

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

NPTEL Video Course - Civil Engineering - Advanced Geotechnical Engineering

Subject Co-ordinator - Dr. B.V.S. Viswanadham

Co-ordinating Institute - IIT - Bombay

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

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

NPTEL Video Course - Civil Engineering - Soil Dynamics

Subject Co-ordinator - Dr. Deepankar Choudhury

Co-ordinating Institute - IIT - Bombay

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

- Lecture 1 - Introduction
- Lecture 2 - Degrees of Freedom, SDOF System, Types of Vibrations
- Lecture 3 - SDOF System, Types of Vibrations, Free Vibration
- Lecture 4 - Problems on Torsional Motion
- Lecture 5 - Damped Free Vibrations
- Lecture 6 - Damped Free Vibrations, Definition of Critical Damping and problems
- Lecture 7 - Decay of Motion
- Lecture 8 - Forced Vibrations, Dynamic Magnification Factor
- Lecture 9 - Maxwells Diagram of DMF, Discussion on Phase
- Lecture 10 - Transmissibility Ratio, Response to Arbitrary, Step and Pulse Excitations
- Lecture 11 - Response to Arbitrary, Step and Pulse Excitations, Response to Impact Load
- Lecture 12 - Vibration Isolation, Vibrations Measuring Instruments
- Lecture 13 - Solutions of Quiz Questions, Multi-Degree of Freedom (MDOF) Systems
- Lecture 14 - (MDOF) System
- Lecture 15 - 3 Dimensional Wave Propagation, Waves in semi-infinite media, Rayleigh Wave
- Lecture 16 - Love Wave, Waves in layered medium, 3D case-Inclined wave, Earthquake Waves
- Lecture 17 - Earthquake Waves; P-waves, S-waves, 3 circle method, Estimation of Earthquake Epicentre
- Lecture 18 - Stresses in Soil Element, Field Tests, Seismic Reflection Test
- Lecture 19 - Seismic Refraction Test, SASW Test, Laboratory & Model Tests
- Lecture 20 - Centrifuge Tests Stress Strain Behavior of Cyclically Loaded Soils
- Lecture 21 - Estimation of Gmax, Modulus Reduction Curves, Variation of Damping Ratio, Cyclic Plate load Test
- Lecture 22 - Liquefaction, Preliminary sceening, Simplified Procedure for Liquefaction
- Lecture 23 - Cyclic Stress Ratio, Evaluation of CRR, Correction Factors, Corrections for SPT
- Lecture 24 - Becker Penetrometer Test (BPT), Cone Penetrometer Test (CPT), SPT v BPT, SASW Test
- Lecture 25 - Types of Machine Foundations, Methods of Analysis, Design of Machine Foundations as per IS
- Lecture 26 - Tschebotarioff's
- Lecture 27 - Problem on Tschebotarioff's method contd., Mass-Spring-Dashpot (MSD) Model
- Lecture 28 - MSD Model- Yawing mode of Vibration, Use of MSD model for analysis
- Lecture 29 - Problems on Use of MSD Model for Analysis, Rocking mode of Vibrations

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- Lecture 30 - Torsional Mode/Yawing Mode, Constant Force type excitation, EHS Theory
- Lecture 31 - EHS Theory, Vibrational Control
- Lecture 32 - Use of EHS Theory for analysis
- Lecture 33 - Use of EHS Theory for analysis II
- Lecture 34 - Liquefaction mitigation methods,Vibro Compaction,Densification Techniques
- Lecture 35 - Soil Improvement methods,Dynamic Compaction,Reinforcement Techniques
- Lecture 36 - Force-based Analysis,Dynamic analysis using MSD model
- Lecture 37 - Behaviour of Subgrade Soil below Rail Track
- Lecture 38 - Quiz

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

NPTEL Video Course - Civil Engineering - Structural Dynamics

Subject Co-ordinator - Dr. P. Banerji

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction
Lecture 2 - Inverse Power Method
Lecture 3 - Dynamics of SDOF Structure
Lecture 4 - SDOF Response to Harmonic Loads
Lecture 5 - Response of SDOF Structure to Harmonic Loading
Lecture 6 - Response to Harmonic Loading
Lecture 7 - Response to Harmonic Loading (Continue...)
Lecture 8 - Transmissibility & Base Isolation
Lecture 9 - Dynamic Characteristics & Periodic Loading
Lecture 10 - Pulse Loading
Lecture 11 - Pulse Load Response Characteristics & Impulse Loading
Lecture 12 - Frequency Domain Response Analysis
Lecture 13 - Methods of Analysis for General Loading
Lecture 14 - Numerical Analysis of Response of Single Degree of Freedom Structure & Time Domain Approaches
Lecture 15 - Response Analysis of Single Degree of Freedom System for Earthquake Loads
Lecture 16 - Earthquake Response Analysis for Single Degree of Freedom Structures
Lecture 17 - Generalized Single Degree of Freedom Systems Equations of Motions
Lecture 18 - Generalized Single Degree of Freedom Systems Equations of Motions
Lecture 19 - Generalized Single Degree of Freedom Systems Equations of Motions
Lecture 20 - Generalized Single Degree of Freedom Systems Equations of Motion & Free Vibrations
Lecture 21 - Equations of Motion for Multi Degree of Freedom Structures
Lecture 22 - Equations of Motion for Multi Degree of Freedom Systems
Lecture 23 - Multi Degree of Freedom Structure Equations of Motions
Lecture 24 - Multi Degree of Freedom Structure Equations of Motions & Free Vibration
Lecture 25 - Free Vibration for Multi Degree of Freedom Structures
Lecture 26 - Free Vibration for Multi Degree of Freedom Structures
Lecture 27 - Practical Free Vibration Analysis
Lecture 28 - Dynamic Response of Multi Degree of Freedom Systems
Lecture 29 - Dynamic Response of Multi Degree of Freedom Structures

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- Lecture 30 - Damping for Multi Degree of Freedom Structures
- Lecture 31 - Earthquake Response of Multi Degree of Freedom Structures
- Lecture 32 - Earthquake Response of Multi Degree of Freedom Structures
- Lecture 33 - Dynamic Analysis of Buildings
- Lecture 34 - Introduction to Dynamics of Continuous Systems
- Lecture 35 - Free Vibration Response of Continuous Systems
- Lecture 36 - Free Vibration & Dynamic Response of Continuous Systems
- Lecture 37 - Dynamic Response of Continuous Systems
- Lecture 38 - Examples for Dynamic Response of Continuous Systems

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NPTEL Video Course - Civil Engineering - Watershed Management

Subject Co-ordinator - Dr. T.I. Eldho

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction to Watershed Management
Lecture 2 - Watershed Management & Stakeholder Analysis
Lecture 3 - Watershed Management Policies
Lecture 4 - Sustainable Watershed Management
Lecture 5 - Agricultural Practices & Watershed Management
Lecture 6 - Soil Erosion & Conservation
Lecture 7 - Watershed Management in Arid Regions & Strategic Planning
Lecture 8 - Integrated Water Resources Management
Lecture 9 - Conjunctive Use of Water Resources
Lecture 10 - Rainwater Harvesting System
Lecture 11 - Rainwater Harvesting & Roof Catchment System
Lecture 12 - Watershed Characteristics
Lecture 13 - Watershed Delineation & Modeling
Lecture 14 - Hydrologic Processes
Lecture 15 - Watershed Modeling
Lecture 16 - Hydrologic Modeling
Lecture 17 - Numerical Watershed Modeling
Lecture 18 - Subsurface & Groundwater Flows
Lecture 19 - Social & Community Aspects of Watershed Management
Lecture 20 - Socio-economy, Private Sector Participation & Gender Issues
Lecture 21 - Integrated Development, Water Legislation & Implementation Issues
Lecture 22 - GIS & Applications in Watershed Management
Lecture 23 - Remote Sensing & Applications in Watershed Management
Lecture 24 - Decision Support Systems & Applications in Watershed Management
Lecture 25 - Integrated Watershed Modeling Using Numerical Methods, GIS & Remote Sensing
Lecture 26 - Applications of Knowledge Based Models in Watershed Management
Lecture 27 - Surface Water Quality & Pollution Issues
Lecture 28 - Groundwater Pollution Problems & Transport Processes
Lecture 29 - Water Quality Modeling

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- Lecture 30 - Environmental Guidelines for Water Quality Management
- Lecture 31 - Storm Water Management
- Lecture 32 - Urban Drainage System
- Lecture 33 - Flood Routing
- Lecture 34 - Flood Control & Management
- Lecture 35 - Drought Assessment
- Lecture 36 - Drought Analysis
- Lecture 37 - Drought Mitigation
- Lecture 38 - Water Conservation
- Lecture 39 - Water Recycling
- Lecture 40 - Water Reclamation & Reuse

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

NPTEL Video Course - Civil Engineering - Fluid Mechanics

Subject Co-ordinator - Dr. T.I. Eldho

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Fluid Mechanics
Lecture 2 - Fundamental Concepts of Fluid Flow & Fluid Statics
Lecture 3 - Fluid Statics
Lecture 4 - Fluid Statics
Lecture 5 - Fluid Statics
Lecture 6 - Kinematics of Fluid Flow
Lecture 7 - Kinematics of Fluid Flow
Lecture 8 - Kinematics of Fluid Flow
Lecture 9 - Kinematics of Fluid Flow
Lecture 10 - Kinematics of Fluid Flow
Lecture 11 - Kinematics & Dynamics of Fluid Flow
Lecture 12 - Dynamics of Fluid Flow
Lecture 13 - Dynamics of Fluid Flow
Lecture 14 - Dynamics of Fluid Flow
Lecture 15 - Dynamics of Fluid Flow
Lecture 16 - Dynamics of Fluid Flow
Lecture 17 - Laminar and Turbulent Flows
Lecture 18 - Laminar and Turbulent Flows
Lecture 19 - Laminar and Turbulent Flows
Lecture 20 - Laminar and Turbulent Flows
Lecture 21 - Laminar and Turbulent Flows
Lecture 22 - Laminar and Turbulent Flows
Lecture 23 - Dimensional Analysis
Lecture 24 - Dimensional Analysis
Lecture 25 - Dimensional Analysis
Lecture 26 - Navier-Stokes Equations and Applications
Lecture 27 - Navier-Stokes Equations and Applications
Lecture 28 - Navier-Stokes Equations and Applications
Lecture 29 - Navier-Stokes Equations and Applications

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Lecture 30 - Boundary Layer Theory and Applications
Lecture 31 - Boundary Layer Theory and Applications
Lecture 32 - Boundary Layer Theory and Applications
Lecture 33 - Boundary Layer Theory and Applications
Lecture 34 - Boundary Layer Theory and Applications
Lecture 35 - Boundary Layer Theory and Applications
Lecture 36 - Pipe Flow Systems
Lecture 37 - Pipe Flow Systems
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Lecture 41 - Pipe Flow Systems
Lecture 42 - Pipe Flow Systems

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

NPTEL Video Course - Civil Engineering - Soil Mechanics

Subject Co-ordinator - Dr. B.V.S. Viswanadham

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Soil Mechanics
Lecture 2 - Soil Mechanics
Lecture 3 - Soil Mechanics
Lecture 4 - Soil Mechanics
Lecture 5 - Soil Mechanics
Lecture 6 - Soil Mechanics
Lecture 7 - Soil Mechanics
Lecture 8 - Soil Mechanics
Lecture 9 - Soil Mechanics
Lecture 10 - Soil Mechanics
Lecture 11 - Compaction of Soils - I
Lecture 12 - Soil Mechanics
Lecture 13 - Soil Mechanics
Lecture 14 - Compaction of Soils - IV
Lecture 15 - Compaction of Soils - V
Lecture 16 - Compaction of Soils - VI
Lecture 17 - Effective Stress - I
Lecture 18 - Effective Stress - II
Lecture 19 - Effective Stress - III
Lecture 20 - Flow of water through soils - I
Lecture 21 - Flow of water through soils - II
Lecture 22 - Flow of water through soils - III
Lecture 23 - Flow of water through soils - IV
Lecture 24 - Flow of water through soils - V
Lecture 25 - Flow of water through soils - VI
Lecture 26 - Flow of water through soils - VII
Lecture 27 - Flow of water through soils - VIII
Lecture 28 - Soil Mechanics
Lecture 29 - Soil Mechanics

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Lecture 52 - Soil Mechanics
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Lecture 55 - Soil Mechanics
Lecture 56 - Soil Mechanics
Lecture 57 - Soil Mechanics

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NPTEL Video Course - Civil Engineering - Structural Analysis II

Subject Co-ordinator - Dr. P. Banerji

Co-ordinating Institute - IIT - Bombay

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

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NPTEL Video Course - Civil Engineering - Geotechnical Earthquake Engineering

Subject Co-ordinator - Dr. Deepankar Choudhury

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction to Geotechnical Earthquake Engineering - Part I
Lecture 2 - Introduction to Geotechnical Earthquake Engineering - Part II
Lecture 3 - Basics of Vibration Theory
Lecture 4 - Engineering Seismology - Part - I
Lecture 5 - Engineering Seismology - Part - II
Lecture 6 - Engineering Seismology - Part - III
Lecture 7 - Engineering Seismology - Part - IV
Lecture 8 - Engineering Seismology - Part - V
Lecture 9 - Engineering Seismology - Part - VI
Lecture 10 - Strong Ground Motion - Part I
Lecture 11 - Strong Ground Motion - Part II
Lecture 12 - Strong Ground Motion - Part III
Lecture 13 - Strong Ground Motion - Part IV
Lecture 14 - Strong Ground Motion - Part V
Lecture 15 - Strong Ground Motion - Part VI
Lecture 16 - Strong Ground Motion - Part VII
Lecture 17 - Wave Propagation - Part I
Lecture 18 - Wave Propagation - Part II
Lecture 19 - Wave Propagation - Part III
Lecture 20 - Wave Propagation - Part IV
Lecture 21 - Dynamic Soil Properties - Part I
Lecture 22 - Dynamic Soil Properties - Part II
Lecture 23 - Seismic Hazard Analysis - Part I
Lecture 24 - Seismic Hazard Analysis - Part II
Lecture 25 - Seismic Hazard Analysis - Part III
Lecture 26 - Seismic Hazard Analysis - Part IV
Lecture 27 - Seismic Hazard Analysis - Part V
Lecture 28 - Seismic Hazard Analysis - Part VI
Lecture 29 - Seismic Hazard Analysis - Part VII

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- Lecture 30 - Seismic Hazard Analysis - Part VIII
- Lecture 31 - Site Response Analysis - Part I
- Lecture 32 - Site Response Analysis - Part II
- Lecture 33 - Site Response Analysis - Part III
- Lecture 34 - Seismic Analysis and Design of Various Geotechnical Structures - Part I
- Lecture 35 - Seismic Analysis and Design of Various Geotechnical Structures - Part II
- Lecture 36 - Seismic Analysis and Design of Various Geotechnical Structures - Part III
- Lecture 37 - Seismic Analysis and Design of Various Geotechnical Structures - Part IV
- Lecture 38 - Seismic Analysis and Design of Various Geotechnical Structures - Part V
- Lecture 39 - Seismic Analysis and Design of Various Geotechnical Structures - Part VI
- Lecture 40 - Seismic Analysis and Design of Various Geotechnical Structures - Part VII
- Lecture 41 - Seismic Analysis and Design of Various Geotechnical Structures - Part VIII
- Lecture 42 - Quiz
- Lecture 43 - Seismic Analysis and Design of Various Geotechnical Structures - Part IX

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NPTEL Video Course - Civil Engineering - Geosynthetics Engineering: In Theory and Practice

Subject Co-ordinator - Prof. J.N. Mandal

Co-ordinating Institute - IIT - Bombay

- Lecture 1 - Introduction
- Lecture 2 - Introduction to Reinforced Earth
- Lecture 3 - Introduction to Reinforced Earth
- Lecture 4 - Introduction to Reinforced Earth
- Lecture 5 - Introduction to Reinforced Earth
- Lecture 6 - An Overview of Geosynthetics - Part I
- Lecture 7 - An Overview of Geosynthetics - Part II
- Lecture 8 - An Overview of Geosynthetics - Part III
- Lecture 9 - An Overview of Geosynthetics
- Lecture 10 - Geosynthetic Properties and Test Methods
- Lecture 11 - Geosynthetic Properties and Test Methods
- Lecture 12 - Geosynthetic Properties and Test Methods
- Lecture 13 - Geosynthetic Properties and Test Methods
- Lecture 14 - Geosynthetic Properties and Test Methods
- Lecture 15 - Geosynthetic in Filtration, Drainage and Erosion Control
- Lecture 16 - Geosynthetic in Filtration, Drainage and Erosion Control
- Lecture 17 - Geosynthetic in Filtration, Drainage and Erosion Control
- Lecture 18 - Geosynthetic in Filtration, Drainage and Erosion Control
- Lecture 19 - Geosynthetic in Filtration, Drainage and Erosion Control
- Lecture 20 - Geosynthetic in pavements
- Lecture 21 - Geosynthetic in pavements
- Lecture 22 - Geosynthetic in pavements
- Lecture 23 - Geosynthetic in pavements
- Lecture 24 - Geosynthetic in pavements
- Lecture 25 - Geosynthetic in pavements
- Lecture 26 - Geosynthetics for Reinforced Soil Retaining Walls
- Lecture 27 - Geosynthetics for Reinforced Soil Retaining Walls
- Lecture 28 - Geosynthetics for Reinforced Soil Retaining Walls
- Lecture 29 - Geosynthetics for Reinforced Soil Retaining Walls
- Lecture 30 - Geosynthetics for Reinforced Soil Retaining Walls
- Lecture 31 - Geosynthetics for Reinforced Soil Retaining Walls
- Lecture 32 - Geosynthetics for Reinforced Soil Retaining Walls
- Lecture 33 - Geosynthetics for Reinforced Soil Retaining Walls

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Lecture 34 - Geosynthetics for Reinforced Soil Retaining Walls
Lecture 35 - Geosynthetics for Reinforced Soil Retaining Walls
Lecture 36 - Geosynthetic for Steep Slopes
Lecture 37 - Geosynthetic for Steep Slopes
Lecture 38 - Geosynthetic for Steep Slopes
Lecture 39 - Geosynthetic for Steep Slopes
Lecture 40 - Geosynthetic for Embankments on Soft Foundations
Lecture 41 - Geosynthetic for Embankments on Soft Foundations
Lecture 42 - Geosynthetic for Embankments on Soft Foundations
Lecture 43 - Geosynthetic for Ground Improvement
Lecture 44 - Geosynthetic for Ground Improvement
Lecture 45 - Geosynthetic for Ground Improvement
Lecture 46 - Geosynthetic for Ground Improvement
Lecture 47 - Geosynthetic for Ground Improvement
Lecture 48 - Geosynthetic for Ground Improvement
Lecture 49 - Geosynthetic for Ground Improvement
Lecture 50 - Geosynthetic for Improvement in Bearing Capacity
Lecture 51 - Designing with Geotextile Tube
Lecture 52 - Designing with Geotextile Tube
Lecture 53 - Design of Geosynthetic for Landfills
Lecture 54 - Design of Geosynthetic for Landfills
Lecture 55 - Design of Geosynthetic for Landfill
Lecture 56 - Design of Geosynthetic for Landfill
Lecture 57 - Design of Geosynthetic for Landfill
Lecture 58 - Designing With Geofoam
Lecture 59 - Designing With Geofoam
Lecture 60 - Designing With Geofoam
Lecture 61 - Designing With Geofoam
Lecture 62 - Designing With Geofoam
Lecture 63 - Designing With Geofoam

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

NPTEL Video Course - Civil Engineering - NOC:Geotechnical Engineering Laboratory

Subject Co-ordinator - Prof. J. N. Mandal

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Soil Processing
Lecture 2 - Specific Gravity and Field Density
Lecture 3 - Field Density
Lecture 4 - Grain Size Analysis
Lecture 5 - Grain Size Analysis (Continued...)
Lecture 6 - Grain Size Analysis (Continued...)
Lecture 7 - Atterberg Limit
Lecture 8 - Compaction
Lecture 9 - Compaction (Continued...)
Lecture 10 - Compaction (Continued...)
Lecture 11 - Compaction and Permeability
Lecture 12 - Permeability
Lecture 13 - Permeability and Shear Strength
Lecture 14 - Shear Strength
Lecture 15 - Shear Strength (Continued...)
Lecture 16 - Shear Strength (Continued...)
Lecture 17 - Shear Strength (Continued...)
Lecture 18 - Shear Strength (Continued...)
Lecture 19 - Shear Strength (Continued...)
Lecture 20 - Consolidation
Lecture 21 - Consolidation (Continued...)
Lecture 22 - Consolidation (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Geosynthetics Testing Laboratory

Subject Co-ordinator - Prof. J. N. Mandal

Co-ordinating Institute - IIT - Bombay

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

- Lecture 1 - Introduction
- Lecture 2 - Types of Geosynthetics
- Lecture 3 - Functions
- Lecture 4 - Tests for Physical Properties and tensile strength of geosynthetics
- Lecture 5 - Tensile Modulus
- Lecture 6 - Drop Cone Test
- Lecture 7 - Puncture Resistance Test
- Lecture 8 - Puncture Resistance Test and Burst Strength Test
- Lecture 9 - Grab Tensile Test
- Lecture 10 - Grab Tensile Test and Triaxial Test
- Lecture 11 - Triaxial and Pullout Test
- Lecture 12 - Pullout Test
- Lecture 13 - Sewn Seam Strength, Permittivity and Transmissivity
- Lecture 14 - Hydraulic Properties and abrasion Test of geosynthetics
- Lecture 15 - Endurance properties of Geosynthetics
- Lecture 16 - Density, Water Absorption and Compressive Properties tests of Geofoam
- Lecture 17 - Compressive Properties of Geofoam
- Lecture 18 - Compressive and Tensile Properties of Geofoam
- Lecture 19 - Tensile and Shear Properties of Geofoam
- Lecture 20 - Shear and Flexural Properties of Geofoam
- Lecture 21 - Flexural Properties and Flammability Test of Geofoam

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

NPTEL Video Course - Civil Engineering - NOC:Environmental Geotechnics

Subject Co-ordinator - Prof. Devendra Narain Singh

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Overview - 1
Lecture 2 - Overview - 2
Lecture 3 - Overview - 3
Lecture 4 - Civil Engineering
Lecture 5 - Recent Trends in civil engineering
Lecture 6 - Recent Trends and Subject organization
Lecture 7 - Civil Engineering and Soil Mechanics
Lecture 8 - Soil mechanics
Lecture 9 - Recent Trends in Soil mechanics
Lecture 10 - Soil contamination
Lecture 11 - Soil Improvement and wastes
Lecture 12 - Contaminant transport in soils
Lecture 13 - Soil- water- Environment Interaction
Lecture 14 - Basic concepts of analysis
Lecture 15 - Particle Energy Field Theory
Lecture 16 - Waste and types
Lecture 17 - Municipal and Industrial solid waste
Lecture 18 - Industrial non-hazardous and Hazardous wastes
Lecture 19 - Application of Industrial by-products
Lecture 20 - Introduction to Characterization of waste
Lecture 21 - Geomaterial characterization - 1
Lecture 22 - Geomaterial characterization - 2 (Morphological and physical characterization)
Lecture 23 - Geomaterial characterization - 3 (Chemical characterization)
Lecture 24 - Geomaterial characterization - 4 (Mercury Intrusive Porosimeter)
Lecture 25 - Geomaterial characterization - 5 (Specific Surface Area - I)
Lecture 26 - Geomaterial characterization - 6 (Specific surface area - II)
Lecture 27 - Geomaterial characterization - 7
Lecture 28 - Geomaterial characterization - 8 (Pore solution studies - I)
Lecture 29 - Geomaterial characterization - 9 (Pore solution studies - II)

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Lecture 30 - Geomaterial characterization - 10 (Assessing soil contamination)
Lecture 31 - Geomaterial characterization - 11
Lecture 32 - Contaminant transport through porous media - 1
Lecture 33 - Contaminant transport through porous media - 2
Lecture 34 - Contaminant transport through porous media - 3
Lecture 35 - Contaminant transport through porous media - 4
Lecture 36 - Contaminant transport through porous media - 5
Lecture 37 - Sorption and Desorption characteristics of geomaterials - 1
Lecture 38 - Sorption and Desorption characteristics of geomaterials - 2
Lecture 39 - Sorption and Desorption characteristics of geomaterials - 3
Lecture 40 - Thermal Characterisation - 1
Lecture 41 - Thermal characterization - 2
Lecture 42 - Thermal characterisation - 3
Lecture 43 - Electrical characterization - 1
Lecture 44 - Electrical characterization - 2
Lecture 45 - Electrical characterization - 3
Lecture 46 - Electrical characterization - 4
Lecture 47 - Electrical characterization - 5
Lecture 48 - Swelling, shrinkage and cracking characteristics of soil - 1
Lecture 49 - Swelling, shrinkage and cracking characteristics of soil - 2
Lecture 50 - Swelling, shrinkage and cracking characteristics of soil - 3
Lecture 51 - Swelling, shrinkage and cracking characteristics of soil - 4
Lecture 52 - Swelling, shrinkage and cracking characteristics of soil - 5
Lecture 53 - Swelling, shrinkage and cracking characteristics of soil - 6

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

NPTEL Video Course - Civil Engineering - NOC:Environmental Geomechanics

Subject Co-ordinator - Prof. Devendra Narain Singh

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction - I
Lecture 2 - Introduction - II
Lecture 3 - Overview
Lecture 4 - Civil Engineering and Soil Mechanics
Lecture 5 - Soil mechanics
Lecture 6 - Environmental Geomechanics
Lecture 7 - Scope of Environmental Geomechanics - I
Lecture 8 - Scope of Environmental Geomechanics - II
Lecture 9 - Scope of Environmental Geomechanics - III
Lecture 10 - Recent trends - I
Lecture 11 - Recent trends - II
Lecture 12 - Energy Geotechnics
Lecture 13 - Soil
Lecture 14 - Soil- water- environment interaction - I
Lecture 15 - Soil- water- environment interaction - II
Lecture 16 - Soil- water- environment interaction - III
Lecture 17 - Particle energy field theory - I
Lecture 18 - Particle energy field theory - II
Lecture 19 - Particle energy field theory - III
Lecture 20 - Waste
Lecture 21 - Waste
Lecture 22 - Waste
Lecture 23 - Application of industrial by-products - I
Lecture 24 - Application of industrial by-products - II
Lecture 25 - Geomaterial characterization - I (Mineralogical characterization)
Lecture 26 - Geomaterial characterization - II (Mineralogical characterization)
Lecture 27 - Geomaterial characterization - III (Morphological characterization)
Lecture 28 - Geomaterial characterization - IV (Morphological characterization)
Lecture 29 - Geomaterial characterization - V (Specific surface area)

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- Lecture 30 - Geomaterial characterization - VI (Chemical characterization)
- Lecture 31 - Geomaterial characterization - VII (Chemical characterization)
- Lecture 32 - Geomaterial characterization - VIII (Chemical characterization)
- Lecture 33 - Geomaterial characterization - IX (Chemical characterization)
- Lecture 34 - Geomaterial characterization - X (Chemical characterization)
- Lecture 35 - Geomaterial characterization - XI (Chemical characterization)
- Lecture 36 - Geomaterial characterization - XII (Corrosion potential of soils)
- Lecture 37 - Soil characteristics and environmental variables
- Lecture 38 - Corrosion potential of soils
- Lecture 39 - Contaminant transport through porous media - I
- Lecture 40 - Contaminant transport through porous media - II
- Lecture 41 - Contaminant transport through porous media - III
- Lecture 42 - Sorption & desorption characteristics - I
- Lecture 43 - Sorption & desorption characteristics - II
- Lecture 44 - Sorption & desorption characteristics - III
- Lecture 45 - Thermal characterization - I
- Lecture 46 - Thermal characterization - II
- Lecture 47 - Thermal characterization - III
- Lecture 48 - Cracking characteristics of fine-grained soils - I
- Lecture 49 - Cracking characteristics of fine-grained soils - II
- Lecture 50 - Cracking characteristics of fine-grained soils - III
- Lecture 51 - Electrical characterization - I
- Lecture 52 - Electrical characterization - II
- Lecture 53 - Electrical characterization - III
- Lecture 54 - Magnetic characterization
- Lecture 55 - Pore-structure characterization - I
- Lecture 56 - Pore-structure characterization - II

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

NPTEL Video Course - Civil Engineering - NOC:Geotechnical Engineering - 1

Subject Co-ordinator - Prof. Devendra Narain Singh

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction
Lecture 2 - Origin and Definition of Soils
Lecture 3 - Classification of Soils - I
Lecture 4 - Classification of Soils - II
Lecture 5 - Classification of Soils - III and Challenging Situations
Lecture 6 - Soil constituents - I
Lecture 7 - Soil constituents - II
Lecture 8 - Particulate Nature of the Soils
Lecture 9 - Soil Aggregate and Phase Relations
Lecture 10 - Classification of Soils and Sieve Analysis
Lecture 11 - Particle Size Analysis of Finegrained Soils
Lecture 12 - Soil-water Interaction - I
Lecture 13 - Soil-water Interaction - II
Lecture 14 - Compaction Characteristics of Soil - I
Lecture 15 - Compaction Characteristics of Soil - II
Lecture 16 - Permeability of Soil and Ground Water Flow - I
Lecture 17 - Permeability of Soil and Ground Water Flow - II
Lecture 18 - Coefficient of Permeability
Lecture 19 - Seepage Theory
Lecture 20 - Applications of Seepage Theory
Lecture 21 - Flow Net in the Earthen Dam - I
Lecture 22 - Flow Net in the Earthen Dam - II
Lecture 23 - Stresses in the Soil Mass due to External Loadings - I
Lecture 24 - Stresses in the Soil Mass due to External Loadings - II
Lecture 25 - Compression Characteristics of Soils - I
Lecture 26 - Compression Characteristics of Soils - II
Lecture 27 - Consolidation of soils
Lecture 28 - Coefficient of consolidation

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

NPTEL Video Course - Civil Engineering - NOC:Remote Sensing: Principles and Applications

Subject Co-ordinator - Prof. Eswar Rajasekaran

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction to RS and EMR
Lecture 2 - Introduction to EMR
Lecture 3 - Basic Laws of RS
Lecture 4 - Properties of EMR - Part 1
Lecture 5 - Properties of EMR - Part 2
Lecture 6 - Interaction of EMR with atmosphere
Lecture 7 - Radiometry - Part 1
Lecture 8 - Radiometry - Part 2
Lecture 9 - Radiometry - Part 3
Lecture 10 - Reflectance, albedo and related quantities
Lecture 11 - Interaction of EMR with terrain features - Part 1
Lecture 12 - Interaction of EMR with terrain features - Part 2
Lecture 13 - Radiation reaching sensor - Part 1
Lecture 14 - Radiation reaching sensor - Part 2
Lecture 15 - RS data: From Radiance to reflectance - Part 1
Lecture 16 - RS data: From Radiance to reflectance - Part 2
Lecture 17 - RS data: From Radiance to reflectance - Part 3
Lecture 18 - RS image acquisition and RS systems - Part 1
Lecture 19 - RS image acquisition and RS systems - Part 2
Lecture 20 - RS image acquisition and RS systems - Part 3
Lecture 21 - RS image acquisition and RS systems - Part 4
Lecture 22 - RS image acquisition and RS systems - Part 5
Lecture 23 - RS image acquisition and RS systems - Part 6
Lecture 24 - RS image acquisition and RS systems - Part 7
Lecture 25 - RS image acquisition and RS systems - Part 8
Lecture 26 - RS image acquisition and RS systems - Part 9
Lecture 27 - Spectral Properties of few common earth features in the Visible, NIR and SWIR bands - Part 1
Lecture 28 - Spectral Properties of few common earth features in the Visible, NIR and SWIR bands - Part 2
Lecture 29 - Spectral Properties of few common earth features in the Visible, NIR and SWIR bands - Part 3

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- Lecture 30 - Spectral Properties of few common earth features in the Visible, NIR and SWIR bands - Part 4
- Lecture 31 - Spectral Properties of few common earth features in the Visible, NIR and SWIR bands - Part 5
- Lecture 32 - Spectral Properties of few common earth features in the Visible, NIR and SWIR bands - Part 6
- Lecture 33 - Spectral Properties of few common earth features in the Visible, NIR and SWIR bands - Part 7
- Lecture 34 - Spectral Indices
- Lecture 35 - Thermal Infrared Remote Sensing - Part 1
- Lecture 36 - Thermal Infrared Remote Sensing - Part 2
- Lecture 37 - Thermal Infrared Remote Sensing - Part 3
- Lecture 38 - Thermal Infrared Remote Sensing - Part 4
- Lecture 39 - Thermal Infrared Remote Sensing - Part 5
- Lecture 40 - Passive Microwave Remote Sensing - Part 1
- Lecture 41 - Passive Microwave Remote Sensing - Part 2
- Lecture 42 - Passive Microwave Remote Sensing - Part 3
- Lecture 43 - Passive Microwave Remote Sensing - Part 4
- Lecture 44 - Active microwave Remote Sensing - Radar - Part 1
- Lecture 45 - Active microwave Remote Sensing - Radar - Part 2
- Lecture 46 - Active microwave Remote Sensing - Radar - Part 3
- Lecture 47 - Active microwave Remote Sensing - Radar - Part 4
- Lecture 48 - Active microwave Remote Sensing - Radar - Part 5
- Lecture 49 - Active microwave Remote Sensing - Radar - Part 6
- Lecture 50 - Platforms for remote sensing observations - Part 1
- Lecture 51 - Platforms for remote sensing observations - Part 2
- Lecture 52 - Platforms for remote sensing observations - Part 3
- Lecture 53 - Platforms for remote sensing observations - Part 4
- Lecture 54 - Platforms for remote sensing observations - Part 5
- Lecture 55 - Platforms for remote sensing observations - Part 6
- Lecture 56 - LIDAR - Part 1
- Lecture 57 - LIDAR - Part 2
- Lecture 58 - LIDAR - Part 3
- Lecture 59 - RS data, data portals and processing tools - Part 1
- Lecture 60 - RS data, data portals and processing tools - Part 2
- Lecture 61 - RS data, data portals and processing tools - Part 3
- Lecture 62 - Land use, land cover monitoring and change detection - Part 1
- Lecture 63 - Land use, land cover monitoring and change detection - Part 2
- Lecture 64 - Application of RS in water resources management - Part 1
- Lecture 65 - Application of RS in water resources management - Part 2
- Lecture 66 - Application of RS in water resources management - Part 3
- Lecture 67 - Application of RS in water resources management - Part 4

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

NPTEL Video Course - Civil Engineering - NOC:Dynamics of Structures

Subject Co-ordinator - Prof. Manish Kumar

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction to Structural Dynamics
Lecture 2 - Idealization of Structures
Lecture 3 - Components of Dynamic System
Lecture 4 - Equation of Motion
Lecture 5 - Free Vibration
Lecture 6 - Damped Free Vibration - Part 1
Lecture 7 - Damped Free Vibration - Part 2
Lecture 8 - Undamped Harmonic Excitations
Lecture 9 - Damped Harmonic Excitations
Lecture 10 - Frequency response curves
Lecture 11 - Transmissibility
Lecture 12 - Energy in Forced Vibrations
Lecture 13 - Unit impulse Functions
Lecture 14 - Step and Ramp Forces
Lecture 15 - Pulse Excitations
Lecture 16 - Numerical Response Methods
Lecture 17 - Seismic Response Spectra
Lecture 18 - Continuous systems
Lecture 19 - Lumped mass systems
Lecture 20 - Equation of motion
Lecture 21 - Equation of motion - examples
Lecture 22 - Mode shapes and frequencies
Lecture 23 - Free vibration - Undamped and Damped
Lecture 24 - Damping in MDOF Systems
Lecture 25 - Forced response of MDOF systems
Lecture 26 - Modal superposition Analysis
Lecture 27 - Response Spectrum Analysis
Lecture 28 - Concept of Seismic Isolation
Lecture 29 - Dynamics of Base-isolation Systems

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

NPTEL Video Course - Civil Engineering - NOC: Microwave Remote Sensing in Hydrology

Subject Co-ordinator - Prof. J. Indu

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Syllabus
Lecture 2 - History Of Microwave Remote Sensing
Lecture 3 - Overview Of Active and Passive Microwave Remote Sensing
Lecture 4 - Fundamentals Laws Of Remote Sensing
Lecture 5 - Tutorial 1: Python Programming From Beginner Perspective
Lecture 6 - Scattering Of Microwaves
Lecture 7 - Synthetic Aperture Radars - Basics
Lecture 8 - Sar Image Processing - Fundamental Terminologies
Lecture 9 - Working With Sar Imagery
Lecture 10 - Understanding Radar Equation
Lecture 11 - Tutorial 2 : Exploring Alos Palsar Data In Python
Lecture 12 - Understanding Radar Imagery
Lecture 13 - Tutorial 3: Introduction To SNAP
Lecture 14 - Doppler Shift
Lecture 15 - Speckle
Lecture 16 - Speckle - How To Handle
Lecture 17 - Tutorial 4 Part 1: Plotting In 1 D Using Python
Lecture 18 - Tutorial 4 Part 2: Plotting In 2 D Using Python
Lecture 19 - Tutorial 4 Part 3: Statistics Using Python
Lecture 20 - Tutorial 4 Part 4: Hypothesis Testing Using Python
Lecture 21 - Sar Image Pre Processing
Lecture 22 - Sar Image Texture
Lecture 23 - Texture For Image Classification
Lecture 24 - Polarization
Lecture 25 - Tutorial 5 Part 1: Speckle Filtering Using Python
Lecture 26 - Tutorial 5 Part 2: Speckle Filtering Using Python Using Gaussian Filter
Lecture 27 - Numerical On Radar Remote Sensing
Lecture 28 - Numerical On Radar Remote Sensing
Lecture 29 - Image Classification - Basics

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

- Lecture 30 - Supervised Classification
- Lecture 31 - Maximum Likelihood Classification
- Lecture 32 - Tutorial 6 Part 1: Sar Image Pre-processing
- Lecture 33 - Tutorial 6 Part 2: Maximum Likelihood Classification In Snap
- Lecture 34 - Unsupervised Classification And Accuracy Assessment
- Lecture 35 - Fuzzy Classification
- Lecture 36 - Tutorial 7 Part 1: Working With Grace Data In Python
- Lecture 37 - Tutorial 7 Part 2: Altimetry Data In Python
- Lecture 38 - Tutorial 7 Part 3: Swot Mission For Altimetry
- Lecture 39 - Radars In Hydrology
- Lecture 40 - Applications Of Radar Remote Sensing In Hydrology
- Lecture 41 - Doppler Weather Radar
- Lecture 42 - Tutorial 8 Part 1: Doppler Weather Radar Data Visualization And Precipitation Estimation
- Lecture 43 - Tutorial 8 Part 2: Doppler Weather Radar Data Visualization And Precipitation Estimation
- Lecture 44 - Radar Altimetry
- Lecture 45 - Measuring Soil Moisture And Terrestrial Water Storage Using Radar Remote Sensing
- Lecture 46 - Tutorial 9: Handling Passive Microwave Observations
- Lecture 47 - Fundamentals Of Passive Microwave Remote Sensing - Part 1
- Lecture 48 - Fundamentals Of Passive Microwave Remote Sensing - Part 2
- Lecture 49 - Applications Of Passive Microwave Remote Sensing In Hydrology
- Lecture 50 - Passive Microwave Radiometers And Their Applications
- Lecture 51 - Tutorial 10: Processing Satellite Precipitation Data Using Python
- Lecture 52 - Introduction To The Basics Of Sar Interferometry
- Lecture 53 - Sar Interferometry (Insar) And Applications
- Lecture 54 - Introduction To Other Modes Of Sar Interferometry And Applications - DInSAR, PSInSAR and DEM's
- Lecture 55 - Tutorial 11: Sar Interferometry Processing Using Snap
- Lecture 56 - Tutorial 12 Part 1: Hydrologic Modelling Using Microwave Remote Sensing
- Lecture 57 - Tutorial 12 Part 2: Introduction To Swat+ Hydrological Model
- Lecture 58 - Tutorial 12 Part 3: Introductory Tutorial On Vic Hydrological Model

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

NPTEL Video Course - Civil Engineering - NOC:Groundwater Hydrology and Management

Subject Co-ordinator - Prof. Pennan Chinnasamy

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction to Groundwater - Part 1
Lecture 2 - Introduction to Groundwater - Part 2
Lecture 3 - Introduction to Groundwater - Part 3
Lecture 4 - Introduction to Groundwater - Part 4
Lecture 5 - Introduction to Groundwater - Part 5
Lecture 6 - International importance of groundwater and India - Part 1
Lecture 7 - International importance of groundwater and India - Part 2
Lecture 8 - International importance of groundwater and India - Part 3
Lecture 9 - International importance of groundwater and India - Part 4
Lecture 10 - International importance of groundwater and India - Part 5
Lecture 11 - Physics and hydrology of Groundwater - Part 1
Lecture 12 - Physics and hydrology of Groundwater - Part 2
Lecture 13 - Physics and hydrology of Groundwater - Part 3
Lecture 14 - Physics and hydrology of Groundwater - Part 4
Lecture 15 - Physics and hydrology of Groundwater - Part 5
Lecture 16 - Groundwater governing equations 1 - Part 1
Lecture 17 - Groundwater governing equations 1 - Part 2
Lecture 18 - Groundwater governing equations 1 - Part 3
Lecture 19 - Groundwater governing equations 1 - Part 4
Lecture 20 - Groundwater governing equations 1 - Part 5
Lecture 21 - Groundwater governing equations 2 - Part 1
Lecture 22 - Groundwater governing equations 2 - Part 2
Lecture 23 - Groundwater governing equations 2 - Part 3
Lecture 24 - Groundwater governing equations 2 - Part 4
Lecture 25 - Groundwater governing equations 2 - Part 5
Lecture 26 - Groundwater recharge and discharge - Part 1
Lecture 27 - Groundwater recharge and discharge - Part 2
Lecture 28 - Groundwater recharge and discharge - Part 3
Lecture 29 - Groundwater recharge and discharge - Part 4

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Lecture 30 - Groundwater recharge and discharge - Part 5
Lecture 31 - Constructing aquifers using groundwater data - Part 1
Lecture 32 - Constructing aquifers using groundwater data - Part 2
Lecture 33 - Constructing aquifers using groundwater data - Part 3
Lecture 34 - Constructing aquifers using groundwater data - Part 4
Lecture 35 - Constructing aquifers using groundwater data - Part 5
Lecture 36 - Conceptual model for groundwater - Part 1
Lecture 37 - Conceptual model for groundwater - Part 2
Lecture 38 - Conceptual model for groundwater - Part 3
Lecture 39 - Conceptual model for groundwater - Part 4
Lecture 40 - Conceptual model for groundwater - Part 5
Lecture 41 - Groundwater data in India - Part 1
Lecture 42 - Groundwater data in India - Part 2
Lecture 43 - Groundwater data in India - Part 3
Lecture 44 - Groundwater data in India - Part 4
Lecture 45 - Groundwater data in India - Part 5
Lecture 46 - Application of Groundwater data in India - Part 1
Lecture 47 - Application of Groundwater data in India - Part 2
Lecture 48 - Application of Groundwater data in India - Part 2
Lecture 49 - Application of Groundwater data in India - Part 3
Lecture 50 - Application of Groundwater data in India - Part 3
Lecture 51 - Introduction to Groundwater modeling - Part 1
Lecture 52 - Introduction to Groundwater modeling - Part 2
Lecture 53 - Introduction to Groundwater modeling - Part 3
Lecture 54 - Introduction to Groundwater modeling - Part 4
Lecture 55 - Introduction to Groundwater modeling - Part 5
Lecture 56 - Case studies of Groundwater in India - Part 1
Lecture 57 - Case studies of Groundwater in India - Part 2
Lecture 58 - Case studies of Groundwater in India - Part 3
Lecture 59 - Case studies of Groundwater in India - Part 4
Lecture 60 - Case studies of Groundwater in India - Part 5

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

NPTEL Video Course - Civil Engineering - NOC:Rural Water Resources Management

Subject Co-ordinator - Prof. Pennan Chinnasamy

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Importance of water resource management and Hydrological Cycle and representations - Part 1
Lecture 2 - Importance of water resource management and Hydrological Cycle and representations - Part 2
Lecture 3 - Importance of water resource management and Hydrological Cycle and representations - Part 3
Lecture 4 - Importance of water resource management and Hydrological Cycle and representations - Part 4
Lecture 5 - Importance of water resource management and Hydrological Cycle and representations - Part 5
Lecture 6 - Key Hydrological Parameters 1 - Part 1
Lecture 7 - Key Hydrological Parameters 1 - Part 2
Lecture 8 - Key Hydrological Parameters 1 - Part 3
Lecture 9 - Key Hydrological Parameters 1 - Part 4
Lecture 10 - Key Hydrological Parameters 1 - Part 5
Lecture 11 - Key Hydrological Parameters 2 - Part 1
Lecture 12 - Key Hydrological Parameters 2 - Part 2
Lecture 13 - Key Hydrological Parameters 2 - Part 3
Lecture 14 - Key Hydrological Parameters 2 - Part 4
Lecture 15 - Key Hydrological Parameters 2 - Part 5
Lecture 16 - Introduction to Groundwater hydrology - Part 1
Lecture 17 - Introduction to Groundwater hydrology - Part 2
Lecture 18 - Introduction to Groundwater hydrology - Part 3
Lecture 19 - Introduction to Groundwater hydrology - Part 4
Lecture 20 - Introduction to Groundwater hydrology - Part 5
Lecture 21 - Groundwater components - Part 1
Lecture 22 - Groundwater components - Part 2
Lecture 23 - Groundwater components - Part 3
Lecture 24 - Groundwater components - Part 4
Lecture 25 - Groundwater components - Part 5
Lecture 26 - Surface water hydrology - Part 1
Lecture 27 - Surface water hydrology - Part 2
Lecture 28 - Surface water hydrology - Part 3
Lecture 29 - Surface water hydrology - Part 4

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- Lecture 30 - Surface water hydrology - Part 5
- Lecture 31 - Water Mass Balance Equation - Part 1
- Lecture 32 - Water Mass Balance Equation - Part 2
- Lecture 33 - Water Mass Balance Equation - Part 3
- Lecture 34 - Water Mass Balance Equation - Part 4
- Lecture 35 - Water Mass Balance Equation - Part 5
- Lecture 36 - Rural water management issues, data challenges and observation records - Part 1
- Lecture 37 - Rural water management issues, data challenges and observation records - Part 2
- Lecture 38 - Rural water management issues, data challenges and observation records - Part 3
- Lecture 39 - Rural water management issues, data challenges and observation records - Part 4
- Lecture 40 - Rural water management issues, data challenges and observation records - Part 5
- Lecture 41 - Rural water resource management infrastructure (engineered) - Part 1
- Lecture 42 - Rural water resource management infrastructure (engineered) - Part 2
- Lecture 43 - Rural water resource management infrastructure (engineered) - Part 3
- Lecture 44 - Rural water resource management infrastructure (engineered) - Part 4
- Lecture 45 - Rural water resource management infrastructure (engineered) - Part 5
- Lecture 46 - Rural water resource management infrastructure (nature based) - Part 1
- Lecture 47 - Rural water resource management infrastructure (nature based) - Part 2
- Lecture 48 - Rural water resource management infrastructure (nature based) - Part 3
- Lecture 49 - Rural water resource management infrastructure (nature based) - Part 4
- Lecture 50 - Rural water resource management infrastructure (nature based) - Part 5
- Lecture 51 - Solving case studies in rural water resource management - Part 1
- Lecture 52 - Solving case studies in rural water resource management - Part 2
- Lecture 53 - Solving case studies in rural water resource management - Part 3
- Lecture 54 - Solving case studies in rural water resource management - Part 4
- Lecture 55 - Solving case studies in rural water resource management - Part 5
- Lecture 56 - Rural hydrological databases for India - Part 1
- Lecture 57 - Rural hydrological databases for India - Part 2
- Lecture 58 - Rural hydrological databases for India - Part 3
- Lecture 59 - Rural hydrological databases for India - Part 4
- Lecture 60 - Rural hydrological databases for India - Part 5

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NPTEL Video Course - Civil Engineering - NOC:Geotechnical Engineering-II

Subject Co-ordinator - Prof. Devendra Narain Singh

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Introduction
Lecture 2 - Shear Strength of Soils - I
Lecture 3 - Shear Strength of Soils - II
Lecture 4 - Shear Strength of Soils - III
Lecture 5 - Shear Strength of Soils - IV
Lecture 6 - Testing for shear strength parameters: Introduction
Lecture 7 - Direct shear box test
Lecture 8 - Direct Shear Interpretation of Test Results - I
Lecture 9 - Direct Shear Interpretation of Test Results - II
Lecture 10 - Kf line
Lecture 11 - Selection of Parameter (Shear Strength,SS) - I
Lecture 12 - Selection of Parameter (Shear Strength,SS) - II
Lecture 13 - Shear Strength of Cohesive Soils - I
Lecture 14 - Shear Strength of Cohesive Soils - II
Lecture 15 - Triaxial Test - I
Lecture 16 - Triaxial Test - II
Lecture 17 - Triaxial Test - III
Lecture 18 - Interpretation of Triaxial test Results - I
Lecture 19 - Interpretation of Triaxial test Results - II
Lecture 20 - Interpretation of Triaxial test Results - III
Lecture 21 - Pore Pressure Parameters - I
Lecture 22 - Pore Pressure Parameters - II
Lecture 23 - Stress Paths - I
Lecture 24 - Stress Paths - II
Lecture 25 - Plastic Equilibrium in Soils
Lecture 26 - Mechanisms of Development of Plastic Equilibrium in Soils - I
Lecture 27 - Mechanisms of Development of Plastic Equilibrium in Soils - II
Lecture 28 - Earth Pressure Analysis (Trial Wedge) - I
Lecture 29 - Earth Pressure Analysis (Trial Wedge) - II

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- Lecture 30 - Earth Pressure Analysis (Trial Wedge) - III
- Lecture 31 - Analysis of Completely Submerged Retaining wall
- Lecture 32 - Gravity Walls Supporting Cohesive Soil Mass (Backfill)
- Lecture 33 - Sloping Backfill
- Lecture 34 - Earth Pressure Analysis - I
- Lecture 35 - Earth Pressure Analysis - II
- Lecture 36 - Sheet Pile Wall Introduction - I
- Lecture 37 - Sheet Pile Wall Introduction - II
- Lecture 38 - Sheet pile wall Introduction - III
- Lecture 39 - Analysis of sheet piles - I
- Lecture 40 - Analysis of sheet piles - II
- Lecture 41 - Anchored Bulkheads
- Lecture 42 - Cantilever Sheet Piles
- Lecture 43 - Lateral Earth Pressure Braced Sheet Pile Walls
- Lecture 44 - Slope Stability - I
- Lecture 45 - Slope Stability - II
- Lecture 46 - Slope Instability - I
- Lecture 47 - Slope Instability - II
- Lecture 48 - Slope Instability - III
- Lecture 49 - Analysis of Finite Slopes - I Planar Failure Surface
- Lecture 50 - Analysis of Finite Slopes - II Circular Failure Surface
- Lecture 51 - Finite Slopes Friction Circle Method
- Lecture 52 - Slip Circle Method

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

NPTEL Video Course - Civil Engineering - NOC:Remote Sensing and GIS for Rural Development

Subject Co-ordinator - Prof. Pennan Chinnasamy

Co-ordinating Institute - IIT - Bombay

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

- Lecture 1 - Introduction to course - Rural development (RD)
- Lecture 2 - Water security (SF) and Water security (GW) and issues
- Lecture 3 - Food security and issues
- Lecture 4 - Agriculture and rural infrastructure issues
- Lecture 5 - Rural Development
- Lecture 6 - Data and mapping issues for Rural regions
- Lecture 7 - Introduction to Remote Sensing and need
- Lecture 8 - Remote Sensing for Water and Food Security
- Lecture 9 - Remote Sensing for Rural infrastructures
- Lecture 10 - Remote Sensing for Rural Development
- Lecture 11 - Intro to Remote Sensing Data for Rural Development
- Lecture 12 - Intro to Remote Sensing Data for Rural Development : Water
- Lecture 13 - Intro to Remote Sensing Data for Rural Development : Soil and Climate
- Lecture 14 - Intro to Remote Sensing Data for Rural Development : NASA datasets for water
- Lecture 15 - Intro to Remote Sensing Data for Rural Development
- Lecture 16 - Intro to GIS and QGIS
- Lecture 17 - Intro to GIS data types and download
- Lecture 18 - Intro to GIS vector data type and QGIS panel
- Lecture 19 - Vector Tools in QGIS
- Lecture 20 - QGIS tutorials for vector analysis and data searching
- Lecture 21 - Intro to Raster Data type in GIS
- Lecture 22 - Raster data type formats and uses
- Lecture 23 - Raster data and Vector data quality issues
- Lecture 24 - Raster data tools: Raster calculator and Raster Align
- Lecture 25 - Raster data tools: Clip and Masking tools
- Lecture 26 - Intro to GIS Projections and Co-ordinate systems
- Lecture 27 - Intro to digitization of images for raster data
- Lecture 28 - Digitization of scanned maps into raster data
- Lecture 29 - Extracting point and line features from georeferenced data

