - Membrane Technology - Part 2
Lecture 15 - Food Irradiation - Part 1
Lecture 16 - Food Irradiation - Part 2
Lecture 17 - Microwave Heating
Lecture 18 - Radio Frequency Drying
Lecture 19 - Super Critical Fluid Extraction - Part 1
Lecture 20 - Super Critical Fluid Extraction - Part 2
Lecture 21 - Freeze Drying - Part 1
Lecture 22 - Freeze Drying - Part 2
Lecture 23 - Food Extrusion Technology - Part 1
Lecture 24 - Food Extrusion Technology - Part 2
Lecture 25 - Textured Vegetable Protein (TVP)
Lecture 26 - Aseptic Processing and Packaging
Lecture 27 - Hurdle Technology
Lecture 28 - Natural Antimicrobials
Lecture 29 - Food Lipids

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- Lecture 30 - Extraction of Oil - Part 1
- Lecture 31 - Extraction of Oil - Part 2
- Lecture 32 - Refining of Oil - Part 1
- Lecture 33 - Refining of Oil - Part 2
- Lecture 34 - Modified Fats
- Lecture 35 - Rancidity
- Lecture 36 - Natural Antioxidants
- Lecture 37 - Microencapsulation - Part 1
- Lecture 38 - Microencapsulation - Part 2
- Lecture 39 - Food nanotechnology
- Lecture 40 - Respiration and Ripening
- Lecture 41 - Modified Atmospheric Storage (MAP)
- Lecture 42 - Active Packaging Technology
- Lecture 43 - Edible coating technology
- Lecture 44 - Multiproduct CA/MA Storage Unit
- Lecture 45 - Grain Storage
- Lecture 46 - Ozonation of Food Grains
- Lecture 47 - Hyper Spectral Imaging for Quality Analysis of Food Grains
- Lecture 48 - Non-Destructive Methods for Analysis of Grain Quality
- Lecture 49 - Detection of Spoilage in Grains using Biosensors
- Lecture 50 - Food Fortification
- Lecture 51 - Iron Fortified Rice (IFR)
- Lecture 52 - Nutri Dal and Fortified Noodles
- Lecture 53 - High Energy RTE Food Paste - Part 1
- Lecture 54 - High Energy RTE Food Paste - Part 2
- Lecture 55 - Functional Foods and Nutraceuticals
- Lecture 56 - Algae Based Health Foods
- Lecture 57 - Gluten Free Bread and Pasta
- Lecture 58 - Food Powder and Premixes
- Lecture 59 - GMP/GHP in Food Industry
- Lecture 60 - FCTL R&D and Course Summary

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

NPTEL Video Course - Agriculture - NOC:Soil Science and Technology

Subject Co-ordinator - Prof. Somsubhra Chakraborty

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Basic Overview of Soil
- Lecture 2 - Weathering and Soil Formation
- Lecture 3 - Weathering and Soil Formation (Continued...)
- Lecture 4 - Weathering and Soil Formation (Continued...)
- Lecture 5 - Weathering and Soil Formation (Continued...)
- Lecture 6 - Soil Taxonomy and Classification
- Lecture 7 - Soil Taxonomy and Classification (Continued...)
- Lecture 8 - Soil Taxonomy and Classification (Continued...)
- Lecture 9 - Soil Orders, Soil Colour and Texture
- Lecture 10 - Soil Texture and Structure
- Lecture 11 - Soil Tillage and Soil Density
- Lecture 12 - Soil Porosity and Consistency
- Lecture 13 - Soil Consistency and Soil Water
- Lecture 14 - Soil Water
- Lecture 15 - Tutorial
- Lecture 16 - Soil Water Movement
- Lecture 17 - Qualitative Description of Soil Wetness
- Lecture 18 - Soil Air
- Lecture 19 - Soil Temperature
- Lecture 20 - Tutorial
- Lecture 21 - Silicate Clays
- Lecture 22 - Silicate Clays (Continued...)
- Lecture 23 - Sources of Charges in Soil
- Lecture 24 - Cation Exchange Capacity (CEC)
- Lecture 25 - Sorption of Pesticides
- Lecture 26 - Diffuse Double Layer
- Lecture 27 - Adsorption Isotherms
- Lecture 28 - Soil Acidity
- Lecture 29 - Soil Salinity and Alkalining

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- Lecture 30 - Submerged Soils
- Lecture 31 - Essential Plant Nutrients
- Lecture 32 - Soil N
- Lecture 33 - Biological N Fixation
- Lecture 34 - Soil P and K
- Lecture 35 - Fertilizers
- Lecture 36 - Soil Testing - I
- Lecture 37 - Soil Testing - II
- Lecture 38 - Soil Organic Matter
- Lecture 39 - Soil Organisms
- Lecture 40 - Compost
- Lecture 41 - Land Degradation and Soil Erosion
- Lecture 42 - Universal Soil Loss Equation
- Lecture 43 - Conservation Tillage
- Lecture 44 - Wind Erosion and Tillage Erosion
- Lecture 45 - Organic Pollutants in Soil
- Lecture 46 - Remediation of Organic Pollutant
- Lecture 47 - Toxic Inorganic Substances in Soil
- Lecture 48 - Removal of Toxic Inorganic Substances
- Lecture 49 - Soil Survey
- Lecture 50 - Remote Sensing in Soil Survey
- Lecture 51 - GIS and GPS
- Lecture 52 - Geostatistics
- Lecture 53 - Basics of VisNIR - DRS
- Lecture 54 - VisNIR-DRS Applications for Soil
- Lecture 55 - PXRF Soil Applications
- Lecture 56 - Basic Overview of DSM
- Lecture 57 - Modeling Continuous Variables
- Lecture 58 - Modeling Continuous Variables (Continued...)
- Lecture 59 - Modeling Categorical Variables
- Lecture 60 - Pedotransfer Functions and Uncertainty of DSM