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

- Lecture 30 - Extracting polygon features from georeferenced data
- Lecture 31 - Creating shapefiles from georeferenced maps
- Lecture 32 - Google Earth Pro introduction for extracting data
- Lecture 33 - Ground Control points from Google Earth Pro and Basemaps
- Lecture 34 - Digital Elevation models and sources
- Lecture 35 - Digital Elevation models (hands on example)
- Lecture 36 - Introduction to Land Use Land Cover
- Lecture 37 - Data for LULC and proxy data
- Lecture 38 - Analyzing Bhuvan LULC data - Part 1
- Lecture 39 - Analyzing Bhuvan LULC data - Part 2
- Lecture 40 - Analyzing USGS LULC data
- Lecture 41 - Different types of LULC classifications
- Lecture 42 - Different types of LULC classifications
- Lecture 43 - Remote Sensing for irrigation assessments
- Lecture 44 - Remote Sensing for Groundwater irrigation assessments
- Lecture 45 - Methods for Crop Statistics using Remote Sensing data
- Lecture 46 - Remote Sensing based indicators for rural development
- Lecture 47 - Remote Sensing methods for crop area and health assessments
- Lecture 48 - NDVI data access
- Lecture 49 - NDVI data from NASA platforms
- Lecture 50 - NDVI data from Sentinel and NASA platforms
- Lecture 51 - Remote Sensing based indicators database
- Lecture 52 - Synergized mapping using Remote Sensing and Crowd Sourced data for rural infrastructures
- Lecture 53 - RS and OSM for mapping rural infrastructures: Schools
- Lecture 54 - RS and OSM for mapping rural infrastructures: Hospitals
- Lecture 55 - RS and OSM for mapping rural infrastructures: Adding data, crops and water bodies
- Lecture 56 - RS and GIS application for Rural Development: Monitoring and Evaluation
- Lecture 57 - RS and GIS application for Rural Development: Monitoring and Evaluation using NDVI and NDWI
- Lecture 58 - RS and GIS application for Rural Development: Water Quality Assessment
- Lecture 59 - RS and GIS application for Rural Development: Indicators and Dashboards
- Lecture 60 - RS and GIS for Rural Development - Summary, Wrap and Ways Forward

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

NPTEL Video Course - Civil Engineering - NOC:Stress and Strain Issues in Structural Geology

Subject Co-ordinator - Prof. Soumyajit Mukherjee

Co-ordinating Institute - IIT - Bombay

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

Lecture 1 - Doming and Diapirism
Lecture 2 - Isostasy - I
Lecture 3 - Isostasy - II
Lecture 4 - Ghyben-Herzberg law, Hydrostatic and Deviatoric stresses and strains
Lecture 5 - Resolution of stress as vectors
Lecture 6 - Addition and resolution of Stress (& Force) - I
Lecture 7 - Addition and resolution of Stress (& Force) - II
Lecture 8 - Addition and resolution of Stress (& Force) - III
Lecture 9 - Addition and resolution of Stress (& Force) - IV
Lecture 10 - Principle of centrifuge analogue modeling
Lecture 11 - Stress Issue: Mohr circle - I
Lecture 12 - Stress Issue: Mohr circle - II
Lecture 13 - Stress Issue: Mohr circle - III
Lecture 14 - Stress Issue: Mohr circle - IV
Lecture 15 - Strain parameters: Definitions and Calculations - I
Lecture 16 - Finding out areas of irregular geometries
Lecture 17 - Elementary strain analysis - I
Lecture 18 - Elementary strain analysis - II
Lecture 19 - Stress and strain behaviour of rocks - I
Lecture 20 - Stress and strain behaviour of rocks - II
Lecture 21 - Stress and strain behaviour of rocks - III
Lecture 22 - Ductile simple shear zone kinematics - I
Lecture 23 - Ductile simple shear zone kinematics - II
Lecture 24 - Ductile simple shear zone kinematics - III
Lecture 25 - Ductile simple shear zone kinematics - IV
Lecture 26 - Ductile simple shear zone kinematics - V
Lecture 27 - Ductile simple shear zone kinematics - VI
Lecture 28 - Ductile simple shear zone kinematics - VII
Lecture 29 - Ductile simple shear zone kinematics - VIII

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

- Lecture 30 - Ductile pure shear zone kinematics
- Lecture 31 - Ductile pure shear zone kinematics and Taylor-Couette flow
- Lecture 32 - Taylor-Couette flow
- Lecture 33 - Introduction to Second-Rank Tensors - I
- Lecture 34 - Introduction to Second-Rank Tensors - II
- Lecture 35 - Second-Rank Tensors and Stress Issues - I
- Lecture 36 - Second-Rank Tensors and Stress Issues - II
- Lecture 37 - Second-Rank Tensors and Stress Issues - III
- Lecture 38 - Cauchy Stress Tetrahedron
- Lecture 39 - Stress Invariants
- Lecture 40 - Stress and strain invariants, Hooke law for isotropic materials
- Lecture 41 - Hooke's law - II
- Lecture 42 - Triaxial stress applied on materials with thermal effects
- Lecture 43 - How stress can alter permeability, double dot product and applications
- Lecture 44 - Deviatoric stress and strain, deformation gradient and Jacobian matrix
- Lecture 45 - General definition of 3D strain, application of Jacobian matrix
- Lecture 46 - Application of Jacobian matrix, nonhomogeneous deformation
- Lecture 47 - Rotation and translation - changes in coordinates
- Lecture 48 - Principles of lg analogue modeling - I
- Lecture 49 - Principles of lg analogue modeling - II
- Lecture 50 - Principles of lg analogue modeling - III
- Lecture 51 - Anderson's theory of faulting
- Lecture 52 - Stereoplot of principal stress axes - I
- Lecture 53 - Stereoplot of principal stress axes - II
- Lecture 54 - Stereoplot of principal stress axes - III
- Lecture 55 - Deduction of principal stress axes orientation from fault data
- Lecture 56 - Elementary stress problems dealing with stereonet - I
- Lecture 57 - Elementary stress problems dealing with stereonet - II
- Lecture 58 - Poroelasticity - I
- Lecture 59 - Poroelasticity - II, stereonet problem
- Lecture 60 - Poroelasticity - III

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

NPTEL Video Course - Civil Engineering - NOC:Principles of Stratigraphy

Subject Co-ordinator - Prof. Soumyajit Mukherjee

Co-ordinating Institute - IIT Bombay

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

Lecture 1 - Introduction to the Principles of Stratigraphy
Lecture 2 - Unconformities - I
Lecture 3 - Unconformities - II
Lecture 4 - Basement-cover relationship
Lecture 5 - Primary Sedimentary Structures
Lecture 6 - Preparation of Lithologs
Lecture 7 - Thickness Issue
Lecture 8 - Drill cores and Wellbores
Lecture 9 - How planes appear in drill cores - II
Lecture 10 - Applications of image logs, Geological Time Scale - I
Lecture 11 - Geological Time Scale - II
Lecture 12 - Geological Time Scale - III
Lecture 13 - Geological Time Scale - IV
Lecture 14 - Geological Time Scale - V
Lecture 15 - Lithostratigraphy - I
Lecture 16 - Lithostratigraphy - II
Lecture 17 - Lithostratigraphy - III
Lecture 18 - Lithostratigraphy - IV
Lecture 19 - Lithostratigraphy - V and different sedimentary environments
Lecture 20 - Stratigraphic Issues
Lecture 21 - Heavy mineral stratigraphy and layered deposits
Lecture 22 - Glacial stratigraphy and Volcanic stratigraphy - I
Lecture 23 - Volcanic stratigraphy - II
Lecture 24 - Rose Diagram
Lecture 25 - Bar diagrams, tadpole plots and polar tangent plots
Lecture 26 - Volcanic stratigraphy - III and Historical development of stratigraphy
Lecture 27 - Sedimentary successions in different environments and Hydrostratigraphy
Lecture 28 - Stratigraphy of rift basins and collisional terrains
Lecture 29 - Biostratigraphy - I

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

- Lecture 30 - Biostratigraphy - II
- Lecture 31 - Biostratigraphy - III (biozones)
- Lecture 32 - Biostratigraphy - IV (graphic and statistical correlations)
- Lecture 33 - Graph Theory - I
- Lecture 34 - Graph Theory - II
- Lecture 35 - Graph Theory - III
- Lecture 36 - Biostratigraphy - V (Elementary use of graph theory)
- Lecture 37 - Biostratigraphy - VI (Use of graph theory)
- Lecture 38 - Matching in the context of biostratigraphic correlation
- Lecture 39 - Cladistics - I
- Lecture 40 - Cladistics - II (How stratigraphy matters)
- Lecture 41 - Biostratigraphy - VII
- Lecture 42 - Magnetostratigraphy - I
- Lecture 43 - Magnetostratigraphy - II
- Lecture 44 - Magnetostratigraphy - III
- Lecture 45 - Magnetostratigraphy - IV and Chemostratigraphy - I
- Lecture 46 - Chemostratigraphy - II
- Lecture 47 - Chemostratigraphy - III
- Lecture 48 - Chemostratigraphy - IV
- Lecture 49 - Chemostratigraphy - V
- Lecture 50 - Sequence Stratigraphy - I
- Lecture 51 - Sequence Stratigraphy - II
- Lecture 52 - Sequence Stratigraphy - III
- Lecture 53 - Sequence Stratigraphy - IV
- Lecture 54 - Stratigraphy based on seismic images and well logs
- Lecture 55 - Sequence Stratigraphy - V
- Lecture 56 - Sequence Stratigraphy - VI, coastal and marine deposits
- Lecture 57 - Sequence Stratigraphy - VII
- Lecture 58 - Sequence Stratigraphy - VIII
- Lecture 59 - Chronostratigraphy - I
- Lecture 60 - Chronostratigraphy - II

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

NPTEL Video Course - Civil Engineering - Concrete Technology

Subject Co-ordinator - Dr. B. Bhattacharjee

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Production and Composition
Lecture 2 - Structure and Hydration
Lecture 3 - Structure and Hydration
Lecture 4 - Properties and Tests
Lecture 5 - Types and Use
Lecture 6 - Aggregates (Size, Shape)
Lecture 7 - Packing, FM, SM
Lecture 8 - Properties
Lecture 9 - Chemical Admixtures
Lecture 10 - Chemical Admixtures
Lecture 11 - Mineral Admixtures
Lecture 12 - Mineral Admixtures
Lecture 13 - Mineral Admixtures
Lecture 14 - Mix Proportioning of Concrete
Lecture 15 - Mix design of Concrete
Lecture 16 - Mix Design of Concrete
Lecture 17 - Mix Design of concrete
Lecture 18 - Mix Design of concrete
Lecture 19 - Batching and Mixing of concrete
Lecture 20 - RMC and Transporting Concrete
Lecture 21 - Workability and Pumping of Concrete
Lecture 22 - Compaction and Curing Concrete
Lecture 23 - Strength of Concrete
Lecture 24 - Strength of Concrete
Lecture 25 - Strength of Concrete
Lecture 26 - Mechanical Properties of Concrete
Lecture 27 - Creep of Concrete
Lecture 28 - Creep and Shrinkage of Concrete
Lecture 29 - Shrinkage of Concrete

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

- Lecture 30 - Shrinkage of Concrete
- Lecture 31 - Fundamental Concepts, Degradation Process, Attacks
- Lecture 32 - Frost Action and Rebar Corrosion
- Lecture 33 - Carbonation and Chloride Affect
- Lecture 34 - Rebar Corrosion
- Lecture 35 - Rebar Corrosion and General Strategy
- Lecture 36 - High Strength Concrete
- Lecture 37 - High Strength Matrics and SCC
- Lecture 38 - Self Compacting Concrete
- Lecture 39 - Fiber Concrete
- Lecture 40 - Fiber and Roller Compacted Concrete
- Lecture 41 - Special Concrete and Sustainability

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

NPTEL Video Course - Civil Engineering - Seismic Analysis of Structures

Subject Co-ordinator - Dr. T.K. Datta, Dr. Ashok Gupta

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Seismology
Lecture 2 - Seismology (Continued...)
Lecture 3 - Seismology (Continued...)
Lecture 4 - Seismology (Continued...)
Lecture 5 - Seismic Inputs
Lecture 6 - Seismic Inputs (Continued...)
Lecture 7 - Seismic Inputs (Continued...)
Lecture 8 - Seismic Inputs (Continued...)
Lecture 9 - Response Analysis for Specified Ground Motion
Lecture 10 - Response Analysis for Specified Ground Motion (Continued...)
Lecture 11 - Response Analysis for Specified Ground Motion (Continued...)
Lecture 12 - Response Analysis for Specified Ground Motion (Continued...)
Lecture 13 - Response Analysis for Specified Ground Motion (Continued...)
Lecture 14 - Response Analysis for Specified Ground Motion (Continued...)
Lecture 15 - Frequency Domain Spectral Analysis
Lecture 16 - Frequency Domain Spectral Analysis.
Lecture 17 - Frequency Domain Spectral Analysis (Continued...)
Lecture 18 - Frequency Domain Spectral Analysis (Continued...)
Lecture 19 - Frequency Domain Spectral Analysis (Continued...)
Lecture 20 - Response Spectrum Method of Analysis
Lecture 21 - Response Spectrum Method of Analysis.
Lecture 22 - Response Spectrum Method of Analysis (Continued...)
Lecture 23 - Response Spectrum Method of Analysis (Continued...)
Lecture 24 - Response Spectrum Method of Analysis (Continued...)
Lecture 25 - Inelastic Seismic Response of Structures
Lecture 26 - Inelastic Seismic Response of Structures (Continued...)
Lecture 27 - Inelastic Seismic Response of Structures (Continued...)
Lecture 28 - Inelastic Seismic Response of Structures (Continued...)
Lecture 29 - Inelastic Seismic Response of Structures (Continued...)

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Lecture 30 - Inelastic Seismic Response of Structures (Continued...)

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

NPTEL Video Course - Civil Engineering - Building materials and Construction

Subject Co-ordinator - Dr. B. Bhattacharjee

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Functions Of Buildings
Lecture 2 - Role Of Material In Construction
Lecture 3 - Concrete
Lecture 4 - Concrete Production (Continued...)
Lecture 5 - Concrete Production (Continued...)
Lecture 6 - Concrete
Lecture 7 - Concrete
Lecture 8 - Cement
Lecture 9 - Cement and Cementitious Material
Lecture 10 - Fresh Concrete
Lecture 11 - Fresh Concrete
Lecture 12 - Fresh Concrete
Lecture 13 - Fresh Concrete
Lecture 14 - Strength of Concrete - I
Lecture 15 - Strength of Concrete - II
Lecture 16 - Strength of Concrete - III
Lecture 17 - Mechanical Properties of Concrete - I
Lecture 18 - Mechanical Properties of Concrete - II
Lecture 19 - Strength of Concrete
Lecture 20 - Durability of Concrete - I
Lecture 21 - Durability of Concrete - II
Lecture 22 - Durability of Concrete - III
Lecture 23 - Cement Aggregate and Water Selection
Lecture 24 - Mix Design of Concrete
Lecture 25 - Mix Design Of concrete IS Method
Lecture 26 - Mix Design Of Concrete
Lecture 27 - Masonry
Lecture 28 - Masonry
Lecture 29 - Masonry

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

Lecture 30 - Masonry
Lecture 31 - Walls
Lecture 32 - Walls
Lecture 33 - Metals Fundamentals
Lecture 34 - Metals and Iron Systems
Lecture 35 - Steel
Lecture 36 - Steel
Lecture 37 - Polymer in Construction
Lecture 38 - Polymer in Construction
Lecture 39 - Glass and Timber
Lecture 40 - Glass and Timber
Lecture 41 - Roof and Floor Construction

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

NPTEL Video Course - Civil Engineering - Water Management

Subject Co-ordinator - Dr. A.K. Gosain

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Introduction to Irrigation Water Management
Lecture 2 - Soil - Water - Plant Relationships
Lecture 3 - Soil - Water - Plant Relationships (Continued...)
Lecture 4 - Soil - Water - Plant Relationships (Continued...)
Lecture 5 - Soil - Water - Plant Relationships (Continued...)
Lecture 6 - Soil - Water - Plant Relationships (Continued...) and Infiltration
Lecture 7 - Crop Water Requirements
Lecture 8 - Crop Water Requirements (Continued...)
Lecture 9 - Crop Water Requirements (Continued...)
Lecture 10 - Crop Water Requirements (Continued...)
Lecture 11 - Crop Water Requirements (Continued...)
Lecture 12 - Crop Water Requirements (Continued...)
Lecture 13 - Crop Water Requirements (continued...)
Lecture 14 - Irrigation Efficiencies - Part I
Lecture 15 - Irrigation Efficiencies - Part II and Irrigation Methods and their Suitability
Lecture 16 - Irrigation Methods - III
Lecture 17 - Irrigation Methods - IV
Lecture 18 - Irrigation Methods - V
Lecture 19 - Irrigation Methods - VI
Lecture 20 - Irrigation Methods and their Suitability
Lecture 21 - Border Irrigation System - I
Lecture 22 - Border Irrigation System - II
Lecture 23 - Border Irrigation System - III
Lecture 24 - Border Irrigation System - IV
Lecture 25 - Furrow Irrigation System - I
Lecture 26 - Furrow Irrigation System - II
Lecture 27 - Furrow Irrigation System - III
Lecture 28 - Furrow Irrigation System - IV
Lecture 29 - Sprinkler Irrigation System - I

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

Lecture 30 - Sprinkler Irrigation System - II
Lecture 31 - Sprinkler Irrigation System - III
Lecture 32 - Sprinkler Irrigation System - IV
Lecture 33 - Sprinkler Irrigation System - V
Lecture 34 - Sprinkler Irrigation System - VI
Lecture 35 - Sprinkler Irrigation System - VII
Lecture 36 - Sprinkler Irrigation System - VIII
Lecture 37 - Drip Irrigation System - I
Lecture 38 - Drip Irrigation System - II
Lecture 39 - Drip Irrigation System - III
Lecture 40 - Drip Irrigation System - IV

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

NPTEL Video Course - Civil Engineering - NOC:Geoenvironmental Engineering (Environmental Geotechnology) Landf

Subject Co-ordinator - Prof. Manoj Datta

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Introduction to Geoenvironmental Engineering
Lecture 2 - Sources and Impact of Contamination
Lecture 3 - Waste-Soil Interaction
Lecture 4 - Solid Waste Generation and Disposal
Lecture 5 - Waste Minimization by Integrated Solid Waste Management (ISWM)
Lecture 6 - Integrated Solid Waste Management (ISWM) - Case Studies
Lecture 7 - Principles of Landfilling
Lecture 8 - Planning of Landfills - Part 1
Lecture 9 - Planning of Landfills - Part 2
Lecture 10 - Liners for Landfills - Part 1
Lecture 11 - Liners for Landfills - Part 2
Lecture 12 - Liners for Landfills - Part 3
Lecture 13 - Liners for Landfills - Part 4
Lecture 14 - Covers for Landfills - Part 1
Lecture 15 - Covers for Landfills - Part 2
Lecture 16 - Generation and Control of Leachate
Lecture 17 - Generation and Control of Landfill Gas
Lecture 18 - Stability of Slopes - Part 1
Lecture 19 - Stability of Slopes - Part 2
Lecture 20 - Stability of Slopes - Part 3
Lecture 21 - (Missing)
Lecture 22 - Some Solved Examples
Lecture 23 - Subsurface Monitoring Around Landfills - Part 1
Lecture 24 - Subsurface Monitoring Around Landfills - Part 2
Lecture 25 - Cost of Geotechnical Components of Landfills
Lecture 26 - Construction and Operation of Landfills
Lecture 27 - Site Selection for Landfills
Lecture 28 - Closure, Rehabilitation and Expansion of MSW Landfills
Lecture 29 - Control and Remedial Measures at Contaminated Sites - Part 1

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

- Lecture 30 - Control and Remedial Measures at Contaminated Sites - Part 2
- Lecture 31 - Slurry Disposal on Land
- Lecture 32 - Disposal of Slurry Waste in Ponds and Impoundments and Dry Waste in Mounds
- Lecture 33 - Geotechnical Properties of Coal Ash and Mine Tailings - Part 1
- Lecture 34 - Geotechnical Properties of Coal Ash and Mine Tailings - Part 2
- Lecture 35 - Planning and Design of Slurry Ponds
- Lecture 36 - Stability of Incrementally Raised Embankments - Part 1
- Lecture 37 - Stability of Incrementally Raised Embankments - Part 2
- Lecture 38 - Remedial Measures for Slope Failures in Embankments / Dykes of Slurry Ponds
- Lecture 39 - Environmental Control at Slurry Ponds
- Lecture 40 - Geotechnical Reuse of Waste Materials - Part 1
- Lecture 41 - Geotechnical Reuse of Waste Materials - Part 2
- Lecture 42 - End-of-the-Course Review

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

NPTEL Video Course - Civil Engineering - NOC:Energy Efficiency, Acoustics and Daylighting in Building

Subject Co-ordinator - Dr. B. Bhattacharjee

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Introduction to Environmental Factors - 1
Lecture 2 - Introduction to Environmental Factors - 2
Lecture 3 - Introduction to Environmental Factors - 3
Lecture 4 - Introduction to Environmental Factors - 4
Lecture 5 - Introduction to Environmental Factors - 5
Lecture 6 - Introduction to Environmental Factors - 6
Lecture 7 - Introduction to Environmental Factors - 7
Lecture 8 - Comfort and Heat Transfer Concepts
Lecture 9 - Heat Flow in Buildings - 1
Lecture 10 - Heat Flow in buildings - 2
Lecture 11 - Heat Flow in buildings - 3
Lecture 12 - Admittance Method - 1
Lecture 13 - Admittance Method - 2
Lecture 14 - Heat Flow in buildings - 1 (Frequency Domain)
Lecture 15 - Heat Flow in buildings - 2 (Frequency Domain)
Lecture 16 - Heat Flow in buildings - 2 (Frequency Domain)
Lecture 17 - Heat flow in buildings
Lecture 18 - Admittance Method
Lecture 19 - Comfort - 1
Lecture 20 - Comfort - 2
Lecture 21 - Comfort and Thermal Design of Buildings - 1
Lecture 22 - Comfort and Thermal Design of Buildings - 2
Lecture 23 - Comfort and Thermal Design of Buildings - 3
Lecture 24 - Thermal Design of Unconditioned Building
Lecture 25 - External Shading Multipliers for external suns shading
Lecture 26 - Passive Concepts
Lecture 27 - Design for Thermal Efficiency
Lecture 28 - Ventilation - 1
Lecture 29 - Ventilation - 2

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

Lecture 30 - Natural ventilation design
Lecture 31 - Noise and Acoustic Fundamentals - 1
Lecture 32 - Noise and Acoustic Fundamentals - 2
Lecture 33 - Noise and Acoustic Fundamentals - 3
Lecture 34 - Noise and Acoustic Fundamentals, Noise Outdoors
Lecture 35 - Noise outdoors
Lecture 36 - Sound within enclosure - 1
Lecture 37 - Sound within enclosure - 2
Lecture 38 - Sound within enclosure - 3
Lecture 39 - Sound within enclosure - 4
Lecture 40 - Sound within enclosure - 5
Lecture 41 - Sound within enclosure - 6
Lecture 42 - Sound within enclosure, isolation
Lecture 43 - Isolation - 1
Lecture 44 - Isolation - 2
Lecture 45 - Auditorium - 1
Lecture 46 - Auditorium - 2
Lecture 47 - Daylighting - 1
Lecture 48 - Daylighting - 2
Lecture 49 - Daylighting - 3
Lecture 50 - Daylighting - 4
Lecture 51 - Daylighting - 5
Lecture 52 - Daylighting - 6
Lecture 53 - Artificial Lighting
Lecture 54 - Design Sky models
Lecture 55 - Live Session

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

NPTEL Video Course - Civil Engineering - NOC:Fire Protection, Services and Maintenance Management of Building

Subject Co-ordinator - Dr. B. Bhattacharjee

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Basic concepts of Fire Protection - I
Lecture 2 - Basic concepts of Fire Protection - II
Lecture 3 - Fire Resistance
Lecture 4 - Introduction Process of Combustion
Lecture 5 - ventilation and fuel Process of Combustion controlled fire
Lecture 6 - Process of Combustion
Lecture 7 - Effect of Fire on Construction Materials
Lecture 8 - Design for Fire Resistance
Lecture 9 - Design for Fire Resistance
Lecture 10 - Design for Fire Resistance
Lecture 11 - Fire Safety
Lecture 12 - Fire Safety
Lecture 13 - Fire safety
Lecture 14 - Fire Safety
Lecture 15 - Introduction to Lift Design
Lecture 16 - Design of Lift systems
Lecture 17 - Design of Lift systems
Lecture 18 - Design of Lift systems
Lecture 19 - Design of Lift systems
Lecture 20 - Introduction to System and Flow Systems
Lecture 21 - Water Supply System
Lecture 22 - Water Supply System
Lecture 23 - Diversity factor (Continued...)
Lecture 24 - Control Systems
Lecture 25 - Introduction to HVAC
Lecture 26 - Governing Equations for HVAC Process
Lecture 27 - Numerical Problem on HVAC System
Lecture 28 - Numerical Problem on HVAC System (Continued...)
Lecture 29 - Psychrometric Chart

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

- Lecture 30 - Flow in Pipe Networks and Fixture Units
- Lecture 31 - Flow in Pipe Networks (Continued...) and Design of Water Supply Distribution System
- Lecture 32 - Design of Water Supply Distribution System (Continued...) and Flow in Waste Water pipes
- Lecture 33 - Electrical Systems (introduction)
- Lecture 34 - Design of Electrical Systems
- Lecture 35 - Intelligent Building
- Lecture 36 - Life cycle cost and basics of building maintenance
- Lecture 37 - Stages of maintenance management
- Lecture 38 - Planning for building maintenance
- Lecture 39 - Periodicity of maintenance management
- Lecture 40 - Estimation of repair cycle
- Lecture 41 - Cost profile of maintenance
- Lecture 42 - Lamp replacement
- Lecture 43 - Building inspection, Planned and Ad-hoc maintenance
- Lecture 44 - Condition survey and health evaluation of buildings
- Lecture 45 - Diagnosis of building by visual survey
- Lecture 46 - Case studies of visual survey
- Lecture 47 - Effect of corrosion and Alkali Aggregate Reaction
- Lecture 48 - Sampling and choice of test location
- Lecture 49 - Non Destructive Testing - 1
- Lecture 50 - Non Destructive Testing - 2
- Lecture 51 - Core strength test
- Lecture 52 - Carbonation and Chloride measurement
- Lecture 53 - Electrical methods of progress measurement
- Lecture 54 - Repair, Rehabilitation and Retrofit
- Lecture 55 - Periodicity and economics of condition survey
- Lecture 56 - Interpretation of test results

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

NPTEL Video Course - Civil Engineering - NOC:Sustainable Materials and Green Buildings

Subject Co-ordinator - Dr. B. Bhattacharjee

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Introduction and Planet Equivalent
- Lecture 2 - Basics of Carbon Cycle
- Lecture 3 - Factors Affecting carbon Cycle
- Lecture 4 - Fundamentals of Sustainability
- Lecture 5 - Role of Materials and Embodied Energy
- Lecture 6 - Case Study for Energy in Building
- Lecture 7 - Calculation of Ecological Footprint
- Lecture 8 - Role of Cement in Sustainability and Calculation of Chemical Exergy
- Lecture 9 - Fuel for Cement
- Lecture 10 - Cementitious/Supplementary Cementitious Materials and Their Characterization
- Lecture 11 - Strength of Concrete With Supplementary Cementitious Materials and Composite Cements
- Lecture 12 - Types of Composite Cements
- Lecture 13 - Alternative Fuel for cement and Embodied Energy
- Lecture 14 - Life Cycle Embodied Energy and Concrete Sustainability
- Lecture 15 - Strength of Concrete and Use of Admixtures
- Lecture 16 - Curing Methods and Use of Waste Water for Mixing and Curing
- Lecture 17 - Modern Composite Concrete
- Lecture 18 - Recycled Aggregate-ITZ and Processing
- Lecture 19 - Classification of Recycled Aggregate
- Lecture 20 - Crushing and Grinding
- Lecture 21 - Operational Energy
- Lecture 22 - Operational Energy
- Lecture 23 - Operational Energy
- Lecture 24 - Thermal Diffusivity and Clay Bricks
- Lecture 25 - Types of Bricks Kilns and Carbon Balance
- Lecture 26 - Carbon Balance, Comparison of Various Types of Brick Kilns and Sealants, Paints, Adhesive
- Lecture 27 - Sealants, Health Hazards of Building Materials and Emission Models
- Lecture 28 - Emission Models and Testing
- Lecture 29 - Energy Efficient Design of Buildings

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

- Lecture 30 - Design Optimization of Buildings
- Lecture 31 - Building Design Optimization Using Genetic Algorithm
- Lecture 32 - Urban Heat Island
- Lecture 33 - Urban Heat Island
- Lecture 34 - Evapotranspiration
- Lecture 35 - Evapotranspiration
- Lecture 36 - Energy Conservation Building Code (ECBC2007)
- Lecture 37 - Energy Conservation Building Code (ECBC2007) (Continued...)
- Lecture 38 - ECBC Compliant Methodology
- Lecture 39 - OTTV Methodology
- Lecture 40 - Solar Energy and Solar Cells
- Lecture 41 - Solar Photo Volatic Cells
- Lecture 42 - Solar Water Heating
- Lecture 43 - Design Strategies and the Green Design Process
- Lecture 44 - Green Building Rating Systems
- Lecture 45 - Autoclaved Aerated Concrete, Insulated Precast System and Insulated Precast Forms
- Lecture 46 - Insulated Concrete Form and Tunnel Form
- Lecture 47 - Modular Construction

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

NPTEL Video Course - Civil Engineering - NOC:Scheduling Techniques in Projects

Subject Co-ordinator - Prof. J. Uma Maheswari

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Introduction to Projects
Lecture 2 - Inputs to Scheduling
Lecture 3 - Critical Path Method
Lecture 4 - Precedence Diagramming Method
Lecture 5 - Line of Balance Method
Lecture 6 - Resource-driven Scheduling
Lecture 7 - Information-driven Scheduling
Lecture 8 - Dependency Structure Matrix - I
Lecture 9 - Dependency Structure Matrix - II
Lecture 10 - Dependency Structure Matrix - III
Lecture 11 - Beeline Diagramming Method
Lecture 12 - Other Scheduling Techniques

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

NPTEL Video Course - Civil Engineering - NOC:Safety in Construction

Subject Co-ordinator - Prof. J. Uma Maheswari

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Introduction to Safety in Construction
Lecture 2 - Introduction to Safety Standards; Signs, Signals in Construction
Lecture 3 - Role of Stakeholders in Construction safety
Lecture 4 - Cost of Injury Vs Investment in Safety
Lecture 5 - Safety Program Accident/Incident Investigation
Lecture 6 - PPE in Construction
Lecture 7 - A Case Study on Construction Safety
Lecture 8 - Introduction to Fatal Falls
Lecture 9 - Fall hazard in Concerting
Lecture 10 - Fall hazard in Demolition Works
Lecture 11 - Safety in Demolition Work Practical Examples
Lecture 12 - Trench Cav-ins
Lecture 13 - Tunneling Safety
Lecture 14
Lecture 15
Lecture 16
Lecture 17
Lecture 18 - Fire Safety and Steel Construction
Lecture 19 - Electrical Safety
Lecture 20 - A case Study on Construction Safety - Contractual Provision on Construction Zone Safety
Lecture 21 - Health Issues in Construction
Lecture 22 - Ergonomics and Health Issues with Concerting
Lecture 23 - General Safety Precautions
Lecture 24 - Safety in MEP Services
Lecture 25 - Managing Hazards in Construction
Lecture 26 - BIM for Construction
Lecture 27 - BIM for Safety

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

NPTEL Video Course - Civil Engineering - NOC:Structural Dynamics: Theory and Computation

Subject Co-ordinator - Prof. Arnab Banerjee

Co-ordinating Institute - IIT Delhi

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

Lecture 1 - Introduction to SDOF System (MATLAB Example)
Lecture 2 - Free Vibration of SDOF System (MATLAB Example) (Continued...)
Lecture 3 - Forced Vibration of SDOF System (MATLAB Example)
Lecture 4 - Forced Vibration of SDOF System (MATLAB Example) (Continued...)
Lecture 5 - D-operator and Duhamel Integral
Lecture 6 - Duhamel Integral (MATLAB Example) (Continued...)
Lecture 7 - Base Excitation and Numerical Methods
Lecture 8 - Numerical Methods (MATLAB Example) (Continued...)
Lecture 9 - Numerical Methods (MATLAB Example) (Continued...)
Lecture 10 - Fourier Series and Fourier Transformation
Lecture 11 - Fourier Transformation (MATLAB Example) (Continued...)
Lecture 12 - MDOF System
Lecture 13 - MDOF System (MATLAB Example) (Continued...)
Lecture 14 - MDOF System (Continued...)
Lecture 15 - Response Spectrum (MATLAB Example)
Lecture 16 - Base Isolation and Tuned Mass Damper
Lecture 17 - Vibration Control (Hâ) (MATLAB Example)
Lecture 18 - Continuous System (Bar Element)
Lecture 19 - Continuous System (Bar Element) (Continued...)
Lecture 20 - Continuous System (Beam Element)
Lecture 21 - Transfer Matrix and Spectral Element Method
Lecture 22 - Transfer Matrix and Spectral Element Method (Continued...)
Lecture 23 - Weak Form and Weighted Residual Method
Lecture 24 - Dynamic Stiffness Matrix
Lecture 25 - Modelling of Damping
Lecture 26 - Modelling of Damping (Continued...)
Lecture 27 - Laplace Transformation

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

NPTEL Video Course - Civil Engineering - Advanced Hydraulics

Subject Co-ordinator - Dr. Suresh A Kartha

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction - advanced hydraulics & course structure
Lecture 2 - Various classifications of open channel flows
Lecture 3 - Flow classifications & velocity distribution
Lecture 4 - Pressure distribution
Lecture 5 - Equation of continuity & energy
Lecture 6 - Specific energy & critical flow
Lecture 7 - Energy, momentum & specific force
Lecture 8 - Computation of critical flow - Part 1
Lecture 9 - Critical flow computations
Lecture 10 - Introduction to uniform flow
Lecture 11 - Manning's equation and normal depth
Lecture 12 - Uniform Flow Computations - Part 1
Lecture 13 - Uniform flow in compound sections, concept of normal slope
Lecture 14 - Uniform flow approximation for flood discharge
Lecture 15 - Design of channels for uniform flow
Lecture 16 - Design of channels using uniform flow
Lecture 17 - Design of erodible channels
Lecture 18 - Introduction to gradually varied flows
Lecture 19 - Gradually varied flow equations
Lecture 20 - Classification of gradually varied flow - Part 1
Lecture 21 - Classification of gradually varied flow - Part 2
Lecture 22 - Gradually varied flow profiles with change in bed slopes
Lecture 23 - GVF profile properties and transitional depths
Lecture 24 - Gradually varied flow computations - Part 1
Lecture 25 - Gradually varied flow computations RK method - Part 2
Lecture 26 - Standard step method for gradually varied flow computations
Lecture 27 - Spatially varied flow
Lecture 28 - Features on spatially varied flow
Lecture 29 - Rapidly varied flow - introduction

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

- Lecture 30 - Theoretical aspects of hydraulic jump
- Lecture 31 - Characteristics of jumps in rectangular channel
- Lecture 32 - Features of hydraulic jumps
- Lecture 33 - Jumps as energy dissipators
- Lecture 34 - Jump controls
- Lecture 35 - Surges - Part 1
- Lecture 36 - Surges - Part 2
- Lecture 37 - Channel transitions - Part 1
- Lecture 38 - Channel transitions - Part 2
- Lecture 39 - Channel transitions - Part 3
- Lecture 40 - Application of momentum principles
- Lecture 41 - Pumps - 1
- Lecture 42 - Turbines - Part 3 (pumps, turbines)
- Lecture 43 - Turbines, cavitation

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

NPTEL Video Course - Civil Engineering - Design of Steel Structures

Subject Co-ordinator - Prof. Damodar Maity

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction to Design of Steel Structures
Lecture 2 - Connections
Lecture 3 - Riveted Connections
Lecture 4 - Design of Rivet Joint
Lecture 5 - Welding
Lecture 6 - Design of Fillet and Butt Welds
Lecture 7 - Bolted Connection
Lecture 8 - Eccentric Connections
Lecture 9 - Design of Eccentric Connection With Load Lying in Plane of Joint Rivet Bolt
Lecture 10 - Eccentric Connection With Load Perpendicular to Plane of Riveted Joint
Lecture 11 - Analysis and Design of Join with Seat Connection
Lecture 12 - Eccentric Connection
Lecture 13 - Load Lying Perpendicular to the Plane of Weld Joint
Lecture 14 - Tension Member
Lecture 15 - Design of Tension Member
Lecture 16 - Design of Tension Member
Lecture 17 - Design of Tension Member
Lecture 18 - Compression Member
Lecture 19 - Design of Compression Member
Lecture 20 - Design of Eccentrically Loaded tension Member
Lecture 21 - Built up Compression Member
Lecture 22 - Design of Built up Compression Member
Lecture 23 - Lacing for Built Up Compression Member
Lecture 24 - Design of Lacing System
Lecture 25 - Design of Batten Plates
Lecture 26 - Introduction to Flexural Members
Lecture 27 - Design Procedure of Beam Members
Lecture 28 - Design of Laterally Supported Beams
Lecture 29 - Design of Laterally Unsupported Beams

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

- Lecture 30 - Built-Up Beams
- Lecture 31 - Built-Up Beams
- Lecture 32 - Design of a Built-Up Beams
- Lecture 33 - Design of Shear Connections and Purlins
- Lecture 34 - Gantry Girders
- Lecture 35 - Design of Gantry Girders
- Lecture 36 - Introduction to Plate Girders - Part 1
- Lecture 37 - Introduction to Plate Girders - Part 2
- Lecture 38 - Design of a Plate Girder
- Lecture 39 - Column Base - Part 1
- Lecture 40 - Column Base - Part 2

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

NPTEL Video Course - Civil Engineering - Hydraulics

Subject Co-ordinator - Prof. Arup Kumar Sharma

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction to Hydraulics
Lecture 2 - Open Channel Hydraulics - Part 1
Lecture 3 - Open Channel Hydraulics - Part 2
Lecture 4 - Velocity and Pressure Distribution
Lecture 5 - Practical use of velocity co-efficient in channel flow
Lecture 6 - Conservation Principles & Governing Equations
Lecture 7 - Uniform Flow
Lecture 8 - Uniform Flow Formula
Lecture 9 - Computation of Uniform Flow - Part 1
Lecture 10 - Computation of Uniform Flow - Part 2
Lecture 11 - Uniform Flow in Mobile Boundary Channel
Lecture 12 - Incipient Motion Condition and Regime of Flow
Lecture 13 - Concept of Specific Energy
Lecture 14 - Computation of Critical Depth
Lecture 15 - Specific Force, Critical Depth & Sequent Depth
Lecture 16 - Non-uniform Flow
Lecture 17 - Classification of Gradually Varied Flow
Lecture 18 - Characteristic of Gradually Varied Flow
Lecture 19 - Characteristic of Gradually Varied Flow & its Computation
Lecture 20 - Gradually Varied Flow & its Computation
Lecture 21 - Computation of Gradually Varied Flow
Lecture 22 - Gradually Varied Flow
Lecture 23 - Rapidly Varied Flow
Lecture 24 - Hydraulic Jump
Lecture 25 - Flow Over Hump and Channel Contraction
Lecture 26 - Canal Design - 1
Lecture 27 - Canal Design - 2
Lecture 28 - Design of Alluvial Channel - 1
Lecture 29 - Design of Alluvial Channel - 2

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

- Lecture 30 - Design of Alluvial Channel - 3
- Lecture 31 - Unsteady Flow
- Lecture 32 - Unsteady Flow Part - 2
- Lecture 33 - Unsteady Flow Part - 3
- Lecture 34 - Pipe Flow
- Lecture 35 - Pipe Flow
- Lecture 36 - Pipe in Series & Parallel
- Lecture 37 - Pipe Network Analysis
- Lecture 38 - Water Hammer & Surge Tank
- Lecture 39 - Pipe Flow Friction Loss
- Lecture 40 - Pipe Flow

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

NPTEL Video Course - Civil Engineering - NOC:Higher Surveying

Subject Co-ordinator - Prof. Ajay Dashora

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Introduction to Higher Surveying
- Lecture 2 - Understanding reference system, reference frame, and coordinate system for Earth
- Lecture 3 - Coordinate and datum transformations
- Lecture 4 - Projected coordinate system
- Lecture 5 - Fundamentals of astronomy
- Lecture 6 - Applications of concepts of astronomy
- Lecture 7 - Time
- Lecture 8 - Application of concepts of astronomy and time
- Lecture 9 - Fundamental concepts of error, accuracy, and error propagation
- Lecture 10 - Applications of error propagation
- Lecture 11 - Observation Equation Method of adjustments
- Lecture 12 - Condition Equation Method and Combined Method of adjustments
- Lecture 13 - Analysis of adjustments and reporting of errors
- Lecture 14 - Global Positioning System (GPS)
- Lecture 15 - Introduction to Photogrammetry
- Lecture 16 - Vertical photogrammetry
- Lecture 17 - Stereo photogrammetry
- Lecture 18 - Analytical photogrammetry - I
- Lecture 19 - Analytical photogrammetry - II
- Lecture 20 - Photogrammetric products
- Lecture 21 - Image matching
- Lecture 22 - Close range photogrammetry
- Lecture 23 - Fundamentals of LiDAR
- Lecture 24 - LiDAR data acquisition
- Lecture 25 - Geolocation and errors of LiDAR data
- Lecture 26 - Information extraction from LiDAR data
- Lecture 27 - RADAR fundamentals - I
- Lecture 28 - RADAR fundamentals - II
- Lecture 29 - RADAR fundamentals - III

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- Lecture 30 - Radargrammetry
- Lecture 31 - Geoscience perspective for RADAR applications
- Lecture 32 - Fundamental concepts of hydrographic survey
- Lecture 33 - Field procedures for hydrographic Surveying
- Lecture 34 - Modern techniques for hydrographic Survey
- Lecture 35 - Navigation
- Lecture 36 - Conclusive lecture

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

NPTEL Video Course - Civil Engineering - NOC:Unsaturated Soil Mechanics

Subject Co-ordinator - Dr. Tadikonda Venkata Bharat

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Fundamental Aspects of Unsaturated Soil Mechanics and its Basic Principles
Lecture 2 - Phases of Unsaturated Soils-I
Lecture 3 - Phases of Unsaturated Soils-II
Lecture 4 - Equilibrium between Air and Water Phases
Lecture 5 - Capillary Phenomenon in Unsaturated Soils - I
Lecture 6 - Capillary Phenomenon in Unsaturated Soils - II
Lecture 7 - Summary
Lecture 8 - Concept of Water Retention and Soil Water Characteristics - I
Lecture 9 - Concept of Water Retention and Soil Water Characteristics - II
Lecture 10 - Hydraulic conductivity functions and determination of state variables
Lecture 11 - Suction Measurement/Control Techniques - I
Lecture 12 - Suction Measurement/Control Techniques - II
Lecture 13 - Summary
Lecture 14 - HCF Determination
Lecture 15 - SWCC and HCF Models
Lecture 16 - HCF Modelling
Lecture 17 - Fitting of SWCC and HCF modelling
Lecture 18 - Pedo-transfer Functions (PTF)
Lecture 19 - Steady-State Flow Through Soils
Lecture 20 - Steady-State and Transient Flow
Lecture 21 - Analytical Methods for Transient Flow - I
Lecture 22 - Analytical Methods for Transient Flow - II
Lecture 23 - Shear Strength of Unsaturated Soils
Lecture 24 - Suction-Controlled Direct Shear Test
Lecture 25 - Suction-Controlled Triaxial Test
Lecture 26 - Extended M-C Criterion - I
Lecture 27 - Extended M-C Criterion - II
Lecture 28 - Extended M-C Criterion - III
Lecture 29 - Concept of Suction Stress - I

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

- Lecture 30 - Concept of Suction Stress - II
- Lecture 31 - Concept of Suction Stress - III
- Lecture 32 - Summary
- Lecture 33 - Swelling Behaviour of Soils
- Lecture 34 - Estimation of Swelling Pressure in the Laboratory and Behaviour of Collapsible soil
- Lecture 35 - Volume Change Behaviour of Bentonite and Kaolin Clay
- Lecture 36 - Demonstration of Various Experiments Related to Unsaturated Soil Mechanics

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

NPTEL Video Course - Civil Engineering - NOC:Subsurface Exploration: Importance and Techniques Involved

Subject Co-ordinator - Prof. Abhishek Kumar

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Introduction
- Lecture 2 - Phases and classification of subsurface Investigation
- Lecture 3 - Test Pits+ Borings
- Lecture 4 - Ground water table and rock drilling
- Lecture 5 - Standard Penetration Test
- Lecture 6 - Cone Penetration Test
- Lecture 7 - Dilatometer Test
- Lecture 8 - Pressuremeter Test
- Lecture 9 - Seismic reflection method
- Lecture 10 - Seismic refraction method
- Lecture 11 - Electrical Resistivity Survey
- Lecture 12 - Magnetic Survey
- Lecture 13 - Surface wave method
- Lecture 14 - Gravity Survey
- Lecture 15 - Offshore Investigation
- Lecture 16 - Geophysical Investigation in Offshore Environment
- Lecture 17 - Sampling and Geotechnical Investigations in Offshore Environment
- Lecture 18 - Important Terminologies in Offshore Environment
- Lecture 19 - Dynamic Testing in Pile Driving
- Lecture 20 - Dynamic Testing in Pile (Low Strain)
- Lecture 21 - Conclusion

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

NPTEL Video Course - Civil Engineering - NOC:Fluid Mechanics

Subject Co-ordinator - Dr. Subhashisa Dutta

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Basic Concepts of Fluid
Lecture 2 - Properties of Fluid
Lecture 3 - Properties of Fluid
Lecture 4 - Concepts of Hydrostatic
Lecture 5 - Measurement of Pressure and Hydrostatic forces
Lecture 6 - Buoyancy, Metacentre, Stability and Rigid body motion
Lecture 7 - Reynolds Transport Theorem
Lecture 8 - Conservation of Mass
Lecture 9 - Conservation of Momentum
Lecture 10 - Conservation of Momentum Applications
Lecture 11 - Bernoulli's Equation
Lecture 12 - Applications of Bernoulli's Equation
Lecture 13 - Fluid Statics Applications: Example Problems
Lecture 14 - Conservation of Momentum: Example problems
Lecture 15 - Bernoulli's Equation: Problems Solving on Black Board
Lecture 16 - Lagrangian and Eulerian Descriptions
Lecture 17 - Motion and deformation of fluid elements
Lecture 18 - Problems Solving on Black Board
Lecture 19 - Dimensional Homogeneity
Lecture 20 - Dimensional Analysis and Similarity
Lecture 21 - Laminar and Turbulent Flows
Lecture 22 - Losses in Pipe Fittings
Lecture 23 - Flow in Noncircular Conduits and Multiple Path Pipeflow
Lecture 24 - Mass Conservation Equation - I
Lecture 25 - Mass Conservation Equation - II
Lecture 26 - Stream Function
Lecture 27 - Cauchy's Equation
Lecture 28 - The Navier-Stokes Equation - Part I
Lecture 29 - The Navier-Stokes Equation - Part II

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

- Lecture 30 - The Navier-Stokes Equation - Part III
- Lecture 31 - Approximate solutions of Navier Stokes Equation: Boundary Layer Approximation
- Lecture 32 - Boundary Layer Approximation - II
- Lecture 33 - Boundary Layer Approximation - III
- Lecture 34 - Open Channel Flow - I
- Lecture 35 - Open Channel Flow - II
- Lecture 36 - Open Channel Flow - III
- Lecture 37 - Drag and Lift

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

NPTEL Video Course - Civil Engineering - NOC:Remote Sensing and GIS

Subject Co-ordinator - Prof. Rishikesh Bharti

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Overview and Introduction
Lecture 2 - Basics of Remote Sensing
Lecture 3 - Error corrections in satellite image
Lecture 4 - Error Identification and Correction - I
Lecture 5 - Error Identification and Correction - II
Lecture 6 - Error Identification and Correction - III
Lecture 7 - DIP - I
Lecture 8 - DIP - II
Lecture 9 - DIP - III
Lecture 10 - DIP - IV
Lecture 11 - Image Classification - I
Lecture 12 - Image Classification - II
Lecture 13 - Photogrammetry
Lecture 14 - Thermal Remote Sensing
Lecture 15 - Microwave Remote Sensing
Lecture 16 - HRS - I
Lecture 17 - HRS - II
Lecture 18 - HRS - III
Lecture 19 - HRS - IV
Lecture 20 - HRS - V
Lecture 21 - GIS - I
Lecture 22 - GIS - II
Lecture 23 - Applications of Remote Sensing and GIS - I
Lecture 24 - Applications of Remote Sensing and GIS - II

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

NPTEL Video Course - Civil Engineering - NOC:River Engineering

Subject Co-ordinator - Dr. Subhashisa Dutta

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction to River Engineering
Lecture 2 - Basic properties of sediment - I
Lecture 3 - Basic properties of sediment - II
Lecture 4 - Mass Conservation
Lecture 5 - Linear Momentum Equation
Lecture 6 - Navier-Stokes Equations
Lecture 7 - St. Venant Equation and Solver
Lecture 8 - Specific Energy and Critical Flow
Lecture 9 - Hydraulic Jump and Celerity
Lecture 10 - Floodwave Celerity and Loop Rating Curve
Lecture 11 - Sediment Transport in River - I
Lecture 12 - Sediment Transport in River - II
Lecture 13 - Sediment Transport in River - III
Lecture 14 - Physical River Models
Lecture 15 - Bridge Scour
Lecture 16 - Bridge Scour-II
Lecture 17 - Jet Scour and River Navigation
Lecture 18 - River Training Work
Lecture 19 - Riverbank Stabilization - I
Lecture 20 - Riverbank Stabilization - II
Lecture 21 - Riverbank Protection and Control Structures
Lecture 22 - River Equilibrium - I
Lecture 23 - River Equilibrium - II
Lecture 24 - River Equilibrium - III

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

NPTEL Video Course - Civil Engineering - NOC:Municipal Solid Waste Management

Subject Co-ordinator - Prof. Ajay Kalamdhad

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction to solid waste
Lecture 2 - Functional elements
Lecture 3 - Types and sources of solid waste
Lecture 4 - Sampling and characteristics
Lecture 5 - Estimation of solid waste quantity
Lecture 6 - Factors affecting solid waste generation rate
Lecture 7 - Handling, separation and storage at source
Lecture 8 - Processing at source
Lecture 9 - Primary collection
Lecture 10 - Types of collection system
Lecture 11 - Analysis of collection system - Part I
Lecture 12 - Analysis of collection system - Part II
Lecture 13 - Analysis of collection system - Part III
Lecture 14 - Need and types of transfer station
Lecture 15 - Transport means and methods
Lecture 16 - Unit operation for component separation
Lecture 17 - Material recovery facilities (MRF)
Lecture 18 - Recycling of dry waste components
Lecture 19 - Waste as a fuel
Lecture 20 - Incineration/Combustion
Lecture 21 - Flue gas characteristics and treatment
Lecture 22 - Solid residue generation, characterization and treatment
Lecture 23 - Waste-to-energy (WtE) plants (case studies) pyrolysis and gasification
Lecture 24 - Definition and phases of composting
Lecture 25 - Factors affecting composting process
Lecture 26 - Types of composting - I
Lecture 27 - Types of composting - II
Lecture 28 - Compost quality
Lecture 29 - Vermicomposting

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- Lecture 30 - Definition, stages and factors affecting anaerobic digestion
- Lecture 31 - Pretreatment and co-digestion for enhancement of biogas production
- Lecture 32 - Types of biogas digesters
- Lecture 33 - Site selection and types of landfill
- Lecture 34 - Leachate collection and treatment
- Lecture 35 - Landfill gas collection and treatment
- Lecture 36 - Design of landfill and Bio-minning of old dumpsite
- Lecture 37 - Construction and demolition waste
- Lecture 38 - Management of bio-medical, e-waste and inert waste
- Lecture 39 - Integrated solid waste management (ISWM)
- Lecture 40 - Municipal solid waste management rules
- Lecture 41 - Financing in MSWM projects
- Lecture 42 - Public-Private-Partnership (PPP)
- Lecture 43 - Public-Private-Partnership (PPP) in MSWM projects

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

NPTEL Video Course - Civil Engineering - NOC:Construction Methods and Equipment Management

Subject Co-ordinator - Prof. Indu Siva Ranjani Gandhi

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Planning process of equipment
- Lecture 2 - Estimation of Ownership cost (Average Annual Investment method)
- Lecture 3 - Estimation of Ownership cost (Time value method)
- Lecture 4 - Operating cost of Equipment
- Lecture 5 - Equipment cost estimation
- Lecture 6 - Equipment life and replacement analysis - Part 1
- Lecture 7 - Equipment life and replacement analysis - Part 2
- Lecture 8 - Equipment life and replacement analysis - Part 3
- Lecture 9 - Engineering Fundamentals of Moving Earth
- Lecture 10 - Bull Dozers
- Lecture 11 - Scrapers - Part 1
- Lecture 12 - Scrapers - Part 2
- Lecture 13 - Front End loaders
- Lecture 14 - Excavators
- Lecture 15 - Trucks
- Lecture 16 - Piles and Pile driving equipment - Part 1
- Lecture 17 - Piles and Pile driving equipment - Part 2
- Lecture 18 - Cranes - Part 1
- Lecture 19 - Cranes - Part 2
- Lecture 20 - Concreting Equipment - Part 1
- Lecture 21 - Concreting Equipment - Part 2
- Lecture 22 - Summary

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

NPTEL Video Course - Civil Engineering - NOC:Advanced Soil Mechanics

Subject Co-ordinator - Prof. Sreedeeep S

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction to course content
Lecture 2 - Stress acting at a point - Cauchy stress
Lecture 3 - Stress acting at a point - Stress tensor
Lecture 4 - Stress acting on a plane
Lecture 5 - Stress acting on a plane example
Lecture 6 - Transformation of stress tensor
Lecture 7 - Stress invariants
Lecture 8 - Relationship between stress invariants
Lecture 9 - Principle stresses and Eigen vectors
Lecture 10 - Strain in soils
Lecture 11 - Cause effect relationship
Lecture 12 - Important constitutive relationship
Lecture 13 - 3D to 2D idealization
Lecture 14 - Mathematical formulation plane stress plane strain
Lecture 15 - Mathematical formulation axisymmetric
Lecture 16 - Summary of Module 1
Lecture 17 - Basics of shear strength
Lecture 18 - Stress representation
Lecture 19 - Shear strength granular soil - I
Lecture 20 - Shear strength granular soil - II
Lecture 21 - Shear strength cohesive soil
Lecture 22 - Shear strength cohesive soil - Stress strain
Lecture 23 - Pore water pressure and Skemptions equation
Lecture 24 - Overall pore water pressure parameter
Lecture 25 - Pore water pressure - plane strain-effect of sampling
Lecture 26 - Pore water pressure estimation
Lecture 27 - Triaxial test
Lecture 28 - Interpretation triaxial test - UU UCS
Lecture 29 - Interpretation triaxial test - CU

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

- Lecture 30 - Interpretation triaxial test - CD
- Lecture 31 - Some additional aspects of shear strength
- Lecture 32 - Summary of Module 2
- Lecture 33 - Stress path and representation
- Lecture 34 - Failure line in stress path
- Lecture 35 - Stress path-some common cases - I
- Lecture 36 - Stress path-some common cases - II
- Lecture 37 - Stress path-triaxial test-drained
- Lecture 38 - Stress path-triaxial test-undrained
- Lecture 39 - Stress path-additional undrained case
- Lecture 40 - Stress path-field cases - I
- Lecture 41 - Stress path-field cases - II
- Lecture 42 - Stress path problems
- Lecture 43 - Summary of Module 3
- Lecture 44 - Introduction-critical state soil mechanics
- Lecture 45 - Introduction-critical state soil mechanics
- Lecture 46 - CSSM-2 D representation
- Lecture 47 - Peak state
- Lecture 48 - Soil yielding
- Lecture 49 - Cam clay
- Lecture 50 - Modified Cam clay
- Lecture 51 - Prediction of soil behavior from MCCM
- Lecture 52 - Prediction of soil behavior from MCCM
- Lecture 53 - Strain from MCCM
- Lecture 54 - State boundary surface
- Lecture 55 - CSSM problems
- Lecture 56 - Summary of Module 4
- Lecture 57 - Closure of Advanced Soil Mechanics Course

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

NPTEL Video Course - Civil Engineering - NOC:Plates and Shells

Subject Co-ordinator - Prof. Sudip Talukdar

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Introduction, classification of plates and some useful relations
- Lecture 2 - Theory of thin plate bending
- Lecture 3 - Plate equations and boundary conditions with examples
- Lecture 4 - Exercises on the plate bending theory
- Lecture 5 - Simply supported plate subjected to distributed loading
- Lecture 6 - Simply supported plate subjected to concentrated load and couple
- Lecture 7 - Simply supported plate resting on elastic foundation and other examples
- Lecture 8 - General formulation for rectangular plate with two opposite edges simply supported
- Lecture 9 - Levy's solution for different loading and boundary conditions
- Lecture 10 - Rectangular plate with Levy's boundary condition subjected to edge moment
- Lecture 11 - Transformation of plate equation from rectangular co-ordinates to polar co-ordinates
- Lecture 12 - Axi-symmetrical bending of circular plate under pure moment and uniformly distributed load
- Lecture 13 - Examples in axisymmetrical bending of solid and annular plate
- Lecture 14 - Variational principle in plate problem
- Lecture 15 - Applications of Rayleigh-Ritz and Gallerkin's method
- Lecture 16 - Finite difference method in plate bending
- Lecture 17 - Plate subjected to inplane forces and transverse load
- Lecture 18 - Buckling load of rectangular plate with Navier's boundary condition
- Lecture 19 - Buckling load of rectangular with Levy's boundary condition
- Lecture 20 - Rayleigh-Ritz and Gallerkin method in buckling of plate
- Lecture 21 - Finite difference method in buckling of plate
- Lecture 22 - Introduction to shell structure and behavior of stretched membrane
- Lecture 23 - Classification of shell structure
- Lecture 24 - Stress resultants and couples in shells
- Lecture 25 - Membrane analysis of shells of surface of revolution
- Lecture 26 - Analysis of Spherical dome
- Lecture 27 - Some examples of axi-symmetrical cases in surface of revolution
- Lecture 28 - Membrane theory in pressure vessels
- Lecture 29 - Membrane theory in pressure vessel in the form a Torus and in a tank of arbitrary meridian

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

- Lecture 30 - Membrane theory of hyperboloid of revolution: Application to cooling tower
- Lecture 31 - Differential Equations of Equilibrium in Cylindrical shell using membrane hypothesis
- Lecture 32 - Membrane Analysis of Cylindrical Shell roof subjected to self weight and snow load
- Lecture 33 - Circular Cylindrical Shell for Fourier Loading in a membrane state of stress
- Lecture 34 - Simplified Bending Theory of Cylindrical Shell-Beam and Arch theories
- Lecture 35 - General bending theory of cylindrical shell
- Lecture 36 - Some applications of symmetrical bending of circular cylindrical shell

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

NPTEL Video Course - Civil Engineering - NOC:Optimization methods for Civil engineering

Subject Co-ordinator - Prof. Rajib Kumar Bhattacharjya

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction to Optimization
Lecture 2 - Classical Optimization
Lecture 3 - Introduction to Linear Problem
Lecture 4 - General system of equations
Lecture 5 - Simplex Method
Lecture 6 - Solution of Linear Problem using Excel Solver
Lecture 7 - Bracketing Method
Lecture 8 - Region Elimination Methods
Lecture 9 - Gradient Based Method and Examples
Lecture 10 - Convex Function
Lecture 11 - Line Search Methods for Multi-Variable Problems
Lecture 12 - Quadratic Approximation Method
Lecture 13 - Constrained Optimization I: Equality constraints
Lecture 14 - Constrained Optimization II: Inequality constraints
Lecture 15 - Constrained Optimization III: Penalty function methods
Lecture 16 - Introduction to Metaheuristic Optimization
Lecture 17 - Genetic Algorithms - Part I
Lecture 18 - Genetic Algorithms - Part II
Lecture 19 - Genetic Algorithms - Part III
Lecture 20 - Real Coded Genetic Algorithms
Lecture 21 - Multi-modal optimization
Lecture 22 - Introduction to R
Lecture 23 - GA using R (Unconstrained problem)
Lecture 24 - GA using R (Constrained problem)
Lecture 25 - Constraint Handling in GAs
Lecture 26 - Evolution Strategies (ESs)
Lecture 27 - Particle swarm optimization
Lecture 28 - Introduction to R - Part II
Lecture 29 - Multi-objective Genetic Algorithms

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- Lecture 30 - Introduction to Differential Evolution
- Lecture 31 - Introduction to Matlab
- Lecture 32 - Optimization using Matlab (Classical methods)
- Lecture 33 - A tutorial on Differential Evolution
- Lecture 34 - NSGA II Using R
- Lecture 35 - Optimization using MATLAB
- Lecture 36 - Optimization using Excel Solver
- Lecture 37 - Multi-objective Genetic Algorithms using MATLAB
- Lecture 38 - Solution of a Design Problem Using MATLAB

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

NPTEL Video Course - Civil Engineering - NOC:Engineering Hydrology

Subject Co-ordinator - Prof. Sreeja Pekkatt

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Course Contents
Lecture 2 - Preliminary Concepts
Lecture 3 - Introduction to Reynolds Transport Theorem
Lecture 4 - Derivation of Reynolds Transport Theorem - Part I
Lecture 5 - Derivation of Reynolds Transport Theorem - Part II
Lecture 6 - Conservations Laws
Lecture 7 - Numerical Examples
Lecture 8 - Summary of Module - I
Lecture 9 - Atmospheric Water
Lecture 10 - Water Vapor Dynamics
Lecture 11 - Precipitable Water in the Static Atmospheric Column
Lecture 12 - Numerical Examples on Basic Atmospheric Parameters
Lecture 13 - Precipitation-Types and Formation
Lecture 14 - Terminal Velocity
Lecture 15 - Thunderstorm Cell Model
Lecture 16 - Numerical Examples on Terminal Velocity and Thunderstorm Cell
Lecture 17 - Forms of Precipitation
Lecture 18 - Measurement of rainfall
Lecture 19 - Raingauge Network
Lecture 20 - Presentation of Rainfall Data
Lecture 21 - Analysis of Rainfall Data
Lecture 22 - Average Areal Rainfall
Lecture 23 - Evaporation
Lecture 24 - Evaporation-Energy Balance Method
Lecture 25 - Evaporation-Aerodynamic Method
Lecture 26 - Evaporation-Combined Method
Lecture 27 - Numerical Examples on Evaporation
Lecture 28 - Evaporation-Empirical method
Lecture 29 - Evapotranspiration

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

- Lecture 30 - Evapotranspiration-Numerical Example
- Lecture 31 - Summary of Module - II
- Lecture 32 - Subsurface Water
- Lecture 33 - 1-D Unsteady Unsaturated Flow Equation
- Lecture 34 - Infiltration
- Lecture 35 - Measurement of Infiltration
- Lecture 36 - Estimation of Infiltration-Empirical Equations
- Lecture 37 - Numerical examples - Infiltration estimation using empirical equations
- Lecture 38 - Estimation of Infiltration-Theoretical Equation
- Lecture 39 - Infiltration-Green Ampt Equation
- Lecture 40 - Ponding time
- Lecture 41 - Numerical Examples on Green Ampt Infiltration Equation
- Lecture 42 - Summary of Module - III
- Lecture 43 - Surface Water
- Lecture 44 - Excess Rainfall and Direct Runoff
- Lecture 45 - Numerical Examples on Direct Runoff
- Lecture 46 - Overland flow
- Lecture 47 - Streamflow Measurement - I
- Lecture 48 - Streamflow Measurement - II
- Lecture 49 - Representation of Streamflow
- Lecture 50 - Numerical Examples on Streamflow Measurement
- Lecture 51 - Summary of Module - IV
- Lecture 52 - Hydrologic Analysis - Introduction
- Lecture 53 - Linear System Theory
- Lecture 54 - Hydrograph Analysis-UH
- Lecture 55 - Hydrograph Analysis-DRH
- Lecture 56 - Numerical examples on UH and DRH
- Lecture 57 - S-Hydrograph
- Lecture 58 - Unit Hydrograph of Different Duration
- Lecture 59 - Numerical examples UH of Different Duration
- Lecture 60 - Instantaneous Unit Hydrograph
- Lecture 61 - Instantaneous Unit Hydrograph-Nash's Model
- Lecture 62 - Numerical Examples on IUH
- Lecture 63 - Synthetic Unit Hydrograph
- Lecture 64 - SCS-Synthetic Unit Hydrograph
- Lecture 65 - Numerical Examples on SUH
- Lecture 66 - Hydrograph Routing
- Lecture 67 - Reservoir Routing
- Lecture 68 - Numerical Example on Reservoir Routing

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- Lecture 69 - Hydrologic Channel Routing
- Lecture 70 - Numerical Examples on Channel Routing
- Lecture 71 - Summary of Module - V
- Lecture 72 - Hydrologic Statistics-Preliminary Concepts
- Lecture 73 - Probability Distribution and Basic Descriptive Statistics
- Lecture 74 - Probability Distributions
- Lecture 75 - Frequency Analysis
- Lecture 76 - Extreme Value Analysis
- Lecture 77 - Summary of Module - VI
- Lecture 78 - Hydrologic Design
- Lecture 79 - Numerical examples on probability and risk
- Lecture 80 - Design Storm
- Lecture 81 - Design Flood
- Lecture 82 - Summary of Module - VII
- Lecture 83 - Closure of Engineering Hydrology

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

NPTEL Video Course - Civil Engineering - NOC:Expansive Soil

Subject Co-ordinator - Prof. Anil Kumar Mishra

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Formation of soil
Lecture 2 - Index properties and classification of soil
Lecture 3 - Engineering properties of soil - I
Lecture 4 - Engineering properties of soil - II
Lecture 5 - Clay mineralogy
Lecture 6 - Properties of clay particles
Lecture 7 - Definition, type and behaviour
Lecture 8 - Mechanism of soil-water interaction
Lecture 9 - Swelling of expansive soil
Lecture 10 - Factors controlling DDL thickness
Lecture 11 - Determination of swelling properties
Lecture 12 - Classification and prediction
Lecture 13 - Factors controlling swelling of soil
Lecture 14 - Shrinkage behaviour of soil
Lecture 15 - Factors controlling shrinkage behavior of soils
Lecture 16 - Measurement of various shrinkage characteristics of soil
Lecture 17 - Cyclic Swelling-Shrinkage Behaviour of Soil
Lecture 18 - Thermo-Mechanical-Hydraulic-Chemical Behaviour - I
Lecture 19 - Thermo-Mechanical-Hydraulic-Chemical Behaviour - II
Lecture 20 - Thermo-Mechanical-Hydraulic-Chemical Behaviour - III
Lecture 21 - Mechanical Methods
Lecture 22 - Hydraulic methods
Lecture 23 - Chemical methods - 1
Lecture 24 - Chemical methods - 2
Lecture 25 - By inclusion or confinement
Lecture 26 - Foundation on expansive soil
Lecture 27 - Use of expansive soil for various geotechnical engineering applications
Lecture 28 - Closure lecture

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

NPTEL Video Course - Civil Engineering - NOC:Vibration of Continuous Systems

Subject Co-ordinator - Prof. Sudip Talukdar

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - General Introduction and Modelling of Dynamic Systems
Lecture 2 - Time Domain Analysis of Linear System - Harmonic input
Lecture 3 - Time Domain Analysis of Linear System - Arbitrary Input
Lecture 4 - Transformed technique in vibration of linear system
Lecture 5 - Formulation of problem: Equilibrium Approach
Lecture 6 - Formulation of problem by Energy Principle
Lecture 7 - Hamilton's principles for formulating vibration problems
Lecture 8 - Lagrange's equation for formulating vibration problems
Lecture 9 - One Dimensional Wave Equation
Lecture 10 - D'Alembert's Solution of the Wave Equation
Lecture 11 - Transverse Vibration of String
Lecture 12 - Forced Transverse Vibration of String
Lecture 13 - Axial Vibration of Bar
Lecture 14 - Torsional Vibration of Bar
Lecture 15 - Some typical problems in axial and torsional vibrations
Lecture 16 - Transverse vibration of beams
Lecture 17 - Natural frequencies and mode shapes of beams with various end conditions
Lecture 18 - Free damped transverse vibration analysis of beam
Lecture 19 - Forced damped vibration analysis of Euler Bernoulli beam
Lecture 20 - Vibration of beams subjected to moving load
Lecture 21 - Some special topics on the transverse vibration of beam
Lecture 22 - Combination of continuous and lumped parameter system
Lecture 23 - State space solutions in vibration problems
Lecture 24 - Beam with moving oscillator, pulsating force and rolling mass
Lecture 25 - Vibration of membrane
Lecture 26 - Vibration of Circular membrane
Lecture 27 - Vibration of Rectangular plate
Lecture 28 - Free vibration of rectangular plates
Lecture 29 - Forced vibration of rectangular plates

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- Lecture 30 - Approximate method for vibration analysis
- Lecture 31 - Rayleigh-Ritz method for vibration analysis
- Lecture 32 - Gallerkin's method and Finite difference method
- Lecture 33 - System subjected to support excitation
- Lecture 34 - Response of continuous systems to transient excitations
- Lecture 35 - Shock spectrum due to half sine pulse
- Lecture 36 - Numerical Evaluation of Duhamel Integral
- Lecture 37 - Direct Integration Methods
- Lecture 38 - Spectral Analysis of structures for earthquake excitation

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

NPTEL Video Course - Civil Engineering - NOC:Reliability-Based Structural Design

Subject Co-ordinator - Dr. Arunasis Chakarborty

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - Introduction
Lecture 2 - Random Variable
Lecture 3 - Functions of Random Variables
Lecture 4 - Joint Distributions
Lecture 5 - Mt. Gen. Func. and CLT
Lecture 6 - Theory of Estimation
Lecture 7 - Goodness of Fit
Lecture 8 - MVFOSM
Lecture 9 - MVFOSM (Continued...)
Lecture 10 - Hasofer-Lind Rel. Index
Lecture 11 - Rackwitz's Algorithm (Continued...)
Lecture 12 - HL-RF for Non-Normal Problems
Lecture 13 - HL-RF for Correlated Problems
Lecture 14 - FORM using MATLAB
Lecture 15 - FORM using MATLAB (Continued...)
Lecture 16 - FORM Using FEM
Lecture 17 - Morgenstern Model
Lecture 18 - Nataf Model
Lecture 19 - Rosenblatt Transformation
Lecture 20 - Brietung's Model
Lecture 21 - Tvedt's Model
Lecture 22 - Monte-Carlo Simulation
Lecture 23 - Importance Sampling
Lecture 24 - Least Square Curve Fitting
Lecture 25 - Orthogonal Polynomials
Lecture 26 - RSM
Lecture 27 - Stochastic Response Surface Method
Lecture 28 - Moving Least Square Method
Lecture 29 - Adaptive-SRSM

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- Lecture 30 - Partial Safety Factors
- Lecture 31 - Optimal Partial Safety Factors
- Lecture 32 - FORM - Revisited
- Lecture 33 - Subset Simulation
- Lecture 34 - Applications
- Lecture 35 - Applications (Continued...)
- Lecture 36 - Introduction to Stochastic FEM

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

NPTEL Video Course - Civil Engineering - NOC:Applied Seismology for Engineers

Subject Co-ordinator - Prof. Abhishek Kumar

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Plate tectonics and continental drift theory
- Lecture 2 - Fault Plane Solution - Part 1
- Lecture 3 - Fault Plane Solution - Part 2
- Lecture 4 - Fault Plane Solution (Stereonet)
- Lecture 5 - Seismic gaps
- Lecture 6 - Analogy of active and inactive fault
- Lecture 7 - Seismic waves and their use in locating EQ epicentre
- Lecture 8 - EQ Intensity, magnitude and wave attenuation
- Lecture 9 - Seismic source characterization and seismic activity
- Lecture 10 - Earthquake catalogue preparation and seismic activity parameters
- Lecture 11 - Ground motion simulation models and GMPEs
- Lecture 12 - Deterministic seismic hazard analysis (DSHA)
- Lecture 13 - Probabilistic seismic hazard analysis (PSHA)
- Lecture 14 - One Dimensional equation of motion: P wave
- Lecture 15 - One Dimensional equation of motion: S wave
- Lecture 16 - Solution to 1D equation of motion: S wave
- Lecture 17 - Local Site Effect (LSE) and Ground Response Analysis - Part I
- Lecture 18 - Local Site Effect (LSE) and Ground Response Analysis - Part II
- Lecture 19 - Ground Response Analysis - Part III
- Lecture 20 - Ground Response Analysis - Part IV
- Lecture 21 - State Criteria for Liquefaction - Part 1
- Lecture 22 - State Criteria for Liquefaction - Part 2
- Lecture 23 - Initiation of Liquefaction
- Lecture 24 - Assessment of Liquefaction Potential
- Lecture 25 - Paleoliquefaction
- Lecture 26 - Seismic Microzonation
- Lecture 27 - Landslides: Introduction and classification
- Lecture 28 - Seismic vulnerability and risk - Part 1
- Lecture 29 - Seismic vulnerability and risk - Part 2

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Lecture 30 - Seismic vulnerability and risk - Part 3

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

NPTEL Video Course - Civil Engineering - NOC:Structural Vibration

Subject Co-ordinator - Prof. Arunasis Chakarborty

Co-ordinating Institute - IIT - Guwahati

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

Lecture 1 - D'Alembert Principle and Degrees of Freedom
Lecture 2 - Simple Harmonic Motion
Lecture 3 - Examples
Lecture 4 - Undamped Free Vibration
Lecture 5 - Damped free vibration
Lecture 6 - Logarithmic Decrement and Coulomb Damped Free Vibration
Lecture 7 - Structural Damping
Lecture 8 - Damped Forced Vibration
Lecture 9 - Response due to Harmonic Excitation
Lecture 10 - Response due to Harmonic Excitation (Continued...)
Lecture 11 - Examples Set 1
Lecture 12 - Transmissibility and Support Motion Problem
Lecture 13 - Examples Set 2
Lecture 14 - Impulse Response function
Lecture 15 - Duhamel's Integral
Lecture 16 - Response in Frequency Domain
Lecture 17 - Response due to Periodic and Non Periodic Excitations
Lecture 18 - Nigam and Jennings and Central Difference method
Lecture 19 - Wilson Theta and Newmark Method
Lecture 20 - MATLAB Examples
Lecture 21 - Response Spectrum
Lecture 22 - MATLAB Code Generation
Lecture 23 - Generalized SDOF system
Lecture 24 - Rayleigh's Method and Calculus of Variation
Lecture 25 - Hamilton's Principle to Lagrange Equation
Lecture 26 - D'Alembert's Principle to Lagrange Equation
Lecture 27 - Hamilton's Canonical Form
Lecture 28 - Natural Frequencies and Mode shapes of MDOF system
Lecture 29 - Modal Orthogonality and Modal Decomposition

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

- Lecture 30 - Rayleigh Damping Model and Free Vibration
- Lecture 31 - Response Analysis in Time Domain
- Lecture 32 - Response Analysis in Frequency Domain
- Lecture 33 - Response History Analysis
- Lecture 34 - Response Spectrum Analysis
- Lecture 35 - Model Reduction Techniques
- Lecture 36 - Free Vibration of Beams
- Lecture 37 - Forced Vibration of Beams
- Lecture 38 - FE Modelling and Modal Analysis of a Building
- Lecture 39 - Modal Superposition Analysis of a Building
- Lecture 40 - Response Spectrum Analysis of a Building
- Lecture 41 - Modal Analysis of a Steel Bridge

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

NPTEL Video Course - Civil Engineering - NOC:Mechanics of Solids (2025)

Subject Co-ordinator - Prof. Arunasis Chakarborty

Co-ordinating Institute - IIT Guwahati

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

Lecture 1 - Introduction to Stress and Strain
Lecture 2 - Stress and Strain Behaviour
Lecture 3 - Problems on Stress and Strain
Lecture 4 - Normal and Shear Stress
Lecture 5 - 2D Stress Field
Lecture 6 - Principal Stresses
Lecture 7 - 2D Mohr Circle
Lecture 8 - 3D Stress Analysis
Lecture 9 - 3D Stress Analysis (Continued...)
Lecture 10 - 3D Principal Stresses and Planes
Lecture 11 - 3D Mohr Circle
Lecture 12 - Mohr Circle numerical examples
Lecture 13 - Octahedral Stresses
Lecture 14 - Plane Stress
Lecture 15 - Plane Stress Example
Lecture 16 - 3-D Strain Analysis
Lecture 17 - Principal strains
Lecture 18 - 3-D Strain numerical example
Lecture 19 - Strain Compatibility
Lecture 20 - Strain Compatibility numerical example
Lecture 21 - Stress-Strain relation
Lecture 22 - Stress-Strain relation (Continued...)
Lecture 23 - Failure theories
Lecture 24 - Simple beam bending theory
Lecture 25 - Bending stress in standard sections
Lecture 26 - Bending stress in built-up sections
Lecture 27 - Shear stress distribution
Lecture 28 - Shear stress distribution Example
Lecture 29 - Shear center

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- Lecture 30 - Shear center (Continued...)
- Lecture 31 - Double integration method
- Lecture 32 - Double integration with Macaulay's bracke
- Lecture 33 - Beam deflection example
- Lecture 34 - Beam deflection example (Continued...)
- Lecture 35 - Pure Torsion
- Lecture 36 - Shear Stress Distribution
- Lecture 37 - Power Transmission and Composite shaft
- Lecture 38 - Torsion with Warping
- Lecture 39 - Strain Energy
- Lecture 40 - Castigliano's theorems
- Lecture 41 - Castigliano's theorem example
- Lecture 42 - Castigliano's theorem for Indeterminate structure
- Lecture 43 - Castigliano's theorem for Indeterminate structure (Continued...)
- Lecture 44 - Column Buckling Theory
- Lecture 45 - Euler Buckling Load
- Lecture 46 - Column Buckling Example
- Lecture 47 - Rankine's Theory
- Lecture 48 - Column with Eccentric Load
- Lecture 49 - Beam-Column Concept

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

NPTEL Video Course - Civil Engineering - NOC:Pavement Construction Technology

Subject Co-ordinator - Prof. Rajan Choudhary

Co-ordinating Institute - IIT Guwahati

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

- Lecture 1 - Indian road infrastructure and different categories of roads
- Lecture 2 - Pavement types and their cross-sectional elements - Part A
- Lecture 3 - Pavement types and their cross-sectional elements - Part B
- Lecture 4 - Subgrade course and its function - Part A
- Lecture 5 - Subgrade course and its function - Part B
- Lecture 6 - Unbound courses and their functions - Part A
- Lecture 7 - Unbound courses and their functions - Part B
- Lecture 8 - Bituminous bound courses and their function - Part A
- Lecture 9 - Bituminous bound courses and their function - Part B
- Lecture 10 - Characterization of materials for use in pavement subgrade - Part A
- Lecture 11 - Characterization of materials for use in pavement subgrade - Part B
- Lecture 12 - Physical and mechanical requirements of materials for granular courses
- Lecture 13 - Physical and mechanical characteristics of bituminous-bound materials - Part A
- Lecture 14 - Physical and mechanical characteristics of bituminous-bound materials - Part B
- Lecture 15 - Mix design of unbound/granular course during construction - Part A
- Lecture 16 - Mix design of unbound/granular course during construction - Part B
- Lecture 17 - Mix design of bituminous bound courses during construction - Part A
- Lecture 18 - Mix design of bituminous bound courses during construction - Part B
- Lecture 19 - Mix design of thin bituminous courses for rural roads
- Lecture 20 - Equipment and their use in pavement subgrade construction - Part A
- Lecture 21 - Equipment and their use in pavement subgrade construction - Part B
- Lecture 22 - Field tests to ensure pavement subgrade quality
- Lecture 23 - Construction process of granular/unbound courses: Production, laying and compaction - Part A
- Lecture 24 - Construction process of granular/unbound courses: Production, laying and compaction - Part B
- Lecture 25 - Field tests to ensure the construction quality of granular courses
- Lecture 26 - Construction equipment and process for bituminous bound courses - Part A
- Lecture 27 - Construction equipment and process for bituminous bound courses - Part B
- Lecture 28 - Field tests to ensure construction quality of bituminous bound courses
- Lecture 29 - Quality control and quality assurance of pavement subgrade and the pavement granular courses - Part A

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

- Lecture 30 - Quality control and quality assurance of pavement subgrade and the pavement granular courses - Part A
- Lecture 31 - Quality control and quality assurance of bituminous bound courses
- Lecture 32 - Pavement markings and their construction
- Lecture 33 - Roadside safety features and their installation/construction
- Lecture 34 - Structural Evaluation Using Benkelman Beam and Falling Weight Deflectometer - Part A
- Lecture 35 - Structural Evaluation Using Benkelman Beam and Falling Weight Deflectometer - Part B
- Lecture 36 - Pavement roughness and its determination
- Lecture 37 - Pavement skid resistance and its measurement
- Lecture 38 - Pavement distress types - Part A
- Lecture 39 - Pavement distress types - Part B
- Lecture 40 - Pavement distress causes and their treatments - Part A
- Lecture 41 - Pavement distress causes and their treatments - Part B
- Lecture 42 - Treatment for different pavement construction defects
- Lecture 43 - Recycling of bituminous pavements: hot mix plant and hot-in-place recycling
- Lecture 44 - Design of recycled mixes
- Lecture 45 - Recycling equipment and full-depth reclamation - Part A
- Lecture 46 - Recycling equipment and full-depth reclamation - Part B

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

NPTEL Video Course - Civil Engineering - NOC:Blast and Impact Resistant Structures

Subject Co-ordinator - Prof. Hrishikesh Sharma

Co-ordinating Institute - IIT Guwahati

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

Lecture 1 - Introduction and general considerations of Extreme Events - Part I
Lecture 2 - Introduction and general considerations of Extreme Events - Part II
Lecture 3 - Introduction and general considerations of Extreme Events - Part III
Lecture 4 - Equivalent Static Approximation - Part I
Lecture 5 - Equivalent Static Approximation - Part II
Lecture 6 - Elementary impact and stress wave considerations - Part I
Lecture 7 - Elementary impact and stress wave considerations - Part II
Lecture 8 - Elementary impact and stress wave considerations - Part III
Lecture 9 - Elementary impact and stress wave considerations - Part IV
Lecture 10 - Elementary impact and stress wave considerations - Part V
Lecture 11 - Energy-absorbing systems - Part I
Lecture 12 - Energy-absorbing systems - Part II
Lecture 13 - Energy-absorbing systems - Part III
Lecture 14 - Energy-absorbing systems - Part IV
Lecture 15 - Energy-absorbing systems - Part V
Lecture 16 - Structural elements subjected to impact - Part I
Lecture 17 - Structural elements subjected to impact - Part II
Lecture 18 - Structural elements subjected to impact - Part III
Lecture 19 - Structural elements subjected to impact - Part IV
Lecture 20 - Structural elements subjected to impact - Part V
Lecture 21 - Dynamic properties of ductile materials - Part I
Lecture 22 - Dynamic properties of ductile materials - Part II
Lecture 23 - Dynamic properties of ductile materials - Part III
Lecture 24 - Dynamic properties of ductile materials - Part IV
Lecture 25 - Dynamic properties of ductile materials - Part V
Lecture 26 - Blast Effects and design requirements - Part I
Lecture 27 - Blast Effects and design requirements - Part II
Lecture 28 - Blast Effects and design requirements - Part III
Lecture 29 - Loading on structures caused by external air blasts-A - Part I

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

- Lecture 30 - Loading on structures caused by external air blasts-A - Part II
- Lecture 31 - Loading on structures caused by external air blasts-B - Part I
- Lecture 32 - Loading on structures caused by external air blasts-B - Part II
- Lecture 33 - Analysis and Design Methods - Part I
- Lecture 34 - Analysis and Design Methods - Part II
- Lecture 35 - Analysis and Design Methods - Part III
- Lecture 36 - Analysis and Design Methods - Part IV
- Lecture 37 - Analysis and Design Methods - Part V
- Lecture 38 - Analysis and Design Methods - Part VI
- Lecture 39 - Analysis and Design Methods - Part VII
- Lecture 40 - Failure Mechanism of Structural Elements
- Lecture 41 - Dynamic Buckling of Structures - Part I
- Lecture 42 - Dynamic Buckling of Structures - Part II
- Lecture 43 - Dynamic Buckling of Structures - Part III
- Lecture 44 - Dynamic Buckling of Structures - Part IV
- Lecture 45 - Dynamic Buckling of Structures - Part V
- Lecture 46 - Two-degree-of-freedom (2DOF) analysis methods - Part I
- Lecture 47 - Two-degree-of-freedom (2DOF) analysis methods - Part II
- Lecture 48 - Two-degree-of-freedom (2DOF) analysis methods - Part III
- Lecture 49 - Two-degree-of-freedom (2DOF) analysis methods - Part IV
- Lecture 50 - Two-degree-of-freedom (2DOF) analysis methods - Part V
- Lecture 51 - Multi-degree-of-freedom (MDOF) methods for analysis of structural elements subject to impact - Part I
- Lecture 52 - Multi-degree-of-freedom (MDOF) methods for analysis of structural elements subject to impact - Part II
- Lecture 53 - Multi-degree-of-freedom (MDOF) methods for analysis of structural elements subject to impact - Part III
- Lecture 54 - Multi-degree-of-freedom (MDOF) methods for analysis of structural elements subject to impact - Part IV
- Lecture 55 - Multi-degree-of-freedom (MDOF) methods for analysis of structural elements subject to impact - Part V
- Lecture 56 - MDOF methods for analysis of structural elements subject to blast - Part I
- Lecture 57 - MDOF methods for analysis of structural elements subject to blast - Part II
- Lecture 58 - MDOF methods for analysis of structural elements subject to blast - Part III
- Lecture 59 - MDOF methods for analysis of structural elements subject to blast - Part IV
- Lecture 60 - MDOF methods for analysis of structural elements subject to blast - Part V

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

NPTEL Video Course - Civil Engineering - NOC:Remote Sensing for Natural Hazard Studies

Subject Co-ordinator - Prof. Rishikesh Bharti

Co-ordinating Institute - IIT Guwahati

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

Lecture 1 - Introduction to Remote Sensing
Lecture 2 - Basics of Remote Sensing - I
Lecture 3 - Basics of Remote Sensing - II
Lecture 4 - Errors in Remote Sensing - I
Lecture 5 - Errors in Remote Sensing - II
Lecture 6 - Optical Remote Sensing
Lecture 7 - Microwave Remote Sensing - I : Part A
Lecture 8 - Microwave Remote Sensing - I : Part B
Lecture 9 - Microwave Remote Sensing - II : Part A
Lecture 10 - Microwave Remote Sensing - II : Part B
Lecture 11 - Hyperspectral Data Acquisition and Processing - Part A
Lecture 12 - Hyperspectral Data Acquisition and Processing - Part B
Lecture 13 - Remote Sensing Data Analysis - I : Part A
Lecture 14 - Remote Sensing Data Analysis - I : Part B
Lecture 15 - Remote Sensing Data Analysis - II : Part A
Lecture 16 - Remote Sensing Data Analysis - II : Part B
Lecture 17 - Data Type and Remote Sensing Products - Part A
Lecture 18 - Data Type and Remote Sensing Products - Part B
Lecture 19 - Introduction to Geographical Information System for Data Analysis - Part A
Lecture 20 - Introduction to Geographical Information System for Data Analysis - Part B
Lecture 21 - Potential of Remote Sensing and GIS in Hazard Studies: Overview - Part A
Lecture 22 - Potential of Remote Sensing and GIS in Hazard Studies: Overview - Part B
Lecture 23 - Introduction to Floods - I : Part A
Lecture 24 - Introduction to Floods - I : Part B
Lecture 25 - Introduction to Floods - II : Part A
Lecture 26 - Introduction to Floods - II : Part B
Lecture 27 - Remote Sensing for River Planform Studies - Part A
Lecture 28 - Remote Sensing for River Planform Studies - Part B
Lecture 29 - Remote Sensing for Floods - I : Part A

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Lecture 30 - Remote sensing for Floods - I : Part B
Lecture 31 - Remote Sensing for Floods - II : Part A
Lecture 32 - Remote Sensing for Floods - II : Part B
Lecture 33 - Remote Sensing for River Health - Part A
Lecture 34 - Remote Sensing for River Health - Part B
Lecture 35 - The Cryosphere - Part A
Lecture 36 - The Cryosphere - Part B
Lecture 37 - Introduction to Cryosphere Hazards - Part A
Lecture 38 - Introduction to Cryosphere Hazards - Part B
Lecture 39 - Dynamics of Snow and Glacier - Part A
Lecture 40 - Dynamics of Snow and Glacier - Part B
Lecture 41 - Geophysical Parameters of Snow - 1 : Part A
Lecture 42 - Geophysical Parameters of Snow - 1 : Part B
Lecture 43 - Geophysical Parameters of Snow - 2 : Part A
Lecture 44 - Geophysical Parameters of Snow - 2 : Part B
Lecture 45 - Seismic Impacts on Himalayan Glaciers - Part A
Lecture 46 - Seismic Impacts on Himalayan Glaciers - Part B
Lecture 47 - Introduction to Glacial Lake Outburst Floods - Part A
Lecture 48 - Introduction to Glacial Lake Outburst Floods - Part B
Lecture 49 - Glacial Lake Vulnerability Assessment - Part A
Lecture 50 - Glacial Lake Vulnerability Assessment - Part B
Lecture 51 - Avalanche Studies - Part A
Lecture 52 - Avalanche Studies - Part B
Lecture 53 - Introduction to Landslides - Part A
Lecture 54 - Introduction to Landslides - Part B
Lecture 55 - Remote Sensing for Landslide Studies - 1 : Part A
Lecture 56 - Remote Sensing for Landslide Studies - 1 : Part B
Lecture 57 - Remote Sensing for Landslide Studies - 2 : Part A
Lecture 58 - Remote Sensing for Landslide Studies - 2 : Part B
Lecture 59 - Introduction to Liquefaction - Part A
Lecture 60 - Introduction to Liquefaction - Part B
Lecture 61 - Remote Sensing for Liquefaction Studies - 1 : Part A
Lecture 62 - Remote Sensing for Liquefaction Studies - 1 : Part B
Lecture 63 - Remote Sensing for Liquefaction Studies - 2 : Part A
Lecture 64 - Remote Sensing for Liquefaction Studies - 2 : Part B
Lecture 65 - Introduction to Drought - Part A
Lecture 66 - Introduction to Drought - Part B
Lecture 67 - Remote Sensing for Drought Assessment - Part A
Lecture 68 - Remote Sensing for Drought Assessment - Part B

Lecture 69 - Present and Future Scopes

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

NPTEL Video Course - Civil Engineering - Advanced Hydrology

Subject Co-ordinator - Dr. Ashu Jain

Co-ordinating Institute - IIT - Kanpur

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
Lecture 12
Lecture 13
Lecture 14
Lecture 15
Lecture 16
Lecture 17
Lecture 18
Lecture 19
Lecture 20
Lecture 21
Lecture 22
Lecture 23
Lecture 24
Lecture 25
Lecture 26
Lecture 27
Lecture 28
Lecture 29

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Lecture 30
Lecture 31
Lecture 32
Lecture 33
Lecture 34
Lecture 35
Lecture 36
Lecture 37
Lecture 38
Lecture 39
Lecture 40
Lecture 41
Lecture 42
Lecture 43
Lecture 44

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

NPTEL Video Course - Civil Engineering - Concrete Engineering and Technology

Subject Co-ordinator - Dr. Sudhir Misra

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction and course overview
- Lecture 2 - Constituents of concrete - Part 1 of 2
- Lecture 3 - Constituents of concrete - Part 2 of 2
- Lecture 4 - Admixtures in concrete â mineral and chemical
- Lecture 5 - Hydration of cement
- Lecture 6 - Basic properties of concrete
- Lecture 7 - Proportioning of concrete mixes - Part 1 of 3
- Lecture 8 - Proportioning of concrete mixes - Part 2 of 3
- Lecture 9 - Proportioning of concrete mixes - Part 3 of 3
- Lecture 10 - Pores and porosity in concrete
- Lecture 11 - Porosimetry â measuring pores in concrete
- Lecture 12 - Principles of quality control in concrete construction
- Lecture 13 - Quality control and acceptance criteria for concrete based on compressive strength
- Lecture 14 - Fibre reinforced concrete
- Lecture 15 - High strength concrete
- Lecture 16 - Mass concrete - Part 1 of 2
- Lecture 17 - Mass concrete - Part 2 of 2
- Lecture 18 - Concreting in cold weather
- Lecture 19 - Concreting in hot weather
- Lecture 20 - Roller compacted concrete
- Lecture 21 - Self-compacting concrete
- Lecture 22 - Testing self-compacting concrete
- Lecture 23 - Shotcrete and underwater concrete
- Lecture 24 - Alkali â aggregate reaction - Part 1 of 2
- Lecture 25 - Alkali â aggregate reaction - Part 2 of 2
- Lecture 26 - Reinforcement corrosion in concrete
- Lecture 27 - Chloride penetration in concrete
- Lecture 28 - Using epoxy-coated bars in concrete structures
- Lecture 29 - Using FRP as reinforcement in concrete structures - Part 1 of 2

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- Lecture 30 - Using FRP as reinforcement in concrete structures - Part 2 of 2
- Lecture 31 - Grouting and importance of formwork in concrete construction
- Lecture 32 - Carbonation and freezing & thawing in concrete structures
- Lecture 33 - Using recycled aggregates in concrete construction
- Lecture 34 - Basic non-destructive testing for concrete structures
- Lecture 35 - Measuring permeability in concrete
- Lecture 36 - Some additional topics
- Lecture 37 - Considerations in repair of concrete structures - Part 1 of 2
- Lecture 38 - Considerations in repair of concrete structures - Part 2 of 2
- Lecture 39 - Laboratory demonstration
- Lecture 40 - Review of the course

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

NPTEL Video Course - Civil Engineering - Environmental Air Pollution

Subject Co-ordinator - Prof. Mukesh Sharma

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Atmosphere
Lecture 2 - Air Pollution Systems
Lecture 3 - Air Quality Standards
Lecture 4 - Types and Forms of Air Pollutants
Lecture 5 - Measurement Units and Particulate classification
Lecture 6 - Interpretation and Particle size Distribution
Lecture 7 - Atmospheric formation of Air Pollutants - I
Lecture 8 - Atmospheric formation of Air Pollutants - II
Lecture 9 - Atmospheric formation of Air Pollutants - III
Lecture 10 - Kinetics of Air pollution and combustion processes
Lecture 11 - Internal Combustion Engine and Air Pollution - I
Lecture 12 - Internal Combustion Engine and Air Pollution - II
Lecture 13 - Air Pollution and Health - I
Lecture 14 - Air Pollution and Health - II
Lecture 15 - Emission Inventory
Lecture 16 - Sources of Air Pollution
Lecture 17 - Emission from Fugitive Sources and Sulfuric Acid Production
Lecture 18 - Aluminium Production and Air Pollution - I
Lecture 19 - Aluminium Production and Air Pollution - II
Lecture 20 - Coke Production and Air Pollution
Lecture 21 - Examples for Practice
Lecture 22 - Meteorological Measurements and their interpretation
Lecture 23 - Examples for Practice - Dispersion Modeling
Lecture 24 - Vertical Temperature Profile of Atmosphere
Lecture 25 - Stability, Mixing Height and Plume Behavior - I
Lecture 26 - Stability, Mixing Height and Plume Behavior - II
Lecture 27 - Examples - Solar Radiation Based Stability Calculation
Lecture 28 - Air Quality Modeling - I
Lecture 29 - Air Quality Modeling - II

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

- Lecture 30 - Derivation of Gaussian Model
- Lecture 31 - Gaussian Model - Useful Formulation
- Lecture 32 - Plume rise, Area and Line Source Model
- Lecture 33 - Air Quality Modeling - Maximum Ground Level concentration
- Lecture 34 - Examples of Air Quality Modeling
- Lecture 35 - Air Pollution Control Devices - I
- Lecture 36 - Air Pollution Control Devices - II
- Lecture 37 - Source Emission Monitoring
- Lecture 38 - Receptor Source Modeling
- Lecture 39 - Environmental laws

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NPTEL Video Course - Civil Engineering - Surveying

Subject Co-ordinator - Dr. Bharat Lohani

Co-ordinating Institute - IIT - Kanpur

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

Module 1 - Lecture 1
Module 2 - Lecture 1
Module 2 - Lecture 2
Module 2 - Lecture 3
Module 2 - Lecture 4
Module 2 - Lecture 5
Module 3 - Lecture 1
Module 3 - Lecture 2
Module 3 - Lecture 3
Module 3 - Lecture 4
Module 4 - Lecture 1
Module 4 - Lecture 2
Module 5 - Lecture 1
Module 5 - Lecture 2
Module 5 - Lecture 3
Module 5 - Lecture 4
Module 5 - Lecture 5
Module 5 - Lecture 6
Module 6 - Lecture 1
Module 6 - Lecture 2
Module 6 - Lecture 3
Module 7 - Lecture 1
Module 7 - Lecture 2
Module 7 - Lecture 3
Module 7 - Lecture 4
Module 7 - Lecture 5
Module 8 - Lecture 1
Module 8 - Lecture 2
Module 9 - Lecture 1

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Module 9 - Lecture 2
Module 9 - Lecture 3
Module 9 - Lecture 4
Module 9 - Lecture 5
Module 10 - Lecture 1
Module 11 - Lecture 1
Module 11 - Lecture 2
Module 11 - Lecture 3
Module 12 - Lecture 1
Module 12 - Lecture 2
Module 12 - Lecture 3

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NPTEL Video Course - Civil Engineering - Water Resources Engineering

Subject Co-ordinator - Dr. Pranab K Mohapatra, Prof. Rajesh Srivastava

Co-ordinating Institute - IIT - Kanpur

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
Lecture 12
Lecture 13
Lecture 14
Lecture 15
Lecture 16
Lecture 17
Lecture 18
Lecture 19
Lecture 20
Lecture 21
Lecture 22
Lecture 23
Lecture 24
Lecture 25 (Lecture Missing)
Lecture 26
Lecture 27
Lecture 28
Lecture 29

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

NPTEL Video Course - Civil Engineering - Geotechnical Measurements and Explorations

Subject Co-ordinator - Dr. Nihar Ranjan Patra

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Geotechnical Measurements & Explorations
Lecture 2 - Geotechnical Measurements & Explorations
Lecture 3 - Geotechnical Measurements & Explorations
Lecture 4 - Geotechnical Measurements & Explorations
Lecture 5 - Geotechnical Measurements & Explorations
Lecture 6 - Geotechnical Measurements & Explorations
Lecture 7 - Geotechnical Measurements & Explorations
Lecture 8 - Geotechnical Measurements & Explorations
Lecture 9 - Geotechnical Measurements & Explorations
Lecture 10 - Geotechnical Measurements & Explorations
Lecture 11 - Geotechnical Measurements & Explorations
Lecture 12 - Geotechnical Measurements & Explorations
Lecture 13 - Geotechnical Measurements & Explorations
Lecture 14 - Geotechnical Measurements & Explorations
Lecture 15 - Geotechnical Measurements & Explorations
Lecture 16 - Geotechnical Measurements & Explorations
Lecture 17 - Geotechnical Measurements & Explorations
Lecture 18 - Geotechnical Measurements & Explorations
Lecture 19 - Geotechnical Measurements & Explorations
Lecture 20 - Geotechnical Measurements & Explorations
Lecture 21 - Geotechnical Measurements & Explorations
Lecture 22 - Geotechnical Measurements & Explorations
Lecture 23 - Geotechnical Measurements & Explorations
Lecture 24 - Geotechnical Measurements & Explorations
Lecture 25 - Geotechnical Measurements & Explorations
Lecture 26 - Geotechnical Measurements & Explorations
Lecture 27 - Geotechnical Measurements & Explorations
Lecture 28 - Geotechnical Measurements & Explorations
Lecture 29 - Geotechnical Measurements & Explorations

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Lecture 30 - Geotechnical Measurements & Explorations
Lecture 31 - Geotechnical Measurements & Explorations
Lecture 32 - Geotechnical Measurements & Explorations
Lecture 33 - Geotechnical Measurements & Explorations
Lecture 34 - Geotechnical Measurements & Explorations
Lecture 35 - Geotechnical Measurements & Explorations
Lecture 36 - Geotechnical Measurements & Explorations
Lecture 37 - Geotechnical Measurements & Explorations
Lecture 38 - Geotechnical Measurements & Explorations
Lecture 39 - Geotechnical Measurements & Explorations
Lecture 40 - Geotechnical Measurements & Explorations

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

NPTEL Video Course - Civil Engineering - Application of Soil Mechanics

Subject Co-ordinator - Dr. Nihar Ranjan Patra

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Application of Soil Mechanics
Lecture 2 - Application of Soil Mechanics
Lecture 3 - Application of Soil Mechanics
Lecture 4 - Application of Soil Mechanics
Lecture 5 - Application of Soil Mechanics
Lecture 6 - Application of Soil Mechanics
Lecture 7 - Application of Soil Mechanics
Lecture 8 - Application of Soil Mechanics
Lecture 9 - Application of Soil Mechanics
Lecture 10 - Application of Soil Mechanics
Lecture 11 - Application of Soil Mechanics
Lecture 12 - Application of Soil Mechanics
Lecture 13 - Application of Soil Mechanics
Lecture 14 - Application of Soil Mechanics
Lecture 15 - Application of Soil Mechanics
Lecture 16 - Application of Soil Mechanics
Lecture 17 - Application of Soil Mechanics
Lecture 18 - Application of Soil Mechanics
Lecture 19 - Application of Soil Mechanics
Lecture 20 - Application of Soil Mechanics
Lecture 21 - Application of Soil Mechanics
Lecture 22 - Application of Soil Mechanics
Lecture 23 - Application of Soil Mechanics
Lecture 24 - Application of Soil Mechanics
Lecture 25 - Application of Soil Mechanics
Lecture 26 - Application of Soil Mechanics
Lecture 27 - Application of Soil Mechanics
Lecture 28 - Application of Soil Mechanics
Lecture 29 - Application of Soil Mechanics

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

Lecture 30 - Application of Soil Mechanics
Lecture 31 - Application of Soil Mechanics
Lecture 32 - Application of Soil Mechanics
Lecture 33 - Application of Soil Mechanics
Lecture 34 - Application of Soil Mechanics
Lecture 35 - Application of Soil Mechanics
Lecture 36 - Application of Soil Mechanics
Lecture 37 - Application of Soil Mechanics
Lecture 38 - Application of Soil Mechanics
Lecture 39 - Application of Soil Mechanics
Lecture 40 - Application of Soil Mechanics

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

NPTEL Video Course - Civil Engineering - NOC:Geology and Soil Mechanics

Subject Co-ordinator - Dr. Priyanka Ghosh

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Description of soil, Engineering Geology Of Soils and Thier Formation
Lecture 2 - Index Properties Of Soil
Lecture 3 - Index Properties Of Soil - A
Lecture 4 - Index Properties Of Soil - B
Lecture 5 - Index Properties Of Soil - C
Lecture 6 - Index Properties Of soil - D
Lecture 7 - Classification Of Soils - A
Lecture 8 - Classification Of Soils - B
Lecture 9 - Classification Of Soils And Clay Mineralogy - A
Lecture 10 - Classification Of Soils And Clay Mineralogy - B
Lecture 11 - Soil compaction - A
Lecture 12 - Soil compaction - B
Lecture 13 - Soil compaction - C
Lecture 14 - Soil compaction - D
Lecture 15 - Soil compaction and Permeability
Lecture 16 - Permeability - A
Lecture 17 - Permeability - B
Lecture 18 - Permeability - C
Lecture 19 - Problems on permeability
Lecture 20 - Seepage
Lecture 21 - Seepage - A
Lecture 22 - Seepage - B
Lecture 23 - Seepage and In situ stress
Lecture 24 - In situ stresses - A
Lecture 25 - In situ stresses - B
Lecture 26 - In situ stresses - A
Lecture 27 - In situ stresses - B
Lecture 28 - In situ stresses - C
Lecture 29 - Consolidation - A

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Lecture 30 - Consolidation - B
Lecture 31 - Consolidation - A
Lecture 32 - Consolidation - B
Lecture 33 - Consolidation - C
Lecture 34 - Consolidation - D
Lecture 35 - Consolidation - E
Lecture 36 - Consolidation - F
Lecture 37 - Shear strength of Soil - A
Lecture 38 - Shear strength of Soil - B
Lecture 39 - Shear strength of Soil - C
Lecture 40 - Shear Strength of Soils
Lecture 41 - Shear Strength of Soils.
Lecture 42 - Shear Strength of Soils..
Lecture 43 - Shear strength of Soil
Lecture 44 - Shear strength of Soil- e
Lecture 45 - Shear strength of Soil_B
Lecture 46 - Problem on shear strength of soil
Lecture 47 - Problem on shear strength of soil -a
Lecture 48 - Problem on shear strength of soil -a
Lecture 49 - Earth Pressure on retaining wall
Lecture 50 - Earth Pressure on retaining wall -A
Lecture 51 - Tutorial on Index properties of soil
Lecture 52 - Tutorial on compaction
Lecture 53 - Tutorial on Permeability - a
Lecture 54 - Tutorial on Permeability - b
Lecture 55 - Tutorial On Consoildation
Lecture 56 - Tutorial on consoildation - a
Lecture 57 - Tutorial on Sheer Strength
Lecture 58 - Tutorial on Sheer Strength - a
Lecture 59 - Earth Pressure on Retaining Wall - a
Lecture 60 - Earth Pressure on Retaining Wall - 1
Lecture 61 - Earth Pressure Theories and Problems on Earth Pressure on Retaining Wall
Lecture 62 - Problems on Earth Pressure on Retaining Wall Edit Lesson
Lecture 63 - Problems on Earth Pressure on Retaining Wall - 2
Lecture 64 - Problems on Earth Pressure Theories - 3
Lecture 65 - Problems on Earth Pressure Theories - 4

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

NPTEL Video Course - Civil Engineering - NOC:Engineering Graphics

Subject Co-ordinator - Dr. Nihar Ranjan Patra

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Course Objectives, Lettering and Numbering
Lecture 2 - Geometric Constructions - Part I
Lecture 3 - Geometric Constructions - Part II
Lecture 4 - Orthographic Projections - Part I
Lecture 5 - Orthographic Projections - Part II
Lecture 6 - Orthographic Projections - Part III
Lecture 7 - Orthographic Projections - Part IV
Lecture 8 - Orthographic Projections - Part V
Lecture 9 - Isometric Projections - Part I
Lecture 10 - Isometric Projections - Part II
Lecture 11 - Isometric Projections - Part III
Lecture 12 - Isometric Projections - Part IV
Lecture 13 - Isometric Projections - Part V and Oblique Projections - Part I
Lecture 14 - Oblique Projections - Part II
Lecture 15 - Sectioning
Lecture 16 - Hatching
Lecture 17 - Orthographic Projections - Assemblies
Lecture 18 - Missing Lines and Missing Views
Lecture 19 - Perspective View - Part I
Lecture 20 - Perspective View - Part II
Lecture 21 - Perspective View - Part III
Lecture 22 - Angular Perspective and Circles in perspective
Lecture 23 - Perspective View examples and Space Geometry
Lecture 24 - Space Geometry (Continued...)
Lecture 25 - True Length, Point View and Slope of Oblique lines
Lecture 26 - Space Geometry - Introduction
Lecture 27 - Space Geometry - Part 2
Lecture 28 - Auxiliary View, Lines, Planes
Lecture 29 - Relationship between Lines and Planes, Planes and Planes

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

Lecture 30 - Intersection of Solids
Lecture 31 - AUTOCAD
Lecture 32 - Development of Surfaces

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

NPTEL Video Course - Civil Engineering - NOC:Earth Sciences for Civil Engineering

Subject Co-ordinator - Prof. Javed N. Malik

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Geosciences in Civil Engineering - Part 1

Lecture 2 - Introduction to Geosciences in Civil Engineering - Part 2

Lecture 3 - Plate Tectonics and Continental Drift - Part 2

Lecture 4 - Plate Tectonics and Continental Drift - Part 3

Lecture 5 - Plate Tectonics and Continental Drift - Part 4

Lecture 6 - Rock Forming Minerals and their Properties - Part 1

Lecture 7 - Rock types and their Properties - Part 1

Lecture 8 - Rock types and their Properties - Part 2

Lecture 9 - Rock types and their Properties - Part 3

Lecture 10 - Rock types and their Properties - Part 4

Lecture 11 - Rock types and their properties - Part 5

Lecture 12 - Rock types and their properties - Part 6

Lecture 13 - Rock types and their properties - Part-6 Seismology and the internal structure of the earth - Part 1

Lecture 14 - Seismology and the internal structure of the earth - Part 2

Lecture 15 - Seismology and the internal structure of the earth - Part 3 Edit Lesson

Lecture 16 - Seismology and the internal structure of the earth - Part 4

Lecture 17 - Seismology and the internal structure of the earth - Part 5 and Geological Structures - Part 1

Lecture 18 - Geological Structures - Part 2

Lecture 19 - Geological Structures - Part 3

Lecture 20 - Geological Structures - Part 4

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

NPTEL Video Course - Civil Engineering - NOC:Earth Sciences for Civil Engineering - Part 2

Subject Co-ordinator - Prof. Javed N. Malik

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Geological Hazards and Enviromental Impact - Part 1

Lecture 2 - Introduction to Geological Hazards and Enviromental Impact - Part 2

Lecture 3 - Introduction to Geological Hazards and Enviromental Impact - Part 3

Lecture 4 - Active Faults and its Related Hazards in India - Part 1

Lecture 5 - Active Faults and its Related Hazards in India - Part 2

Lecture 6 - Active faults and its related hazards in India - Part 3

Lecture 7 - Active faults and its related hazards in India - Part 4

Lecture 8 - Active faults its related hazards in India - Part 5

Lecture 9 - Active faults its related hazards in India - Part 6

Lecture 10 - Active faults its related hazards in India - Part 7 and Civil Engineering applications - geologi

Lecture 11 - Civil Engineering applications Â geological considerations in dams, tunnels - Part 2

Lecture 12 - Civil Engineering applications Â geological considerations in dams, tunnels - Part 3 and Tsunan

Lecture 13 - Tsunami and related hazard - Part 2

Lecture 14 - Tsunami and related hazard - Part 3

Lecture 15 - Landslide and subsidence - Part 1

Lecture 16 - Landslide and subsidence - Part 2

Lecture 17 - Landslide and subsidence - Part 3

Lecture 18 - Flood and related hazard - Part 1

Lecture 19 - Flood and related hazard - Part 2

Lecture 20 - Groundwater

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

NPTEL Video Course - Civil Engineering - NOC:Hydration, Porosity and Strength of Cementitious Materials

Subject Co-ordinator - Dr. Satyaki Roy, Dr. Sudhir Misra

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Lecture 1 - Introduction to the course
Lecture 2 - Lecture 2 - Concrete - A Three Phase System
Lecture 3 - Lecture 3 - Basic Properties of Concrete
Lecture 4 - Lecture 4 - Portland Cement
Lecture 5 - Lecture 5 - Portland Cement (Continued...)
Lecture 6 - Lecture 6 - Introduction (Aggregates) - 1
Lecture 7 - Lecture 7 - Introduction (Aggregates) - 2
Lecture 8 - Lecture 8 - Introduction (Aggregates) - 3
Lecture 9 - Lecture 9 - Introduction (Concrete Mixture Proportioning Strategies)
Lecture 10 - Lecture 10 - Introduction (Chemical Admixtures)
Lecture 11 - Lecture-11 - Portland Cement Based Paste Systems - I
Lecture 12 - Lecture 12 - Portland Cement Based Paste Systems - II
Lecture 13 - Lecture 13 - Portland Cement Based Paste Systems - III
Lecture 14 - Lecture 14 - Portland Cement Paste Based Systems - IV
Lecture 15 - Lecture 15 - Portland Cement Based Paste Systems - V
Lecture 16 - Lecture 16 - 18 Part 1 - Portland Cement Based Paste Systems - VI
Lecture 17 - Lecture 16 - 18 Part 2 - Portland Cement Based Paste Systems - VII
Lecture 18 - Lecture 19 - Heat of hydration of Portland Cement
Lecture 19 - Lecture 20 - Mass Concrete
Lecture 20 - Lecture 21-22 - Mineral Admixtures - 1
Lecture 21 - Lecture 23-24 - Mineral Admixtures - 2
Lecture 22 - Lecture 25-27 - Mineral Admixtures - 3
Lecture 23 - Lecture 28-30 - Mineral Admixtures - 4
Lecture 24 - Lecture 31 - From paste to concrete
Lecture 25 - Lecture 32 - Demonstration
Lecture 26 - Lecture 33 - Pores and porosity - A revisit
Lecture 27 - Lecture 34 - Measuring permeability of concrete
Lecture 28 - Lecture 35 - Behavior under load
Lecture 29 - Lecture 36 - Curing of concrete

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

Lecture 30 - Lecture 37 - Stress strain behaviour
Lecture 31 - Lecture 38 - Durability of concrete - I
Lecture 32 - Lecture 39 - Durability of concrete - II - Specifications

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

NPTEL Video Course - Civil Engineering - NOC:Mechanics of Solids

Subject Co-ordinator - Dr. Priyanka Ghosh

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Course Handout
Lecture 2 - Analysis of Mechanical System
Lecture 3 - Conditions of equilibrium in 2D and 3D
Lecture 4 - FBD with examples on modelling of typical supports and joints
Lecture 5 - Support Conditions
Lecture 6 - FBD of Frame Structures
Lecture 7 - Stability of Truss
Lecture 8 - Solutions of Plane Truss
Lecture 9 - Method of Sections
Lecture 10 - Friction 2
Lecture 11 - Tutorial on Truss
Lecture 12 - Tutorial on Friction
Lecture 13 - Force Displacement Relationship
Lecture 14 - Hoop Stresses
Lecture 15 - Mechanism of belt around wheel
Lecture 16 - Tutorial on Force Displacement Relationship and Geometric Compatibility - 1
Lecture 17 - Tutorial on Force Displacement Relationship and Geometric Compatibility - 2
Lecture 18 - Tutorial on Force Displacement Relationship and Geometric Compatibility - 3
Lecture 19 - Concept of Stress
Lecture 20 - Plane Stress
Lecture 21 - State of Stresses
Lecture 22 - Mohrs Circle representation of plane stress
Lecture 23 - Construction of Mohrs Circle
Lecture 24 - Principal Stresses and Introduction to Concept of Strain
Lecture 25 - Normal Strain and Shear Strain
Lecture 26 - Strain Transformation
Lecture 27 - Strain Measurement
Lecture 28 - Tutorial
Lecture 29 - Tutorial on Concept of Strain.

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- Lecture 30 - Elastic Stress Strain Relationship
- Lecture 31 - Von Mises Yield Criteria
- Lecture 32 - Tresca Criteria
- Lecture 33 - True Stress Strain
- Lecture 34 - Tutorial 2
- Lecture 35 - Forces and Moments Transmitted by Slender Members
- Lecture 36 - Bending Moment
- Lecture 37 - Shear Force and Bending Moment Diagrams
- Lecture 38 - Differential Equation Relationship
- Lecture 39 - Tutorial 3
- Lecture 40 - Tutorial 4
- Lecture 41 - Torsion
- Lecture 42 - Stress Components
- Lecture 43 - Tutorial A
- Lecture 44 - Tutorial B
- Lecture 45 - Stresses due to Bending
- Lecture 46 - Equilibrium Requirements
- Lecture 47 - Beam Transmitting both Shear Force and Bending Moment
- Lecture 48 - Shear Stress Distribution
- Lecture 49 - Distribution of Shear Stress in I Beam
- Lecture 50 - Tutorial 1
- Lecture 51 - Deflections due to Bending
- Lecture 52 - Integration of Moment Curvature Relation
- Lecture 53 - Superposition Continued
- Lecture 54 - Load Deflection Differential Equation
- Lecture 55 - Castigliano's Theorem
- Lecture 56 - Strain Energy Methods
- Lecture 57 - Introduction to Concept of Elastic Instability
- Lecture 58 - Critical Load
- Lecture 59 - Critical Load for Flexible Columns
- Lecture 60 - Concluding Lecture

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

NPTEL Video Course - Civil Engineering - NOC:Principles of Construction Management

Subject Co-ordinator - Dr. Sudhir Misra

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction to the course
- Lecture 2 - Interdisciplinary nature of modern construction projects
- Lecture 3 - Overview of steps in execution of a project
- Lecture 4 - Illustrative examples for evaluation of bids based on different schemes
- Lecture 5 - Resource management in construction projects
- Lecture 6 - Estimating quantities
- Lecture 7 - Description of items
- Lecture 8 - Estimation of project cost
- Lecture 9 - Discussion on the case study of boundary wall
- Lecture 10 - Running account bills
- Lecture 11 - Economic decision making in construction projects
- Lecture 12 - Depreciation of construction equipment
- Lecture 13 - Repayment of a loan
- Lecture 14 - Introduction to planning and scheduling
- Lecture 15 - Introduction to planning and scheduling (Continued...)
- Lecture 16 - Project scheduling
- Lecture 17 - Uncertainties in duration of activities -Using PERT in scheduling
- Lecture 18 - Project monitoring and control systems
- Lecture 19 - Resource leveling and allocation
- Lecture 20 - Crashing of networks
- Lecture 21 - Introduction to construction safety
- Lecture 22 - Accidents in construction industry - I
- Lecture 23 - Accidents in construction industry - II
- Lecture 24 - Personal protective equipment
- Lecture 25 - Implications of construction accidents
- Lecture 26 - Safety organization and safety officer
- Lecture 27 - Quality control in construction
- Lecture 28 - Quality in construction - welding
- Lecture 29 - Epoxy coated bars

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- Lecture 30 - Quality control of grouts in ducts of post-tensioned PC members
- Lecture 31 - Quality control (QC) issues in concrete

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

NPTEL Video Course - Civil Engineering - NOC:Foundation Design

Subject Co-ordinator - Dr. Nihar Ranjan Patra

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - (1A) Subsoil Investigation or Site Investigation - Part 1
Lecture 2 - (1B) Subsoil Investigation or Site Investigation - Part 2
Lecture 3 - (2A) Subsoil Investigation or Site Investigation - Part 3
Lecture 4 - (2B) Subsoil Investigation or Site Investigation - Part 4
Lecture 5 - (3A) Subsoil Investigation or Site Investigation - Part 5
Lecture 6 - (3B) Subsoil Investigation or Site Investigation - Part 6
Lecture 7 - (4A) Subsoil Investigation or Site Investigation - Part 7
Lecture 8 - (4B) Foundations
Lecture 9 - (5A) Bearing Capacity Of Shallow Foundations - Part 1
Lecture 10 - (5B) Bearing Capacity Of Shallow Foundations - Part 2
Lecture 11 - (6A) Bearing Capacity Of Shallow Foundations - Part 3
Lecture 12 - (6B) Bearing Capacity Of Shallow Foundations - Part 4
Lecture 13 - (7A) Bearing Capacity Of Shallow Foundations - Part 5
Lecture 14 - (7B) Bearing Capacity Of Shallow Foundations - Part 6
Lecture 15 - (8A) Settlement Analysis - Part 1
Lecture 16 - (8B) Settlement Analysis - Part 2
Lecture 17 - (9A) Settlement Analysis - Part 3
Lecture 18 - (9B) Stress distribution in soils - Part 1
Lecture 19 - (10A) Stress distribution in soils - Part 2
Lecture 20 - (10B) Stress distribution in soils - Part 3
Lecture 21 - (11A) Stress distribution in soils - Part 4
Lecture 22 - (11B) Stress distribution in soils - Part 5
Lecture 23 - (12A) Examples based on bearing capacity and settlement
Lecture 24 - (12B) Design of foundation - Part 1
Lecture 25 - (13A) Design of Foundation - Part 2
Lecture 26 - (13B) Design of Foundation - Part 3
Lecture 27 - (14A) Design of Foundation - Part 4
Lecture 28 - (14B) Design of Foundation - Part 5
Lecture 29 - (15A) Types of foundations (Combined Footing)

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Lecture 30 - (15B) Design of Raft Foundation
Lecture 31 - (16A) Earth Pressure Theories - Part 1
Lecture 32 - (16B) Earth Pressure Theories - Part 2
Lecture 33 - (17A) Earth Pressure Theories - Part 3
Lecture 34 - (17B) Earth Pressure Theories - Part 4
Lecture 35 - (18A) Earth Pressure Theories - Part 5
Lecture 36 - (18B) Deep Foundation - Part 1
Lecture 37 - (18C) Deep Foundation - Part 2
Lecture 38 - (18D) Deep Foundation - Part 3
Lecture 39 - (20A) Deep Foundation - Part 4
Lecture 40 - (20B) Deep Foundation - Part 5

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

NPTEL Video Course - Civil Engineering - NOC:Photogeology In Terrain Evaluation

Subject Co-ordinator - Prof. Javed N. Malik

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Remote Sensing - Photogeology
Lecture 2 - Introduction to Remote Sensing - Photogeology
Lecture 3 - Fundamental Principle in Remote Sensing
Lecture 4 - Aerial Photography
Lecture 5 - Stereo-photos and their Importance
Lecture 6 - Photo-interpretation Techniques
Lecture 7 - Photogrammetry and its Significance
Lecture 8 - Sensors, Cameras and Panchromatic Data
Lecture 9 - Stereoscopy and Methods
Lecture 10 - Relief Displacement on Aerial Photographs
Lecture 11 - Fluvial Processes and Landforms
Lecture 12 - Geomorphology of River Channels
Lecture 13 - Drainage Basins and their Features
Lecture 14 - Morphometric Parameters of Fluvial Channels
Lecture 15 - Drainage Patterns and their Morphology
Lecture 16 - Determination of Flightline (Lab)
Lecture 17 - Determination of Flightline (Lab)
Lecture 18 - Exercise on Relief Displacement
Lecture 19 - Exercise on Stereoscopic Parallax
Lecture 20 - Exercise on Stereoscopic Parallax
Lecture 21 - Generation of Digital Elevation Model and Anaglyph

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

NPTEL Video Course - Civil Engineering - NOC:Photogeology In Terrain Evaluation - Part 2

Subject Co-ordinator - Prof. Javed N. Malik

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Geological Structures, Photo interpretation and Terrain evaluation

Lecture 2 - Photo interpretation/identification of Landforms associated with Folds - 1

Lecture 3 - Photo interpretation/identification of Landforms associated with Folds - 2

Lecture 4 - Identification of features related to ongoing Crustal Deformation and Mountain Building process

Lecture 5 - Identification of Fault Topography

Lecture 6 - Photogeology

Lecture 7 - Photo Interpretations

Lecture 8 - Photo Interpretations

Lecture 9 - Photo Interpretations

Lecture 10 - Photo-Interpretations

Lecture 11 - Photo Interpretations

Lecture 12 - Photo Interpretations

Lecture 13 - Photo Interpretations

Lecture 14 - Photo Interpretations

Lecture 15 - Photo Interpretations

Lecture 16 - Exercise on Identification of Geological Structures and related Landforms

Lecture 17 - Exercise on Identification of Geomorphic Features related to Various Environments

Lecture 18 - Exercise on Identification of Tectonic Features and Geomorphic Mapping using Satellite Data

Lecture 19 - Exercise on Identification of Geological Structures and Geomorphic Landforms on Aerial/Satellite

Lecture 20 - Exercise on Morphometric Parameters and 3D observation of the Earth Surface Features

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

NPTEL Video Course - Civil Engineering - NOC:Introduction to Accounting and Finance for Civil Engineers

Subject Co-ordinator - Dr. Sudhir Misra

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Overview of the Course
Lecture 2 - Introduction
Lecture 3 - General Discussion on Construction Projects
Lecture 4 - Time value of money
Lecture 5 - Economic Decision Making - I
Lecture 6 - Economic decision making - II
Lecture 7 - Incremental Rate of Return (IROR)
Lecture 8 - Benefit cost ratio
Lecture 9 - Sensitivity analysis - Part 1
Lecture 10 - Sensitivity analysis - Part 2
Lecture 11 - Break-even analysis - Part 1
Lecture 12 - Break-even analysis - Part 2
Lecture 13 - Depreciation of construction equipment
Lecture 14 - Effect of depreciation on cash flows
Lecture 15 - Effect of depreciation and inflation on economic decision making
Lecture 16 - Replacement analysis
Lecture 17 - Risk analysis - Part 1
Lecture 18 - Risk analysis - Part 2
Lecture 19 - Risk analysis - Part 3
Lecture 20 - Simulation - Part 1
Lecture 21 - Simulation - Part 2
Lecture 22 - Bidding - Part 1
Lecture 23 - Bidding - Part 2
Lecture 24 - Bidding - Part 3
Lecture 25 - Bidding - Part 4
Lecture 26 - Bidding - Part 5
Lecture 27 - Bidding - Part 6
Lecture 28 - Bidding - Part 7
Lecture 29 - Introduction to accounting - Part 1

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- Lecture 30 - Introduction to accounting - Part 2
- Lecture 31 - Introduction to accounting - Part 3
- Lecture 32 - Revenue recognition
- Lecture 33 - Construction Contract Status Reports
- Lecture 34 - Assets and Liabilities
- Lecture 35 - Accounting statements - case study
- Lecture 36 - Working capital
- Lecture 37 - Financing resources for working capital
- Lecture 38 - Ratio analysis

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

NPTEL Video Course - Civil Engineering - NOC:Natural Hazards - Part 1

Subject Co-ordinator - Prof. Javed N. Malik

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Natural Hazards
Lecture 2 - Introduction to Natural Hazards (Types of Hazard)
Lecture 3 - Introduction to Natural Hazards (Earth as a system)
Lecture 4 - Introduction to Natural Hazards (Cyclones and Earthquakes - Part I)
Lecture 5 - Introduction to Natural Hazards (Cyclones and Earthquakes - Part II)
Lecture 6 - Introduction to Natural Hazards (Disaster Management)
Lecture 7 - Introduction to Natural Hazards (Seismic Zonation of India and Landslide)
Lecture 8 - Introduction to Natural Hazards (Flood and Tsunami)
Lecture 9 - Introduction to Natural Hazards (Disaster Prediction and Warning)
Lecture 10 - Introduction to Natural Hazards (Recent Natural Calamities in India and Worldwide)
Lecture 11 - Plate tectonics and related hazards - Part I
Lecture 12 - Plate tectonics and related hazards - Part II
Lecture 13 - Plate tectonics and related hazards - Part III
Lecture 14 - Active fault and Paleoseismology
Lecture 15 - Case study on 2015 Gorkha Earthquake
Lecture 16 - Earthquake and related hazard - Part I
Lecture 17 - Earthquake and related hazard - Part II
Lecture 18 - Earthquake and related hazard - Part III
Lecture 19 - Ground Effects and Evaluation of Earthquake Hazards - Part I
Lecture 20 - Ground Effects and Evaluation of Earthquake Hazards - Part II
Lecture 21 - Ground Effects and Evaluation of Earthquake Hazards - Part III
Lecture 22 - Liquefaction and Related Geological Features
Lecture 23 - Motoring Seismic Activity - Part I
Lecture 24 - Motoring Seismic Activity - Part II
Lecture 25 - Volcano and Related Hazard - Part I
Lecture 26 - Volcano and Related Hazard - Part II
Lecture 27 - Introduction to Landslides
Lecture 28 - Types of Landslide and Related Hazards
Lecture 29 - Civil Engineering applications geological considerations in dams, tunnels - Part 2

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

- Lecture 30 - Civil Engineering applications geological considerations in dams, tunnels - Part 3 and Tsunami a
- Lecture 31 - Tsunami and related hazard - Part 2
- Lecture 32 - Tsunami and related hazard - Part 3
- Lecture 33 - Landslide and subsidence - Part I
- Lecture 34 - Flood and Related Hazards - Part I
- Lecture 35 - Flood and Related Hazards - Part II
- Lecture 36 - Flood and Related Hazards - Part III
- Lecture 37 - Flood and Related Hazards - Part IV
- Lecture 38 - Flood and Related Hazards - Part V
- Lecture 39 - Introduction to Tsunami
- Lecture 40 - Tsunami and Related Hazards - Part I
- Lecture 41 - Tsunami and Related Hazards - Part II
- Lecture 42 - Tsunami and Related Hazards - Part III
- Lecture 43 - Tsunami Modelling

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

NPTEL Video Course - Civil Engineering - NOC:Structural Dynamics for Civil Engineers - SDOF Systems

Subject Co-ordinator - Prof. Riya Catherine George

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Structural Dynamics
Lecture 2 - Modelling of Dynamic System
Lecture 3 - Undamped Free vibration
Lecture 4 - Damped Free Vibrations
Lecture 5 - Coulomb Damped Free Vibrations
Lecture 6 - Forced Vibrations - Part 1
Lecture 7 - Forced Vibrations - Part 2
Lecture 8 - Examples
Lecture 9 - Harmonic Vibration Examples
Lecture 10 - Vibrations under Periodic Forces
Lecture 11 - Energy and Damping
Lecture 12 - Response to Arbitrary excitations
Lecture 13 - Response to Pulse Excitations

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

NPTEL Video Course - Civil Engineering - NOC:Geomorphic Processes: Landforms and Landscapes

Subject Co-ordinator - Prof. Javed N. Malik

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Geomorphic processes- Landforms and Landscapes - Part I
Lecture 2 - Introduction to Geomorphic Processes- Landforms and Landscapes - Part II
Lecture 3 - Introduction to Geomorphic Processes- Landforms and Landscapes - Part III
Lecture 4 - Earth Energy Budget - Part I
Lecture 5 - Earth Energy Budget - Part II
Lecture 6 - Earth and Environment
Lecture 7 - Surface and Ground Water System and Management - Part I
Lecture 8 - Surface and Ground Water System and Management - Part II
Lecture 9 - Surface and Ground Water System and Management - Part III
Lecture 10 - Interior of the Earth and Plate Tectonics - Part I
Lecture 11 - Interior of the Earth and Plate Tectonics - Part II
Lecture 12 - Interior of the Earth and Plate Tectonics - Part III
Lecture 13 - Interior of the Earth and Plate Tectonics - Part IV
Lecture 14 - Interior of the Earth and Plate Tectonics - Part V
Lecture 15 - Fluvial Processes and Related Landforms - Part I
Lecture 16 - Fluvial Processes and Related Landforms - Part II
Lecture 17 - Fluvial Processes and Related Landforms - Part III
Lecture 18 - Fluvial Processes and Related Landforms - Part IV
Lecture 19 - Fluvial Processes and Related Landforms - Part V
Lecture 20 - Fluvial Processes and Related Landforms - Part VI
Lecture 21 - Fluvial Processes and Related Landforms - Part VII
Lecture 22 - Fluvial Processes and Related Landforms - Part VIII
Lecture 23 - Fluvial Processes and Related Landforms - Part IX
Lecture 24 - Tectonic Geomorphology - Part I
Lecture 25 - Tectonic Geomorphology - Part II
Lecture 26 - Tectonic Geomorphology - Part III
Lecture 27 - Tectonic Geomorphology - Part IV
Lecture 28 - Tectonic Geomorphology - Part V
Lecture 29 - Glacial Landforms - Part I

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- Lecture 30 - Glacial Landforms - Part II
- Lecture 31 - Glacial Landforms - Part III
- Lecture 32 - Coastal Processes and Landforms - Part I
- Lecture 33 - Coastal Processes and Landforms - Part II
- Lecture 34 - Coastal Processes and Landforms - Part III
- Lecture 35 - Aeolian Processes and Landforms - Part I
- Lecture 36 - Aeolian Processes and Landforms - Part II
- Lecture 37 - Tectonic Geomorphology of Kachchh - Part I
- Lecture 38 - Tectonic Geomorphology of Kachchh - Part II

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

NPTEL Video Course - Civil Engineering - NOC:Structural Geology

Subject Co-ordinator - Prof. Santanu Misra

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction - I
Lecture 2 - Introduction - II
Lecture 3 - Structural Elements and Measurements
Lecture 4 - How to measure strike-dip-pitch/rake-plunge
Lecture 5 - Stereographic Projection in Structural Geology
Lecture 6 - Concept of Strain and Deformation - Part I
Lecture 7 - Concept of Strain and Deformation - Part II
Lecture 8 - Strain Measurement
Lecture 9 - Stress - Part I
Lecture 10 - Stress - Part II
Lecture 11 - Basics of Rheology - Part I
Lecture 12 - Basics of Rheology - Part II
Lecture 13 - Basics of Rheology - Part III
Lecture 14 - Complex Rheology
Lecture 15 - Role of External Parameters
Lecture 16 - Crystal Defects and associated structures
Lecture 17 - Cataclastic Deformation
Lecture 18 - Intracrystalline Deformation
Lecture 19 - Diffusive Mass Transfer
Lecture 20 - Planar Fabrics (Foliation/ Cleavage/ Schistosity) - I
Lecture 21 - Planar Fabrics (Foliation/ Cleavage/ Schistosity) - II
Lecture 22 - Linear Fabrics (Lineation)
Lecture 23 - Folds and Folding
Lecture 24 - Folds and Folding
Lecture 25 - Folds and Folding
Lecture 26 - Folds and Folding
Lecture 27 - Porphyroblasts
Lecture 28 - Boudinage and Pinch-and-Swell Structures - I
Lecture 29 - Boudinage and Pinch-and-Swell Structures - II

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- Lecture 30 - Stereonet Problem I
- Lecture 31 - Stereonet Problem II
- Lecture 32 - Stereonet Problem III
- Lecture 33 - Stereonet Problem IV
- Lecture 34 - Stereonet Problem V
- Lecture 35 - Fractures and Joints - I
- Lecture 36 - Fractures and Joints - II
- Lecture 37 - Faults and Faulting - I
- Lecture 38 - Stereonet Problem VI - Fold geometry from interlimb angle and fold axes
- Lecture 39 - Stereonet Problem VII - Fold geometry from pitch of the limbs on another plane
- Lecture 40 - Faults and Faulting - II
- Lecture 41 - Ductile Shear Zones - I
- Lecture 42 - Ductile Shear Zones - II
- Lecture 43 - Basic of Litho-Structural Mapping
- Lecture 44 - Paleostress analysis
- Lecture 45 - Graphical Problem
- Lecture 46 - Three point problem
- Lecture 47 - Construction of Topographic Profile
- Lecture 48 - Construction of Geological Cross-section

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

NPTEL Video Course - Civil Engineering - NOC:Earthquake Geology: A tool for Seismic Hazard Assessment

Subject Co-ordinator - Prof. Javed N. Malik

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Earthquake Geology - Part I
Lecture 2 - Introduction to Earthquake Geology - Part II
Lecture 3 - Introduction to Earthquake Geology - Part III
Lecture 4 - Introduction to Earthquake Geology - Part IV
Lecture 5 - Fundamentals Related to Paleoseismology - Part I
Lecture 6 - Fundamentals Related to Paleoseismology - Part II
Lecture 7 - Fundamentals Related to Paleoseismology - Part III
Lecture 8 - Plate Tectonics - Part I
Lecture 9 - Plate Tectonics - Part II
Lecture 10 - Plate Tectonics - Part III
Lecture 11 - Plate tectonics - Part IV
Lecture 12 - Plate Tectonics - Part V
Lecture 13 - Seismic Zonation of India
Lecture 14 - Interior of the Earth - Part I
Lecture 15 - Interior of the Earth - Part II
Lecture 16 - Earthquake Forecasting and Prediction Model - Part I
Lecture 17 - Earthquake Forecasting and Prediction Model - Part II
Lecture 18 - Earthquake Forecasting and Prediction Model - Part III
Lecture 19 - Earthquake in Interplate and Intraplate Region
Lecture 20 - Earthquake Magnitude and Intensity Scale - Part I
Lecture 21 - Earthquake Magnitude and Intensity Scale - Part II
Lecture 22 - Fundamentals Related to Active Faults - Part I
Lecture 23 - Fundamentals Related to Active Faults - Part II
Lecture 24 - Fundamentals Related to Active Faults - Part III
Lecture 25 - Fundamentals Related to Active Faults - Part IV
Lecture 26 - Lab and Field Techniques in Active Fault Mapping and Paleoseismic studies - Part I
Lecture 27 - Lab and Field Techniques in Active Fault Mapping and Paleoseismic studies - Part II
Lecture 28 - Lab and Field Techniques in Active Fault Mapping and Paleoseismic studies - Part III
Lecture 29 - Lab and Field Techniques in Active Fault Mapping and Paleoseismic studies - Part IV

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

- Lecture 30 - Lab and Field Techniques in Active Fault Mapping and Paleoseismic studies - Part V
- Lecture 31 - Extensional Tectonic Environments and Related Landforms - Part I
- Lecture 32 - Extensional Tectonic Environments and Related Landforms - Part II
- Lecture 33 - Extensional Tectonic Environments and Related Landforms - Part III
- Lecture 34 - Extensional Tectonic Environments and Related Landforms - Part IV
- Lecture 35 - Compressional Tectonic Environments and Related Landforms - Part I
- Lecture 36 - Compressional Tectonic Environments and Related Landforms - Part II
- Lecture 37 - Compressional Tectonic Environments and Related Landforms - Part III
- Lecture 38 - Compressional Tectonic Environments and Related Landforms - Part IV
- Lecture 39 - Compressional Tectonic Environments and Related Landforms - Part V
- Lecture 40 - Compressional Tectonic Environments and Related Landforms - Part VI
- Lecture 41 - Compressional Tectonic Environments and Related Landforms - Part VII
- Lecture 42 - Strike-Slip Tectonic Environments and Related Landforms - Part I
- Lecture 43 - Strike-Slip Tectonic Environments and Related Landforms - Part II
- Lecture 44 - Strike-Slip Tectonic Environments and Related Landforms - Part III
- Lecture 45 - Strike-Slip Tectonic Environments and Related Landforms - Part IV
- Lecture 46 - Geomorphologic Markers for Fluvial Environment - Part I
- Lecture 47 - Geomorphologic Markers for Fluvial Environment - Part II
- Lecture 48 - Geomorphologic Markers - Part III
- Lecture 49 - Tectonic Geomorphology - Part I
- Lecture 50 - Tectonic Geomorphology - Part II
- Lecture 51 - Coastal Geomorphologic Markers - Part I
- Lecture 52 - Coastal Geomorphologic Markers - Part II
- Lecture 53 - Coastal Geomorphologic Markers - Part III
- Lecture 54 - Tsunami and Paleostsunami signatures Investigation - Part I
- Lecture 55 - Tsunami and Paleostsunami signatures Investigation - Part II
- Lecture 56 - Tsunami and Paleostsunami signatures Investigation - Part III
- Lecture 57 - Field Documentary

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

NPTEL Video Course - Civil Engineering - NOC:Development and Applications of Special Concretes

Subject Co-ordinator - Prof. Sudhir Misra

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Some starting points
- Lecture 2 - Concrete - A composite material
- Lecture 3 - Basic properties (Fresh concrete)
- Lecture 4 - Basic properties (Hardened concrete)
- Lecture 5 - Fundamentals of proportioning concrete mixes
- Lecture 6 - Proportioning of normal concrete mixes
- Lecture 7 - Concrete mix proportions: Analysis and adjustments
- Lecture 8 - Pores and porosity in concrete
- Lecture 9 - Admixtures in concrete
- Lecture 10 - Curing of Concrete
- Lecture 11 - Cold weather Concreting
- Lecture 12 - Hot Weather Concreting
- Lecture 13 - Special Topics I - Importance of Right Methods and Specifications
- Lecture 14 - Heat of Hydration of Cement and Thermal Stresses
- Lecture 15 - Antiwashout Underwater Concrete
- Lecture 16 - Concreting Underwater
- Lecture 17 - Roller Compacted Concrete
- Lecture 18 - Self Compacting Concrete - I
- Lecture 19 - Self Compacting Concrete - II
- Lecture 20 - Self Compacting Concrete - III
- Lecture 21 - Special Topics - Rheology
- Lecture 22 - Fibre-Reinforced Concrete - I
- Lecture 23 - Fibre-Reinforced Concrete - II
- Lecture 24 - Fibre-Reinforced Concrete - III
- Lecture 25 - Mixing of Concrete
- Lecture 26 - Shotcrete
- Lecture 27 - High Strength Concrete
- Lecture 28 - Using Polymers in Concrete
- Lecture 29 - Improving the Quality of Cover Concrete

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

Lecture 30 - Compaction of Concrete

Lecture 31 - Precast Concrete

Lecture 32 - Closing the Course

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

NPTEL Video Course - Civil Engineering - NOC: Introductory Field Structural Geology

Subject Co-ordinator - Prof. Santanu Misra

Co-ordinating Institute - IIT - Kanpur

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

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Lecture 16
Lecture 17

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

NPTEL Video Course - Civil Engineering - NOC:Earth Sciences for Civil Engineering (Hindi)

Subject Co-ordinator - Prof. Javed N Malik

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Geosciences in Civil Engineering - I
Lecture 2 - Introduction to Geosciences in Civil Engineering - II
Lecture 3 - Introduction to Geosciences in Civil Engineering - III
Lecture 4 - Plate Tectonics and Continental Drift - I
Lecture 5 - Plate Tectonics and Continental Drift - II
Lecture 6 - Plate Tectonics and Continental Drift - III
Lecture 7 - Plate Tectonics and Continental Drift - IV
Lecture 8 - Plate Tectonics and Continental Drift - V
Lecture 9 - Plate Tectonics and Continental Drift - VI
Lecture 10 - Plate Tectonics and Continental Drift - VII
Lecture 11 - Plate Tectonics and Continental Drift - VIII
Lecture 12 - Rock-Forming Minerals and their Properties - I
Lecture 13 - Rock-Forming Minerals and their Properties - II
Lecture 14 - Rock-Forming Minerals and their Properties - III
Lecture 15 - Igneous Rocks and their Properties - I
Lecture 16 - Igneous Rocks and their Properties - II
Lecture 17 - Igneous Rocks and their Properties - III
Lecture 18 - Sedimentary Rocks and their Properties - I
Lecture 19 - Sedimentary Rocks and their Properties - II
Lecture 20 - Sedimentary Rocks and their Properties - III
Lecture 21 - Metamorphic Rocks and their Properties - I
Lecture 22 - Metamorphic Rocks and their Properties - II
Lecture 23 - Seismology and Internal Structure of the earth - Part 1
Lecture 24 - Seismology and Internal Structure of the earth - Part 2
Lecture 25 - Seismology and Internal Structure of the earth - Part 3
Lecture 26 - Seismology and Internal Structure of the earth - Part 4
Lecture 27 - Seismology and Internal Structure of the earth - Part 5
Lecture 28 - Seismic Events and Sediments Amplification - I
Lecture 29 - Seismic Events and Sediments Amplification - II

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- Lecture 30 - Geological Structures - I
- Lecture 31 - Geological Structures - II
- Lecture 32 - Geological Structures - III
- Lecture 33 - Geological Structures - IV
- Lecture 34 - Sterographic Projection of Geological Strata
- Lecture 35 - Faults and its Characteristics
- Lecture 36 - Active Faults and Associated Hazard - I
- Lecture 37 - Active Faults and Associated Hazard - II
- Lecture 38 - Active Faults and Associated Hazard - III
- Lecture 39 - Rivers and Associated Landforms - I
- Lecture 40 - Rivers and Associated Landforms - II
- Lecture 41 - Shear Strength of Soil and its Implications towards Hazard
- Lecture 42 - Landslides and Associated Hazard
- Lecture 43 - Rock Mass Classification System
- Lecture 44 - Dam and Tunnels

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

NPTEL Video Course - Civil Engineering - NOC:Construction Management

Subject Co-ordinator - Prof. Sudhir Misra

Co-ordinating Institute - IIT - Kanpur

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

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

NPTEL Video Course - Civil Engineering - NOC:Laboratory Practices in Earth Sciences: Landscape Mapping

Subject Co-ordinator - Prof. Javed N Malik

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Basic Introduction about the Course
Lecture 2 - Generation Introduction to the Remote Sensing - Part 1
Lecture 3 - Generation Introduction to the Remote Sensing - Part 2
Lecture 4 - Aerial Photogrammetry - Part 1
Lecture 5 - Aerial Photogrammetry - Part 2
Lecture 6 - Stereoscopy
Lecture 7 - Relief Displacement
Lecture 8 - Exploring the Remote Sensing Data and GIS Software - Part 1
Lecture 9 - Exploring the Remote Sensing Data and GIS Software - Part 2
Lecture 10 - Exploring the Remote Sensing Data and GIS Software - Part 3
Lecture 11 - Georeferencing of Toposheets on QGIS
Lecture 12 - Georeferencing of Remote Sensing Data on QGIS
Lecture 13 - Mosaicking, Merging and Generation of Shape Files on QGIS
Lecture 14 - Fluvial Systems and Associated Landforms - Part 1
Lecture 15 - Fluvial Systems and Associated Landforms - Part 2
Lecture 16 - Fluvial Systems and Associated Landforms - Part 3
Lecture 17 - Fluvial Systems and Associated Landforms - Part 4
Lecture 18 - Fluvial Systems and Associated Landforms - Part 5
Lecture 19 - Fluvial Systems and Associated Landforms - Part 6
Lecture 20 - Tectonic Geomorphology - Part 1
Lecture 21 - Tectonic Geomorphology - Part 2
Lecture 22 - Tectonic Geomorphology - Part 3
Lecture 23 - Tectonic Geomorphology - Part 4
Lecture 24 - Anaglyph and DEM Generation of Cartosat-1 data on ENVI
Lecture 25 - Tectono-Geomorphic Mapping on QGIS - Part 1
Lecture 26 - Tectono-Geomorphic Mapping on QGIS - Part 2
Lecture 27 - Tectono-Geomorphic Mapping on QGIS - Part 3
Lecture 28 - Tectono-Geomorphic Mapping on QGIS - Part 4
Lecture 29 - Total Station (TS) and Real Time Kinematics (RTK) and its Applications

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- Lecture 30 - Field Demonstration of Real Time Kinematics (RTK) - Part 1
- Lecture 31 - Field Demonstration of Real Time Kinematics (RTK) - Part 2
- Lecture 32 - Field Demonstration of Total Station (TS) - Part 1
- Lecture 33 - Field Demonstration of Total Station (TS) - Part 2
- Lecture 34 - Ground Penetrating Radar (GPR) and its Applications - Part 1
- Lecture 35 - Ground Penetrating Radar (GPR) and its Applications - Part 2
- Lecture 36 - Field Demonstration of GPR - Part 1
- Lecture 37 - Field Demonstration of GPR - Part 2
- Lecture 38 - Optically Stimulated Luminescence (OSL) Dating technique and its Applications
- Lecture 39 - Optically Stimulated Luminescence (OSL) Dating Lab

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

NPTEL Video Course - Civil Engineering - NOC:Natural Hazards (Hindi)

Subject Co-ordinator - Prof. Javed N. Malik

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction to Natural Hazards: Understanding the Basics
- Lecture 2 - Introduction to Natural Hazards: Processes and Types
- Lecture 3 - Human Impacts on Natural Hazards: Vulnerability and Risk
- Lecture 4 - Human Impacts on Natural Hazards: Mitigation and Adaptation
- Lecture 5 - Introduction to Earthquakes and Landslides: Causes and Impacts
- Lecture 6 - Introduction to Cloudbursts and Floods: Mechanisms and Hazards
- Lecture 7 - Understanding Tsunamis: Generation and Effects
- Lecture 8 - Plate Tectonics: Fundamentals and Historical Development
- Lecture 9 - Plate Tectonics: Processes and Features
- Lecture 10 - Plate Tectonics: Implications for Natural Hazards
- Lecture 11 - Earth as a Dynamo: Understanding Magnetic Polarity Reversals
- Lecture 12 - Exploring Earth's Interior: Structure and Dynamics
- Lecture 13 - Hot Spot Volcanism
- Lecture 14 - Earth's Interior and Seismic Waves
- Lecture 15 - Earthquakes: A Hazard
- Lecture 16 - Earthquake Forecasting and Predictions
- Lecture 17 - Locating Earthquakes Using Seismometers
- Lecture 18 - Seismic Amplification Due to Sediment Properties
- Lecture 19 - Intraplate Earthquakes
- Lecture 20 - Earthquake Intensity and Magnitude Scales
- Lecture 21 - Active Faults and Associated Hazards
- Lecture 22 - Earthquakes and their Characteristics - Part 1
- Lecture 23 - Earthquakes and their Characteristics - Part 2
- Lecture 24 - Case Studies of Significant Earthquakes Around the World
- Lecture 25 - Active Faults Along the Himalayan Frontal Belt
- Lecture 26 - Active Faults of the Kangra Valley and Hajipur in the Himalayas
- Lecture 27 - Ground Effects Due to Earthquakes
- Lecture 28 - Ground Failure, Liquefaction, and Sand Blows
- Lecture 29 - Ground Effects and Microzonation in India

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- Lecture 30 - Volcanic Hazards and Associated Risks
- Lecture 31 - Introduction to Floods and Associated Hazards
- Lecture 32 - River and Associated Landforms - Part 1
- Lecture 33 - River and Associated Landforms - Part 2
- Lecture 34 - River and Associated Landforms - Part 3
- Lecture 35 - Drainage Basins and Drainage Patterns - Part 1
- Lecture 36 - Drainage Basins and Drainage Patterns - Part 2
- Lecture 37 - River Monitoring
- Lecture 38 - Landslide and Mass Wasting - Part 1
- Lecture 39 - Landslide and Mass Wasting - Part 2
- Lecture 40 - Type of Landslide - Part 1
- Lecture 41 - Type of Landslide - Part 2
- Lecture 42 - Landslide Control and Stabilization Techniques
- Lecture 43 - Earth's Energy Budget and Climate Impact
- Lecture 44 - Greenhouse Gases, Global Warming, and Carbon Footprint
- Lecture 45 - Quaternary Climate Change and the Milankovitch Cycles
- Lecture 46 - Atmospheric Processes and Hazards - Part 1
- Lecture 47 - Atmospheric Processes and Hazards - Part 2
- Lecture 48 - Atmospheric Processes and Hazards - Part 3
- Lecture 49 - Atmospheric Processes and Hazards - Part 4
- Lecture 50 - Introduction to Tsunami - Part 1
- Lecture 51 - Introduction to Tsunami - Part 2
- Lecture 52 - Case Study of 1960 Chilean Earthquake Tsunami
- Lecture 53 - Tsunami Monitoring and Warning System
- Lecture 54 - Case Study of 2004 Sumatra-Andaman Earthquake Tsunami - Part 1
- Lecture 55 - Case Study of 2004 Sumatra-Andaman Earthquake Tsunami - Part 2
- Lecture 56 - Case Study of 2004 Sumatra-Andaman Earthquake Tsunami - Part 3
- Lecture 57 - Case Study of 2004 Sumatra-Andaman Earthquake Tsunami - Part 4
- Lecture 58 - Case Study of 2004 Sumatra-Andaman Earthquake Tsunami - Part 5
- Lecture 59 - Case Study of 2011 Tohoku Earthquake Tsunami - Part 1
- Lecture 60 - Palu Tsunami 2018 and Myanmar Earthquake 2025

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

NPTEL Video Course - Civil Engineering - NOC:Environmental Fluid Mechanics

Subject Co-ordinator - Prof. Chunendra K Sahu

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Introduction to Environmental Fluid Mechanics
Lecture 2 - Processes in Environmental Fluid Mechanics - 1
Lecture 3 - Processes in Environmental Fluid Mechanics - 2
Lecture 4 - Conservation Laws and Governing Equations in EFM
Lecture 5 - Hydrostatic and Boussinesq's Approximation
Lecture 6 - Buoyant Plumes
Lecture 7 - Plumes in Unstratified Medium - 1
Lecture 8 - Plumes in Unstratified Medium - 2
Lecture 9 - Plumes in Stratified Medium - 1
Lecture 10 - Plumes in Stratified Medium - 2
Lecture 11 - Plumes in Stratified Medium - 3
Lecture 12 - Plumes in Stratified Medium - 4
Lecture 13 - Numerical Solutions to the Continuous Release Plumes
Lecture 14 - Plumes with fixed buoyancy release (in unstratified medium) - 1
Lecture 15 - Plumes with fixed buoyancy release (in unstratified medium) - 2
Lecture 16 - Gravity Currents
Lecture 17 - Continuous Release Gravity Currents - 1
Lecture 18 - Continuous Release Gravity Currents - 2
Lecture 19 - Continuous Release Gravity Currents - 3
Lecture 20 - Fixed Volume Gravity Currents - 1
Lecture 21 - Fixed Volume Gravity Currents - 2
Lecture 22 - Waves
Lecture 23 - Surface Gravity Waves and Solutions
Lecture 24 - Surface Gravity Waves in Deep and Shallow Waters
Lecture 25 - Kelvin-Helmholtz Instability in Surface Gravity Waves - 1
Lecture 26 - Kelvin-Helmholtz Instability in Surface Gravity Waves - 2
Lecture 27 - Mixing of Fluids due to shear flow
Lecture 28 - Mixing of Fluids due to shear flow and mixing time
Lecture 29 - Rayleigh-Benard Instability (Thermal Instability)

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- Lecture 30 - Natural Convection and Formation of Convective Layers
- Lecture 31 - Height and Temperature of Convective Layers
- Lecture 32 - Introduction to Vortex Flows
- Lecture 33 - Forced Vortex Flows
- Lecture 34 - Free Vortex Flows
- Lecture 35 - Flow through Porous Media
- Lecture 36 - Mixing Mechanisms in Porous Media
- Lecture 37 - One-Dimensional Diffusion in Porous Media - 1
- Lecture 38 - One-Dimensional Diffusion in Porous Media - 2
- Lecture 39 - Dispersive Mixing in 1-D and 2-D Flows in Porous Medium
- Lecture 40 - Plumes in Porous Media
- Lecture 41 - Course Conclusion

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NPTEL Video Course - Civil Engineering - NOC:Transportation Network Analysis

Subject Co-ordinator - Prof. Hemant Gehlot

Co-ordinating Institute - IIT Kanpur

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

Lecture 1 - Course overview, and optimization formulations of fence and shortest path problems
Lecture 2 - Optimization formulations of shortest path and sensor problems and linear programming
Lecture 3 - Optimization formulations of knapsack, maximum coverage and travelling salesman problems
Lecture 4 - Alternative formulation of travelling salesman problem and introduction to complete matching problem
Lecture 5 - Optimization formulations of complete matching and scheduling problems
Lecture 6 - Continuation of scheduling problem; integer programming
Lecture 7 - Branch-and-bound algorithms
Lecture 8 - Analysis of algorithms and order of growth
Lecture 9 - Continuation of order of growth; polynomial-time algorithms
Lecture 10 - Continuation of polynomial-time algorithms; Dijkstra's algorithm
Lecture 11 - Minimum spanning tree, Kruskal's algorithm and Prim's algorithm
Lecture 12 - Approximation algorithm for travelling salesman problem and local search algorithms
Lecture 13 - Continuation of local search algorithms; vehicle routing problem with splittable demand
Lecture 14 - Continuation of vehicle routing problem with splittable demand; vehicle routing problem with unsplittable demand
Lecture 15 - Continuation of vehicle routing problem with splittable demand; vehicle routing problem with unsplittable demand
Lecture 16 - Continuation of genetic algorithms
Lecture 17 - Continuation of genetic algorithms
Lecture 18 - Introduction to traffic assignment (user equilibrium)
Lecture 19 - Continuous optimization (unconstrained)
Lecture 20 - Continuation of unconstrained optimization
Lecture 21 - Continuous optimization (constrained); first-order conditions for single variable problems
Lecture 22 - Continuation of first-order conditions for single variable problems; general first-order conditions
Lecture 23 - Continuation of general first-order conditions; case of nonnegativity and linear equality constraints
Lecture 24 - Sufficiency conditions and user equilibrium as an optimization problem
Lecture 25 - Equivalency and uniqueness conditions
Lecture 26 - System Optimization
Lecture 27 - Continuation of system optimization; Braess's paradox
Lecture 28 - Price of anarchy and optimization algorithms (golden section method)
Lecture 29 - Bisection method and convex combinations method

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- Lecture 30 - Continuation of convex combinations method
- Lecture 31 - Solving UE using convex combinations method
- Lecture 32 - Theory of discrete choice models; multinomial Logit model
- Lecture 33 - Continuation of multinomial Logit model; multinomial Probit model
- Lecture 34 - Satisfaction function and route choice
- Lecture 35 - Continuation of route choice; Logit based loading
- Lecture 36 - Continuation of Logit based loading; Probit based loading
- Lecture 37 - Continuation of Probit based loading; stochastic user equilibrium
- Lecture 38 - Continuation of stochastic user equilibrium
- Lecture 39 - Method of successive averages
- Lecture 40 - Continuation of method of successive averages; Two-link interactions in UE
- Lecture 41 - Optimization formulation and first-order conditions for two-link interactions
- Lecture 42 - Uniqueness and convex combinations method for two-link interactions
- Lecture 43 - Generalization to multi-link interactions

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

NPTEL Video Course - Civil Engineering - NOC:Stability of Structures

Subject Co-ordinator - Prof. Sudib Kumar Mishra

Co-ordinating Institute - IIT Kanpur

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

- Lecture 1 - Introduction to Stability of Structures
- Lecture 2 - Energy Approach for Structures with Two Degrees of Freedom
- Lecture 3 - Stable Symmetric Bifurcation Behavior
- Lecture 4 - Bifurcation Stability: Symmetric Unstable and Asymmetric Mixed Paths
- Lecture 5 - Stability Behaviour of the von Mises Truss
- Lecture 6 - Model Interaction and Bergan's Truss
- Lecture 7 - Beam-column System and Response Amplification
- Lecture 8 - Effect of Shear Deformation on Beam-Column System and Elastica
- Lecture 9 - Torsional-Flexural Buckling Of Columns
- Lecture 10 - Lateral Buckling Of Beam
- Lecture 11 - Matrix Method For Stability Analysis
- Lecture 12 - FEM Solved Example and Review Of Plate Bending
- Lecture 13 - Buckling Plate
- Lecture 14 - Shear Buckling of Plate
- Lecture 15 - Post Critical Analysis of Plate
- Lecture 16 - Eigen Buckling Analysis of Frame and Dynamic Stability
- Lecture 17 - Column Under Follower Force
- Lecture 18 - Column Under Pulsating Load
- Lecture 19 - Aerodynamic Instability Analysis of Tacoma Bridge
- Lecture 20 - Flutter Instability Analysis and Noise Stabilization of System
- Lecture 21 - Lyapunov stability and Chaotic system
- Lecture 22 - Stability analysis of shell
- Lecture 23 - Donnell Equation for Cylindrical Shell
- Lecture 24 - Buckling of Cylindrical Shell Under Various Loading Condition
- Lecture 25 - Post Critical Analysis of Cylindrical Shell

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

NPTEL Video Course - Civil Engineering - NOC:Earthquake Geology: A Tool for Seismic Hazard Assessment

Subject Co-ordinator - Prof. Javed N Malik

Co-ordinating Institute - IIT Kanpur

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

Lecture 1 - Introduction to Active Tectonics and Paleoseismology - Part 1
Lecture 2 - Introduction to Active Tectonics and Paleoseismology - Part 2
Lecture 3 - Introduction to Active Tectonics and Paleoseismology - Part 2
Lecture 4 - Introduction to Active Tectonics and Paleoseismology - Part 4
Lecture 5 - Introduction to Active Tectonics and Paleoseismology - Part 5
Lecture 6 - Significance and Scope of Paleoseismology - Part 1
Lecture 7 - Significance and Scope of Paleoseismology - Part 2
Lecture 8 - Plates Tectonics and Crustal Deformation
Lecture 9 - Continental Drift and Plate Tectonics
Lecture 10 - Volcanoes, Earthquakes and Plate Boundaries
Lecture 11 - Subduction Zones, Fault Systems, and Volcanic Activity
Lecture 12 - Oceanic Hotspots, Subduction, and Himalayan Collision
Lecture 13 - Plate Boundaries and the Himalayan Orogeny
Lecture 14 - Subduction Mechanisms and Earth's Magnetic Field
Lecture 15 - Crustal Deformation and Seismic Hazard in the Himalaya
Lecture 16 - Himalayan Earthquakes and Seismic Potential
Lecture 17 - Archaeoseismology and Ancient Earthquake Evidence
Lecture 18 - Archaeoseismological Classification and Structural Damage Patterns - Part 1
Lecture 19 - Archaeoseismological Classification and Structural Damage Patterns - Part 2
Lecture 20 - The 2001 Bhuj Earthquake and Archaeoseismic Evidence
Lecture 21 - Interior of the Earth and Seismic Waves
Lecture 22 - Seismic Waves and Rock Deformation
Lecture 23 - Earthquake Forecasting and Elastic Rebound Theory
Lecture 24 - Major Earthquakes in India and Earthquake Recurrence
Lecture 25 - Earthquake Classification, Seismic Shaking, and Structural Safety
Lecture 26 - Intraplate Earthquakes and Stable Continental Regions
Lecture 27 - Earthquake Hazards, Intensity, and Magnitude Scales
Lecture 28 - Seismic Energy, Ground Acceleration, and Shaking
Lecture 29 - Paleoseismic Deformation and Structural Features

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- Lecture 30 - Field Techniques in Active Fault Mapping and Paleoseismology
- Lecture 31 - Paleoseismic Field Evidence in the Himalaya
- Lecture 32 - Active Fault Signatures in the Himalayan Foreland
- Lecture 33 - Aerial Imaging and Active Fault Features
- Lecture 34 - Mapping and Digitization of Active Fault Signatures - Part 1
- Lecture 35 - Mapping and Digitization of Active Fault Signatures - Part 2
- Lecture 36 - Geophysical Methods and Paleoseismic Investigations - Part 1
- Lecture 37 - Geophysical Methods and Paleoseismic Investigations - Part 2
- Lecture 38 - Identification of Paleoevents in Trenches
- Lecture 39 - Geomorphic Markers of Active Faults in Fluvial Systems
- Lecture 40 - River Systems as Geosystems and Delta Formation
- Lecture 41 - Fluvial Landforms and their significance
- Lecture 42 - River Terraces: Types and their Formation
- Lecture 43 - Drainage Basins and Stream Patterns - Part 1
- Lecture 44 - Drainage Basins and Stream Patterns - Part 2
- Lecture 45 - Tsunami Waves and Coastal Landforms
- Lecture 46 - Tectonic Landform Changes from the 2004 Sumatra Earthquake
- Lecture 47 - Depositional Coastal Landforms and Coral Reefs
- Lecture 48 - Extensional Environments and Associated Landforms - Part 1
- Lecture 49 - Extensional Environments and Associated Landforms - Part 2
- Lecture 50 - Extensional Environments and Associated Landforms - Part 3
- Lecture 51 - Extensional Environments and Associated Landforms - Part 4
- Lecture 52 - Stress Conditions in Compressional, Extensional, and Transverse Faults
- Lecture 53 - Active, Capable, and Potentially Active Faults
- Lecture 54 - Active Fault Topography in Compressional Environments
- Lecture 55 - Himalayan Tectonic Framework and Mountain Building Processes
- Lecture 56 - Fault Scarp Characteristics in Compressional Environments - Part 1
- Lecture 57 - Fault Scarp Characteristics in Compressional Environments - Part 2
- Lecture 58 - Colluvial Wedges and Their Characteristics
- Lecture 59 - Fault Reactivation and Anticline Growth in the Himalaya
- Lecture 60 - Strike-Slip Faults and Associated Landforms
- Lecture 61 - Strike-Slip Faulting and Step-Overs
- Lecture 62 - Strike-Slip Faulting and Associated Landforms in the Himalaya
- Lecture 63 - The Kangra Valley Fault of the Himalaya and the Median Tectonic Line of Japan
- Lecture 64 - Paleotsunamis and Landform Changes Associated with Tsunami Events - Part 1
- Lecture 65 - Paleotsunamis and Landform Changes Associated with Tsunami Events - Part 2
- Lecture 66 - Field Investigations of Past Earthquakes in the Frontal Kumaun Himalaya

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

NPTEL Video Course - Civil Engineering - Advanced Foundation Engineering

Subject Co-ordinator - Dr. Kousik Deb

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Soil Exploration
Lecture 3 - Soil Exploration - Penetration Tests
Lecture 4 - Soil Exploration - Geophysical Exploration
Lecture 5 - Shallow Foundation - Introduction
Lecture 6 - Shallow Foundation
Lecture 7 - Shallow Foundation
Lecture 8 - Shallow Foundation
Lecture 9 - Shallow Foundation
Lecture 10 - Shallow Foundation
Lecture 11 - Shallow Foundation - Settlement Calculation - I
Lecture 12 - Shallow Foundation - Settlement Calculation - II
Lecture 13 - Shallow Foundation - Settlement Calculation - III
Lecture 14 - Design of Shallow Foundation
Lecture 15 - Design of Raft Foundation
Lecture 16 - Deep Foundation - Introduction
Lecture 17 - Pile Foundation - Load Carrying Capacity - I
Lecture 18 - Pile Foundation - Load Carrying Capacity - II
Lecture 19 - Pile Foundation - Load Carrying Capacity - III and Settlement Calculation
Lecture 20 - Tension and Lateral Loaded Piles
Lecture 21 - Well Foundation
Lecture 22 - Well Foundation (Continued...)
Lecture 23 - Design of Retaining Wall
Lecture 24 - Design of Retaining Wall (Continued...)
Lecture 25 - Design of Sheet Piles
Lecture 26 - Design of Sheet Piles (Continued...)
Lecture 27 - Design of Sheet Piles (Continued...)
Lecture 28 - Design of Sheet Piles (Continued...)
Lecture 29 - Reinforced Earth

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

Lecture 30 - Reinforced Retaining Wall
Lecture 31 - Seismic Design of Retaining Wall
Lecture 32 - Seismic Design of Retaining Walls (Continued...)
Lecture 33 - Soil - Foundation Interaction
Lecture 34 - Soil - Foundation Interaction (Continued...)
Lecture 35 - Soil - Foundation Interaction (Continued...)
Lecture 36 - Soil - Foundation Interaction (Continued...)
Lecture 37 - Soil - Foundation Interaction (Continued...)
Lecture 38 - Soil - Foundation Interaction (Continued...)
Lecture 39 - Soil - Foundation Interaction (Continued...)
Lecture 40 - Soil - Foundation Interaction (Continued...)

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

NPTEL Video Course - Civil Engineering - Ground Water Hydrology

Subject Co-ordinator - Dr. Anirban Dhar, Dr. V.R. Desai

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction
- Lecture 2 - Ground Water in Hydrologic Cycle (Continued...), Ground Water Budget, Ground Water Level Fluctuations
- Lecture 3 - Ground water Level Fluctuations and Environmental Influence (Continued...) Literature/Data/Intern
- Lecture 4 - Ground water Level Fluctuations and Environmental Influence (Continued...) Literature/Data/Intern
- Lecture 5 - Occurrence and Movement of Ground Water
- Lecture 6 - Zones of Aeration and Saturation; Aquifers and their characteristics/classification
- Lecture 7 - Aquifer Classification (Continued...), Ground water Basins and Springs; Darcy's Law; Permeability
- Lecture 8 - Determination of Permeability
- Lecture 9 - Ground Water (GW) flowrates and flow directions; general flow equations through porous media
- Lecture 10 - General Flow Equations Through Porous Media (Continued...), Dupuit's Assumptions
- Lecture 11 - 1-D Unconfined Ground water Flows; Steady Flow into Wells
- Lecture 12 - Steady Flow into Wells (Continued...); Unsteady Flow into Wells
- Lecture 13 - Unsteady Flow into Wells (Continued...)
- Lecture 14 - Unsteady Radial Flow in Confined and Unconfined Aquifers
- Lecture 15 - Unsteady Radial Flow in Leaky Aquifers (Continued...); Well Flow Near Aquifer Boundaries
- Lecture 16 - Well Flow for Special Conditions; Partially Penetrating Wells; Horizontal Wells and Collector Wells
- Lecture 17 - Well Completion; Well Development; Well Protection; Well Rehabilitation; Well testing for Yields
- Lecture 18 - Well Protection/Rehabilitation/Testing for yield (Continued...); Artificial Ground Water Recharge
- Lecture 19 - Concept and methods of Artificial Ground Water Recharge (Continued...); Recharge Mounds and Induced Recharge
- Lecture 20 - Induced Recharge (Continued...); Wastewater recharge for reuse; Water spreading
- Lecture 21 - Pollution and Quality Analysis of Ground Water
- Lecture 22 - Ground Water Pollution from Industrial, Agricultural and Miscellaneous Sources (Continued...)
- Lecture 23 - Ground Water Pollution from Miscellaneous Sources (Continued...), Attenuation and Underground Disposition
- Lecture 24 - Potential Evaluation of Ground water Pollution; Physical/Chemical/Biological analysis of Ground Water
- Lecture 25 - Ground water salinity and samples ;Graphical representations of ground water quality
- Lecture 26 - Graphical representations of ground water quality (Continued...), SURFACE/SUB-SURFACE INVESTIGATION
- Lecture 27 - Surface Investigation of ground water (Continued...)
- Lecture 28 - Seismic refraction/gravity/magnetic methods (Continued...);Sub-surface investigation of ground water
- Lecture 29 - Sub-surface investigation of ground water (Continued...)

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

- Lecture 30 - Radiation method of logging (Continued...); Temperature/caliper/fluid conductivity/fluid velocity
- Lecture 31 - Saline Water Intrusion in Aquifers
- Lecture 32 - Saline Water Intrusion in Aquifers
- Lecture 33 - Saline Water Intrusion in Aquifers
- Lecture 34 - Saline Water Intrusion in Aquifers
- Lecture 35 - Modeling and Management of Ground Water
- Lecture 36 - Modeling and Management of Ground Water
- Lecture 37 - Modeling and Management of Ground Water
- Lecture 38 - Modeling and Management of Ground Water
- Lecture 39 - Modeling and Management of Ground Water
- Lecture 40 - Modeling and Management of Ground Water

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

NPTEL Video Course - Civil Engineering - Numerical Methods in Civil Engineering

Subject Co-ordinator - Dr. A. Deb

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction to Numerical Methods
Lecture 2 - Error Analysis
Lecture 3 - Introduction to Linear Systems - I
Lecture 4 - Linear Systems - II
Lecture 5 - Linear Systems - III
Lecture 6 - Linear Systems - Error Bounds
Lecture 7 - Error Bounds and Iterative Methods for Solving Linear Systems
Lecture 8 - Iterative Methods for Solving Linear Systems - I
Lecture 9 - Iterative Methods - II
Lecture 10 - Iterative Methods - III
Lecture 11 - Iterative Methods for Eigen Value Extraction
Lecture 12 - Solving Nonlinear Equations - I
Lecture 13 - Solving Nonlinear Equations - II
Lecture 14 - Solving Multi Dimensional Nonlinear Equations - I
Lecture 15 - Solving Multi Dimensional Nonlinear Equations - II
Lecture 16 - ARC Length and Gradient Based Methods
Lecture 17 - Gradient Based Methods
Lecture 18 - Conjugate Gradient Method - I
Lecture 19 - Conjugate Gradient Method - II
Lecture 20 - Nonlinear Conjugate Gradient and Introduction to PDEs
Lecture 21 - Eigenfunction Solutions for the Wave Equation
Lecture 22 - Analytical Methods for Solving the Wave Equation
Lecture 23 - Analytical Methods for Hyperbolic and Parabolic PDEs
Lecture 24 - Analytical Methods for Parabolic and Elliptic PDEs
Lecture 25 - Analytical Methods for Elliptic PDE's
Lecture 26 - Series Solutions for Elliptic PDE's and Introduction to Differential Operators
Lecture 27 - Differential Operators - I
Lecture 28 - Differential Operators - II
Lecture 29 - Differential Operators - III

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

Lecture 30 - Interpolation
Lecture 31 - Polynomial Fitting
Lecture 32 - Orthogonal Polynomials - I
Lecture 33 - Orthogonal Polynomials - II
Lecture 34 - Orthogonal Polynomials - III
Lecture 35 - Spline Functions
Lecture 36 - Orthogonal Basis Functions for Solving PDE\'s - I
Lecture 37 - Orthogonal Basis Functions for Solving PDE\'s - II
Lecture 38 - Integral Equations - I
Lecture 39 - Integral Equations - II
Lecture 40 - Integral Equations - III

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

NPTEL Video Course - Civil Engineering - Probability Methods in Civil Engineering

Subject Co-ordinator - Dr. Rajib Maity

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction - Role of Probability in Civil Engineering
Lecture 2 - Random Events and Probability Concept
Lecture 3 - Set Theory and Set Operations
Lecture 4 - Axioms of Probability
Lecture 5 - Probability of Events
Lecture 6 - Concept and Definition of Random Variables
Lecture 7 - Probability Distribution of Random Variables
Lecture 8 - CDF and Descriptors of Random Variables
Lecture 9 - Further Descriptors of Random Variables
Lecture 10 - Discrete Probability Distribution
Lecture 11 - Probability Distribution of Continuous RVs
Lecture 12 - Probability Distribution of Continuous RVs (Continued...1)
Lecture 13 - Probability Distribution of Continuous RVs (Continued...2)
Lecture 14 - Functions of Single Random Variables
Lecture 15 - Functions of Random Variables - Different Methods
Lecture 16 - Functions of Random Variables - Different Methods (Continued...)
Lecture 17 - Expectation and Moments of Functions of RV
Lecture 18 - Expectation and Moments of Functions of RV (Continued...)
Lecture 19 - Joint Probability Distribution
Lecture 20 - Marginal Probability Distribution
Lecture 21 - Conditional Probability Distribution
Lecture 22 - Conditional Probability Distribution (Continued...)
Lecture 23 - Properties of Multiple Random Variables
Lecture 24 - Properties of Multiple Random Variables (Continued...)
Lecture 25 - MGF of Multivariate RVs and Multivariate Probability Distributions
Lecture 26 - Multivariate Distribution and Functions of Multiple Random Variables
Lecture 27 - Functions of Multiple Random Variables (Continued...1)
Lecture 28 - Functions of Multiple Random Variables (Continued...2)
Lecture 29 - Introduction to Copulas

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

- Lecture 30 - Introduction to Copulas (Continued...)
- Lecture 31 - Probability Models using Normal Distribution
- Lecture 32 - Probability Models using Log Normal and Exponential Distribution
- Lecture 33 - Probability Models using Gamma and Extreme Value Distribution
- Lecture 34 - Probability Models using Discrete Probability Distributions
- Lecture 35 - Sampling Distribution and Parameter Estimation
- Lecture 36 - Sampling Distribution and Parameter Estimation (Continued...)
- Lecture 37 - Hypothesis Testing
- Lecture 38 - Goodness - of - fit tests
- Lecture 39 - Regression Analyses and Correlation
- Lecture 40 - Regression Analyses and Correlation (Continued...)

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

NPTEL Video Course - Civil Engineering - Design of Reinforced Concrete Structures

Subject Co-ordinator - Prof. N. Dhang

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction - I
Lecture 2 - Materials
Lecture 3 - Different Methods of Design of Reinforced Concrete Structures
Lecture 4 - Working Stress Method
Lecture 5 - Working Stress Method (Continued...)
Lecture 6 - Limit State of Collapse Flexure - I
Lecture 7 - Limit State of Collapse Flexure - II
Lecture 8 - Design of Doubly Reinforced Beam Flexure - I
Lecture 9 - Design of Doubly Reinforced Beam Flexure - II
Lecture 10 - Design of Doubly Reinforced Beam Flexure
Lecture 11 - Limit State of Collapse Shear
Lecture 12 - Design for Shear
Lecture 13 - Design for Shear (Continued...)
Lecture 14 - Design of Slabs - Part I
Lecture 15 - Design of Slabs - Part II
Lecture 16 - Design of Slabs - Part III
Lecture 17 - Design of Slabs - Part IV
Lecture 18 - Design of Slabs - Part V
Lecture 19 - Design of Columns - Part I
Lecture 20 - Design of Columns - Part II
Lecture 21 - Design of Columns - Part III
Lecture 22 - Design of Columns - Part IV
Lecture 23 - Design of Columns - Part V
Lecture 24 - Design of Footings - Part I
Lecture 25 - Design of Footings - Part II
Lecture 26 - Design of Staircases
Lecture 27 - Design for Torsion - Part I
Lecture 28 - Design for Torsion - Part II
Lecture 29 - Design of RC Slender Columns

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Lecture 30 - Deflection of RC Beams

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

NPTEL Video Course - Civil Engineering - Engineering Geology

Subject Co-ordinator - Dr. Debasis Roy

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction to Engineering Geology
Lecture 2 - Geologic Structures
Lecture 3 - Geologic Maps and Stratigraphic Sections
Lecture 4 - Remote Sensing in Engineering Geology
Lecture 5 - Physical Properties of Minerals
Lecture 6 - Crystallography and Optical Properties
Lecture 7 - Chemical Characteristics of Minerals
Lecture 8 - Origin And Types of Rocks
Lecture 9 - Origin And Types of Soils
Lecture 10 - Igneous Rocks
Lecture 11 - Sedimentary Rocks
Lecture 12 - Metamorphic Rocks
Lecture 13 - Weathering
Lecture 14 - Sediment Transport and Deposition
Lecture 15 - Introduction to Subsurface Exploration
Lecture 16 - Introduction to Subsurface Exploration
Lecture 17 - Sampling and Non - Intrusive Methods
Lecture 18 - Index Properties and Classification of Soils
Lecture 19 - Index Properties of Rock and Rock Mass
Lecture 20 - Stress-Strain Behavior of Soil and Rock - I
Lecture 21 - Stress-Strain Behavior of Soil and Rock - II
Lecture 22 - In-situ State of Stress
Lecture 23 - Geologic Considerations in Tunneling
Lecture 24 - Geologic Considerations in Dam Construction
Lecture 25 - Groundwater - Preliminaries
Lecture 26 - Groundwater Flow - I
Lecture 27 - Groundwater Flow - II
Lecture 28 - Groundwater Related Engineering Issues
Lecture 29 - Groundwater Over Utilization

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

- Lecture 30 - Plate Tectonics
- Lecture 31 - Plate Tectonics - 2 and Earthquake
- Lecture 32 - Earthquake Hazard Assessment
- Lecture 33 - Geologic Hazards - Seismicity and Volcanism
- Lecture 34 - Geologic Hazards - Shoreline Processes
- Lecture 35 - Geologic Hazards - Shoreline Processes
- Lecture 36 - Geologic Hazards - Landslide Hazards - Zoning
- Lecture 37 - Geologic Hazards Subsidence , Collapsible Soils
- Lecture 38 - Preparation of Geologic Sections
- Lecture 39 - Index testing of soil & rocks
- Lecture 40 - Identification of minerals and rock samples

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

NPTEL Video Course - Civil Engineering - Introduction to Transportation Engineering

Subject Co-ordinator - Dr. K.S. Reddy, Dr. Bhargab Maitra

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Transportation Engineering
Lecture 2 - Elements of Concern and Components
Lecture 3 - Traffic Stream Characteristics
Lecture 4 - Traffic Studies
Lecture 5 - Traffic Studies
Lecture 6 - Highway Capacity and Level of Service
Lecture 7 - Intersection Control and Signalization
Lecture 8 - Functional Classification, Design Elements
Lecture 9 - Cross Section Elements
Lecture 10 - Stopping Sight Distance And Decision Sight
Lecture 11 - Overtaking, Intermediate and Headlight Sight
Lecture 12 - Intersection Sight Distance - I
Lecture 13 - Intersection Sight Distance - II
Lecture 14 - Horizontal Alignment - I
Lecture 15 - Horizontal Alignment - II
Lecture 16 - Horizontal Alignment - III
Lecture 17 - Horizontal Alignment - IV
Lecture 18 - Horizontal Alignment - V
Lecture 19 - Horizontal Alignment - VI
Lecture 20 - Vertical Alignment - I
Lecture 21 - Vertical Alignment - II
Lecture 22 - Vertical Alignment - III
Lecture 23 - Highway Alignment
Lecture 24 - Principles of Pavement Design
Lecture 25 - Traffic Loading - I
Lecture 26 - Traffic Loading - II
Lecture 27 - Pavement Materials - I
Lecture 28 - Pavement Materials - II
Lecture 29 - Pavement Materials - III

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

- Lecture 30 - Pavement Materials - IV
- Lecture 31 - Pavement Materials - V
- Lecture 32 - Design of Bituminous Mixes - I
- Lecture 33 - Design of Bituminous Mixes - II
- Lecture 34 - Analysis of Flexible Pavements
- Lecture 35 - Analysis of Concrete Pavements
- Lecture 36 - Flexible Pavement Design Indian Roads Congress
- Lecture 37 - Flexible Pavement Design AASHTO Method - 1993
- Lecture 38 - Concrete Pavement Design Indian Congress Method
- Lecture 39 - Concrete Pavement Design PCA and AASHTO Methods
- Lecture 40 - Pavement Evaluation and Rehabilitation
- Lecture 41 - Overlay Design - IRC Method

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

NPTEL Video Course - Civil Engineering - Strength of Materials

Subject Co-ordinator - Prof. S.K. Bhattacharyya

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction - Strength of Materials

Lecture 2 - Analysis of Stress - I

Lecture 3 - Analysis of Stress - II

Lecture 4 - Analysis of Stress - III

Lecture 5 - Analysis of Stress - IV

Lecture 6 - Analysis of Stress - V

Lecture 7 - Analysis of Strain - I

Lecture 8 - Analysis of Strain - II

Lecture 9 - Analysis of Strain - III

Lecture 10 - Analysis of Strain - IV

Lecture 11 - Analysis of Strain - V

Lecture 12 - Analysis of Strain - VI

Lecture 13 - Analysis of Strain - VII

Lecture 14 - Analysis of Strain - VIII

Lecture 15 - Application of Stress/Strain

Lecture 16 - Application of Stress / Strain

Lecture 17 - Application of Stress / Strain

Lecture 18 - Torsion - I

Lecture 19 - Torsion - II

Lecture 20 - Torsion - III

Lecture 21 - Torsion - IV

Lecture 22 - Bending of Beams - I

Lecture 23 - Bending of Beams - II

Lecture 24 - Bending of Beams - III

Lecture 25 - Bending of Beams - IV

Lecture 26 - Stresses in Beams - I

Lecture 27 - Stresses in Beams - II

Lecture 28 - Stresses in Beams - III

Lecture 29 - Stresses in Beams - IV

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Lecture 30 - Deflection of Beams - I
Lecture 31 - Deflection of Beams - II
Lecture 32 - Deflection of Beams - III
Lecture 33 - Deflection of Beams - IV
Lecture 34 - Combined Stresses - I
Lecture 35 - Combined Stresses - II
Lecture 36 - Combined Stresses - III
Lecture 37 - Stability of Columns - I
Lecture 38 - Stability of Columns - II
Lecture 39 - Springs - I
Lecture 40 - Springs - II

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

NPTEL Video Course - Civil Engineering - NOC:Probability Methods in Civil Engineering

Subject Co-ordinator - Dr. Rajib Maity

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Random Events and Probability Concept
Lecture 2 - Set Theory and Set Operations
Lecture 3 - Axioms of Probability
Lecture 4 - Probability of Events
Lecture 5 - Concept and definition of Random variables
Lecture 6 - Probability distribution of random variables
Lecture 7 - CDF and Descriptors of Random Variables
Lecture 8 - Further Descriptors of Random Variables
Lecture 9 - Discrete Probability Distribution
Lecture 10 - Probability Distribution of Continuous RVs
Lecture 11 - Probability Distribution of Continuous RVs (Continued.....1)
Lecture 12 - Probability Distribution of Continuous RVs (Continued.....2)
Lecture 13 - Functions of Single Random Variables
Lecture 14 - Functions of Different Variables - Different Methods
Lecture 15 - Functions of Random Variables
Lecture 16 - Probability Models using Normal Distribution
Lecture 17 - Probability Models using Log Normal and Exponential Distribution
Lecture 18 - Probability Models using Gamma and Extreme Value Distribution
Lecture 19 - Probability Models using Discrete Probability Distributions
Lecture 20 - Sampling Distribution and Parameter Estimation
Lecture 21 - Sampling Distribution and Parameter Estimation (Continued...)
Lecture 22 - Hypothesis Testing
Lecture 23 - Goodness of Fit-Tests
Lecture 24 - Regression Analyses and Correlation
Lecture 25 - Regression Analyses and Correlation (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Visual Semiotics for Visual Communication

Subject Co-ordinator - Prof. Mainak Ghosh

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Visual Semantics for Visual Communication
Lecture 2 - Visual Semantics for Visual Communication (Continued...)
Lecture 3 - Visual Semantics for Visual Communication (Continued...)
Lecture 4 - Visual Semantics for Visual Communication (Continued...)
Lecture 5 - Introduction to Millimeter-Wave Technology (Continued...)
Lecture 6 - Visual Semantics for Visual Communication (Continued...)
Lecture 7 - Visual Semantics for Visual Communication (Continued...)
Lecture 8 - Visual Semantics for Visual Communication (Continued...)
Lecture 9 - Introduction to Millimeter-Wave Technology
Lecture 10 - Visual Semantics for Visual Communication (Continued...)
Lecture 11 - Visual Semantics for Visual Communication (Continued...)
Lecture 12 - Visual Semantics for Visual Communication (Continued...)
Lecture 13 - Conceptual Model and Affordances
Lecture 14 - Visual Semantics for Visual Communication (Continued...)
Lecture 15 - Visual Semantics for Visual Communication (Continued...)
Lecture 16 - Visual Semantics for Visual Communication (Continued...)
Lecture 17 - Visual Semantics for Visual Communication (Continued...)
Lecture 18 - Visual Semantics for Visual Communication (Continued...)
Lecture 19 - Visual Semantics for Visual Communication (Continued...)
Lecture 20 - Visual Semantics for Visual Communication (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Life Cycle Assessment

Subject Co-ordinator - Prof. Brajesh Kumar Dubey

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Life Cycle Assessment - Introduction
Lecture 2 - Life Cycle Assessment - Introduction
Lecture 3 - LCA and Sustainability
Lecture 4 - LCA and Environmental Systems
Lecture 5 - LCA and Water, Food and Energy
Lecture 6 - RISK Assessment and LCA Frameworks
Lecture 7 - RISK Assessment - Toxicology
Lecture 8 - RISK Assessment Methods
Lecture 9 - RISK Assessment Methods (Continued...)
Lecture 10 - Environmental Risk Assessment
Lecture 11 - Environmental Data Collection and LCA Methodology
Lecture 12 - Environmental Data Collection and LCA Methodology (Continued...)
Lecture 13 - Environmental Data Collection and LCA Methodology (Continued...)
Lecture 14 - Environmental Data Collection and LCA Methodology (Continued...)
Lecture 15 - LCA Methodology
Lecture 16 - LCA - A Detailed Methodology
Lecture 17 - LCA - A Detailed Methodology (Continued...)
Lecture 18 - LCA Benefits and Drawbacks
Lecture 19 - History of LCA
Lecture 20 - The ISO Framework
Lecture 21 - Unit Process, Data and LCI Databases
Lecture 22 - Unit Process and System Boundary (Continued...)
Lecture 23 - Inventory Data and LCIA
Lecture 24 - LCIA
Lecture 25 - LCA Interpretation
Lecture 26 - ISO 14040
Lecture 27 - Key Points of a Good LCA and Example LCA
Lecture 28 - Chemical Release in Environment
Lecture 29 - Green Sustainable Materials

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- Lecture 30 - Green Sustainable Materials (Continued...)
- Lecture 31 - Design for Sustainability
- Lecture 32 - Design for Sustainability (Continued...)
- Lecture 33 - Design for Sustainability (Continued...)
- Lecture 34 - Sustainable Engineering Design Principles
- Lecture 35 - Sustainable Engineering Design Principles (Continued...)
- Lecture 36 - Summary and Case Studies
- Lecture 37 - Summary and Case Studies (Continued...)
- Lecture 38 - Summary and Case Studies (Continued...)
- Lecture 39 - Tutorial I
- Lecture 40 - Tutorial II

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

NPTEL Video Course - Civil Engineering - NOC: Integrated Waste Management for a Smart City

Subject Co-ordinator - Prof. Brajesh Kumar Dubey

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Introduction (Continued...)
Lecture 3 - Introduction (Continued...)
Lecture 4 - Introduction (Continued...)
Lecture 5 - Introduction (Continued...)
Lecture 6 - Introduction (Continued...)
Lecture 7 - Municipal Solid Waste Characteristics and Quantities
Lecture 8 - Municipal Solid Waste Characteristics and Quantities (Continued...)
Lecture 9 - Municipal Solid Waste Characteristics and Quantities (Continued...)
Lecture 10 - Municipal Solid Waste Characteristics and Quantities (Continued...)
Lecture 11 - MSW Characteristics - Thermal Properties and Chemical Composition
Lecture 12 - Chemical Analysis Procedure
Lecture 13 - Chemical Analysis Procedure (Continued...)
Lecture 14 - Working with Data and Statistical Methods
Lecture 15 - Waste Management Rules 2016
Lecture 16 - Waste Management Rules 2016 (Continued...)
Lecture 17 - Swachh Bharat Mission and Smart Cities Program Overview
Lecture 18 - Storage of Solid Waste
Lecture 19 - MSW Collection System
Lecture 20 - MSW Collection System (Continued...)
Lecture 21 - Waste Collection and Transport
Lecture 22 - Waste Collection and Transport (Continued...)
Lecture 23 - Waste Collection and Transport (Continued...)
Lecture 24 - Waste Collection and Transport (Continued...)
Lecture 25 - Waste Collection and Transport (Continued...)
Lecture 26 - Collection System
Lecture 27 - Collection System (Continued...)
Lecture 28 - Review of MSW Management in Proposed Smart Cities
Lecture 29 - Biological Treatment of Waste

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Lecture 30 - Biological Treatment of Waste (Continued...)
Lecture 31 - Biological Treatment of Waste (Continued...)
Lecture 32 - Biological Treatment of Waste (Continued...)
Lecture 33 - Biological Treatment of Waste (Continued...)
Lecture 34 - Thermal Treatment
Lecture 35 - Thermal Treatment (Continued...)
Lecture 36 - Thermal Treatment (Continued...)
Lecture 37 - Thermal Treatment (Continued...)
Lecture 38 - Thermal Treatment (Continued...)
Lecture 39 - Thermal Treatment (Continued...)
Lecture 40 - Landfill Disposal
Lecture 41 - Landfill Disposal (Continued...)
Lecture 42 - Landfill Disposal (Continued...)
Lecture 43 - Landfill Disposal (Continued...)
Lecture 44 - Landfill Disposal (Continued...)
Lecture 45 - Landfill Disposal (Continued...)
Lecture 46 - Landfill Disposal (Continued...)
Lecture 47 - Landfill Disposal (Continued...)
Lecture 48 - Construction and Demolition Waste Management
Lecture 49 - Construction and Demolition Waste Management (Continued...)
Lecture 50 - Construction and Demolition Waste Management (Continued...)
Lecture 51 - Construction and Demolition Waste Management (Continued...)
Lecture 52 - Construction and Demolition Waste Management (Continued...)
Lecture 53 - E-Waste Management
Lecture 54 - E-Waste Management (Continued...)
Lecture 55 - E-Waste Management (Continued...)
Lecture 56 - E-Waste Management (Continued...)
Lecture 57 - E-Waste Management (Continued...)
Lecture 58 - E-Waste Management (Continued...)
Lecture 59 - E-Waste Management (Continued...)
Lecture 60 - E-Waste Management (Continued...)
Lecture 61 - Tutorial - I
Lecture 62 - Tutorial - II

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

NPTEL Video Course - Civil Engineering - NOC:Computational Hydraulics

Subject Co-ordinator - Dr. Anirban Dhar

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction to Computational Hydraulics
Lecture 2 - Problem Definition and Governing Equations (GE)
Lecture 3 - Classification of Problems based on Initial Condition (IC) and/or Boundary Conditions (BC)
Lecture 4 - Classification of Differential Equations
Lecture 5 - Numerical Methods
Lecture 6 - Finite Difference Approximation
Lecture 7 - Ordinary Differential Equation
Lecture 8 - Ordinary Differential Equation
Lecture 9 - Partial Differential Equation
Lecture 10 - Partial Differential Equation
Lecture 11 - Partial Differential Equation
Lecture 12 - Partial Differential Equation
Lecture 13 - Finite Volume Method - Overview
Lecture 14 - Finite Volume Method - BVP
Lecture 15 - Finite Volume Method - IBVP
Lecture 16 - Finite Volume Method - Conservation Law
Lecture 17 - Upwind Approach
Lecture 18 - Godunov Approach
Lecture 19
Lecture 20
Lecture 21 - Mesh-Tree Method
Lecture 22 - Mesh-Free Method
Lecture 23 - Mesh-Free Method
Lecture 24 - Numerical Method
Lecture 25 - Algebraic Equation
Lecture 26 - Algebraic Equation
Lecture 27 - Algebraic Equation
Lecture 28 - Algebraic Equation
Lecture 29 - Algebraic Equation

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- Lecture 30 - Algebraic Equation
- Lecture 31 - One-Dimensional Flow
- Lecture 32 - Steady Two-Dimensional Flow
- Lecture 33 - Unsteady Two-Dimensional Flow using Finite Difference Method
- Lecture 34
- Lecture 35
- Lecture 36
- Lecture 37
- Lecture 38
- Lecture 39
- Lecture 40 - Steady Channel Flow
- Lecture 41 - Steady Channel Flow
- Lecture 42 - Steady Channel Flow
- Lecture 43 - Steady Channel Flow
- Lecture 44
- Lecture 45
- Lecture 46
- Lecture 47
- Lecture 48
- Lecture 49 - Unsteady Flow in Pipes
- Lecture 50 - Surface Water and Ground Water Interaction
- Lecture 51 - Course Summary

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

NPTEL Video Course - Civil Engineering - NOC:Design of Steel Structures

Subject Co-ordinator - Prof. Damodar Maity

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction to Design of Steel Structures (Limit State Method)
Lecture 2 - Steel as a Structural Material
Lecture 3 - Limit State Design
Lecture 4 - Introduction to Connections
Lecture 5 - Introduction to Bolt Connections
Lecture 6 - Design of Ordinary Black Bolts
Lecture 7 - Worked out Examples on Design of Ordinary Black Bolts
Lecture 8 - Design of High Strength Friction Grip Bolts
Lecture 9 - Weld connection
Lecture 10 - Design of Fillet Welds
Lecture 11 - Design of Butt Welds
Lecture 12 - Design of Plug and Slot Weld
Lecture 13 - Eccentric Connection (Load Lying in Plane of Bolted Joint)
Lecture 14 - Design of Eccentric Connection (Load Lying in Plane of Bolted Joint)
Lecture 15 - Eccentric Connection (Load Lying in Plane of Welded Joint)
Lecture 16 - Eccentric Connection (Load Lying Perpendicular to Plane of Bolted Joint)
Lecture 17 - Design of Eccentric Connection (Load Lying Perpendicular to Plane of Bolted Joint)
Lecture 18 - Eccentric Connection (Load Lying Perpendicular to Plane of Welded Joint)
Lecture 19 - Tension Members and Net Area
Lecture 20 - Calculation of Net Area in Tension Members
Lecture 21 - Net area, Staggered bolt, Chain bolt, Staggered pitch, Deduction of area
Lecture 22 - Strength Calculation of Tension Members
Lecture 23 - Strength of Tension Members with Weld Connection
Lecture 24 - Steps for Design of Tension Members
Lecture 25 - Design Calculation for Tension Members
Lecture 26 - Design of Gusset Plate
Lecture 27 - Lug Angles
Lecture 28 - Splices in Tension Members
Lecture 29 - Compression Members

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- Lecture 30 - Design Strength of Compression Members
- Lecture 31 - Compressive Strength
- Lecture 32 - Compressive Strength of Angle Struts
- Lecture 33 - Compressive Strength of Double Angles
- Lecture 34 - Design of Compression Members
- Lecture 35 - Design of Builtup Compression Members
- Lecture 36 - Lacing Systems
- Lecture 37 - Design of Lacing Systems
- Lecture 38 - Connection Design of Lacing Systems
- Lecture 39 - Design of Double Lacing System
- Lecture 40 - Batten Plates
- Lecture 41 - Design of Batten Plates using Bolt Connection
- Lecture 42 - Design of Batten Plates using Weld Connection
- Lecture 43 - Design of Column Splices
- Lecture 44 - Design of Column Splices due to Shear
- Lecture 45 - Introduction to Flexural Members
- Lecture 46 - Failure Modes of Flexural Members
- Lecture 47 - Laterally Supported Beams
- Lecture 48 - Design of Laterally Supported Beams
- Lecture 49 - Laterally Supported Beams with High Shear
- Lecture 50 - Laterally Unsupported Beams
- Lecture 51 - Strength Calculation of Laterally Unsupported Beams
- Lecture 52
- Lecture 53
- Lecture 54
- Lecture 55
- Lecture 56
- Lecture 57
- Lecture 58 - Worked out Example for Gantry Girder
- Lecture 59 - Slab Base
- Lecture 60 - Design of Slab Base
- Lecture 61 - Eccentrically Loaded Base Plate
- Lecture 62 - Gusset Base
- Lecture 63 - Design of Gusset Base

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

NPTEL Video Course - Civil Engineering - NOC:Reinforced Concrete Road Bridges

Subject Co-ordinator - Prof. Nirjhar Dhang

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Classification of Bridges
Lecture 3 - General Features of Design
Lecture 4 - IRC Loading
Lecture 5 - Design Codes
Lecture 6 - Working Stress Method
Lecture 7 - Limit State Method of Design as per IS456
Lecture 8 - Limit State Method of Design as per IRC 112
Lecture 9 - Design of Slab Bridges - Part I
Lecture 10 - Design of Slab Bridges - Part II
Lecture 11 - Design of Slab Bridges - Part III
Lecture 12 - Design of Slab Bridges - Part IV
Lecture 13 - Design of Slab Bridges - Part V
Lecture 14 - Design of Slab Bridges - Part VI
Lecture 15 - Abutment
Lecture 16 - Design of RCC T Beam Bridge - Part I
Lecture 17 - Design of RCC T Beam Bridge - Part II
Lecture 18 - Design of RCC T Beam Bridge - Part III
Lecture 19 - Design of RCC T Beam Bridge - Part IV
Lecture 20 - Summary and Closure

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

NPTEL Video Course - Civil Engineering - NOC:Structural Analysis - I

Subject Co-ordinator - Prof. Amit Shaw

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Idealization of Structures, Threats and Responses
Lecture 3 - Static Equilibrium
Lecture 4 - Determinate and Indeterminate Structures
Lecture 5 - Review of Bending Moment and Shear Force Diagram of Beam
Lecture 6 - Tutorial - I
Lecture 7 - Analysis of Statically Determinate Structures
Lecture 8 - Analysis of Truss
Lecture 9 - Analysis of Truss
Lecture 10 - Analysis of Truss
Lecture 11 - Analysis of Truss
Lecture 12 - Analysis of Statically Determinate Structures
Lecture 13 - Analysis of Statically Determinate Structures
Lecture 14 - Analysis of Statically Determinate Structures
Lecture 15 - Analysis of Statically Determinate Structures
Lecture 16 - Analysis of Statically Determinate Structures
Lecture 17 - Deflection of Beams and Frames
Lecture 18 - Deflection of Beams and Frames (Continued...)
Lecture 19 - Deflection of Beams and Frames (Continued...)
Lecture 20 - Deflection of Beams and Frames (Continued...)
Lecture 21 - Deflection of Beams and Frames (Continued...)
Lecture 22 - Deflection of Beams and Frames (Continued...)
Lecture 23 - Deflection of Beams and Frames (Continued...)
Lecture 24 - Deflection of Beams and Frames (Continued...)
Lecture 25 - Deflection of Beams and Frames (Continued...)
Lecture 26 - Deflection of Beams and Frames (Continued...)
Lecture 27 - Deflection of Beams and Frames (Continued...)
Lecture 28 - Influence Line Diagram and moving Loads
Lecture 29 - Influence Line Diagram and moving Loads (Continued...)

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Lecture 30 - Influence Line Diagram and moving Loads (Continued...)
Lecture 31 - Influence Line Diagram and moving Loads (Continued...)
Lecture 32 - Influence Line Diagram and moving Loads (Continued...)
Lecture 33 - Analysis of Statically Indeterminate Structures
Lecture 34 - Analysis of Statically Indeterminate Structures (Continued...)
Lecture 35 - Analysis of Statically Indeterminate Structures (Continued...)
Lecture 36 - Analysis of Statically Indeterminate Structures (Continued...)
Lecture 37 - Analysis of Statically Indeterminate Structures (Continued...)
Lecture 38 - Analysis of Statically Indeterminate Structures
Lecture 39 - Analysis of Statically Indeterminate Structures
Lecture 40 - Analysis of Statically Indeterminate Structures
Lecture 41 - Analysis of Statically Indeterminate Structures
Lecture 42 - Analysis of Statically Indeterminate Structures by Force Method
Lecture 43 - Analysis of Statically Indeterminate Structures by Force Method (Continued...)
Lecture 44 - Analysis of Statically Indeterminate Structures by Force Method (Continued...)
Lecture 45 - Analysis of Statically Indeterminate Structures by Force Method (Continued...)
Lecture 46 - Analysis of Statically Indeterminate Structures by Force Method (Continued...)
Lecture 47 - Analysis of Indeterminate Structures by Displacement Methods
Lecture 48 - Analysis of Indeterminate Structures by Displacement Methods (Continued...)
Lecture 49 - Analysis of Indeterminate Structures by Displacement Methods (Continued...)
Lecture 50 - Analysis of Indeterminate Structures by Displacement Methods (Continued...)
Lecture 51 - Analysis of Indeterminate Structures by Displacement Methods (Continued...)
Lecture 52 - Analysis of Indeterminate Structures by Displacement Methods (Continued...)
Lecture 53 - Analysis of Indeterminate Structures by Displacement Methods (Continued...)
Lecture 54 - Analysis of Indeterminate Structures by Displacement Methods (Continued...)
Lecture 55 - Analysis of Indeterminate Structures by Displacement Methods (Continued...)
Lecture 56 - Analysis of Indeterminate Structures by Displacement Methods (Continued...)

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NPTEL Video Course - Civil Engineering - NOC:Soil Mechanics, Geotechnical Engineering-I

Subject Co-ordinator - Prof. Dilip Kumar Baidya

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Rock cycle
Lecture 2 - Soil Formation
Lecture 3 - Soil Classification
Lecture 4 - Soil Classification (Continued...)
Lecture 5 - Soil Classification (Continued...)
Lecture 6 - Three-phase diagram
Lecture 7 - Three-phase diagram (Continued...)
Lecture 8 - Permeability and seepage
Lecture 9 - Permeability and Seepage (Continued...)
Lecture 10 - Permeability and seepage (Continued...)
Lecture 11 - Permeability And Seepage
Lecture 12 - Permeability And Seepage (Continued...)
Lecture 13 - Permeability And Seepage (Continued...)
Lecture 14 - Compaction Of Soils
Lecture 15 - Compaction Of Soils (Continued...)
Lecture 16 - Deep Dynamic Compaction
Lecture 17 - Permeability/Compaction (Continued...)
Lecture 18 - Effective Stress
Lecture 19 - Effective Stress (Continued...)
Lecture 20 - Effective Stress Application
Lecture 21 - Vertical Stress Distribution
Lecture 22 - Boussinesq Point Load Formula
Lecture 23 - Vertical Stress For Distributed Load
Lecture 24 - Vertical Stress
Lecture 25 - Vertical Stress (Continued...)
Lecture 26 - Vertical Stress (Continued...)
Lecture 27 - Shear Strength
Lecture 28 - Shear Strength (Continued...)
Lecture 29 - Shear Strength (Continued...)

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Lecture 30 - Shear Strength (Continued...)
Lecture 31 - Shear Strength (Continued...)
Lecture 32 - Shear Strength (Continued...)
Lecture 33 - Shear Strength (Continued...)
Lecture 34 - Shear Strength (Continued...)
Lecture 35 - Shear Strength (Continued...)
Lecture 36 - Shear Strength (Continued...)
Lecture 37 - Compressibility Of Soils
Lecture 38 - Compressibility Of Soils (Continued...)
Lecture 39 - Compressibility Of Soils (Continued...)
Lecture 40 - Compressibility Of Soils (Continued...)
Lecture 41 - Compressibility Of Soils (Continued...)
Lecture 42 - Compressibility Of Soils (Continued...)
Lecture 43 - Compressibility Of Soils (Continued...)
Lecture 44 - Compressibility And Settlement Of Soil
Lecture 45 - Compressibility And Settlement (Continued...)
Lecture 46 - Compressibility And Secondary Compression
Lecture 47 - Earth Pressure
Lecture 48 - Earth Pressure (Continued...)
Lecture 49 - Earth Pressure (Continued...)
Lecture 50 - Earth Pressure (Continued...)
Lecture 51 - Earth Pressure (Continued...)
Lecture 52 - Earth Pressure (Continued...)
Lecture 53 - Earth Pressure (Continued...)
Lecture 54 - Earth Pressure (Continued...)
Lecture 55 - Stability Of Slopes
Lecture 56 - Stability Of Slopes (Continued...)
Lecture 57 - Stability Of Slopes (Continued...)
Lecture 58 - Slope Stability
Lecture 59 - Slope Stability
Lecture 60 - Concluding Remarks
Lecture 61 - Live Session

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

NPTEL Video Course - Civil Engineering - NOC:Electronic Waste Management - Issues and Challenges

Subject Co-ordinator - Prof. Brajesh Kumar Dubey

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - E-Waste Overview
Lecture 2 - E-waste Overview
Lecture 3 - E-waste Overview
Lecture 4 - E-waste Management Overview
Lecture 5 - E-waste Management Overview
Lecture 6 - Environmental and Public Health Issues
Lecture 7 - Environmental and Public Health Issues (Continued...)
Lecture 8 - E-waste Health Risk Assessment
Lecture 9 - Environmental and Public Health Issues (Continued...)
Lecture 10 - Environmental and Public Health Issues (Continued...)
Lecture 11 - Recovery of Materials from E-Waste
Lecture 12 - Metal Recovery Process
Lecture 13 - Recovery of Metals from Electronic Waste
Lecture 14 - Recovery of Metals from Electronic Waste
Lecture 15 - Recovery of Metals from Electronic Waste
Lecture 16 - E-waste Management
Lecture 17 - E-waste Management
Lecture 18 - E-waste Management
Lecture 19 - Electronics and LCA
Lecture 20 - LCA applications for Electronics
Lecture 21 - Tutorial-I
Lecture 22 - Tutorial-II

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

NPTEL Video Course - Civil Engineering - NOC:Mineral Resources - Geology, Exploration, Economics and Environment

Subject Co-ordinator - Prof. M.K.Panigrahi

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Mineral Deposits in Space and Time
Lecture 3 - Mineral Deposits in Space and Time (Continued...)
Lecture 4 - Mineral Deposits in Time, Attributes of Mineral Deposits and Theories of Mineral Deposits
Lecture 5 - Classification of Mineral Deposits
Lecture 6 - Magmatic Processes
Lecture 7 - Magmatic Processes
Lecture 8 - Magmatic Processes
Lecture 9 - Magmatic Processes
Lecture 10 - Sedimentary Processes and Resultant Mineral Deposits
Lecture 11 - Sedimentary Processes and Resultant Deposits
Lecture 12 - Sedimentary Processes and Resultant Deposits
Lecture 13 - Sedimentary Processes and Resultant Deposits
Lecture 14 - Sedimentary Processes and Resultant Deposits
Lecture 15 - Morphology of Ore Deposits
Lecture 16 - Hydrothermal Processes
Lecture 17 - Hydrothermal Processes (Continued...)
Lecture 18 - Hydrothermal Processes
Lecture 19 - Hydrothermal Processes
Lecture 20 - Hydrothermal Processes
Lecture 21 - Hydrothermal Processes (Continued...)
Lecture 22 - Hydrothermal Processes (Continued...)
Lecture 23 - Hydrothermal Processes (Continued...)
Lecture 24 - Hydrothermal Systems
Lecture 25 - Hydrothermal Systems (Continued...)
Lecture 26 - Hydrothermal Processes and Resultant Deposits
Lecture 27 - Hydrothermal Processes and Resultant Deposits (Continued...)
Lecture 28 - Hydrothermal Processes and Resultant Mineralization
Lecture 29 - Indian Mineral Deposits

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Lecture 30 - Indian Mineral Deposits (Continued...)
Lecture 31 - Indian Mineral Deposits (Continued...)
Lecture 32 - Mineral Exploration
Lecture 33 - Mineral Exploration (Continued...)
Lecture 34 - Mineral Exploration (Continued...)
Lecture 35 - Mineral Exploration (Continued...)
Lecture 36 - Mineral Exploration (Continued...)
Lecture 37 - Mineral Exploration (Continued...)
Lecture 38 - Mineral Exploration (Continued...)
Lecture 39 - Mineral Exploration (Continued...)
Lecture 40 - Mineral Exploration (Continued...)
Lecture 41 - Mineral Exploration (Continued...)
Lecture 42 - Mineral Exploration (Continued...)
Lecture 43 - Mineral Exploration (Continued...)
Lecture 44 - Mineral Exploration (Continued...)
Lecture 45 - Mineral Inventory Estimation
Lecture 46 - Mineral Inventory Estimation (Continued...)
Lecture 47 - Mineral Inventory Estimation (Continued...)
Lecture 48 - Mineral Inventory Estimation (Continued...)
Lecture 49 - Geostatistical Method of Mineral Inventory Estimation
Lecture 50 - Geostatistical Method of Mineral Inventory Estimation (Continued...)
Lecture 51 - Mineral Economics
Lecture 52 - Mineral Economics (Continued...)
Lecture 53 - Mineral Economics (Continued...)
Lecture 54 - Mineral Economics (Continued...)
Lecture 55 - Mineral Economics (Continued...)
Lecture 56 - Environmental Impact of Mineral Resource Exploitation
Lecture 57 - Environmental Impact of Mineral Resource Exploitation (Continued...)
Lecture 58 - Environmental Impact of Mineral Resource Exploitation (Continued...)
Lecture 59 - Environmental Impact of Mineral Resource Exploitation (Continued...)
Lecture 60 - Environmental Impact of Mineral Resource Exploitation (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Introduction to Mineral Processing

Subject Co-ordinator - Prof. Arun Kumar Majumder

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Importance of Mineral Processing
Lecture 2 - Importance to Mineral Processing (Continued...)
Lecture 3 - Importance of Mineral Processing (Continued...)
Lecture 4 - Importance of Mineral Processing (Continued...)
Lecture 5 - Importance of Mineral Processing (Continued...)
Lecture 6 - Particle Characterization
Lecture 7 - Particle Characterization (Continued...)
Lecture 8 - Particle Characterization (Continued...)
Lecture 9 - Particle Characterization (Continued...)
Lecture 10 - Particle Characterization (Continued...)
Lecture 11 - Particle Characterization (Continued...)
Lecture 12 - Sampling
Lecture 13 - Sampling (Continued...)
Lecture 14 - Plant Sampling
Lecture 15 - Plant Sampling (Continued...)
Lecture 16 - Comminution
Lecture 17 - Comminution (Continued...)
Lecture 18 - Comminution Fundamentals
Lecture 19 - Comminution Fundamentals (Continued...)
Lecture 20 - Crushers
Lecture 21 - Crushers (Continued...)
Lecture 22 - Crushers (Continued...)
Lecture 23 - Grinding
Lecture 24 - Grinding (Continued...)
Lecture 25 - Grinding (Continued...)
Lecture 26 - Grinding (Continued...)
Lecture 27 - Grinding (Continued...)
Lecture 28 - Industrial Screening
Lecture 29 - Industrial Screening (Continued...)

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Lecture 30 - Industrial Screening (Continued...)
Lecture 31 - Industrial Screening (Continued...)
Lecture 32 - Industrial Screening (Continued...)
Lecture 33 - Industrial Screening (Continued...)
Lecture 34 - Industrial Screening (Continued...)
Lecture 35 - Movement of Solids in Fluids
Lecture 36 - Movement of Solids in Fluids (Continued...)
Lecture 37 - Movement of Solids in Fluids (Continued...)
Lecture 38 - Classifier
Lecture 39 - Classifier (Continued...)
Lecture 40 - Hydrocyclone
Lecture 41 - Hydrocyclone (Continued...)
Lecture 42 - Hydrocyclone (Continued...)
Lecture 43 - Hydrocyclone (Continued...)
Lecture 44 - Hydrocyclone (Continued...)
Lecture 45 - Mass Balancing
Lecture 46 - Mass Balancing (Continued...)
Lecture 47 - Closed-Circuit Grinding
Lecture 48 - Gravity Concentration
Lecture 49 - Gravity Concentration (Continued...)
Lecture 50 - Gravity Concentration (Continued...)
Lecture 51 - Gravity Concentration (Continued...)
Lecture 52 - Gravity Concentration (Continued...)
Lecture 53 - Flotation
Lecture 54 - Flotation (Continued...)
Lecture 55 - Flotation (Continued...)
Lecture 56 - Flotation Chemicals
Lecture 57 - Flotation Chemicals (Continued...)
Lecture 58 - Flotation Chemicals (Continued...)
Lecture 59 - Flotation Machines
Lecture 60 - Flotation Machines (Continued...)
Lecture 61 - Magnetic Separation
Lecture 62 - Electric Separation
Lecture 63 - Flow Sheets
Lecture 64 - Flow Sheets (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Foundation Engineering

Subject Co-ordinator - Prof. Koushik Deb

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Introduction (Continued...)
Lecture 3 - Shear Strength
Lecture 4 - Soil Exploration - Boring
Lecture 5 - Standard Penetration Test
Lecture 6 - Standard Penetration Test and Cone Penetration Test
Lecture 7 - Cone Penetration Test and Other In-Situ Tests
Lecture 8 - Types of Samples
Lecture 9 - Geophysical Exploration - I
Lecture 10 - Geophysical Exploration - II
Lecture 11 - Shallow Foundation - Bearing Capacity I
Lecture 12 - Shallow Foundation - Bearing Capacity II
Lecture 13 - Shallow Foundation - Bearing Capacity III
Lecture 14 - Shallow Foundation - Bearing Capacity IV
Lecture 15 - Shallow Foundation - Bearing Capacity V
Lecture 16 - Shallow Foundation - Settlement I
Lecture 17 - Shallow Foundation - Settlement II
Lecture 18 - Shallow Foundation - Settlement III
Lecture 19 - Shallow Foundation - Settlement IV
Lecture 20 - Shallow Foundation - Settlement V
Lecture 21 - Shallow Foundation - Design I
Lecture 22 - Shallow Foundation - Design II
Lecture 23 - Shallow Foundation - Design III
Lecture 24 - Shallow Foundation - Design IV
Lecture 25 - Shallow Foundation - Design V
Lecture 26 - Shallow Foundation - Design VI
Lecture 27 - Pile Foundation - I
Lecture 28 - Pile Foundation - II
Lecture 29 - Pile Foundation - III

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Lecture 30 - Pile Foundation - IV
Lecture 31 - Pile Foundation - V
Lecture 32 - Pile Foundation - VI
Lecture 33 - Pile Foundation - VII
Lecture 34 - Pile Foundation - VIII
Lecture 35 - Pile Foundation - IX
Lecture 36 - Pile Foundation - X
Lecture 37 - Pile Foundation - XI
Lecture 38 - Pile Foundation - XII
Lecture 39 - Pile Foundation - XIII
Lecture 40 - Pile Foundation - XIV
Lecture 41 - Earth Pressure - I
Lecture 42 - Earth Pressure - II
Lecture 43 - Earth Pressure - III
Lecture 44 - Earth Pressure - IV
Lecture 45 - Earth Pressure - V
Lecture 46 - Earth Pressure - VI
Lecture 47 - Earth Pressure - VII
Lecture 48 - Earth Pressure and Retaining Wall
Lecture 49 - Retaining Wall - II
Lecture 50 - Retaining Wall - III
Lecture 51 - Retaining Wall - IV
Lecture 52 - Retaining Wall - V and Sheet Piles - I
Lecture 53 - Sheet Piles - II
Lecture 54 - Sheet Piles - III
Lecture 55 - Sheet Piles - IV
Lecture 56 - Sheet Piles - V
Lecture 57 - Sheet Piles - VI
Lecture 58 - Sheet Piles and Braced Excavation
Lecture 59 - Braced Excavation and Underground Conduits
Lecture 60 - Underground Conduits - II

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

NPTEL Video Course - Civil Engineering - NOC:Theory of Elasticity

Subject Co-ordinator - Prof. Biswanath Banerjee, Prof. Amit Shaw

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Introduction to Tensor
Lecture 3 - Introduction to Tensor (Continued...)
Lecture 4 - Introduction to Tensor (Continued...)
Lecture 5 - Introduction to Tensor (Continued...)
Lecture 6 - Introduction to Tensor (Continued...)
Lecture 7 - Concept of Stress and Strain
Lecture 8 - Concept of Stress and Strain (Continued...)
Lecture 9 - Concept of Stress and Strain (Continued...)
Lecture 10 - Concept of Stress and Strain (Continued...)
Lecture 11 - Concept of Stress and Strain (Continued...)
Lecture 12 - Constitutive Relation - I
Lecture 13 - Constitutive Relation - I (Continued...)
Lecture 14 - Constitutive Relation - I (Continued...)
Lecture 15 - Constitutive Relation - I (Continued...)
Lecture 16 - Constitutive Relation - I (Continued...)
Lecture 17 - Constitutive Relation - II
Lecture 18 - Constitutive Relation - II (Continued...)
Lecture 19 - Constitutive Relation - II (Continued...)
Lecture 20 - Constitutive Relation - II (Continued...)
Lecture 21 - Constitutive Relation - II (Continued...)
Lecture 22 - Formulation of Boundary Value Problems
Lecture 23 - Formulation of Boundary Value Problems (Continued...)
Lecture 24 - Formulation of Boundary Value Problems (Continued...)
Lecture 25 - Formulation of Boundary Value Problems (Continued...)
Lecture 26 - Formulation of Boundary Value Problems (Continued...)
Lecture 27 - Solution of Boundary Value Problems
Lecture 28 - Solution of Boundary Value Problems (Continued...)
Lecture 29 - Solution of Boundary Value Problems (Continued...)

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- Lecture 30 - Solution of Boundary Value Problems (Continued...)
- Lecture 31 - Solution of Boundary Value Problems (Continued...)
- Lecture 32 - Solution of Boundary Value Problems (Continued...)
- Lecture 33 - Problems in Flexure
- Lecture 34 - Problems in Flexure (Continued...)
- Lecture 35 - Problems in Flexure (Continued...)
- Lecture 36 - Problems in Flexure (Continued...)
- Lecture 37 - Problems in Flexure (Continued...)
- Lecture 38 - Boundary Value Problems in Elasticity
- Lecture 39 - Boundary Value Problems in Elasticity (Continued...)
- Lecture 40 - Boundary Value Problems in Elasticity (Continued...)
- Lecture 41 - Boundary Value Problems in Elasticity (Continued...)
- Lecture 42 - Boundary Value Problems in Elasticity (Continued...)
- Lecture 43 - Complex Variable Method
- Lecture 44 - Complex Variable Method (Continued...)
- Lecture 45 - Complex Variable Method (Continued...)
- Lecture 46 - Complex Variable Method (Continued...)
- Lecture 47 - Complex Variable Method (Continued...)
- Lecture 48 - Complex Variable Method (Continued...)
- Lecture 49 - Thermoelasticity
- Lecture 50 - Thermoelasticity (Continued...)
- Lecture 51 - Thermoelasticity (Continued...)
- Lecture 52 - Thermoelasticity (Continued...)
- Lecture 53 - Thermoelasticity (Continued...)
- Lecture 54 - Photo-Elasticity
- Lecture 55 - Photo-Elasticity (Continued...)
- Lecture 56 - Photo-Elasticity (Continued...)
- Lecture 57 - Photo-Elasticity (Continued...)
- Lecture 58 - Photo-Elasticity (Continued...)
- Lecture 59 - Introduction to Nonlinear Elasticity
- Lecture 60 - Closure

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

NPTEL Video Course - Civil Engineering - NOC:Wastewater Treatment and Recycling

Subject Co-ordinator - Prof. Manoj Kumar Tiwari

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Course Introduction
Lecture 2 - Sources and Types of Wastewater
Lecture 3 - Pollutants in Wastewater
Lecture 4 - Wastewater Management
Lecture 5 - Wastewater Management
Lecture 6 - Wastewater Generation and Quantity Estimation
Lecture 7 - Quantity Estimation of Sewage
Lecture 8 - Population Forecasting Methods
Lecture 9 - Quantity Estimation of Sewage Flow
Lecture 10 - Sewage Quantity Estimation
Lecture 11 - Wastewater Characteristics
Lecture 12 - Wastewater Characteristics
Lecture 13 - Wastewater Characteristics
Lecture 14 - Wastewater Characteristics
Lecture 15 - Wastewater Characteristics
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 - Mass Balance
Lecture 22 - Mass Balance in Reactors
Lecture 23
Lecture 24
Lecture 25
Lecture 26
Lecture 27
Lecture 28 - Secondary Treatment Processes
Lecture 29 - Biological Treatment of Wastewater

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Lecture 30 - Biological Treatment of Wastewater
Lecture 31 - Biological Treatment of Wastewater
Lecture 32 - Biological Treatment of Wastewater
Lecture 33
Lecture 34
Lecture 35
Lecture 36
Lecture 37
Lecture 38 - Introduction to Sludge Management
Lecture 39 - Wastewater Sludge
Lecture 40 - Wastewater Sludge Processing and Treatment
Lecture 41 - Wastewater Sludge Processing and Treatment
Lecture 42 - Wastewater Sludge Processing and Treatment
Lecture 43 - Tertiary (Advanced) Treatment of Wastewater
Lecture 44 - Tertiary Treatment
Lecture 45 - Tertiary Treatment
Lecture 46 - Tertiary Treatment
Lecture 47 - Tertiary Treatment
Lecture 48 - Wastewater Treatment Systems
Lecture 49 - Wastewater Treatment Systems
Lecture 50 - Alternate Wastewater Treatment Systems
Lecture 51 - Alternate Wastewater Treatment Systems
Lecture 52
Lecture 53
Lecture 54
Lecture 55
Lecture 56
Lecture 57 - Wastewater Reuse and Recycling
Lecture 58 - Decision Making in Wastewater Reuse and Recycling
Lecture 59 - Public Acceptance for Recycled Water Use
Lecture 60 - Wastewater Reuse and Recycling
Lecture 61 - Course Summary
Lecture 62 - Course Summary (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Fluid Inclusion in Mineral Principles, Methodology, Practice and

Subject Co-ordinator - Prof. M.K.Panigrahi

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Introduction (Continued...)
Lecture 3 - Introduction (Continued...)
Lecture 4 - Introduction (Continued...)
Lecture 5 - Introduction (Continued...)
Lecture 6 - Microthermometry
Lecture 7 - Microthermometry
Lecture 8 - Microthermometry
Lecture 9 - Microthermometry
Lecture 10 - Fluid Inclusion Petrography
Lecture 11 - Aqueous Fluid Inclusions
Lecture 12 - Aqueous Fluid Inclusions (Continued...)
Lecture 13 - Response to Heating Experiment
Lecture 14 - Aqueous Fluid Inclusions (Continued...)
Lecture 15 - Aqueous Fluid Inclusions (Continued...)
Lecture 16 - Pure Carbonic Inclusion
Lecture 17 - Pure Carbonic Inclusion (Continued...)
Lecture 18 - Microthermometry of Aqueous-Carbonic Inclusion
Lecture 19 - Microthermometry of Aqueous-Carbonic Inclusion (Continued...)
Lecture 20 - Microthermometry of Aqueous-Carbonic Fluid Inclusion
Lecture 21 - Application of Fluid Inclusion to Ore Environment
Lecture 22 - Application of Fluid Inclusion Studies to Ore Environment
Lecture 23 - Application of fluid Inclusion to Ore Forming Environments
Lecture 24 - Application of fluid Inclusion to Ore Forming Environments (Continued...)
Lecture 25 - Application of fluid Inclusion to Ore Forming Environments (Continued...)
Lecture 26 - Application of fluid Inclusion to Deformation, Metamorphism
Lecture 27 - Application of fluid Inclusion to Deformation, Metamorphism (Continued...)
Lecture 28 - Application of fluid Inclusion to Deformation, Metamorphism (Continued...)
Lecture 29 - Application of fluid Inclusion to Deformation, Metamorphism (Continued...)

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- Lecture 30 - Application of fluid Inclusion to Deformation, Metamorphism (Continued...)
- Lecture 31 - Analysis of Fluid Inclusion
- Lecture 32 - Analysis of Fluid Inclusion (Continued...)
- Lecture 33 - Analysis of Fluid Inclusion (Continued...)
- Lecture 34 - Analysis of Fluid Inclusion (Continued...)
- Lecture 35 - Analysis of Fluid Inclusion (Continued...)
- Lecture 36 - Computer Software for Fluid Inclusion Data
- Lecture 37 - Computer Software for Fluid Inclusion Data (Continued...)
- Lecture 38 - Computer Software for Fluid Inclusion Data (Continued...)
- Lecture 39 - Review of the Course
- Lecture 40 - Review of the Course (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Matrix Method of Structural Analysis

Subject Co-ordinator - Prof. Biswanath Banerjee, Prof. Amit Shaw

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Review of Structural Analysis - I
Lecture 3 - Review of Structural Analysis - I (Continued...)
Lecture 4 - Review of Structural Analysis - I (Continued...)
Lecture 5 - Review of Structural Analysis - I (Continued...)
Lecture 6 - Review of Structural Analysis - I (Continued...)
Lecture 7 - Review of Structural Analysis - I (Continued...)
Lecture 8 - Review of Structural Analysis - I (Continued...)
Lecture 9 - Review of Structural Analysis - I (Continued...)
Lecture 10 - Review of Structural Analysis - I (Continued...)
Lecture 11 - Matrix Algebra Review
Lecture 12 - Matrix Algebra Review (Continued...)
Lecture 13 - Matrix Algebra Review (Continued...)
Lecture 14 - Matrix Algebra Review (Continued...)
Lecture 15 - Matrix Algebra Review (Continued...)
Lecture 16 - Matrix Method of Analysis of Trusses
Lecture 17 - Matrix Method of Analysis of Trusses (Continued...)
Lecture 18 - Matrix Method of Analysis of Trusses (Continued...)
Lecture 19 - Matrix Method of Analysis of Trusses (Continued...)
Lecture 20 - Matrix Method of Analysis of Trusses (Continued...)
Lecture 21 - Matrix Method of Analysis
Lecture 22 - Matrix Method of Analysis
Lecture 23 - Matrix Method of Analysis
Lecture 24 - Matrix Method of Analysis
Lecture 25 - Matrix Method of Analysis
Lecture 26 - Matrix Method of Analysis
Lecture 27 - Matrix Method of Analysis
Lecture 28 - Matrix Method of Analysis
Lecture 29 - Matrix Method of Analysis

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- Lecture 30 - Matrix Method of Analysis
- Lecture 31 - Computer Implementation
- Lecture 32 - Computer Implementation (Continued...)
- Lecture 33 - Analysis of 3D Truss
- Lecture 34 - Analysis of 3D Truss (Continued...)
- Lecture 35 - Analysis of Beam
- Lecture 36 - Introduction to Finite Element Method
- Lecture 37 - Introduction to Finite Element Method (Continued...)
- Lecture 38 - Introduction to Finite Element Method (Continued...)
- Lecture 39 - Introduction to Finite Element Method (Continued...)
- Lecture 40 - Introduction to Finite Element Method (Continued...)
- Lecture 41 - Introduction to Finite Element Method (Continued...)
- Lecture 42 - Introduction to Finite Element Method (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Plastic Waste Management

Subject Co-ordinator - Prof. Brajesh Kumar Dubey

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Plastics - What is Plastic
Lecture 2 - Plastics - Types
Lecture 3 - Plastics - Types (Continued...)
Lecture 4 - Plastics - Uses and Global Statistics
Lecture 5 - Plastics - Global Statistics
Lecture 6 - Plastic Waste Sources
Lecture 7 - Plastic Waste Sources (Continued...)
Lecture 8 - Plastic Waste Sources and Production
Lecture 9 - Global Sources
Lecture 10 - Global and Indian data
Lecture 11 - Plastic Waste Management Rules 2016 (India)
Lecture 12 - Plastic Waste Management Rules (Continued...)
Lecture 13 - Plastic Waste Management Rules (Continued...)
Lecture 14 - Plastic Waste Management Rules (Continued...)
Lecture 15 - Global Rules and Regulations
Lecture 16 - Plastic Bans including China Sword Policy Implication on Global Plastic Waste Management
Lecture 17 - Plastic Bans - Global Examples
Lecture 18 - Plastic Bans - China Sword Policy
Lecture 19 - Plastic Bans - China Sword Policy Impacts
Lecture 20 - Plastic Bans - Impact on Global Plastic Waste Management
Lecture 21 - Impact of Plastic Pollution on Marine Life
Lecture 22 - Impact of Plastic Pollution on Marine Life (Continued...)
Lecture 23 - Plastic Pollution Impacts on Marine and Wildlife
Lecture 24 - Plastic Pollution
Lecture 25 - Plastic Pollution
Lecture 26 - Plastic Waste Management Practices
Lecture 27 - Plastic Waste Management
Lecture 28 - Plastic Waste Management
Lecture 29 - Plastic Waste Management

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

- Lecture 30 - Use of Waste Plastics in Road Construction
- Lecture 31 - Possible Alternate Materials to Plastics - Greener Alternatives
- Lecture 32 - Biodegradable Plastics
- Lecture 33 - Greener Plastic Products
- Lecture 34 - Biobased Plastic Products
- Lecture 35 - How to Quantify Something is Green
- Lecture 36 - Plastics Resource Recovery and Circular Economy
- Lecture 37 - Plastics Resource Recovery and Intro to Circular Economy
- Lecture 38 - Plastics and Circular Economy
- Lecture 39 - Plastics and Circular Economy - Case Studies
- Lecture 40 - Plastics and Circular Economy - Case Studies (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Geotechnical Engineering-II Foundation Engineering

Subject Co-ordinator - Prof. Dilip Kumar Baidya

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Quick Review of Soil Mechanics
Lecture 2 - Quick Review of Soil Mechanics (Continued...)
Lecture 3 - Quick Review of Soil Mechanics (Continued...)
Lecture 4 - Quick Review of Soil Mechanics (Continued...)
Lecture 5 - Quick Review of Soil Mechanics (Continued...)
Lecture 6 - Foundation Engineering Introduction
Lecture 7 - Foundation Engineering Introduction (Continued...)
Lecture 8 - Foundation Engineering Introduction (Continued...)
Lecture 9 - Shallow Foundation and Bearing Capacity
Lecture 10 - Shallow Foundation and Bearing Capacity (Continued...)
Lecture 11 - Shallow Foundation and Bearing Capacity (Continued...)
Lecture 12 - Shallow Foundation
Lecture 13 - Shallow Foundation (Continued...)
Lecture 14 - Shallow Foundation (Continued...)
Lecture 15 - Shallow Foundation (Continued...)
Lecture 16 - Shallow Foundation (Continued...)
Lecture 17 - Settlement of Foundation
Lecture 18 - Settlement of Foundation (Continued...)
Lecture 19 - Settlement of Foundation (Continued...)
Lecture 20 - Settlement of Foundation (Continued...)
Lecture 21 - Settlement of Foundation (Continued...)
Lecture 22 - Settlement of Foundation (Continued...)
Lecture 23 - Geotechnical Investigation
Lecture 24 - Geotechnical Investigation (Continued...)
Lecture 25 - Geotechnical Investigation (Continued...)
Lecture 26 - Geotechnical Investigation (Continued...)
Lecture 27 - Geotechnical Investigation (Continued...)
Lecture 28 - Earth Pressure Theories
Lecture 29 - Earth Pressure Theories (Continued...)

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

- Lecture 30 - Earth Pressure Theories (Continued...)
- Lecture 31 - Earth Pressure Theories (Continued...)
- Lecture 32 - Earth Pressure Theories (Continued...)
- Lecture 33 - Stability analysis of earth retaining wall
- Lecture 34 - Stability analysis of earth retaining wall (Continued...)
- Lecture 35 - Stability analysis of earth retaining wall (Continued...)
- Lecture 36 - Stability of earth retaining wall
- Lecture 37 - Pile foundation
- Lecture 38 - Pile foundation (Continued...)
- Lecture 39 - Pile foundation (Continued...)
- Lecture 40 - Pile foundation (Continued...)
- Lecture 41 - Pile foundation (Continued...)
- Lecture 42 - Pile foundation (Continued...)
- Lecture 43 - Pile foundation (Continued...)
- Lecture 44 - Pile foundation (Continued...)
- Lecture 45 - Pile foundation (Continued...)
- Lecture 46 - Pile foundation (Continued...)
- Lecture 47 - Sheet pile wall
- Lecture 48 - Sheet pile wall (Continued...)
- Lecture 49 - Anchor bulkhead
- Lecture 50 - Anchor bulkhead (Continued...)
- Lecture 51 - Deep excavation
- Lecture 52 - Deep excavation (Continued...)
- Lecture 53 - Introduction to machine foundation
- Lecture 54 - Introduction to machine foundation (Continued...)
- Lecture 55 - Introduction to machine foundation (Continued...)
- Lecture 56 - Introduction to machine foundation (Continued...)
- Lecture 57 - Introduction to machine foundation (Continued...)
- Lecture 58 - Introduction to machine foundation (Continued...)
- Lecture 59 - Introduction to machine foundation (Continued...)
- Lecture 60 - Summary

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

NPTEL Video Course - Civil Engineering - NOC:Mass, Momentum and Energy Balances in Engineering Analysis

Subject Co-ordinator - Prof. Pavitra Sandilya

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Preliminaries
Lecture 3 - Balance Equations Preliminaries - I
Lecture 4 - Tutorial 1 - Balance Equations Preliminaries - I
Lecture 5 - Balance Equations Preliminaries - II
Lecture 6 - Tutorial 2 - Balance Equations Preliminaries - II
Lecture 7 - Macroscopic Balances - I
Lecture 8 - Macroscopic Balances - II
Lecture 9 - Macroscopic Balances - III
Lecture 10 - Tutorial 3 - Macroscopic Balances
Lecture 11 - Tutorial 4 - Macroscopic Balances
Lecture 12 - Tutorial 5 - Systems with chemical reactions
Lecture 13 - Tutorial 6 - Material balance involving chemical reactions
Lecture 14 - Tutorial 7 - Energy interactions in reacting systems Energy interactions in reacting systems
Lecture 15 - Tutorial 8 - Energy interactions in reacting systems
Lecture 16 - Solution of Macroscopic Balance Equations - I
Lecture 17 - Solution of Macroscopic Balance Equations - II
Lecture 18 - Tutorial 9 - Solution of Macroscopic Balance Equations - I
Lecture 19 - Tutorial 10 - Solution of Macroscopic Balance Equations - II
Lecture 20 - Mathematical Solution of Macroscopic Balance Equations
Lecture 21 - Mathematical Solution of Macroscopic Balance Equations
Lecture 22 - Numerical Solution of Macroscopic Balance Equations
Lecture 23 - Numerical evaluation of integrations in macroscopic balance equations
Lecture 24 - Microscopic Balances - I
Lecture 25 - Microscopic Balances - II
Lecture 26 - Microscopic Balances - III
Lecture 27 - Microscopic Balances - IV
Lecture 28 - Microscopic Balances - V
Lecture 29 - Microscopic Balances - VI

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- Lecture 30 - Microscopic Balances - VII
- Lecture 31 - Microscopic Balance Illustrations - I
- Lecture 32 - Microscopic Balance Illustrations - II
- Lecture 33 - Microscopic Balance Illustrations - III
- Lecture 34 - Microscopic Balance Illustrations - IV
- Lecture 35 - Microscopic Balance Illustrations - V
- Lecture 36 - Matrix Techniques - I
- Lecture 37 - Matrix Techniques - II
- Lecture 38 - Regression
- Lecture 39 - Interpolation
- Lecture 40 - Illustration of Interpolation
- Lecture 41 - Illustration of Regression
- Lecture 42 - Tutorial on macroscopic energy balance
- Lecture 43 - Selective Mathematical Concepts in Transport Phenomena

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

NPTEL Video Course - Civil Engineering - NOC:Soil Structure Interaction

Subject Co-ordinator - Prof. Koushik Deb

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Bearing Capacity of Soil
Lecture 3 - Bearing Capacity of Soil (Continued...)
Lecture 4 - Bearing Capacity of Soil (Continued...)
Lecture 5 - Settlement of Shallow Foundation
Lecture 6 - Design of Shallow Foundation
Lecture 7 - Design of Shallow Foundation (Continued...)
Lecture 8 - Design of Shallow Foundation (Continued...)
Lecture 9 - Soil-Structure Interaction for Shallow Foundation
Lecture 10 - Soil-Structure Interaction for Shallow Foundation
Lecture 11 - Soil-Structure Interaction for Shallow Foundation
Lecture 12 - Soil-Structure Interaction for Shallow Foundation
Lecture 13 - Different Foundation Models
Lecture 14 - Different Foundation Models (Continued...)
Lecture 15 - Different Foundation Models (Continued...)
Lecture 16 - Different Foundation Models (Continued...)
Lecture 17 - Different Foundation Models (Continued...)
Lecture 18 - Beams on Elastic Foundation
Lecture 19 - Beams on Elastic Foundation (Continued...)
Lecture 20 - Beams on Elastic Foundation (Continued...)
Lecture 21 - Beams on Elastic Foundation (Continued...)
Lecture 22 - Beams on Elastic Foundation (Continued...)
Lecture 23 - Beams on Elastic Foundation (Continued...)
Lecture 24 - Beams on Elastic Foundation (Continued...)
Lecture 25 - Beams on Elastic Foundation (Continued...)
Lecture 26 - Beams on Elastic Foundation (Continued...)
Lecture 27 - Beams on Elastic Foundation (Continued...)
Lecture 28 - Beams on Elastic Foundation (Continued...)
Lecture 29 - Beams on Elastic Foundation (Continued...)

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Lecture 30 - Beams on Elastic Foundation (Continued...)
Lecture 31 - Beams on Elastic Foundation (Continued...)
Lecture 32 - Beams on Elastic Foundation (Continued...)
Lecture 33 - Beams on Elastic Foundation (Continued...)
Lecture 34 - Beams on Elastic Foundation (Continued...)
Lecture 35 - Beams on Elastic Foundation (Continued...)
Lecture 36 - Beams on Elastic Foundation (Continued...)
Lecture 37 - Beams on Elastic Foundation (Continued...)
Lecture 38 - Beams on Elastic Foundation (Continued...)
Lecture 39 - Beams on Elastic Foundation (Continued...)
Lecture 40 - Beams on Elastic Foundation (Continued...)
Lecture 41 - Plates on Elastic Foundation
Lecture 42 - Plates on Elastic Foundation (Continued...)
Lecture 43 - Plates on Elastic Foundation (Continued...)
Lecture 44 - Plates on Elastic Foundation (Continued...)
Lecture 45 - Use of Finite Difference Method for Soil Structure Interaction Problems
Lecture 46 - Use of Finite Difference Method for Soil Structure Interaction Problems (Continued...)
Lecture 47 - Use of Finite Difference Method for Soil Structure Interaction Problems (Continued...)
Lecture 48 - Use of Finite Difference Method for Soil Structure Interaction Problems (Continued...)
Lecture 49 - Use of Finite Difference Method for Soil Structure Interaction Problems (Continued...)
Lecture 50 - Use of Finite Difference Method for Soil Structure Interaction Problems (Continued...)
Lecture 51 - Use of Finite Difference Method for Soil Structure Interaction Problems (Continued...)
Lecture 52 - Soil Structure Interaction for Pile Foundation
Lecture 53 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 54 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 55 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 56 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 57 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 58 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 59 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 60 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 61 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 62 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 63 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 64 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 65 - Soil Structure Interaction for Pile Foundation (Continued...)
Lecture 66 - Soil Structure Interaction for Pile Foundation (Continued...)

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

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

NPTEL Video Course - Civil Engineering - NOC:Geo Spatial Analysis in Urban Planning

Subject Co-ordinator - Prof. Saikat Kumar Paul

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to Geographic Information System
- Lecture 2 - Introduction to Coordinate System and Geographic Projections
- Lecture 3 - Geometric Transformation
- Lecture 4 - Vector Data Model
- Lecture 5 - Raster Data Model
- Lecture 6 - Method of Spatial Analysis
- Lecture 7 - Vector Data Analysis
- Lecture 8 - Vector Data Analysis (Continued...)
- Lecture 9 - Raster Data Analysis
- Lecture 10 - Raster Operations, Terrain Visualization and Classification
- Lecture 11 - Attribute Data Management and Data Exploration
- Lecture 12 - Spatial Interpolation
- Lecture 13 - Spatial Interpolation
- Lecture 14 - Network Analysis
- Lecture 15 - Service or Trade Area Analysis in an Urban Area
- Lecture 16 - Service or Trade Area Analysis in an Urban Area (Continued...)
- Lecture 17 - Landscape metrics and its applications
- Lecture 18 - Urban sprawl characterization using Landscape Metrics
- Lecture 19 - Multi-Criteria Decision Analysis

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

NPTEL Video Course - Civil Engineering - NOC:Hydraulic Engineering

Subject Co-ordinator - Prof. Mohammad Saud Afzal

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Basics of fluid mechanics - I
Lecture 2 - Basics of fluid mechanics - I (Continued...)
Lecture 3 - Basics of fluid mechanics - I (Continued...)
Lecture 4 - Basics of fluid mechanics - I (Continued...)
Lecture 5 - Basics of fluid mechanics - I (Continued...)
Lecture 6 - Basics of fluid mechanics - II
Lecture 7 - Basics of fluid mechanics - II (Continued...)
Lecture 8 - Basics of fluid mechanics - II (Continued...)
Lecture 9 - Basics of fluid mechanics - II (Continued...)
Lecture 10 - Basics of fluid mechanics - II (Continued...)
Lecture 11 - Basics of fluid mechanics - II (Continued...)
Lecture 12 - Laminar and turbulent flow
Lecture 13 - Laminar and turbulent flow (Continued...)
Lecture 14 - Laminar and turbulent flow (Continued...)
Lecture 15 - Laminar and turbulent flow (Continued...)
Lecture 16 - Laminar and turbulent flow (Continued...)
Lecture 17 - Boundary Layer Theory
Lecture 18 - Boundary Layer Theory (Continued...)
Lecture 19 - Boundary Layer Theory (Continued...)
Lecture 20 - Boundary Layer Theory (Continued...)
Lecture 21 - Boundary Layer Theory (Continued...)
Lecture 22 - Boundary Layer Theory (Continued...)
Lecture 23 - Dimensional Analysis and Hydraulic Similitude
Lecture 24 - Dimensional Analysis and Hydraulic Similitude (Continued...)
Lecture 25 - Dimensional Analysis and Hydraulic Similitude (Continued...)
Lecture 26 - Dimensional Analysis and Hydraulic Similitude (Continued...)
Lecture 27 - Dimensional Analysis and Hydraulic Similitude (Continued...)
Lecture 28 - Introduction to Open Channel Flow and Uniform Flow
Lecture 29 - Introduction to Open Channel Flow and Uniform Flow (Continued...)

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

- Lecture 30 - Introduction to Open Channel Flow and Uniform Flow (Continued...)
- Lecture 31 - Introduction to Open Channel Flow and Uniform Flow (Continued...)
- Lecture 32 - Introduction to Open Channel Flow and Uniform Flow (Continued...)
- Lecture 33 - Introduction to Open Channel Flow and Uniform Flow (Continued...)
- Lecture 34 - Non-uniform flow and hydraulic jump
- Lecture 35 - Non-uniform flow and hydraulic jump (Continued...)
- Lecture 36 - Non-uniform flow and hydraulic jump (Continued...)
- Lecture 37 - Non-uniform flow and hydraulic jump (Continued...)
- Lecture 38 - Pipe flow
- Lecture 39 - Pipe flow (Continued...)
- Lecture 40 - Pipe flow (Continued...)
- Lecture 41 - Pipe flow (Continued...)
- Lecture 42 - Pipe flow (Continued...)
- Lecture 43 - Pipe networks
- Lecture 44 - Pipe networks (Continued...)
- Lecture 45 - Pipe networks (Continued...)
- Lecture 46 - Pipe networks (Continued...)
- Lecture 47 - Pipe networks (Continued...)
- Lecture 48 - Viscous fluid flow
- Lecture 49 - Viscous fluid flow (Continued...)
- Lecture 50 - Viscous fluid flow (Continued...)
- Lecture 51 - Viscous fluid flow (Continued...)
- Lecture 52 - Viscous fluid flow (Continued...)
- Lecture 53 - Viscous fluid flow (Continued...)
- Lecture 54 - Computational fluid dynamics
- Lecture 55 - Computational fluid dynamics (Continued...)
- Lecture 56 - Computational fluid dynamics (Continued...)
- Lecture 57 - Computational fluid dynamics (Continued...)
- Lecture 58 - Computational fluid dynamics (Continued...)
- Lecture 59 - Introduction to wave mechanics
- Lecture 60 - Introduction to wave mechanics (Continued...)
- Lecture 61 - Introduction to wave mechanics (Continued...)
- Lecture 62 - Introduction to wave mechanics (Continued...)
- Lecture 63 - Introduction to wave mechanics (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Introduction to Multimodal Urban Transportation Systems

Subject Co-ordinator - Prof. Arkopal Kishore Goswami

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Overview of urban transportation: Urbanization and Transport
Lecture 2 - Overview of urban transportation: Key issues in urban transportation
Lecture 3 - Overview of urban transportation: Challenges in urban transportation
Lecture 4 - Overview of urban transportation: Travel demand modelling overview
Lecture 5 - Overview of urban transportation: Vehicular Level of Service (LOS) overview
Lecture 6 - Public Transportation: Introduction to public transportation
Lecture 7 - Public Transportation: Basic operating elements of public transportation
Lecture 8 - Public Transportation: Basic operating elements of public transportation (Continued...)
Lecture 9 - Public Transportation: Bus Transportation
Lecture 10 - Public Transportation: Bus Transportation (Continued...)
Lecture 11 - Public Transportation: Financing public transportation
Lecture 12 - Public Transportation: Transit marketing
Lecture 13 - Public Transportation: Rail transportation
Lecture 14 - Public Transportation: Intermediate Public Transportation
Lecture 15 - Public Transportation: Measuring performance of transit systems
Lecture 16 - Public Transportation: Advanced operation concepts of public transportation
Lecture 17 - Public Transportation: Bus and Rail Transit Capacity
Lecture 18 - Public Transportation: Bus and Rail Transit Capacity (Continued...)
Lecture 19 - Public Transportation: Station Capacity
Lecture 20 - Public Transportation: Transit Stop Location
Lecture 21 - Non-motorised Transportation (NMT) Planning: Introduction to NMT Systems
Lecture 22 - Non-motorised Transportation (NMT) Planning: Assessing existing NMT scenario
Lecture 23 - Non-motorised Transportation (NMT) Planning: Data collection and analysis in NMT Planning
Lecture 24 - Non-motorised Transportation (NMT) Planning: Complementarity and Selection of Interventions
Lecture 25 - Non-motorised Transportation (NMT) Planning: Alternative Selection through Economic & Financial
Lecture 26 - Non-Motorised Transportation (NMT) Planning: Basic NMT Characteristics
Lecture 27 - Non-Motorised Transportation (NMT) Planning: Pedestrian Data Collection and Flow Characteristics
Lecture 28 - Non-Motorised Transportation (NMT) Planning: Pedestrian Flow models
Lecture 29 - Non-Motorised Transportation (NMT) Planning: Pedestrian flow characteristics on facilities

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Lecture 30	- Non-Motorised Transportation (NMT) Planning: Pedestrian Level of Service (PLOS) based on Flow mo
Lecture 31	- Non-Motorised Transportation (NMT) Planning: Other types of Pedestrian Level of Service (PLOS)
Lecture 32	- Non-Motorised Transportation (NMT) Planning: HCM 2010 Methodology for PLOS
Lecture 33	- Non-Motorised Transportation (NMT) Planning: HCM 2010 Methodology for PLOS (Continued...)
Lecture 34	- Non-Motorised Transportation (NMT) Planning: Bicycle Facilities and Level of Service (BLOS)
Lecture 35	- Non-Motorised Transportation (NMT) Planning: BLOS and Bicycle Compatibility Index (BCI)
Lecture 36	- Non-Motorised Transportation (NMT) Planning: NMT Design Principles
Lecture 37	- Non-Motorised Transportation (NMT) Planning: Design of Pedestrian Infrastructure
Lecture 38	- Non-Motorised Transportation (NMT) Planning: Design of Pedestrian Infrastructure (Continued...)
Lecture 39	- Non-Motorised Transportation (NMT) Planning: Design of Cycling Infrastructure
Lecture 40	- Non-Motorised Transportation (NMT) Planning: Design of Cycling Infrastructure (Continued...)
Lecture 41	- Urban Transport and Sustainability: Travel Demand Management (TDM) overview
Lecture 42	- Urban Transport and Sustainability: Push measures cases
Lecture 43	- Urban Transport and Sustainability: Pull measure cases
Lecture 44	- Urban Transport and Sustainability: Parking Studies
Lecture 45	- Urban Transport and Sustainability: Transit Oriented Development (TOD)
Lecture 46	- Urban Transport and Sustainability: Introduction to Intelligent Transportation Systems (ITS)
Lecture 47	- Urban Transport and Sustainability: ITS components, applications and communication
Lecture 48	- Urban Transport and Sustainability: ITS Architecture
Lecture 49	- Urban Transport and Sustainability: Electronic Toll Collection (ETC)
Lecture 50	- Urban Transport and Sustainability: Public Bicycle Sharing (PBS) System with ITS
Lecture 51	- Urban Transport and Sustainability: Multimodal transportation (MMT) environment
Lecture 52	- Urban Transport and Sustainability: Multimodal Level of Service (MMLOS)
Lecture 53	- Urban Transport and Sustainability: Multimodal Level of Service (MMLOS) (Continued...)
Lecture 54	- Urban Transport and Sustainability: Design of multimodal transfer facilities
Lecture 55	- Urban Transport and Sustainability: Park & Ride (P&R) Facility Planning
Lecture 56	- Urban Transport and Sustainability: An Introduction to Pedestrian Road Safety and associated Ris
Lecture 57	- Urban Transport and Sustainability: Road crash estimation and elements of predictive methods
Lecture 58	- Urban Transport and Sustainability: Predicting Vehicle-Pedestrian and Vehicle-Bicycle conflicts
Lecture 59	- Urban Transport and Sustainability: Environmental Concerns of Urban Transport
Lecture 60	- Urban Transport and Sustainability: Sustainable strategies for Urban Transportation

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

NPTEL Video Course - Civil Engineering - NOC:Advanced Foundation Engineering

Subject Co-ordinator - Prof. Kousik Deb

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction and Soil Exploration - I
Lecture 2 - Soil Exploration - II
Lecture 3 - Soil Exploration - III
Lecture 4 - Soil Exploration - IV
Lecture 5 - Soil Exploration - V
Lecture 6 - Soil Exploration - VI
Lecture 7 - Shallow Foundation : Bearing Capacity - I
Lecture 8 - Shallow Foundation : Bearing Capacity - II
Lecture 9 - Shallow Foundation : Bearing Capacity - III
Lecture 10 - Shallow Foundation : Bearing Capacity - IV
Lecture 11 - Shallow Foundation : Bearing Capacity - V
Lecture 12 - Shallow Foundation : Bearing Capacity - VI
Lecture 13 - Shallow Foundation : Bearing Capacity - VII
Lecture 14 - Shallow Foundation : Bearing Capacity - VIII
Lecture 15 - Shallow Foundation : Bearing Capacity - IX
Lecture 16 - Shallow Foundation : Bearing Capacity - X
Lecture 17 - Shallow Foundation : Bearing Capacity - XI
Lecture 18 - Shallow Foundation : Bearing Capacity - XII
Lecture 19 - Shallow Foundation : Bearing Capacity - XIII
Lecture 20 - Shallow Foundation : Bearing Capacity - XIV
Lecture 21 - Shallow Foundation : Bearing Capacity - XV
Lecture 22 - Shallow Foundation : Bearing Capacity - XVI
Lecture 23 - Shallow Foundation : Settlement - I
Lecture 24 - Shallow Foundation : Settlement - II
Lecture 25 - Shallow Foundation : Settlement - III
Lecture 26 - Shallow Foundation : Settlement - IV
Lecture 27 - Beams on Elastic Foundation - I
Lecture 28 - Beams on Elastic Foundation - II
Lecture 29 - Beams on Elastic Foundation - III

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Lecture 30 - Beams on Elastic Foundation - IV
Lecture 31 - Beams on Elastic Foundation - V
Lecture 32 - Beams on Elastic Foundation - VI
Lecture 33 - Beams on Elastic Foundation - VII
Lecture 34 - Beams on Elastic Foundation - VIII
Lecture 35 - Beams on Elastic Foundation - IX
Lecture 36 - Design of Shallow Foundation - I
Lecture 37 - Design of Shallow Foundation - II
Lecture 38 - Design of Shallow Foundation - III
Lecture 39 - Design of Shallow Foundation - IV
Lecture 40 - Design of Shallow Foundation - V
Lecture 41 - Pile Foundation : Under Compressive Load - I
Lecture 42 - Pile Foundation : Under Compressive Load - II
Lecture 43 - Pile Foundation : Under Compressive Load - III
Lecture 44 - Pile Foundation : Under Compressive Load - IV
Lecture 45 - Pile Foundation : Under Compressive Load - V
Lecture 46 - Pile Foundation : Under Compressive Load - VI
Lecture 47 - Pile Foundation : Under Compressive Load - VII
Lecture 48 - Pile Foundation : Under Compressive Load - VIII
Lecture 49 - Pile Foundation : Under Compressive Load - IX
Lecture 50 - Pile Foundation : Under Compressive Load - X
Lecture 51 - Pile Foundation : Under Lateral Load and Uplift - I
Lecture 52 - Pile Foundation : Under Lateral Load and Uplift - II
Lecture 53 - Pile Foundation : Under Lateral Load and Uplift - III
Lecture 54 - Pile Foundation : Under Lateral Load and Uplift - IV
Lecture 55 - Pile Foundation : Under Lateral Load and Uplift - V
Lecture 56 - Pile Foundation : Under Lateral Load and Uplift - VI
Lecture 57 - Pile Foundation : Under Lateral Load and Uplift - VII
Lecture 58 - Pile Foundation : Under Lateral Load and Uplift - VIII
Lecture 59 - Pile Foundation : Under Lateral Load and Uplift - IX
Lecture 60 - Well Foundation - I
Lecture 61 - Well Foundation - II
Lecture 62 - Well Foundation - III
Lecture 63 - Well Foundation - IV
Lecture 64 - Well Foundation - V
Lecture 65 - Well Foundation - VI
Lecture 66 - Well Foundation - VII
Lecture 67 - Well Foundation - VIII
Lecture 68 - Well Foundation - IX

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Lecture 69 - Foundations on Difficult Soils - I
Lecture 70 - Foundations on Difficult Soils - II

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

NPTEL Video Course - Civil Engineering - NOC:Urban Transport Systems Planning

Subject Co-ordinator - Prof. Bhargab Maitra

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Urbanization, Urban Transportation and Transportation Demand
- Lecture 2 - Travel Behaviour, Transportation Externalities and Present Scenario of Urban Transportation
- Lecture 3 - Approaches for Mitigating Externalities, Need for Transportation Planning and Transport Planning
- Lecture 4 - Transport Planning Morphology
- Lecture 5 - Hierarchical Level of Urban Transport Planning and Interrelationship of Transport Problems and Mo
- Lecture 6 - Traditional Travel Demand Forecasting Process
- Lecture 7 - Traditional Travel Demand Forecasting Process, Specification, Calibration, Validation and Forecas
- Lecture 8 - Information Needs for Travel Demand Forecasting: Study Area, Urban Activities, Transportation Sys
- Lecture 9 - Information Needs for Travel Demand Forecasting: Travel Information
- Lecture 10 - Data Collection and Techniques
- Lecture 11 - Introduction and Basic Considerations of Trip Generation
- Lecture 12 - Trip Classifications and Factors Affecting Trip Generation
- Lecture 13 - Modelling Approaches and Step-Wise Approach of Multiple Regression Analysis
- Lecture 14 - Step-Wise Approach of Multiple Regression Analysis and Examples
- Lecture 15 - Examples, Common Mistakes and Zonal Based Models of Multiple Regression Analysis
- Lecture 16 - Zonal and Household Based Regression Models
- Lecture 17 - Cross Classification Analysis: Model Structure and Calibration
- Lecture 18 - Cross Classification Analysis: Model Calibration
- Lecture 19 - Cross Classification Analysis: Model Application, Advantages and Dis-Advantages
- Lecture 20 - Matching Productions and Attractions; Stability of Trip Generation Models
- Lecture 21 - Basic Considerations and Trip Distribution Matrices
- Lecture 22 - Methods for Trip Distribution, Uniform Growth Factor Method and Average Growth Factor Method
- Lecture 23 - Detroit Method and Fratar Model
- Lecture 24 - Furness Method
- Lecture 25 - Synthetic Methods, Measures of Travel Resistance and Gravity Model
- Lecture 26 - Singly Constrained Gravity Model
- Lecture 27 - Bureau of Public Roads Calibration Procedure
- Lecture 28 - Doubly Constrained Gravity Model
- Lecture 29 - Intervening Opportunities Model

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- Lecture 30 - Competing Opportunities Model and Linear Programming Approach
- Lecture 31 - Factors Influencing Mode Choice and Aggregate Modal Split Models
- Lecture 32 - Disaggregate Mode Choice Models - I
- Lecture 33 - Disaggregate Mode Choice Models - II
- Lecture 34 - Disaggregate Mode Choice Models - III
- Lecture 35 - Disaggregate Mode Choice Models - IV
- Lecture 36 - Disaggregate Mode Choice Models - V
- Lecture 37 - Logit Choice Models - I
- Lecture 38 - Logit Choice Models - II
- Lecture 39 - Logit Choice Models - III
- Lecture 40 - Logit Choice Models - IV
- Lecture 41 - Introduction to Traffic Assignment
- Lecture 42 - Network Algorithms - I
- Lecture 43 - Network Algorithms - II
- Lecture 44 - Network Algorithms - III
- Lecture 45 - Static assignment models, User Equilibrium
- Lecture 46 - User Equilibrium Assignment and System Optimum Assignment
- Lecture 47 - Deterministic Traffic Assignment - I
- Lecture 48 - Deterministic Traffic Assignment - II
- Lecture 49 - Stochastic Traffic Assignment - I
- Lecture 50 - Stochastic Traffic Assignment - II and Dynamic Traffic Assignment
- Lecture 51 - Land Use and Transportation - I
- Lecture 52 - Land Use and Transportation - II
- Lecture 53 - Land Use and Transportation - III
- Lecture 54 - Land Use and Transportation - IV
- Lecture 55 - Urban Goods Movement - I
- Lecture 56 - Urban Goods Movement - II
- Lecture 57 - Urban Goods Movement - III
- Lecture 58 - Urban Goods Movement - IV
- Lecture 59 - Activity Based Modelling
- Lecture 60 - Big Data, GIS and SDI

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

NPTEL Video Course - Civil Engineering - NOC:Structural Reliability

Subject Co-ordinator - Prof. Baidurya Bhattacharya

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction - Part 1
Lecture 2 - Introduction - Part 2
Lecture 3 - Introduction - Part 3
Lecture 4 - Introduction - Part 4
Lecture 5 - Introduction - Part 5
Lecture 6 - Introduction - Part 6
Lecture 7 - Introduction - Part 7
Lecture 8 - Introduction - Part 8
Lecture 9 - Review of Probability Theory - Part 1
Lecture 10 - Review of Probability Theory - Part 2
Lecture 11 - Review of Probability Theory - Part 3
Lecture 12 - Review of Probability Theory - Part 4
Lecture 13 - Review of Probability Theory - Part 5
Lecture 14 - Review of Probability Theory - Part 6
Lecture 15 - Review of Probability Theory - Part 7
Lecture 16 - Review of Probability Theory - Part 8
Lecture 17 - Review of Probability Theory - Part 9
Lecture 18 - Review of Random Variables - Part 1
Lecture 19 - Review of Random Variables - Part 2
Lecture 20 - Review of Random Variables - Part 3
Lecture 21 - Review of Random Variables - Part 4
Lecture 22 - Review of Random Variables - Part 5
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Lecture 24 - Review of Random Variables - Part 7
Lecture 25 - Review of Random Variables - Part 8
Lecture 26 - Review of Random Variables - Part 9
Lecture 27 - Review of Random Variables - Part 10
Lecture 28 - Review of Random Variables - Part 11
Lecture 29 - Review of Random Variables - Part 12

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Lecture 30 - Common Probability Distributions - Part 1
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Lecture 32 - Common Probability Distributions - Part 3
Lecture 33 - Common Probability Distributions - Part 4
Lecture 34 - Common Probability Distributions - Part 5
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Lecture 47 - Common Probability Distributions - Part 18
Lecture 48 - Common Probability Distributions - Part 19
Lecture 49 - Common Probability Distributions - Part 20
Lecture 50 - Joint Probability Distributions - Part 1
Lecture 51 - Joint Probability Distributions - Part 2
Lecture 52 - Joint Probability Distributions - Part 3
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Lecture 69 - Monte Carlo Simlulations - Part 1
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Lecture 71 - Monte Carlo Simlulations - Part 3
Lecture 72 - Monte Carlo Simlulations - Part 4
Lecture 73 - Monte Carlo Simlulations - Part 5
Lecture 74 - Monte Carlo Simlulations - Part 6
Lecture 75 - Monte Carlo Simlulations - Part 7
Lecture 76 - Monte Carlo Simlulations - Part 8
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Lecture 79 - Monte Carlo Simlulations - Part 11
Lecture 80 - Monte Carlo Simlulations - Part 12
Lecture 81 - Monte Carlo Simlulations - Part 13
Lecture 82 - Monte Carlo Simlulations - Part 14
Lecture 83 - History Definition and Scope - Part 1
Lecture 84 - History Definition and Scope - Part 2
Lecture 85 - History Definition and Scope - Part 3
Lecture 86 - History Definition and Scope - Part 4
Lecture 87 - History Definition and Scope - Part 5
Lecture 88 - History Definition and Scope - Part 6
Lecture 89 - Reliability Problem Formulatio - Part 1
Lecture 90 - Reliability Problem Formulatio - Part 2
Lecture 91 - Reliability Problem Formulatio - Part 3
Lecture 92 - Reliability Problem Formulatio - Part 4
Lecture 93 - Reliability Problem Formulatio - Part 5
Lecture 94 - Reliability Problem Formulatio - Part 6
Lecture 95 - Reliability Problem Formulatio - Part 7
Lecture 96 - Reliability Problem Formulatio - Part 8
Lecture 97 - Representation of systems - Part 1
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Lecture 100 - Representation of systems - Part 4
Lecture 101 - Representation of systems - Part 5
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Lecture 104 - Representation of systems - Part 8
Lecture 105 - Representation of systems - Part 9
Lecture 106 - Representation of systems - Part 10
Lecture 107 - Representation of systems - Part 11

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Lecture 108 - Representation of systems - Part 12
Lecture 109 - Representation of systems - Part 13
Lecture 110 - Representation of systems - Part 14
Lecture 111 - Representation of systems - Part 15
Lecture 112 - Representation of systems - Part 16
Lecture 113 - Representation of systems - Part 17
Lecture 114 - Representation of systems - Part 18
Lecture 115 - Representation of systems - Part 19
Lecture 116 - Representation of systems - Part 20
Lecture 117 - Representation of systems - Part 21
Lecture 118 - Representation of systems - Part 22
Lecture 119 - Representation of systems - Part 23
Lecture 120 - Time Dependent Component Reliability - Part 1
Lecture 121 - Time Dependent Component Reliability - Part 2
Lecture 122 - Component Reliability - Time Dependent - Part 1
Lecture 123 - Component Reliability - Time Dependent - Part 2
Lecture 124 - Component Reliability - Time Dependent - Part 3
Lecture 125 - Component Reliability - Time Dependent - Part 4
Lecture 126 - Component Reliability - Time Dependent - Part 5
Lecture 127 - Component Reliability - Time Dependent - Part 6
Lecture 128 - Component Reliability - Time Dependent - Part 7
Lecture 129 - Component Reliability - Time Dependent - Part 8
Lecture 130 - Component Reliability - Time Defined - Part 9
Lecture 131 - Component Reliability - Time Defined - Part 10
Lecture 132 - Component Reliability - Time Defined - Part 11
Lecture 133 - Component Reliability - Time Defined - Part 12
Lecture 134 - Component Reliability - Time Defined - Part 13
Lecture 135 - Component Reliability - Time Defined - Part 14
Lecture 136 - Component Reliability - Time Defined - Part 15
Lecture 137 - Component Reliability - Time Defined - Part 16
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Lecture 141 - Component Reliability - Time Defined - Part 20
Lecture 142 - Component Reliability - Time Defined - Part 21
Lecture 143 - Component Reliability - Time Defined - Part 22
Lecture 144 - Component Reliability - Time Defined - Part 23
Lecture 145 - System Reliability - Time Defined - Part 1
Lecture 146 - System Reliability - Time Defined - Part 2

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Lecture 147 - System Reliability - Time Defined - Part 3
Lecture 148 - System Reliability - Time Defined - Part 4
Lecture 149 - System Reliability - Time Defined - Part 5
Lecture 150 - System Reliability - Time Defined - Part 6
Lecture 151 - System Reliability - Time Defined - Part 7
Lecture 152 - System Reliability - Time Defined - Part 8
Lecture 153 - Capacity Demand Component Reliability - Part 1
Lecture 154 - Capacity Demand Component Reliability - Part 2
Lecture 155 - Capacity Demand Component Reliability - Part 3
Lecture 156 - Capacity Demand Component Reliability - Part 4
Lecture 157 - Capacity Demand Component Reliability - Part 5
Lecture 158 - Capacity Demand Component Reliability - Part 6
Lecture 159 - Capacity Demand Component Reliability - Part 7
Lecture 160 - Capacity Demand Component Reliability - Part 8
Lecture 161 - Capacity Demand Component Reliability - Part 9
Lecture 162 - Capacity Demand Component Reliability - Part 10
Lecture 163 - Capacity Demand Component Reliability - Part 11
Lecture 164 - Capacity Demand Component Reliability - Part 12
Lecture 165 - Capacity Demand Component Reliability - Part 13
Lecture 166 - Capacity Demand Component Reliability - Part 14
Lecture 167 - Capacity Demand Component Reliability - Part 15
Lecture 168 - Capacity Demand Component Reliability - Part 16
Lecture 169 - Capacity Demand Component Reliability - Part 17
Lecture 170 - Capacity Demand Component Reliability - Part 18
Lecture 171 - Capacity Demand Component Reliability - Part 19
Lecture 172 - Capacity Demand Component Reliability - Part 20
Lecture 173 - Capacity Demand Component Reliability - Part 21
Lecture 174 - Capacity Demand Component Reliability - Part 22
Lecture 175 - Capacity Demand Component Reliability - Part 23
Lecture 176 - Capacity Demand Component Reliability - Part 24
Lecture 177 - Capacity Demand Component Reliability - Part 25
Lecture 178 - Capacity Demand Component Reliability - Part 26
Lecture 179 - Capacity Demand Component Reliability - Part 27
Lecture 180 - Capacity Demand Component Reliability - Part 28
Lecture 181 - Capacity Demand Component Reliability - Part 29
Lecture 182 - Capacity Demand Component Reliability - Part 30
Lecture 183 - Capacity Demand Component Reliability - Part 31
Lecture 184 - Capacity Demand Component Reliability - Part 32
Lecture 185 - Capacity Demand Component Reliability - Part 33

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Lecture 186	- Capacity Demand Component Reliability - Part 34
Lecture 187	- Capacity Demand Component Reliability - Part 35
Lecture 188	- Capacity Demand Component Reliability - Part 36
Lecture 189	- Capacity Demand Component Reliability - Part 37
Lecture 190	- Capacity Demand Component Reliability - Part 38
Lecture 191	- Capacity Demand Component Reliability - Part 39
Lecture 192	- Capacity Demand Time Component Reliability - Part 1
Lecture 193	- Capacity Demand Time Component Reliability - Part 2
Lecture 194	- Capacity Demand Time Component Reliability - Part 3
Lecture 195	- Capacity Demand Time Component Reliability - Part 4
Lecture 196	- Capacity Demand Time Component Reliability - Part 5
Lecture 197	- Capacity Demand Time Component Reliability - Part 6
Lecture 198	- Capacity Demand Time Component Reliability - Part 7
Lecture 199	- Capacity Demand Time Component Reliability - Part 8
Lecture 200	- Capacity Demand Time Component Reliability - Part 9
Lecture 201	- Capacity Demand Time Component Reliability - Part 10
Lecture 202	- Capacity Demand Time Component Reliability - Part 11
Lecture 203	- Capacity Demand Time Component Reliability - Part 12
Lecture 204	- Capacity Demand Time Component Reliability - Part 13
Lecture 205	- Capacity Demand Time Component Reliability - Part 14
Lecture 206	- Capacity Demand Time Component Reliability - Part 15
Lecture 207	- Capacity Demand Time Component Reliability - Part 16
Lecture 208	- Capacity Demand Time Component Reliability - Part 17
Lecture 209	- Capacity Demand Time Component Reliability - Part 18
Lecture 210	- Capacity Demand Systems Reliability - Part 1
Lecture 211	- Capacity Demand Systems Reliability - Part 2
Lecture 212	- Capacity Demand Systems Reliability - Part 3
Lecture 213	- Capacity Demand Systems Reliability - Part 4
Lecture 214	- Capacity Demand Systems Reliability - Part 5
Lecture 215	- Capacity Demand Systems Reliability - Part 6
Lecture 216	- Capacity Demand Systems Reliability - Part 7
Lecture 217	- Capacity Demand Systems Reliability - Part 8
Lecture 218	- Capacity Demand Systems Reliability - Part 9
Lecture 219	- Capacity Demand Systems Reliability - Part 10
Lecture 220	- Capacity Demand Systems Reliability - Part 11
Lecture 221	- Capacity Demand Systems Reliability - Part 12
Lecture 222	- Capacity Demand Systems Reliability - Part 13
Lecture 223	- Capacity Demand Systems Reliability - Part 14
Lecture 224	- Capacity Demand Systems Reliability - Part 15

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Lecture 225 - Reliability Based Design Codes - Part 1
Lecture 226 - Reliability Based Design Codes - Part 2
Lecture 227 - Reliability Based Design Codes - Part 3
Lecture 228 - Reliability Based Design Codes - Part 4
Lecture 229 - Reliability Based Design Codes - Part 5
Lecture 230 - Reliability Based Design Codes - Part 6
Lecture 231 - Reliability Based Partial Safety Factors - Part 1
Lecture 232 - Reliability Based Partial Safety Factors - Part 2
Lecture 233 - Reliability Based Partial Safety Factors - Part 3
Lecture 234 - Reliability Based Design Code Development - Part 1
Lecture 235 - Reliability Based Design Code Development - Part 2
Lecture 236 - Reliability Based Design Code Development - Part 3
Lecture 237 - Reliability Based Design Code Development - Part 4
Lecture 238 - Target Reliabilities - Part 1
Lecture 239 - Target Reliabilities - Part 2
Lecture 240 - Target Reliabilities - Part 3
Lecture 241 - Target Reliabilities - Part 4
Lecture 242 - Target Reliabilities - Part 5
Lecture 243 - Target Reliabilities - Part 6
Lecture 244 - Target Reliabilities - Part 7
Lecture 245 - Target Reliabilities - Part 8
Lecture 246 - Target Reliabilities - Part 9
Lecture 247 - Target Reliabilities - Part 10

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

NPTEL Video Course - Civil Engineering - NOC:Ground Improvement

Subject Co-ordinator - Prof. Dilip Kumar Baidya

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Need for Ground Improvement
Lecture 2 - Ground Improvement Methods
Lecture 3 - Ground Improvement Methods (Continued...)
Lecture 4 - GI Methods and Classification
Lecture 5 - Excavation and Replacement, the simplest GI method
Lecture 6 - Shallow Densification
Lecture 7 - Shallow densification (Continued...)
Lecture 8 - Quality Control and Quality Assurance
Lecture 9 - Application Problem
Lecture 10 - Application Problem on Excavation and Replacement
Lecture 11 - Deep Dynamic Compaction
Lecture 12 - Deep Dynamic Compaction (Continued...)
Lecture 13 - Deep Dynamic Compaction (Continued...)
Lecture 14 - Deep Dynamic Compaction (Continued...)
Lecture 15 - Deep Dynamic Compaction (Continued...)
Lecture 16 - Rapid Impact Compaction
Lecture 17 - Rapid Impact Compaction (Continued...)
Lecture 18 - Rapid Impact Compaction (Continued...)
Lecture 19 - Vibro compaction
Lecture 20 - Vibro compaction (Continued...)
Lecture 21 - Design Steps
Lecture 22 - Design Parameters and Procedure
Lecture 23 - Application Problem and Quality Control
Lecture 24 - Deep Replacement
Lecture 25 - Deep Replacement (Continued...)
Lecture 26 - Drainage
Lecture 27 - Dewatering
Lecture 28 - Dewatering (Continued...)
Lecture 29 - Dewatering Design Principle

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- Lecture 30 - Design Example
- Lecture 31 - Preconsolidation
- Lecture 32 - Preconsolidation (Continued...)
- Lecture 33 - Preconsolidation (Continued...)
- Lecture 34 - Preconsolidation (Continued...)
- Lecture 35 - Preconsolidation (Continued...)
- Lecture 36 - Grouting
- Lecture 37 - Grouting (Continued...)
- Lecture 38 - Grouting (Continued...)
- Lecture 39 - Grouting (Continued...)
- Lecture 40 - Grouting (Continued...)
- Lecture 41 - Grouting (Continued...)
- Lecture 42 - Chemical Stabilisation
- Lecture 43 - Chemical Stabilisation (Continued...)
- Lecture 44 - Chemical Stabilisation (Continued...)
- Lecture 45 - Chemical Stabilisation (Continued...)
- Lecture 46 - Soil Nailing
- Lecture 47 - Soil Nailing (Continued...)
- Lecture 48 - Soil Nailing (Continued...)
- Lecture 49 - Soil Nailing (Continued...)
- Lecture 50 - Soil Nailing (Continued...)
- Lecture 51 - Geosynthetics in Ground Improvement
- Lecture 52 - Geosynthetics in Ground Improvement
- Lecture 53 - Geosynthetics in Ground Improvement
- Lecture 54 - Geosynthetics in Ground Improvement
- Lecture 55 - Geosynthetics in Ground Improvement
- Lecture 56 - Geosynthetics in Ground Improvement (Continued...)
- Lecture 57 - Geosynthetics in Ground Improvement (Continued...)
- Lecture 58 - Geosynthetics in Ground Improvement (Continued...)
- Lecture 59 - Geosynthetics in Ground Improvement (Continued...)
- Lecture 60 - Summary and Concluding Remarks

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

NPTEL Video Course - Civil Engineering - NOC:Remote Sensing of Leaf Area Index and Primary Productivity

Subject Co-ordinator - Prof. MD Behera

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction
- Lecture 2 - Leaf Area Index - Definition and Basics
- Lecture 3 - Leaf Area Index - Field Measurements
- Lecture 4 - Remote Sensing - Story of Matter and Energy Interactions
- Lecture 5 - Remote Sensing - Optical Properties of Leaf and Canopy
- Lecture 6 - LAI- Optical RS Methods: Empirical Transfer Functions
- Lecture 7 - LAI Estimation - RS Methods: Model Inversion
- Lecture 8 - LAI Estimation - LiDAR and Microwave RS Methods
- Lecture 9 - LAI- Global Data Products
- Lecture 10 - LAI Products - Challenges and Future Prospects
- Lecture 11 - RS of Primary Productivity - Introduction and Overview
- Lecture 12 - RS of Primary Productivity - VIs and LUE
- Lecture 13 - RS of Primary Productivity - Process Based Models
- Lecture 14 - RS of Primary Productivity Methods - SIF
- Lecture 15 - RS of Primary Productivity Methods - LST, ML, Inversion/Passive RS
- Lecture 16 - LAI Applications: Phenology, Climate and LSMs
- Lecture 17 - RS of Primary Productivity - Uncertainties and Challenges - LUE
- Lecture 18 - LAI Applications: Indian Examples
- Lecture 19 - Primary Productivity Applications: Indian Examples
- Lecture 20 - Primary Productivity Applications: Indian Examples and Way Forward

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

NPTEL Video Course - Civil Engineering - NOC:Rock Mechanics and Tunneling

Subject Co-ordinator - Prof. Debarghya Chakraborty

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Objective, scope, and associated problems
Lecture 2 - Rock Engineering Application Areas (Continued...) and Discontinuities in rock
Lecture 3 - Discontinuities in rock (Continued...) and classification of rock
Lecture 4 - Classification of rock based on origin (Continued...)
Lecture 5 - Stereographic projection Stereonet Example
Lecture 6 - Stereographic projection Stereonet Example (Continued...)
Lecture 7 - Rock coring
Lecture 8 - Rock coring (Continued...)
Lecture 9 - Rock coring (Continued...) and Geophysical Methods
Lecture 10 - Geophysical Methods (Continued...)
Lecture 11 - Geophysical Methods (Continued...)
Lecture 12 - Introduction, Physical properties
Lecture 13 - Physical properties (Continued...)
Lecture 14 - Physical properties (Continued...)
Lecture 15 - Mechanical Properties
Lecture 16 - Mechanical Properties (Continued...)
Lecture 17 - Laboratory Testing Methods
Lecture 18 - Laboratory Testing Methods (Continued...)
Lecture 19 - Laboratory Testing Methods (Continued...)
Lecture 20 - Laboratory Testing Methods (Continued...)
Lecture 21 - In-situ Testing Methods
Lecture 22 - Rock mass classification
Lecture 23 - Rock mass classification (Continued...)
Lecture 24 - Rock mass classification (Continued...)
Lecture 25 - Rock mass classification (Continued...)
Lecture 26 - Rock mass classification (Continued...)
Lecture 27 - Analysis of Stresses
Lecture 28 - Analysis of Stresses (Continued...)
Lecture 29 - Analysis of Stresses (Continued...)

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- Lecture 30 - Analysis of Stresses (Continued...) and Stress-Strain Relationship
- Lecture 31 - Introduction to rock and rock mass failure
- Lecture 32 - Mohr-Coulomb (MC) Failure Criterion
- Lecture 33 - Griffith Crack Theory and Empirical Failure Criteria for Rock
- Lecture 34 - Empirical Failure Criteria for Rock (Continued...)
- Lecture 35 - Equivalent Mohr-Coulomb (MC) Parameters
- Lecture 36 - Failure Criterion in Deviatoric Plane
- Lecture 37 - Slopes
- Lecture 38 - Slopes (Continued...)
- Lecture 39 - Slopes (Continued...)
- Lecture 40 - Slopes (Continued...)
- Lecture 41 - Underground excavations
- Lecture 42 - Foundations
- Lecture 43 - Foundations (Continued...)
- Lecture 44 - Foundations (Continued...)
- Lecture 45 - Foundations (Continued...)
- Lecture 46 - Rock support systems
- Lecture 47 - Shapes and usages
- Lecture 48 - Methods of construction
- Lecture 49 - Methods of construction (Continued...)
- Lecture 50 - Methods of construction (Continued...)
- Lecture 51 - Problems associated with tunnels and Tunneling in various subsoil conditions and rocks
- Lecture 52 - Methods to determine stresses around openings: Kirsch equation
- Lecture 53 - Methods to determine stresses around openings: Kirsch equation (Continued...)
- Lecture 54 - Methods to determine stresses around openings: Kirsch equation contd and Greenspan's method
- Lecture 55 - Basic Concepts for Lined, Unlined, and Pressure Tunnels
- Lecture 56 - Basic Concepts for Lined, Unlined, and Pressure Tunnels (Continued...)
- Lecture 57 - Improvement of rock mass response
- Lecture 58 - Improvement of rock mass response (Continued...)
- Lecture 59 - Improvement of rock mass response (Continued...)
- Lecture 60 - Improvement of rock mass response (Continued...)
- Lecture 61 - Improvement of rock mass response (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Retrofitting and Rehabilitation of Civil Infrastructure

Subject Co-ordinator - Prof. Swati Maitra, Prof. Sriman Bhattacharya

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Causes of Deterioration
Lecture 3 - Materials Related Distresses
Lecture 4 - Materials Related Distresses (Continued...)
Lecture 5 - Other Distresses in Concrete
Lecture 6 - Load Associated Distresses
Lecture 7 - Identification of Distresses
Lecture 8 - Semi-destructive Testing
Lecture 9 - Non-destructive Tests
Lecture 10 - Non-destructive Tests (Continued...)
Lecture 11 - Other Tests
Lecture 12 - Considerations for Repair and Retrofitting
Lecture 13 - Repair Techniques
Lecture 14 - Repair Techniques (Continued...)
Lecture 15 - Repair Techniques (Continued...)
Lecture 16 - Strengthening of Structural Components
Lecture 17 - Strengthening of Structural Components (Continued...)
Lecture 18 - Introduction to Composites, Types and Characteristics
Lecture 19 - Properties of Fibers, Resins and FRP Composite
Lecture 20 - Micromechanics of Composites
Lecture 21 - Micromechanics of Composites (Continued...)
Lecture 22 - Manufacturing of FRP Composites
Lecture 23 - FRPC in Flexural Strengthening of Structural Members - I
Lecture 24 - FRPC in Flexural Strengthening of Structural Members - II
Lecture 25 - FRPC in Shear Strengthening of Structural Members
Lecture 26 - FRPC in Axial Strengthening of Structural Members - I
Lecture 27 - FRPC in Axial Strengthening of Structural Members - II
Lecture 28 - Near Surface Mounted FRP Reinforcement
Lecture 29 - FRPC in Strengthening of Beam-Column Joints

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- Lecture 30 - Anchorage Systems for FRP Strengthening
- Lecture 31 - Installation of FRP
- Lecture 32 - Design Considerations
- Lecture 33 - Design Approach for Flexural Strengthening
- Lecture 34 - Design of Flexural Strengthening
- Lecture 35 - Design Approach for Shear Strengthening
- Lecture 36 - Design of Shear Strengthening
- Lecture 37 - Design Approach for Axial Strengthening
- Lecture 38 - Design of Axial Strengthening
- Lecture 39 - Concepts of Concrete Overlay
- Lecture 40 - Distresses in Existing Pavement
- Lecture 41 - Evaluation of Pavement
- Lecture 42 - Design Considerations for Concrete Overlay
- Lecture 43 - Construction of Concrete Overlay
- Lecture 44 - Introduction
- Lecture 45 - Retrofitting Steps
- Lecture 46 - Review of Materials and Test Methods
- Lecture 47 - Review of Analysis Method
- Lecture 48 - Some aspects of Seismic Retrofitting
- Lecture 49 - Introduction
- Lecture 50 - A Few Retrofitting Techniques
- Lecture 51 - A Few Seismic Retrofitting Techniques
- Lecture 52 - Introduction
- Lecture 53 - Retrofitting steps and Techniques
- Lecture 54 - Retrofitting Techniques for Structural Elements
- Lecture 55 - Retrofitting Techniques for structural elements (Continued...)
- Lecture 56 - Retrofitting Techniques for structural elements (Continued...)
- Lecture 57 - Retrofitting Techniques for structural elements (Continued...)
- Lecture 58 - Seismic Strengthening of structural elements
- Lecture 59
- Lecture 60
- Lecture 61
- Lecture 62
- Lecture 63

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

NPTEL Video Course - Civil Engineering - NOC:Surface Water Hydrology

Subject Co-ordinator - Prof. Rajib Maity

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Hydrologic Cycle and its Different Components
Lecture 3 - Hydrological System Concept
Lecture 4 - Surface Water Resources of India
Lecture 5 - Hydrology and Climate Change
Lecture 6 - Different Forms of Precipitation and Indian Monsoon
Lecture 7 - Measurement and Analysis of Precipitation
Lecture 8 - Precipitation Data Quality and Presentation
Lecture 9 - Areal Precipitation and Frequency Analysis
Lecture 10 - Analysis of Precipitation: IDF and PMP
Lecture 11 - Introduction to Evaporation and Evaporimeters
Lecture 12 - Estimation of Evaporation and Control Measures
Lecture 13 - Evapotranspiration
Lecture 14 - Initial Loss and Infiltration Process
Lecture 15 - Modelling of Infiltration Capacity
Lecture 16 - Infiltration Indices
Lecture 17 - Measurement of Flow Velocity
Lecture 18 - Area-Velocity and Moving-Boat Methods
Lecture 19 - Dilution Technique, Electromagnetic and Ultrasonic Methods
Lecture 20 - Indirect Streamflow Measurement
Lecture 21 - Stage-Discharge Relationship and Rating Curve
Lecture 22 - Introduction and Catchment Characteristics
Lecture 23 - Estimation of Runoff Volume: Empirical Models
Lecture 24 - Estimation of Runoff Volume: Conceptual Models
Lecture 25 - Flow Characteristic Curves and Estimation of Reservoir Storage
Lecture 26 - Concept of Droughts and Environmental Flows
Lecture 27 - Basics of Hydrographs
Lecture 28 - Base Flow Separation, DRH and ERH
Lecture 29 - Introduction to Unit Hydrographs

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- Lecture 30 - Unit Hydrograph to Direct Runoff Hydrograph
- Lecture 31 - Derivation of Unit Hydrograph
- Lecture 32 - Unit Hydrograph of Different Durations: Method of Superposition
- Lecture 33 - Unit Hydrograph of Different Durations: Method of S-Curve
- Lecture 34 - More on Unit Hydrographs
- Lecture 35 - Synthetic Unit Hydrograph
- Lecture 36 - Instantaneous Unit Hydrograph
- Lecture 37 - Introduction to Floods and Rational Method
- Lecture 38 - Flood Peak Discharge and Catchment Characteristics
- Lecture 39 - Estimation of Peak Flood Flow
- Lecture 40 - Flood Control and its Status in India
- Lecture 41 - Introduction to Flood Routing
- Lecture 42 - Reservoir Routing: Modified Puls's Method
- Lecture 43 - Reservoir Routing: Goodrich Method and Runge-Kutta Method
- Lecture 44 - Channel Routing: Parameters of Muskingum Method
- Lecture 45 - Channel Routing: Muskingum Method and Hydraulic Flood Routing
- Lecture 46 - Concept of Routing in IUH Development and Clark's Method
- Lecture 47 - Nash's Conceptual Model
- Lecture 48 - Basic Concepts of Probability and Statistics
- Lecture 49 - Types of Data Series and Concept of Return Period
- Lecture 50 - Introduction to Frequency Analysis
- Lecture 51 - Parametric Methods of Frequency Analysis
- Lecture 52 - Frequency Analysis with Extreme Value Type-I Distribution
- Lecture 53 - Confidence Interval and Standard Error in the Frequency Estimates
- Lecture 54 - Various Issues behind Frequency Analysis
- Lecture 55 - Basics of Hydrologic Design
- Lecture 56 - Risk Analysis to Determine Return Period
- Lecture 57 - Hydro-economic Analysis to Determine Return Period
- Lecture 58 - Uncertainty in Hydrologic Analysis
- Lecture 59 - Estimated Limiting Storm and Design Flood
- Lecture 60 - Design Storm
- Lecture 61 - Hydrologic Design of Reservoirs: Introduction and Determination of Storage Capacity
- Lecture 62 - Determination of Storage Capacity and Models in Reservoir Design

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

NPTEL Video Course - Civil Engineering - NOC:Traffic Engineering

Subject Co-ordinator - Prof. Bhargab Maitra

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Traffic Engineering Objectives and Role of Transportation Demand and Land-Use
- Lecture 2 - Mobility and Accessibility, Traffic Engineering Elements and Components of Traffic
- Lecture 3 - Road Users
- Lecture 4 - Vehicles, Roadways and Traffic Control Devices
- Lecture 5 - Traffic Signs, Delineators and Signals
- Lecture 6 - Traffic Facilities and Traffic Stream Parameters
- Lecture 7 - Traffic Volumes and Time Headways
- Lecture 8 - Traffic Density and Relationships among Macroscopic Parameters
- Lecture 9 - Single Regime Traffic Stream Models
- Lecture 10 - Multi-Regime Models and Characteristics of Interrupted Flow
- Lecture 11 - Analysis of Shock Waves - I
- Lecture 12 - Analysis of Shock Waves - II
- Lecture 13 - Analysis of Shock Waves - III
- Lecture 14 - Queueing Analysis - I
- Lecture 15 - Queueing Analysis - II
- Lecture 16 - Basic Concepts
- Lecture 17 - Analysis of Basic Freeway and Multi-Lane Highway Segments (as per HCM, 2016) - I
- Lecture 18 - Analysis of Basic Freeway and Multi-Lane Highway Segments (as per HCM, 2016) - II
- Lecture 19 - Analysis of Basic Freeway and Multi-Lane Highway Segments (As per HCM, 2016) - III
- Lecture 20 - Analysis of Two-Lane Highway Segments (As per HCM, 2016) - I
- Lecture 21 - Analysis of Two-Lane Highway Segments (As per HCM, 2016) - II
- Lecture 22 - Analysis of Urban street Segments (As per HCM, 2016) - I
- Lecture 23 - Analysis of Urban street Segments (As per HCM, 2016) - II
- Lecture 24 - Analysis of Urban street Segments (As per HCM, 2016) - III
- Lecture 25 - Analysis of Single, Intermediate and Two-Lane Roads (As per Indo HCM, 2017)
- Lecture 26 - Analysis of Multi Lane Highways (As per Indo HCM, 2017)
- Lecture 27 - Intersection Control and Critical Aspects of Operation - I
- Lecture 28 - Intersection Control and Critical Aspects of Operation - II
- Lecture 29 - Intersection Control and Critical Aspects of Operation - III

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Lecture 30 - Intersection Control and Critical Aspects of Operation - IV
Lecture 31 - Intersection Control and Critical Aspects of Operation - V
Lecture 32 - Delay as a Performance Measure
Lecture 33 - Pre-Timed Signal Design - I
Lecture 34 - Pre-Timed Signal Design - II
Lecture 35 - Operational Analysis of Signalized Intersection - I
Lecture 36 - Operational Analysis of Signalized Intersection - II
Lecture 37 - Operational Analysis of Signalized Intersection - III
Lecture 38 - Operational Analysis of Signalized Intersection - IV
Lecture 39 - Actuated Signals
Lecture 40 - Signal Coordination - I
Lecture 41 - Signal Coordination - II
Lecture 42 - Signal Coordination - III
Lecture 43 - Oversaturated Signals and Mitigation Strategies
Lecture 44 - Car Following Theory - I
Lecture 45 - Car Following Theory - II
Lecture 46 - Car Following Theory - III
Lecture 47 - Car Following Theory - IV
Lecture 48 - Traffic Simulation - I
Lecture 49 - Traffic Simulation - II
Lecture 50 - Traffic Simulation - III
Lecture 51 - Introduction to Traffic Control and Management
Lecture 52 - Access Management
Lecture 53 - Demand Management
Lecture 54 - Bus Priority Treatments
Lecture 55 - Emerging Traffic Management Measures
Lecture 56 - Parking Management - I
Lecture 57 - Parking Management - II
Lecture 58 - Parking Management - III
Lecture 59 - Introduction to Road Safety
Lecture 60 - Road Safety Engineering and Crash Data
Lecture 61 - Blackspot Analysis
Lecture 62 - Crash Data Analysis
Lecture 63 - Road Safety Audit
Lecture 64 - Safe System Approach
Lecture 65 - Road Safety Countermeasures
Lecture 66 - Speed Management Measures

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

NPTEL Video Course - Civil Engineering - NOC:Bridge Engineering

Subject Co-ordinator - Prof. Piyali Sengupta

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Components, Materials, Forms, Evolutions and Classifications of Bridges
Lecture 2 - Site Selection, Subsoil Exploration and Traffic Projections for Bridges
Lecture 3 - Hydraulic Characteristics, Economical Span and Choice of Bridge Type
Lecture 4 - Standard Specifications for Road Bridges
Lecture 5 - Standard Specifications for Rail Bridges
Lecture 6 - Design of Slab Culverts
Lecture 7 - Design of T-Beam and Slab Bridge
Lecture 8 - Voided Slab Bridges, Skew Slab Culverts and Curved Bridge Decks
Lecture 9 - Design of Box Culverts
Lecture 10 - Design of Pipe Culverts
Lecture 11 - Design of Steel Truss Bridges
Lecture 12 - Design Example of Steel Truss Bridges
Lecture 13 - Design of Plate Girder Bridges
Lecture 14 - Design Example of Plate Girder Bridges
Lecture 15 - Masonry Arch Bridges
Lecture 16 - Concrete Arch Bridges
Lecture 17 - Suspension Bridges
Lecture 18 - Cable-Stayed Bridges
Lecture 19 - Balanced Cantilever Bridges
Lecture 20 - Prestressed Concrete Bridges
Lecture 21 - Composite Bridges
Lecture 22 - Rigid Frame Bridges
Lecture 23 - Continuous Girder Bridges
Lecture 24 - Design Example of Continuous Girder Bridges
Lecture 25 - Bridge Piers
Lecture 26 - Bridge Abutments
Lecture 27 - Pile Foundations for Bridges
Lecture 28 - Well and Pneumatic Caisson Foundations for Bridges
Lecture 29 - Bridge Bearings

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- Lecture 30 - Bridge Joints
- Lecture 31 - Bridge Appurtenances
- Lecture 32 - Bridge Construction
- Lecture 33 - Maintenance and Rehabilitation of Bridges
- Lecture 34 - Rebuilding of Bridges
- Lecture 35 - Dynamic Response of Bridge Decks
- Lecture 36 - Seismic Design of Highway Bridges
- Lecture 37 - Seismic Design of Railway Bridges
- Lecture 38 - Lessons from Bridge Failures
- Lecture 39 - Fatigue and Fracture of Bridges
- Lecture 40 - Use of Shape memory Alloys in Bridges
- Lecture 41 - Use of Engineered Cementitious Composite (ECC) in Bridges
- Lecture 42 - 3D Printing of Bridges
- Lecture 43 - High Speed Railway Bridges

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

NPTEL Video Course - Civil Engineering - NOC:Elastic Stability of Structures

Subject Co-ordinator - Prof. Sarat Kumar Panda

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Basic concepts of buckling and introduction to equilibrium approach
- Lecture 2 - Introduction to energy and imperfection approach
- Lecture 3 - Introduction to different types of buckling
- Lecture 4 - Weighted residual methods in structural mechanics
- Lecture 5 - Weighted residual methods in structural mechanics (Continued...)
- Lecture 6 - Introduction to the strong and weak forms of GDE
- Lecture 7 - Variational method: Derivation of Euler Lagrange equation
- Lecture 8 - Delta operator in variational method for finding GDE and Boundary conditions
- Lecture 9 - Euler lagrange equation for functional having different dependent variables
- Lecture 10 - Brachistochrone problem
- Lecture 11 - Rayleigh-Ritz method
- Lecture 12 - Extension of Rayleigh-Ritz method and Galerkin's method
- Lecture 13 - Single DOF stability model
- Lecture 14 - Single DOF stability model and model having imperfection
- Lecture 15 - Large deflection theory for stability analysis of rigid body stability models
- Lecture 16 - Two DOF rigid body stability models
- Lecture 17 - Snap through stability model and model of imperfect geometry
- Lecture 18 - Weak form solution for hinged-hinged and fixed-fixed column
- Lecture 19 - Weak form solution for fixed-free and fixed-hinged column
- Lecture 20 - Strong form solution for hinged-hinged column
- Lecture 21 - Strong form solution for fixed-fixed and fixed-free column
- Lecture 22 - Critical load for column with elastic support
- Lecture 23 - Boundary conditions for column with general case of elastically supported ends
- Lecture 24 - Critical load for portal frame with column hinged at base
- Lecture 25 - Critical load for portal frame with column fixed at base
- Lecture 26 - Element stiffness matrix for beam-column
- Lecture 27 - Stability analysis of frames by matrix stiffness method
- Lecture 28 - Critical load of Euler column: Large deflection theory
- Lecture 29 - Critical load of Euler column with initial imperfection

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

- Lecture 30 - Load deflection curve for beam-column: GDE approach
- Lecture 31 - Load deflection curve for beam-column: Energy approach
- Lecture 32 - General expression of elastic curve for beam-column
- Lecture 33 - Beam-column with several lateral and continuous loads
- Lecture 34 - Bending of beam-column by end couples
- Lecture 35 - Three moment equation for continuous beam-column
- Lecture 36 - Moment equation for continuous beam-column with intermediate column
- Lecture 37 - Beam-column on Elastic Foundation
- Lecture 38 - St Venant Torsion and Non-uniform Torsion
- Lecture 39 - Torsional Buckling
- Lecture 40 - Torsional Buckling and Torsional Flexural Buckling
- Lecture 41 - Torsional Flexural Buckling of Column Having Different Boundary Conditions
- Lecture 42 - Rayleigh-Ritz method for Torsional Flexural Buckling of Column
- Lecture 43 - Introduction to Plate Buckling and Small Deflection Theory
- Lecture 44 - Governing Differential Equation of Plate Buckling Using Small Deflection Theory
- Lecture 45 - Governing Differential Equation of Plate Buckling Using Small Deflection Theory (Continued...)
- Lecture 46 - Critical Load of Plate Using Equilibrium Approach
- Lecture 47 - Critical Load of Plate Using Energy Approach
- Lecture 48 - Critical Load of Plates with Different End Conditions: Energy Approach and Galerkin's
- Lecture 49 - F-w Formulation For Plate Buckling
- Lecture 50 - Critical load and Post Buckling Behaviour of Plate Using F-w Formulation
- Lecture 51 - Governing Differential Equation of Shell Buckling by Using Small Deflection Theory
- Lecture 52 - Governing Differential Equation of Shell Buckling by Using Small Deflection Theory (Continued...)
- Lecture 53 - Governing Differential Equation of Shell Buckling: Donnell's Equation
- Lecture 54 - Solution of Donnell's Equation for Finding Critical Load
- Lecture 55 - Governing Differential Equation of Shell Buckling by Using Finite Deflection Theory
- Lecture 56 - Post Buckling Behaviour of an Imperfect Axially Compressed Cylindrical Shell Panel
- Lecture 57 - Governing Differential Equation for the deflection curve of a thin bar
- Lecture 58 - Critical load of a two-hinged and fixed-fixed circular arch
- Lecture 59 - Inelastic Buckling Analysis of Column
- Lecture 60 - Inelastic Buckling Analysis of Column (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Radiogenic Isotope Geology

Subject Co-ordinator - Prof. R. Anand

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Fundamentals
Lecture 2 - Nuclear Stability and Decay
Lecture 3 - Radioactive Decay and Growth
Lecture 4 - Geochronometry: Mass Spectrometry
Lecture 5 - Geochronometry: Mass Spectrometry (Continued...)
Lecture 6 - Geochronometry: Isotope dilution analysis
Lecture 7 - Geochronometry: Sample processing
Lecture 8 - K-Ar Method of Dating
Lecture 9 - K-Ar Method of Dating (Continued...)
Lecture 10 - Ar-Ar Method of Dating
Lecture 11 - Ar-Ar Method of Dating (Continued...)
Lecture 12 - Rb-Sr Method of Dating
Lecture 13 - Rb-Sr Method of Dating (Continued...)
Lecture 14 - Sm-Nd Method of Dating
Lecture 15 - Sm-Nd Method of Dating (Continued...)
Lecture 16 - Re-Os Method of Dating
Lecture 17 - Lu-Hf Method of Dating
Lecture 18 - U-Th-Pb Geochronology
Lecture 19 - U-Th-Pb Geochronology (Continued...)
Lecture 20 - U-Th-Pb Geochronology (Continued...)
Lecture 21 - Isotope Geology of Pb
Lecture 22 - Isotope Geology of Pb (Continued...)
Lecture 23 - Processing and Presentation of Raw Isotope Geochemical Data
Lecture 24 - Processing and Presentation of Raw Isotope Geochemical Data (Continued...)
Lecture 25 - Application of Sr, Nd, Pb and Hf Isotopes in Petrogenetic Studies
Lecture 26 - Application of Sr, Nd, Pb and Hf Isotopes in Petrogenetic Studies (Continued...)
Lecture 27 - U-series disequilibrium method of dating
Lecture 28 - U-series disequilibrium method of dating
Lecture 29 - Fission-Track dating

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

- Lecture 30 - Cosmogenic radionuclides and their applications
- Lecture 31 - Cosmogenic radionuclides and their applications
- Lecture 32 - Cosmogenic radionuclides and their applications
- Lecture 33 - Extinct radionuclides and cosmochronology
- Lecture 34 - Extinct radionuclides and cosmochronology (Continued...)
- Lecture 35 - Extinct radionuclides and cosmochronology

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

NPTEL Video Course - Civil Engineering - NOC:Availability and Management of Groundwater Resources

Subject Co-ordinator - Prof. Prasoon Kumar Singh

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Hydrological cycle, Need for conservation of Groundwater Resources
Lecture 2 - Hydrological cycle, Need for conservation of Groundwater Resources (Continued...)
Lecture 3 - Hydrological cycle, Need for conservation of Groundwater Resources (Continued...)
Lecture 4 - Hydrological cycle, Need for conservation of Groundwater Resources (Continued...)
Lecture 5 - Hydrological cycle, Need for conservation of Groundwater Resources (Continued...)
Lecture 6 - Geological formation as Aquifer
Lecture 7 - Geological formation as Aquifer (Continued...)
Lecture 8 - Geological formation as Aquifer (Continued...)
Lecture 9 - Geological formation as Aquifer (Continued...)
Lecture 10 - Introduction about Vadose and Saturated Zone
Lecture 11 - Vadose and Saturated Zone (Continued...)
Lecture 12 - Vadose and Saturated Zone (Continued...)
Lecture 13 - Vadose and Saturated Zone (Continued...)
Lecture 14 - Vadose and Saturated Zone (Continued...)
Lecture 15 - Confined and Unconfined Aquifer and their parameters
Lecture 16 - Confined and Unconfined Aquifer and their parameters (Continued...)
Lecture 17 - Confined and Unconfined Aquifer and their Parameters (Continued...)
Lecture 18 - Confined and Unconfined Aquifer and their Parameters (Continued...)
Lecture 19 - Confined and Unconfined Aquifer and their parameters (Continued...)
Lecture 20 - Porosity, Permeability, Transmissivity and Storage Coefficient
Lecture 21 - Porosity, Permeability, Transmissivity and Storage Coefficient (Continued...)
Lecture 22 - Porosity, Permeability, Transmissivity and Storage Coefficient (Continued...)
Lecture 23 - Porosity, permeability, transmissivity and storage coefficient
Lecture 24 - Porosity, permeability, transmissivity and storage coefficient (Continued...)
Lecture 25 - Law of groundwater movement, Darcy's law and application (Continued...)
Lecture 26 - Law of groundwater movement, Darcy's law and application (Continued...)
Lecture 27 - Law of groundwater movement, Darcy's law and application (Continued...)
Lecture 28 - Law of groundwater movement, Darcy's law and application (Continued...)
Lecture 29 - Law of groundwater movement, Darcy's law and application (Continued...)

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

- Lecture 30 - Estimation of Subsurface Runoff, Types of Wells, Well Hydraulics
- Lecture 31 - Estimation of Subsurface Runoff, Types of Wells, Well Hydraulics (Continued...)
- Lecture 32 - Estimation of Subsurface Runoff, Types of Wells, Well Hydraulics (Continued...)
- Lecture 33 - Estimation of Subsurface Runoff, Types of Wells, Well Hydraulics (Continued...)
- Lecture 34 - Estimation of Subsurface Runoff, Types of Wells, Well Hydraulics (Continued...)
- Lecture 35 - Measurement of rainfall, Index of wetness, Infiltration rate
- Lecture 36 - Measurement of rainfall, Index of wetness, Infiltration rate (Continued...)
- Lecture 37 - Measurement of rainfall, Index of wetness, Infiltration rate (Continued...)
- Lecture 38 - Measurement of rainfall, Index of wetness, Infiltration rate (Continued...)
- Lecture 39 - Measurement of rainfall, Index of wetness, Infiltration rate (Continued...)
- Lecture 40 - Estimation of Total Annual Replenishable Natural Groundwater Recharge
- Lecture 41 - Estimation of Total Annual Replenishable Natural Groundwater Recharge (Continued...)
- Lecture 42 - Estimation of Total Annual Replenishable Natural Groundwater Recharge (Continued...)
- Lecture 43 - Estimation of Total Annual Replenishable Natural Groundwater Recharge (Continued...)
- Lecture 44 - Estimation of Total Annual Replenishable Natural Groundwater Recharge (Continued...)
- Lecture 45 - Groundwater resources planning and management
- Lecture 46 - Groundwater Resources Planning and Management (Continued...)
- Lecture 47 - Groundwater Resources Planning and Management (Continued...)
- Lecture 48 - Groundwater Resources Planning and Management (Continued...)
- Lecture 49 - Groundwater Resources Planning and Management (Continued...)
- Lecture 50 - Rainwater Harvesting and Artificial Groundwater Recharge
- Lecture 51 - Rainwater Harvesting and Artificial Groundwater Recharge (Continued...)
- Lecture 52 - Rainwater Harvesting and Artificial Groundwater Recharge (Continued...)
- Lecture 53 - Rainwater Harvesting and Artificial Groundwater Recharge (Continued...)
- Lecture 54 - Rainwater Harvesting and Artificial Groundwater Recharge (Continued...)
- Lecture 55 - Impact of climate change on water resources
- Lecture 56 - Impact of climate change on water resources (Continued...)
- Lecture 57 - Impact of climate change on water resources (Continued...)
- Lecture 58 - Impact of climate change on water resources (Continued...)
- Lecture 59 - Impact of climate change on water resources (Continued...)
- Lecture 60 - Impact of climate change on water resources (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Soil Dynamics

Subject Co-ordinator - Prof. Paramita Bhattacharya

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction and Theory of Vibrations
Lecture 2 - Theory of Vibrations
Lecture 3 - Single Degree of Freedom System (SDOF) - Part 1
Lecture 4 - Single Degree of Freedom System (SDOF) - Part 2
Lecture 5 - Single Degree of Freedom System (SDOF) - Part 3
Lecture 6 - Single Degree of Freedom System (SDOF) - Part 4
Lecture 7 - Single Degree of Freedom System (SDOF) - Part 5
Lecture 8 - Single Degree of Freedom System (SDOF) - Part 6
Lecture 9 - Single Degree of Freedom System (SDOF) - Part 7
Lecture 10 - Single Degree of Freedom System (SDOF) - Part 8
Lecture 11 - Single Degree of Freedom System (SDOF) - Part 9
Lecture 12 - Multiple Degree of Freedom System (MDOF) - Part 1
Lecture 13 - Multiple Degree of Freedom System (MDOF) - Part 2
Lecture 14 - Multiple Degree of Freedom System (MDOF) - Part 2
Lecture 15 - Multiple Degree of Freedom System (MDOF) - Part 3
Lecture 16 - Multiple Degree of Freedom System (MDOF) - Part 5
Lecture 17 - Wave Propagation in An Elastic Rod
Lecture 18 - Wave Propagation in An Elastic Rod of Finite Length
Lecture 19 - Wave Propagation in An Infinite Elastic Medium
Lecture 20 - Wave Propagation in An Infinite and Semi-Infinite Elastic Medium
Lecture 21 - Determination of Dynamic Properties of Soils (Laboratory Tests) - Part 1
Lecture 22 - Determination of Dynamic Properties of Soils (Laboratory Tests) - Part 2
Lecture 23 - Determination of Dynamic Properties of Soils (Laboratory Tests) - Part 3
Lecture 24 - Determination of Dynamic Properties of Soils (Laboratory Tests) - Part 4
Lecture 25 - Determination of Dynamic Properties of Soils (Laboratory Tests) - Part 5
Lecture 26 - Determination of Dynamic Properties of Soils (Seismic Reflection Survey)
Lecture 27 - Determination of Dynamic Properties of Soils (Seismic Reflection Survey)
Lecture 28 - Determination of Dynamic Properties of Soils (Seismic Refraction Survey-Inclined Layering)
Lecture 29 - Determination of Dynamic Properties of Soils (Numerical Problems on Seismic Reflection)

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

- Lecture 30 - Determination of Dynamic Properties of Soils (Block Vibration Test)
- Lecture 31 - Liquefaction of Soils - Part 1
- Lecture 32 - Liquefaction of Soils - Part 2
- Lecture 33 - Liquefaction of Soils - Part 3
- Lecture 34 - Liquefaction of Soils - Part 4
- Lecture 35 - Liquefaction of Soils - Part 5
- Lecture 36 - Machine Foundations (Design Criteria)
- Lecture 37 - Analysis of Machine Foundations (Elastic Half Space Method) - Part 1
- Lecture 38 - Analysis of Machine Foundations (Elastic Half Space Method) - Part 2
- Lecture 39 - Analysis of Machine Foundations (Elastic Half Space Method) - Part 3
- Lecture 40 - Analysis of Machine Foundations (Elastic Half Space Method) - Part 4
- Lecture 41 - Analysis of Machine Foundations (Linear Elastic Weightless Spring Method - Part 1)
- Lecture 42 - Analysis of Machine Foundations (For Reciprocating Machines) - Part 2
- Lecture 43 - Analysis of Machine Foundations (For Reciprocating Machines) - Part 3
- Lecture 44 - Analysis of Machine Foundations (For Reciprocating Machines) - Part 4
- Lecture 45 - Analysis of Machine Foundations (For Impact Type Machines) - Part 1
- Lecture 46 - Analysis of Machine Foundations (For Impact Type Machines) - Part 2
- Lecture 47 - Analysis of Machine Foundations (For Rotary Machines) - Part 1
- Lecture 48 - Analysis of Machine Foundations (For Rotary Machines) - Part 2
- Lecture 49 - Analysis of Machine Foundations (For Rotary Machines) - Part 3
- Lecture 50 - Analysis of Machine Foundations (For Rotary Machines) - Part 3 (Continued...)
- Lecture 51 - Analysis of Pile Foundation Under Dynamic Loading - Part I
- Lecture 52 - Analysis of Pile Foundation Under Dynamic Loading - Part II
- Lecture 53 - Analysis of Pile Foundation Under Dynamic Loading - Part III
- Lecture 54 - Analysis of Pile Foundation Under Dynamic Loading - Part IV
- Lecture 55 - Analysis of Pile Foundation Under Dynamic Loading - Part V
- Lecture 56 - Isolation of Vibration - Part 1
- Lecture 57 - Isolation of Vibration - Part 2
- Lecture 58 - Isolation of Vibration - Part 3
- Lecture 59 - Isolation of Vibration - Part 4
- Lecture 60 - Summary

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

NPTEL Video Course - Civil Engineering - NOC:Geotechnical Earthquake Engineering

Subject Co-ordinator - Prof. Kousik Deb

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Causes of Earthquake
Lecture 3 - Seismic Waves
Lecture 4 - Seismic Waves (Continued...)
Lecture 5 - Size of Earthquake
Lecture 6 - Size of Earthquake (Continued...)
Lecture 7 - Introduction
Lecture 8 - Measurement of Ground Motion
Lecture 9 - Ground Motion Parameters
Lecture 10 - Ground Motion Parameters (Continued...)
Lecture 11 - Ground Motion Parameters (Continued...)
Lecture 12 - Ground Motion Parameters (Continued...)
Lecture 13 - Ground Motion Parameters (Continued...)
Lecture 14 - Estimation of Ground Motion Parameters
Lecture 15 - Examples
Lecture 16 - Examples (Continued...)
Lecture 17 - Examples (Continued...)
Lecture 18 - Field Tests
Lecture 19 - Field Tests (Continued...)
Lecture 20 - Field Tests (Continued...)
Lecture 21 - Field Tests (Continued...)
Lecture 22 - Field Tests (Continued...)
Lecture 23 - Field Tests (Continued...)
Lecture 24 - Field Tests (Examples)
Lecture 25 - Field Tests (Continued...)
Lecture 26 - Field Tests (Continued...)
Lecture 27 - Laboratory and Model Tests
Lecture 28 - Stress-Strain Behavior of Cyclically Loaded Soils
Lecture 29 - Stress-Strain Behavior of Cyclically Loaded Soils (Continued...)

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

- Lecture 30 - Stress-Strain Behavior of Cyclically Loaded Soils (Continued...)
- Lecture 31 - Linear Approach
- Lecture 32 - Linear Approach (Continued...)
- Lecture 33 - Equivalent Linear and Non Linear Approach
- Lecture 34 - Evaluation of Liquefaction Resistance of Soils
- Lecture 35 - Evaluation of Liquefaction Resistance of Soils (Continued...)
- Lecture 36 - Evaluation of Liquefaction Resistance of Soils (Continued...)
- Lecture 37 - Evaluation of Liquefaction Resistance of Soils (Continued...)
- Lecture 38 - Evaluation of Liquefaction Resistance of Soils (Continued...)
- Lecture 39 - Evaluation of Liquefaction Resistance of Soils (Continued...)
- Lecture 40 - Evaluation of Liquefaction Resistance of Soils (Continued...)
- Lecture 41 - Evaluation of Liquefaction Resistance of Soils (Continued...)
- Lecture 42 - Evaluation of Liquefaction Resistance of Soils (Continued...)
- Lecture 43 - Liquefaction Susceptibility Criteria for Silts and Clays
- Lecture 44 - Liquefaction Susceptibility Criteria for Silts and Clays (Continued...)
- Lecture 45 - Liquefaction Susceptibility Criteria for Silts and Clays (Continued...)
- Lecture 46 - Liquefaction Susceptibility Criteria for Silts and Clays (Continued...)
- Lecture 47 - Settlement of Sand due to Earthquake Shaking
- Lecture 48 - Settlement of Sand due to Earthquake Shaking (Continued...)
- Lecture 49 - Seismic or Liquefaction Hazard Mitigation
- Lecture 50 - Seismic or Liquefaction Hazard Mitigation (Continued...)
- Lecture 51 - Seismic or Liquefaction Hazard Mitigation (Continued...)
- Lecture 52 - Seismic or Liquefaction Hazard Mitigation (Continued...)
- Lecture 53 - Seismic or Liquefaction Hazard Mitigation (Continued...)
- Lecture 54 - Seismic slope stability analysis: Pseudostatic Analysis
- Lecture 55 - Seismic slope stability analysis: Pseudostatic Analysis (Continued...)
- Lecture 56 - Seismic slope stability analysis: Newmark Sliding Block Analysis
- Lecture 57 - Seismic slope stability analysis: Newmark Sliding Block Analysis (Continued...)
- Lecture 58 - Seismic design of retaining walls
- Lecture 59 - Seismic design of retaining walls (Continued...)
- Lecture 60 - Seismic design of retaining walls (Continued...)
- Lecture 61 - Seismic design of retaining walls (Continued...)
- Lecture 62 - Seismic design of retaining walls (Continued...)
- Lecture 63 - Seismic design of retaining walls (Continued...)
- Lecture 64 - Seismic design of retaining walls (Continued...)
- Lecture 65 - Seismic design of retaining walls (Continued...)
- Lecture 66 - Seismic design of retaining walls (Continued...)
- Lecture 67 - Seismic design of retaining walls (Continued...)
- Lecture 68 - Seismic design of retaining walls (Continued...)

Lecture 69 - Seismic design of retaining walls (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Earthquake Seismology

Subject Co-ordinator - Dr. Mohit Agrawal

Co-ordinating Institute - IIT-ISM Dhanbad

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

Lecture 1 - Introduction
Lecture 2 - Waves on a String
Lecture 3 - Stress
Lecture 4 - Strain tensor and Constitutive equations
Lecture 5 - Equations of Motion
Lecture 6 - Wavenumber vector, Slowness, P-and S-wave Polarization
Lecture 7 - Seismic spectrum, Seismogram rotation, Spherical Waves
Lecture 8 - Energy in the Plane Wave, Potentials at an Interface
Lecture 9 - Boundary Conditions, Types Of Interfaces, Ray Theory, Reflection/Transmission
Lecture 10 - Snell's law, Transmission and Reflection Coefficients, Fermat's Principle, Huygen's
Lecture 11 - Precritical, Critical, and Postcritical waves, reflection and transmission coefficients
Lecture 12 - Surface waves
Lecture 13 - Rayleigh Waves
Lecture 14 - Love waves
Lecture 15 - Dispersion
Lecture 16 - Dispersion example in the Earth and Tsunamis
Lecture 17 - Normal modes
Lecture 18 - Torsional and Spheroidal Modes
Lecture 19 - Solving numerical problems
Lecture 20 - Refraction seismology
Lecture 21 - Refraction seismology (Continued...)
Lecture 22 - Reflection seismology (Continued...)
Lecture 23 - Earth as a constant velocity Distribution
Lecture 24 - Multi Channel Data Geometry
Lecture 25 - Seismic waves in spherical earth
Lecture 26 - Velocity distribution
Lecture 27 - Body waves
Lecture 28 - Core Phases
Lecture 29 - Velocity structure of upper mantle and lower mantle

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- Lecture 30 - Anisotropic earth structure
- Lecture 31 - Anisotropic earth structure (Continued...)
- Lecture 32 - Attenuation and Anelasticity
- Lecture 33 - Attenuation and Anelasticity (Continued...)
- Lecture 34 - Attenuation and Anelasticity (Continued...)
- Lecture 35 - Composition of the mantle and core
- Lecture 36 - Composition of the mantle and core (Continued...)
- Lecture 37 - Composition of the mantle and core (Continued...)
- Lecture 38 - Composition of the mantle and core (Continued...)
- Lecture 39 - Earthquakes, focal mechanisms, moment tensors
- Lecture 40 - Earthquakes, focal mechanisms, moment tensors (Continued...)
- Lecture 41 - Earthquakes, focal mechanisms, moment tensors (Continued...)
- Lecture 42 - Earthquakes, focal mechanisms, moment tensors (Continued...)
- Lecture 43 - Earthquakes, focal mechanisms, moment tensors (Continued...)
- Lecture 44 - Brief on Earthquake geodesy
- Lecture 45 - Brief on Earthquake geodesy (Continued...)
- Lecture 46 - Brief on Earthquake geodesy (Continued...)
- Lecture 47 - Brief on Earthquake geodesy (Continued...)
- Lecture 48 - Source parameters, Earthquake statistics
- Lecture 49 - Source parameters, Earthquake statistics (Continued...)
- Lecture 50 - Source parameters, Earthquake statistics (Continued...)
- Lecture 51 - Source parameters, Earthquake statistics (Continued...)
- Lecture 52 - Source parameters, Earthquake statistics (Continued...)
- Lecture 53 - Seismology and Plate tectonics, Spreading centers, Subduction zones
- Lecture 54 - Seismology and Plate tectonics, Spreading centers, Subduction zones (Continued...)
- Lecture 55 - Seismology and Plate tectonics, Spreading centers, Subduction zones (Continued...)
- Lecture 56 - Numerical Problems in Seismology
- Lecture 57 - Numerical Problems in Seismology (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Engineering Geology

Subject Co-ordinator - Prof. R. K. Dubey

Co-ordinating Institute - IIT-ISM Dhanbad

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

- Lecture 1 - Introduction and significance
- Lecture 2 - Engineering geological ground, concept and categorization
- Lecture 3 - Geomaterial: Rock, rock material and rock strata, concept of stress, deformation ...
- Lecture 4 - Stress-strain behaviour and mechanical parameters of rocks
- Lecture 5 - Geomorphology of river valley and mountainous regions and landforms
- Lecture 6 - Different types of water and distribution of water, different type of rocks and ...
- Lecture 7 - Surface and subsurface water and their interaction with geoground
- Lecture 8 - Weathering processes and classification
- Lecture 9 - Chemical weathering and impact of weathering
- Lecture 10 - Weatherability and weathering indices
- Lecture 11 - Characteristic of rocks and rock strata and some physical property
- Lecture 12 - Common physical attributes of geomaterials
- Lecture 13 - Engineering properties of rocks
- Lecture 14 - Geotechnical characteristic of joint and approach for rock mass classification
- Lecture 15 - Rock mass classification
- Lecture 16 - About construction materials and dimensional stone
- Lecture 17 - Crushed stone and suitability of rocks as construction materials
- Lecture 18 - Aggregate and deleterious materials
- Lecture 19 - Pozzolan and soil
- Lecture 20 - Cement-aggregate reaction
- Lecture 21 - Concept and classification of dams
- Lecture 22 - Classification of dams based on materials used
- Lecture 23 - Classification of dam based on design and function
- Lecture 24 - Arch dams and classification dams based on use and function and technical ...
- Lecture 25 - Forces acting on dam and engineering geological characteristics for dam construction
- Lecture 26 - About tunnels and classification of tunnels
- Lecture 27 - Tunnelling methods
- Lecture 28 - Treatments
- Lecture 29 - Anchoring of rock strata : grouting

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- Lecture 30 - Anchoring of rock strata : rock bolting
- Lecture 31 - Categorization of major geological structures affecting stability of engineering ...
- Lecture 32 - Major geological structures Fold, Faults, joints
- Lecture 33 - Major geological structures: sedimentary structures, unconformity and effect ...
- Lecture 34 - Effects of beddings, folds, faults, joints and unconformity on stability of dams
- Lecture 35 - Effects of beddings, folds, faults, joints and unconformity on ground control ...
- Lecture 36 - Rock-load/ground pressure, factors affecting ground pressure
- Lecture 37 - Methods for determination of rock load: empirical approaches
- Lecture 38 - Methods for determination of rock load: empirical, semi-empirical approaches
- Lecture 39 - Methods for determination of rock load: Structural defect and rock-support ...
- Lecture 40 - Unified approach, support system, and mechanics of rock bolt working
- Lecture 41 - About road and highway features and pavement
- Lecture 42 - Stress distributions and engineering geological facets of new road/highway alignments
- Lecture 43 - About bridges, classifications and working mechanism
- Lecture 44 - Engineering geological facets of bridges and material quality
- Lecture 45 - Building, building foundation and foundation strata
- Lecture 46 - Landslide
- Lecture 47 - Landslide Hazards Zonation, causes and mitigation
- Lecture 48 - Slope stability aspects of landslide
- Lecture 49 - Earthquakes
- Lecture 50 - Induced seismicity
- Lecture 51 - Sea, seacoast, features and agents
- Lecture 52 - Wave propagations and concept of surf zones and breaking of waves
- Lecture 53 - Waves propagation in different depth and wave mechanics
- Lecture 54 - Erosion induced and deposition assisted sea landforms
- Lecture 55 - Sea shore hazards, mitigation and protective structures
- Lecture 56 - Energy and introductory aspects of geothermal energy
- Lecture 57 - Geothermal resources and enhanced geothermal systems
- Lecture 58 - Geotechnical facets of gas hydrate
- Lecture 59 - Engineering geological facets of CBM and shale gas
- Lecture 60 - Engineering geological aspect of carbon capture, usage and storage (CCUS)

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

NPTEL Video Course - Civil Engineering - NOC:Industrial Wastewater Treatment

Subject Co-ordinator - Prof Alok Sinha, Prof S K Gupta

Co-ordinating Institute - IIT-ISM Dhanbad

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

Lecture 1 - Sources and characteristics of industrial wastewater
Lecture 2 - Sources and characteristics of industrial wastewater
Lecture 3 - Wastewater Management
Lecture 4 - Design Aspects of Equalization Tank
Lecture 5 - Neutralization and Proportioning
Lecture 6 - Ion Exchange Process
Lecture 7 - Ion Exchange Process
Lecture 8 - Ion Exchange Process
Lecture 9 - Adsorption Process
Lecture 10 - Adsorption Process
Lecture 11 - Gas Transfer and Air Stripping (Ammonia Removal)
Lecture 12 - Gas Transfer and Air Stripping (Ammonia Removal)
Lecture 13 - Advanced oxidation processes
Lecture 14 - Advanced oxidation processes
Lecture 15 - Advanced oxidation processes
Lecture 16 - Advanced oxidation processes
Lecture 17 - Membrane processes for wastewater treatment
Lecture 18 - Membrane processes for wastewater treatment
Lecture 19 - Membrane processes for wastewater treatment
Lecture 20 - Membrane processes for wastewater treatment
Lecture 21 - Coagulation, Precipitation and Heavy Metal Removal
Lecture 22 - Coagulation, Precipitation and Heavy Metal Removal
Lecture 23 - Coagulation, Precipitation and Heavy Metal Removal
Lecture 24 - Coagulation, Precipitation and Heavy Metal Removal
Lecture 25 - Coagulation, Precipitation and Heavy Metal Removal
Lecture 26 - Treatment and disposal of sludge
Lecture 27 - Treatment and disposal of sludge
Lecture 28 - Treatment and disposal of sludge
Lecture 29 - Treatment and disposal of sludge

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

- Lecture 30 - Treatment and disposal of sludge
- Lecture 31 - Treatment of wastewater produced from Distillery and Dairy Industries
- Lecture 32 - Treatment of wastewater produced from Distillery and Dairy Industries
- Lecture 33 - Treatment of wastewater produced from Distillery and Dairy Industries
- Lecture 34 - Treatment of wastewater produced from Distillery and Dairy Industries
- Lecture 35 - Treatment of wastewater produced from Distillery and Dairy Industries
- Lecture 36 - Treatment of wastewater produced from Tannery and Pulp and Paper
- Lecture 37 - Treatment of wastewater produced from Tannery and Pulp and Paper
- Lecture 38 - Treatment of wastewater produced from Tannery and Pulp and Paper
- Lecture 39 - Treatment of wastewater produced from Tannery and Pulp and Paper
- Lecture 40 - Treatment of wastewater produced from Tannery and Pulp and Paper
- Lecture 41 - Treatment of wastewater produced from Textile and Dye and Fertilizers
- Lecture 42 - Treatment of wastewater produced from Textile and Dye and Fertilizers
- Lecture 43 - Treatment of wastewater produced from Textile and Dye and Fertilizers
- Lecture 44 - Treatment of wastewater produced from Textile and Dye and Fertilizers
- Lecture 45 - Treatment of wastewater produced from Textile and Dye and Fertilizers
- Lecture 46 - Treatment of wastewater produced from Refineries and Iron and Steel (Coke Ovens)
- Lecture 47 - Treatment of wastewater produced from Refineries and Iron and Steel (Coke Ovens)
- Lecture 48 - Treatment of wastewater produced from Refineries and Iron and Steel (Coke Ovens)
- Lecture 49 - Treatment of wastewater produced from Refineries and Iron and Steel (Coke Ovens)
- Lecture 50 - Treatment of wastewater produced from Refineries and Iron and Steel (Coke Ovens)
- Lecture 51 - Treatment of wastewater produced from Pharmaceutical industry
- Lecture 52 - Treatment of wastewater produced from Pharmaceutical industry
- Lecture 53 - Treatment of wastewater produced from Pharmaceutical industry
- Lecture 54 - Treatment of wastewater produced from Pharmaceutical industry
- Lecture 55 - Treatment of wastewater produced from Pharmaceutical industry
- Lecture 56 - Mine Wastewater including Acid Mine Drainage and Industrial Complexing
- Lecture 57 - Mine Wastewater including Acid Mine Drainage and Industrial Complexing
- Lecture 58 - Mine Wastewater including Acid Mine Drainage and Industrial Complexing
- Lecture 59 - Mine Wastewater including Acid Mine Drainage and Industrial Complexing
- Lecture 60 - Mine Wastewater including Acid Mine Drainage and Industrial Complexing

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

NPTEL Video Course - Civil Engineering - NOC:Geoengineering

Subject Co-ordinator - Prof. R. K. Dubey

Co-ordinating Institute - IIT-ISM Dhanbad

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

- Lecture 1 - Introduction, definition and phase relations, components, advances, and relevance
- Lecture 2 - Concept of force, load and stress
- Lecture 3 - Stress-strain behaviour, modulus, and Poisson's ratio
- Lecture 4 - Engineering properties of geoground/geomaterial
- Lecture 5 - Strength failure criteria of geomaterial (rock)
- Lecture 6 - Classification of water
- Lecture 7 - Geoground, surface and groundwater interaction
- Lecture 8 - Impact of water on geoground (rock)
- Lecture 9 - Impact of water on geoground (soil)
- Lecture 10 - Impact of water on ground, durability of geoground/geomaterial (soil)
- Lecture 11 - Types of infrastructures, components and elements of building
- Lecture 12 - Forces acting on building foundation strata/layers
- Lecture 13 - Types of foundations and footings
- Lecture 14 - Ground-foundation interaction, differential settlement, and basic of retaining walls
- Lecture 15 - Retaining walls and earth pressures
- Lecture 16 - Elements and classification of underground space structures
- Lecture 17 - Excavation methods for underground space structures : Basic of drilling and blasting
- Lecture 18 - Excavation methods underground space :underground :underground and blasting techniques
- Lecture 19 - Excavation methods for underground space structures :tunnel boring machine (TBN)
- Lecture 20 - Subsidence and ground control problems in underground spaces
- Lecture 21 - In situ stress, damage zone and concept of ground pressure
- Lecture 22 - Approaches for estimation of ground pressure : empirical and semi-empirical methods
- Lecture 23 - Approaches for estimation of ground pressure : semi-empirical and other methods
- Lecture 24 - Grout, Grouting and groutability
- Lecture 25 - Anchoring of rock strata and support system and bolting
- Lecture 26 - Characteristics of geoground in cold region
- Lecture 27 - Behaviour of geoground in cold region (Mechanical attributes of snow)
- Lecture 28 - Behaviour of geoground in cold region (Mechanical attributes ice and ice mixed soils)
- Lecture 29 - Ground control issues and facets of glaciated slopes

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

- Lecture 30 - Mitigation engineering structures
- Lecture 31 - Geotechnical implication in mineral exploration
- Lecture 32 - Geotechnical issues related to extraction of mineral resources
- Lecture 33 - Mine fire and related geotechnical issues
- Lecture 34 - Groundwater occurrences and exploration
- Lecture 35 - 05:Geotechnical facets of groundwater extraction and saltwater intrusion
- Lecture 36 - Concept, resources and classification of energy
- Lecture 37 - Geoengineering view of geothermal energy
- Lecture 38 - Concept and sources of green energy and associated geotechnical challenges
- Lecture 39 - Water energy and geoengineering issues
- Lecture 40 - Classification energy source reservoirs
- Lecture 41 - Radioactive and strategic minerals gas hydrates as energy geotechnical constraints
- Lecture 42 - Classification of energy source reservoirs and concept geomechanical characterization
- Lecture 43 - Geomechanical characterization of hydrocarbon reservoir
- Lecture 44 - Geomechanical characterization of Coal bed methane and shale gas reservoirs
- Lecture 45 - Geomechanical characterization of geothermal reservoir
- Lecture 46 - Climate change scenario
- Lecture 47 - Impact of climate change
- Lecture 48 - Nuclear power and generation of waste and related issues
- Lecture 49 - Geotechnical facets of carbon dioxide capture and sequestration
- Lecture 50 - Geotechnical issues and solutions in nuclear waste disposal
- Lecture 51 - Mass wasting and landslide hazards zonation
- Lecture 52 - Slope stability analysis of natural and engineered slopes
- Lecture 53 - Earthquake hazards analysis and mitigation
- Lecture 54 - Induced seismicity
- Lecture 55 - Volcanic hazards, assessment and mitigation
- Lecture 56 - Quaternary land forms and active neotectonics
- Lecture 57 - River hydraulics and associate problems, geotechnical applications
- Lecture 58 - Linking of river and expected geotechnical issues and possible measures
- Lecture 59 - Seashore and wave dynamics
- Lecture 60 - Wave dynamics, hazards, geotechnical issues and mitigation

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

NPTEL Video Course - Civil Engineering - NOC:Free Surface Flows

Subject Co-ordinator - Prof. Mohammad Saud Afzal

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Introduction (Continued...)
Lecture 3 - Introduction (Continued...)
Lecture 4 - Introduction (Continued...)
Lecture 5 - Problems
Lecture 6 - Problems (Continued...)
Lecture 7 - Specific Energy
Lecture 8 - Specific Force
Lecture 9 - Computation of critical depth and Channel transitions
Lecture 10 - Channel Transitions (Continued...)
Lecture 11 - Problems
Lecture 12 - Problems (Continued...)
Lecture 13 - Problems (Continued...)
Lecture 14 - Problems (Continued...)
Lecture 15 - Problems (Continued...)
Lecture 16 - Introduction
Lecture 17 - Friction Factor
Lecture 18 - Manning's Roughness
Lecture 19 - Most Efficient Cross Section
Lecture 20 - Most Efficient Cross Section (Continued...)
Lecture 21 - Problems
Lecture 22 - Problems (Continued...)
Lecture 23 - Problems (Continued...)
Lecture 24 - Problems (Continued...)
Lecture 25 - Problems (Continued...)
Lecture 26 - Introduction
Lecture 27 - Differential Equation of GVF
Lecture 28 - Flow Profiles
Lecture 29 - Flow Profiles (Continued...)

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

- Lecture 30 - GVF Profiles
- Lecture 31 - Problems
- Lecture 32 - Problems (Continued...)
- Lecture 33 - Problems (Continued...)
- Lecture 34 - Problems (Continued...)
- Lecture 35 - Problems (Continued...)
- Lecture 36 - Introduction
- Lecture 37 - SVF with increasing discharge and Control Points
- Lecture 38 - SVF with decreasing discharge
- Lecture 39 - De Marchi Equation and problems
- Lecture 40 - Problems
- Lecture 41 - Introduction
- Lecture 42 - Hydraulic Jump
- Lecture 43 - Efficiency and Classification of hydraulic jump
- Lecture 44 - Sharp Crested Weir
- Lecture 45 - Problems on Rapidly Varied Flow
- Lecture 46 - Introduction
- Lecture 47 - Equation of Motion of GVUF
- Lecture 48 - GVUF equation in terms of discharge
- Lecture 49 - Uniformly Progressive Wave
- Lecture 50 - Preissmann Scheme
- Lecture 51 - Introduction
- Lecture 52 - Surges (Continued...)
- Lecture 53 - Dam Break Problem
- Lecture 54 - Problems on RVUF
- Lecture 55 - Problems on RVUF (Continued...)
- Lecture 56 - Introduction
- Lecture 57 - Shields Curve Continued
- Lecture 58 - Bed Forms and Resistance
- Lecture 59 - Bed Load and Suspended Load Transport
- Lecture 60 - Problems
- Lecture 61 - Problems (Continued...)

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

NPTEL Video Course - Civil Engineering - NOC:Reservoir Geophysics for Hydrocarbon Exploration

Subject Co-ordinator - Prof. Saurabh Datta Gupta

Co-ordinating Institute - IIT-ISM Dhanbad

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

- Lecture 1 - Discussion on the background of Reservoir Geophysics in the Upstream Oil and Gas Sector
- Lecture 2 - Lectuer on the requirements of advancement of Seismic Data Interpretation towards Reservoir Geoph
- Lecture 3 - Lectuer on the basic understanding of Borehole Geophysics and establishment of the Requirements r
- Lecture 4 - Discussion related to the basic understanding of Geocellular Modelling in line with High Resoluti
- Lecture 5 - Lectuer on the Integrated workflow for Development of Geocellular Modelling
- Lecture 6 - The key components of Integrated Reservoir Engineering for Reservoir Geophysics study
- Lecture 7 - Discussion on the fundamental concept and applications of Petrophysical in Reservoir
- Lecture 8 - Lectuer on comprehensive analysis of Petrophysical Properties of the various Reservoir
- Lecture 9 - Lectuer on the understanding on Geomechanically property of the reservoir and Reservoir
- Lecture 10 - Lectuer on Hydrocarbon Phase behavior and Flow Dynamics: Key Principles and Diagrams
- Lecture 11 - Discussion on Reservoir Geophysics uses advanced seismic methods to identify reservoirs
- Lecture 12 - Lectuer on advancements seismic studies Reservoir Geophysics and quantitative analysis
- Lecture 13 - Studies Reservoir Geophysics based on AVO/AVA analysis multicomponent seismic techniques
- Lecture 14 - Comparative discussion between conventional and multicomponent seismic on wave properties
- Lecture 15 - Lectuer on multicomponent seismic: Processing Challenges, Binning, and Techniques
- Lecture 16 - Lectuer on the Advanced Seismic Techniques for Reservoir Characterization
- Lecture 17 - Discussion on the Applications of Multicomponent the Purpose of Seismic Attribute Study
- Lecture 18 - Lectuer on Seismic Attribute Study: Types, Post-Stack Examples, and Applications
- Lecture 19 - Lectuer on Seismic Attribute Applications
- Lecture 20 - Lectuer on Inversion: Workflow, QC, Case Studies, Challenges, of P-Elastic Parameters
- Lecture 21 - Lectuer on Introduction to Vertical Seismic Profile (VSP): Basics and Beyond
- Lecture 22 - Lectuer on Exploring Vertical Seismic Profile (VSP): Methods, Applications, and Equipment
- Lecture 23 - Lectuer on Examples and Techniques in Vertical Seismic Profile (VSP) Data Acquisition
- Lecture 24 - Lectuer on Vertical Seismic Profile (VSP) Data Processing and Interpretation Techniques
- Lecture 25 - Lectuer on Comprehensive Guide to Passive Seismic Imaging: Techniques, Applications
- Lecture 26 - Discussion on VSP Techniques towards Reservoir Characterization
- Lecture 27 - Lectuer on VSP data acquisition workflow and its interpretation
- Lecture 28 - Discussion of Walkaway VSP technique in complex geological structure
- Lecture 29 - Lectuer on 3D and Far Offset VSP in connection with Advantages and Disadvantages

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

- Lecture 30 - Discussion on Passive Seismic Data and its application towards the study of Reservoir
- Lecture 31 - Discussion on basic understanding of Crosswell Seismic Tomography
- Lecture 32 - Lectuer on Crosswell Seismic Tomography for Reservoir Characterization and Management
- Lecture 33 - Discussion AVO Analysis and Tomography for Enhanced Reservoir Characterization (EOR)
- Lecture 34 - Implication of Crosswell Seismic Tomography and AVO for Reservoir Imaging
- Lecture 35 - Lectuer on AVO Analysis: Seismic Signatures, Techniques, and Case Study
- Lecture 36 - Discussion on Approach and Principal Causes of Low-Resistivity and (LRLC) Reservoirs
- Lecture 37 - Lectuer on LRLC Reservoirs: Causes, Traits, Challenges, Evaluation and Solutions
- Lecture 38 - Discussion on Clay Distribution Modes and Core-Well Log Integration in LRLC Reservoirs
- Lecture 39 - Discussion on Wireline Logging and Petrophysical Techniques for LRLC Reservoirs
- Lecture 40 - Lectuer on Gas Condensate Reservoirs: Properties, Sampling, Production and Performance
- Lecture 41 - Discussion on 4D Seismic: Requirements, Planning, and Reservoir Monitoring
- Lecture 42 - Lectuer on 4D Seismic: Acquisition, Processing, Interpretation, and History Matching
- Lecture 43 - Discussion on The Marlim field: A case study
- Lecture 44 - Discussion on Reservoir Modeling: Importance, Pore-Scale Mechanisms, and Carbonate Rocks
- Lecture 45 - Discussion on Pore-Scale Displacement Mechanism in Carbonate Reservoirs: A Case Study
- Lecture 46 - Discussion on Comprehensive Overview of Deepwater, and Production Implications
- Lecture 47 - Lectuer on Deepwater Depositional Systems: Architecture, and Exploration Challenges
- Lecture 48 - Discussion on Deepwater Exploration: Importance, Challenges, Frontiers, Global Impact
- Lecture 49 - Discussion on Deepwater Exploration and Sedimentation: Trends, Sustainable Approaches
- Lecture 50 - Discussion on Deepwater Exploration: Challenges, Innovations, Strategies for Advancement
- Lecture 51 - Discussion on Comprehensive Overview of Seismic Imaging and Data Processing in Deep
- Lecture 52 - Lectuer on Challenges in Deep-Water Seismic Imaging: Data Acquisition, Geological
- Lecture 53 - Discussion on Sediment Variability, Technological Innovations, Seismic Exploration
- Lecture 54 - Discussion on Risk Identification, Assessment, and Management in Deepwater Exploration
- Lecture 55 - Discussion on Risk Analysis and Management in Deepwater the Macondo Blowout Case Study
- Lecture 56 - Discussion on Clastic Reservoirs: Pore Structure, Challenges, and Depletion Effects
- Lecture 57 - Lectuer on Enhanced Recovery and Characterization of Deep Clastic Reservoirs
- Lecture 58 - Discussion on a Case Study of Depleted Clastic Reservoirs
- Lecture 59 - Discussion on Basalt Formation, Sub-Basalt Exploration, and Seismic Challenges
- Lecture 60 - Discussion on Case Study: Use of Converted Waves for Sub-Basalt Imaging

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

NPTEL Video Course - Civil Engineering - NOC:Mathematical Geophysics

Subject Co-ordinator - Prof. Swarandeeep Sahoo

Co-ordinating Institute - IIT-ISM Dhanbad

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

Lecture 1 - Scalar and Vectors
Lecture 2 - Co-ordinate Systems
Lecture 3 - Solid Angle
Lecture 4 - Theory Of Fields
Lecture 5 - Geometric Model of Fields
Lecture 6 - Scalar Field and Gradient
Lecture 7 - Flux of a field
Lecture 8 - Divergence and Gauss Theorem
Lecture 9 - Curl and Stokes's Theorem
Lecture 10 - Green's Function and Theorem
Lecture 11 - System of Equations
Lecture 12 - Gravitational Field - I
Lecture 13 - Gravitational Field - II
Lecture 14 - Equations of Gravitational Field
Lecture 15 - Upward Continuation
Lecture 16 - System of Linear Differential Equation
Lecture 17 - Time Invariant and Varying Fields
Lecture 18 - Electric Field
Lecture 19 - Electric Potential
Lecture 20 - Electric Current, Conductivity, and Ohm's Law
Lecture 21 - Diffusion
Lecture 22 - Geothermal gradient
Lecture 23 - Magnetic Diffusion
Lecture 24 - Solution of Magnetic Diffusion Equation
Lecture 25 - Decay of Magnetic Field
Lecture 26 - Wave Equation
Lecture 27 - Seismic waves
Lecture 28 - Free Oscillation of the Earth
Lecture 29 - Inertial wave

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

- Lecture 30 - Internal Gravity Wave
- Lecture 31 - Laplace's and Poisson's equations
- Lecture 32 - Heat flows in the Earth
- Lecture 33 - Convective Heat Flows in the Mantle
- Lecture 34 - Outer Core Thermal Convection
- Lecture 35 - Outer Core Double-Diffusive Convection
- Lecture 36 - Fourier Analysis and Transform
- Lecture 37 - Linear Time-Invariant Systems and Filtering
- Lecture 38 - Sampling Theory for Time Series
- Lecture 39 - Transforms for Geophysical Analysis
- Lecture 40 - Data Driven Methods in Geophysics

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

NPTEL Video Course - Civil Engineering - NOC:Tectonics and Geodynamics

Subject Co-ordinator - Prof. Saibal Gupta

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - The Beginnings - Continental Drift Theory
- Lecture 2 - Demise of the Continental Drift Theory
- Lecture 3 - The Sea Floor
- Lecture 4 - Sea Floor Spreading
- Lecture 5 - Rigid Plates on the Earth's Surface
- Lecture 6 - How plates would move on a flat Earth
- Lecture 7 - Three Plate Motions on a Flat Earth
- Lecture 8 - Plate boundary movements on a Flat Earth
- Lecture 9 - Triple junctions on a flat Earth â Part I
- Lecture 10 - Triple junctions on a flat Earth â Part II
- Lecture 11 - Evaluation of selected triple junctions
- Lecture 12 - Plate Motions on a Spherical Earth
- Lecture 13 - Calculating Relative Motions at Plate Boundaries
- Lecture 14 - Combination of Rotation Vectors
- Lecture 15 - Finite and Infinitesimal, Rotations, and Absolute Plate Motions
- Lecture 16 - The Magnetic Field of the Earth
- Lecture 17 - Calculating the Earth's Magnetic Field
- Lecture 18 - Calculating the Earth's Magnetic Field (Continued...)
- Lecture 19 - Magnetizing rocks and Magnetic Anomalies
- Lecture 20 - The Geomagnetic Reversal Time Scale
- Lecture 21 - History of the Oceans
- Lecture 22 - It's all About Heat!
- Lecture 23 - The 1-D Heat Conduction Equation
- Lecture 24 - More on the Heat Conduction Equation
- Lecture 25 - The Equilibrium Geotherm
- Lecture 26 - Conditions affecting the equilibrium geotherm
- Lecture 27 - Continental Heat Flow and Heat Flow Provinces
- Lecture 28 - Heat Flow Provinces in Crust with active erosion
- Lecture 29 - The thermal Gradient in the Earth's Mantle

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

- Lecture 30 - Thermal Structure of the Earth's Mantle
- Lecture 31 - Oceanic Heat Flow
- Lecture 32 - Cooling of the Oceanic Lithosphere - I
- Lecture 33 - Cooling of the Oceanic Lithosphere - II
- Lecture 34 - Cooling of the Oceanic Lithosphere and Bathymetric Depth
- Lecture 35 - Forces acting on Plates - Driving and Resistive Forces
- Lecture 36 - The breakings of continents - I
- Lecture 37 - The breakings of continents - II
- Lecture 38 - Formation of passive continental margins
- Lecture 39 - Stretching the Lithosphere
- Lecture 40 - Consequences of continental Lithospheric stretching
- Lecture 41 - Formation of extensional basins and continental margins
- Lecture 42 - The Mid-Oceanic Ridge Rift System
- Lecture 43 - Structure of the ocean crust and the ophiolite model
- Lecture 44 - Mantle Petrology
- Lecture 45 - Melting of the mantle at Mid-Oceanic ridges
- Lecture 46 - Conservative Plate Boundaries - Transform Faults
- Lecture 47 - Oceanic Transform Faults - Morphology and Crustal Structure
- Lecture 48 - Explaining the Idiosyncrasies of Oceanic Transforms - I
- Lecture 49 - Explaining the Idiosyncrasies of Oceanic Transforms - II
- Lecture 50 - Continental Transforms
- Lecture 51 - Convergent Margins
- Lecture 52 - Geophysical characteristics of subduction zones
- Lecture 53 - The arc basement and accretionary prism
- Lecture 54 - Mechanics of Thrust sheets and accretionary prism process - I
- Lecture 55 - Mechanics of Thrust sheets and accretionary prism process - II
- Lecture 56 - Arcuate trenches, outer swells and back-arc basins
- Lecture 57 - Magmatism associated with subduction zones
- Lecture 58 - Collisions!
- Lecture 59 - Continent-Continent collisions and Formation of Suture Zones
- Lecture 60 - Did Plate tectonics operate on Early Earth

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

NPTEL Video Course - Civil Engineering - NOC:Advanced Structural Analysis

Subject Co-ordinator - Prof. Devesh Punera

Co-ordinating Institute - IIT - Bhubaneshwar

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

Lecture 1 - Concept of stress resultant and static equilibrium
Lecture 2 - Displacement and kinematic compatibility
Lecture 3 - Stability, Static and kinematic indeterminacy of structural system
Lecture 4 - Kinematic indeterminacy, Energy approach
Lecture 5 - Energy concept and virtual work principle
Lecture 6 - Energy Concept (Continued...)
Lecture 7 - Examples cases using energy approach
Lecture 8 - Introduction to Force method
Lecture 9 - Simple flexibility approach - examples
Lecture 10 - Temperature loading/member pre-strains and post processing
Lecture 11 - Introduction to displacement approach - simple stiffness method
Lecture 12 - Application to continuous beams
Lecture 13 - Simple stiffness approach for frame structures
Lecture 14 - Equivalent joint load approach
Lecture 15 - Temperature loading/member pre-strains/support displacements
Lecture 16 - Generalized Flexibility Method - Member Flexibility
Lecture 17 - Generalized Flexibility - Structural System
Lecture 18 - Structural Flexibility Matrix from Generalized System
Lecture 19 - Generalized Flexibility Approach - Examples
Lecture 20 - Generalized Flexibility Approach - Examples (Continued...)
Lecture 21 - Generalized Stiffness Approach - Brief
Lecture 22 - Member Stiffness Matrix
Lecture 23 - Example Case - Flexibility and Stiffness Approach
Lecture 24 - Simple Stiffness Approach - Example
Lecture 25 - Generalized Stiffness Approach - Example
Lecture 26 - Computer Implementation of Stiffness Approach
Lecture 27 - Assembly of Global Stiffness Matrix
Lecture 28 - Matrix Rearrangement and Solution Approach
Lecture 29 - Continuous Beam Systems - Computer Based Stiffness Approach

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- Lecture 30 - Continuous Beam - Computer Based Stiffness Approach (Continued...)
- Lecture 31 - MATLAB implementation of stiffness approach - continuous beam case
- Lecture 32 - Computer Based Stiffness Approach in MATLAB - Hands-on Session
- Lecture 33 - Stiffness approach for plane truss members - computer implementation
- Lecture 34 - 2D truss stiffness approach - computer implementation
- Lecture 35 - Plane truss MATLAB implementation Hands-on session
- Lecture 36 - Computer implementation of Stiffness Approach - Plane Frame System
- Lecture 37 - Computer implementation of Stiffness Approach - Plane Frame System (Continued...)
- Lecture 38 - Computer implementation for plane frame - Example Problem
- Lecture 39 - Computer implementation of Stiffness Approach - Grid Structures
- Lecture 40 - Transformation in 3D domain - Space Frame and Space Truss
- Lecture 41 - Computer based stiffness approach - Space Frame and Space Truss
- Lecture 42 - Space truss member - Example and computer implementation
- Lecture 43 - Introduction to the geometrical nonlinearities
- Lecture 44 - Geometrical nonlinear analysis - Plane Truss Member
- Lecture 45 - Geometrical nonlinear analysis - Plane Truss Structure
- Lecture 46 - Geometrical nonlinear analysis - Example Problem
- Lecture 47 - Geometrical nonlinear analysis - Beam Members
- Lecture 48 - Geometrical nonlinear analysis - Beam Members (Continued...)
- Lecture 49 - Incremental load analysis - Geometrical nonlinear problem
- Lecture 50 - Newton Raphson Procedure for nonlinear analysis
- Lecture 51 - Newton Raphson Scheme - Geometrically nonlinear problem
- Lecture 52 - P-delta effects in general frame structures
- Lecture 53 - P-delta effects using geometric stiffness and solution
- Lecture 54 - Linear Buckling Analysis
- Lecture 55 - Introduction to Material nonlinearity
- Lecture 56 - Incremental Stress-strain Relation - Material Nonlinearity
- Lecture 57 - Member stiffness and incremental analysis
- Lecture 58 - Iterative solution approach and numerical example
- Lecture 59 - Example case
- Lecture 60 - Introduction to finite element approach and way forward

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

NPTEL Video Course - Civil Engineering - NOC:Computational Geomechanics

Subject Co-ordinator - Prof. Shantanu Patra

Co-ordinating Institute - IIT - Bhubaneshwar

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

Lecture 1 - Mathematical Modeling and Governing Equation
Lecture 2 - Solution of governing equation and computer implementation
Lecture 3 - Estimation of Numerical Error and error propagation
Lecture 4 - Numerical Stability and round-off errors
Lecture 5 - Number representation and Computational Limits
Lecture 6 - Numerical differentiation
Lecture 7 - Higher order numerical differentiation and Eigen Value problem
Lecture 8 - Buckling of column and Numerical solution
Lecture 9 - Smallest Eigen value and Roots of characteristic equation
Lecture 10 - Higher Order Numerical Differentiation and Elgen Value Problem
Lecture 11 - Buckling of column and Numerical solution
Lecture 12 - Smallest Eigen value and Roots of characteristic equation
Lecture 13 - Roots of characteristic equation - Bracketing method
Lecture 14 - Roots of characteristic equation - Open method
Lecture 15 - Roots of characteristic polynomial
Lecture 16 - Initial value vs Boundary value problem
Lecture 17 - RK Method and Multi-Step Method
Lecture 18 - System of equations, stiffness and multi-Step Method (Continued...)
Lecture 19 - System of equations, stiffness and multi-Step Method (Continued...)
Lecture 20 - System of equations, stiffness and multi-Step Method (Continued...)
Lecture 21 - Solutions of Simultaneous linear algebraic equations (continued...)
Lecture 22 - Application of FDM - Axially loaded pile
Lecture 23 - BEM for laterally loaded semi-infinite pile
Lecture 24 - BEM for laterally loaded pile (Continued...)
Lecture 25 - Buckling of piles
Lecture 26 - FDM Application - Infinite beam subjected to a point load
Lecture 27 - FDM Application - Infinite beam subjected to a concentrated moment
Lecture 28 - FDM for laterally loaded pile
Lecture 29 - FDM for laterally loaded pile and buckling of column

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

- Lecture 30 - FDM for buckling of column and BEM (Continued...)
- Lecture 31 - Finite Difference Method And Laplace Equation
- Lecture 32 - Finite Difference Method And Laplace Equation (Continued...)
- Lecture 33 - Finite Difference Method And Laplace Equation (Continued...)
- Lecture 34 - Finite Difference Method And Parabolic nequation - Explicit Method
- Lecture 35 - Parabolic equation - Explicit and Implicit Method
- Lecture 36 - Parabolic equation - Explicit and Implicit Method
- Lecture 37 - Parabolic equation - 1-D Consolidation problem
- Lecture 38 - FDM for 2D seepage problem
- Lecture 39 - FDM for Mat Foundation
- Lecture 40 - Approximate methods of solution
- Lecture 41 - Constitutive Models for geomechanics
- Lecture 42 - Approximate methods for Beam on elastic foundation problem
- Lecture 43 - Introduction to Finite Element Method
- Lecture 44 - Formulation of Stiffness matrix-direct approach
- Lecture 45 - Application of Direct stiffness Methods for 1D Spring element
- Lecture 46 - Stiffness Matrix Using Shape Functions and Truss Element
- Lecture 47 - Truss analysis
- Lecture 48 - Flow through porous medium
- Lecture 49 - Variational method for flow through porous medium
- Lecture 50 - Variational method for 1D consolidation and bar element
- Lecture 51 - Strain energy method for bar element (Continued...)
- Lecture 52 - Formulation of stiffness matrix for beam element
- Lecture 53 - Formulation of stiffness matrix for beam element (Continued....)
- Lecture 54 - Analysis of beam
- Lecture 55 - Determination of shape function for 2D CST element
- Lecture 56 - Determination of Stiffness matrix for CST element (Continued...)
- Lecture 57 - Body force and surface force and numerical integration
- Lecture 58 - Iso-parameteric element
- Lecture 59 - Axisymmetric element

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

NPTEL Video Course - Civil Engineering - NOC:Geotechniques of Dams, Tunnels and Underground Spaces

Subject Co-ordinator - Prof. R. K. Dubey

Co-ordinating Institute - IIT-ISM Dhanbad

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

- Lecture 1 - Introduction of dams, significance and impact
- Lecture 2 - Significance of geotechniques and different types of dams foundation ground : rock grounds
- Lecture 3 - Major soil grounds and glacial deposits in dam construction
- Lecture 4 - Introduction of tunnels, parts of tunnel and significance
- Lecture 5 - Introduction of underground spaces, needs and significance
- Lecture 6 - Structural components and parameters for categorization of dams
- Lecture 7 - Categorization of dams based on material used
- Lecture 8 - Categorization of dams based on design and functions
- Lecture 9 - Arch dams and categorization of based on usage and function
- Lecture 10 - Categorization of miscellaneous dams and based on technical specifications and major forces effects
- Lecture 11 - Causes and frequency of failure of dams
- Lecture 12 - Parameters for evaluation of dam foundation site
- Lecture 13 - Methods of site investigation for dam construction (Areal photography and photogrammetry)
- Lecture 14 - Geophysical Methods Used in Site Investigation of Dams
- Lecture 15 - Geotechnical methods for site investigation of dams
- Lecture 16 - Foundation ground
- Lecture 17 - Excavation methods
- Lecture 18 - Reinforcement of foundations/ground
- Lecture 19 - Foundation types, preparation and problems
- Lecture 20 - Treatment of dam foundations
- Lecture 21 - Component based types of hazards
- Lecture 22 - Classification systems of hazards associated with dams
- Lecture 23 - Other classification system
- Lecture 24 - Dam safety legislations and Dam Safety Program
- Lecture 25 - Dam safety legislations and historical failure of dams
- Lecture 26 - Concept and estimation of in-situ-stress
- Lecture 27 - Methods for determination of in-situ-stress
- Lecture 28 - Rock-coring based methods for determination of in-situ-stress
- Lecture 29 - Permeability of foundation ground and its estimation

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

- Lecture 30 - Test method for determination of insitu permeability of foundation ground
- Lecture 31 - Introductory aspects of stability analysis
- Lecture 32 - Critical issues in the analysis of the stability of dam
- Lecture 33 - Condition for slope stability analysis
- Lecture 34 - Estimation of pore-pressure and permeability of dam foundation
- Lecture 35 - Application of the laboratory test parameters, monitoring and ground improvement
- Lecture 36 - Classification of underground spaces
- Lecture 37 - Tunnelling philosophy for construction of underground space structures (New Austrian Tunnelling)
- Lecture 38 - Tunnelling philosophy for construction of underground space structures (Norwegian Method of Tunnel)
- Lecture 39 - Basics of drilling and blasting for creation underground spaces
- Lecture 40 - Underground blasting method for development of underground space structures
- Lecture 41 - Tunnel support pressure and estimation methods
- Lecture 42 - Evaluation of tunnels support pressure : empirical methods
- Lecture 43 - Approaches for estimation of ground pressure : semi-empirical and other methods
- Lecture 44 - Types of tunnel support system : rock-bolts
- Lecture 45 - Recommendation of support system
- Lecture 46 - Tunnelling grounds
- Lecture 47 - Classification of squeezing ground
- Lecture 48 - Geomechanical criterion for squeezing ground condition
- Lecture 49 - Tunnel instrumentation and monitoring
- Lecture 50 - Instruments monitoring and management
- Lecture 51 - Tunnelling hazards, and classification
- Lecture 52 - Latent variables in tunnelling hazards analysis
- Lecture 53 - Ground related tunnelling hazards and categorization
- Lecture 54 - Squeezing hazards and ground conditions
- Lecture 55 - Squeezing criteria, predictions and swelling hazards
- Lecture 56 - Anchoring of dam foundation ground
- Lecture 57 - Types of rock-bolts
- Lecture 58 - Rock bolting theory and working mechanism
- Lecture 59 - Mechanics of anchoring of ground by rock-bolting
- Lecture 60 - Different forces acting on dam and application of anchoring system

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

NPTEL Video Course - Civil Engineering - NOC:Environmental Nanotechnology and Applications

Subject Co-ordinator - Prof. Remya Neelancherry

Co-ordinating Institute - IIT - Bhubaneswar

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

Lecture 1 - Introduction of Nanotechnology
Lecture 2 - Types of nanomaterials/nanocomposites
Lecture 3 - Properties of nanomaterials/nanocomposites
Lecture 4 - Nanomaterial synthesis through different methods: Top-down approach - I
Lecture 5 - Nanomaterial synthesis through different methods: Top-down approach - II
Lecture 6 - Nanomaterial synthesis through different methods: Bottom-up approach - I
Lecture 7 - Nanomaterial synthesis through different methods: Bottom-up approach - II
Lecture 8 - Green synthesis of nanomaterials
Lecture 9 - Morphological Characterization of Nanomaterials (TEM)
Lecture 10 - Morphological Characterization of Nanomaterials (SEM)
Lecture 11 - Specific surface area and Pore size of Nanomaterials (BET)
Lecture 12 - Crystallographic structure of Nanomaterials (XRD)
Lecture 13 - Elemental Composition of Nanomaterials (XPS)
Lecture 14 - Spectroscopic characteristics of Nanomaterials
Lecture 15 - Identification of functional groups of Nanomaterials (FTIR)
Lecture 16 - Conventional water/wastewater treatment
Lecture 17 - Nanotechnology in water/wastewater treatment - I
Lecture 18 - Nanotechnology in water/wastewater treatment - II
Lecture 19 - Basics of Adsorption
Lecture 20 - Synthesis and properties of nano-adsorbent
Lecture 21 - Nano-adsorbent in pollutant removal from wastewater - I
Lecture 22 - Nano-adsorbent in pollutant removal from wastewater - II
Lecture 23 - Basics of Photocatalysis
Lecture 24 - Nano-photocatalyst preparation and modification - I
Lecture 25 - Nano-photocatalyst preparation and modification - II
Lecture 26 - Nano-photocatalyst modification and characterization
Lecture 27 - Photocatalysis for wastewater treatment - I
Lecture 28 - Photocatalysis for wastewater treatment - II
Lecture 29 - Basics of membrane filtration

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

- Lecture 30 - Nanomembrane synthesis and characterization
- Lecture 31 - Nanomembrane in water and wastewater treatment - I
- Lecture 32 - Nanomembrane in water and wastewater treatment - II
- Lecture 33 - Nano-biochar and biochar composites
- Lecture 34 - Basics of disinfection - I
- Lecture 35 - Basics of disinfection - II
- Lecture 36 - Nano-disinfectants for wastewater treatment
- Lecture 37 - Nanomaterial leaching, toxicity and risk assessment - I
- Lecture 38 - Nanomaterial leaching, toxicity and risk assessment - II

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

NPTEL Video Course - Civil Engineering - Advanced Structural Analysis

Subject Co-ordinator - Prof. Devdas Menon

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Review of Basic Structural Analysis - I
Lecture 2 - Review of Basic Structural Analysis - I
Lecture 3 - Review of Basic Structural Analysis - I
Lecture 4 - Review of Basic Structural Analysis - I
Lecture 5 - Review of Basic Structural Analysis - I
Lecture 6 - Review of Basic Structural Analysis - I
Lecture 7 - Review of Basic Structural Analysis - II
Lecture 8 - Review of Basic Structural Analysis - II
Lecture 9 - Review of Basic Structural Analysis - II
Lecture 10 - Review of Basic Structural Analysis - II
Lecture 11 - Review of Basic Structural Analysis - II
Lecture 12 - Review of Basic Structural Analysis - II
Lecture 13 - Review of Basic Structural Analysis - II
Lecture 14 - Review of Basic Structural Analysis - II
Lecture 15 - Review of Basic Structural Analysis - II
Lecture 16 - Review of Basic Structural Analysis - II
Lecture 17 - Basic Matrix Concepts
Lecture 18 - Basic Matrix Concepts
Lecture 19 - Basic Matrix Concepts
Lecture 20 - Basic Matrix Concepts
Lecture 21 - Basic Matrix Concepts
Lecture 22 - Matrix Analysis of Structures with Axial Elements
Lecture 23 - Matrix Analysis of Structures with Axial Elements
Lecture 24 - Matrix Analysis of Structures with Axial Elements
Lecture 25 - Matrix Analysis of Structures with Axial Elements
Lecture 26 - Matrix Analysis of Structures with Axial Elements
Lecture 27 - Matrix Analysis of Beams and Grids
Lecture 28 - Matrix Analysis of Beams and Grids
Lecture 29 - Matrix Analysis of Beams and Grids

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

Lecture 30 - Matrix Analysis of Beams and Grids
Lecture 31 - Matrix Analysis of Beams and Grids
Lecture 32 - Matrix Analysis of Beams and Grids
Lecture 33 - Matrix Analysis of Plane and Space Frames
Lecture 34 - Matrix Analysis of Plane and Space Frames
Lecture 35 - Matrix Analysis of Plane and Space Frames
Lecture 36 - Matrix Analysis of Plane and Space Frames
Lecture 37 - Matrix Analysis of Plane and Space Frames
Lecture 38 - Analysis of elastic instability and second-order effects
Lecture 39 - Analysis of elastic instability and second-order effects
Lecture 40 - Analysis of elastic instability and second-order effects
Lecture 41 - Life beyond Structures & Analysis

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

NPTEL Video Course - Civil Engineering - Finite Element Analysis

Subject Co-ordinator - Dr. B.N. Rao

Co-ordinating Institute - IIT - Madras

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
Lecture 12
Lecture 13
Lecture 14
Lecture 15
Lecture 16
Lecture 17
Lecture 18
Lecture 19
Lecture 20
Lecture 21
Lecture 22
Lecture 23
Lecture 24
Lecture 25
Lecture 26
Lecture 27
Lecture 28
Lecture 29

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

Lecture 30
Lecture 31
Lecture 32
Lecture 33
Lecture 34
Lecture 35
Lecture 36
Lecture 37
Lecture 38
Lecture 39
Lecture 40

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

NPTEL Video Course - Civil Engineering - Geosynthetics and Reinforced Soil Structures

Subject Co-ordinator - Dr. K. Rajagopal

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction & Need for Geosynthetics
Lecture 2 - Types and Functions of Geosynthetics
Lecture 3 - Polymers in Geosynthetics and Manufacturing Techniques
Lecture 4 - Strength Analysis of Reinforced Soils - I
Lecture 5 - Strength Analysis of Reinforced Soils - II
Lecture 6 - Testing of Geosynthetics - I
Lecture 7 - Testing of Geosynthetics - II
Lecture 8 - Testing of Geosynthetics - III
Lecture 9 - Different Types of Soil Retaining Structures
Lecture 10 - Construction Aspects of Geosynthetic Reinforced Soil Retaining Walls
Lecture 11 - Design Codes for Reinforced Soil Retaining Walls
Lecture 12 - External Stability Analysis of Reinforced Soil Retaining Walls
Lecture 13 - Seismic Loads and Internal Stability Analysis of Reinforced Soil Walls
Lecture 14 - Testing Requirements for Reinforced Soil Retaining Walls
Lecture 15 - Design Example of Reinforced Soil Retaining Walls - I
Lecture 16 - Design Example of Reinforced Soil Retaining Walls - II
Lecture 17 - Design Example of Reinforced Soil Retaining Walls - III
Lecture 18 - Design Example of Reinforced Soil Retaining Walls - IV
Lecture 19 - Case Study of Construction of Very High Tiered Reinforced Soil Walls
Lecture 20 - Controlled Yielding to Reduce Lateral Earth Pressures on Rigid Walls
Lecture 21 - Geosynthetic Reinforced Soil Embankments - I
Lecture 22 - Geosynthetic Reinforced Soil Embankments - II
Lecture 23 - Two-Part Wedge Analysis of Reinforced Soil Embankments
Lecture 24 - Soil Embankments Supported on Geocell Mattresses
Lecture 25 - Accelerated Pre-Consolidation of Soft Clay Soils Using Geosynthetics
Lecture 26 - Geosynthetic Reinforced Pile Systems for High Embankments
Lecture 27 - Geosynthetic Encasement for Stronger and Stiffer Stone Columns
Lecture 28 - Response of Footings Resting on Reinforced Foundation Soils
Lecture 29 - Bearing Capacity Analysis of Footings Resting on Reinforced Foundation Soils

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

- Lecture 30 - Design and Construction of Container Yards Using Geosynthetics
- Lecture 31 - Geosynthetics in Flexible Pavements - I
- Lecture 32 - Geosynthetics in Flexible Pavements - II
- Lecture 33 - Geosynthetics in Flexible Pavements and Carbon Foot Print Analysis
- Lecture 34 - Filtration of Soils Using Geosynthetics
- Lecture 35 - Drainage Applications of Geosynthetics
- Lecture 36 - Erosion Control of Soils Using Geosynthetics
- Lecture 37 - Sustainable Infrastructure Development & Natural Geosynthetics
- Lecture 38 - Introduction to Geosynthetics in Landfills
- Lecture 39 - Case Study of the Construction of Airport Runway at Pakyong, Sikkim Using Geosynthetics (Guest I
- Lecture 40 - Landfill Engineering Systems (Guest Lecture)

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

NPTEL Video Course - Civil Engineering - Modern Construction Materials

Subject Co-ordinator - Dr. Ravindra Gettu

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Prologue

Lecture 2 - The Science, Engineering and Technology of Materials An Introduction - I

Lecture 3 - The Science, Engineering and Technology of Materials An Introduction - II

Lecture 4 - Review of Atomic Bonding - I

Lecture 5 - Review of Atomic Bonding - II

Lecture 6 - Structure of Solids - I

Lecture 7 - Structure of Solids - II

Lecture 8 - Structure of Solids - III

Lecture 9 - Movement of Atoms in Solids

Lecture 10 - Development of Microstructure - I

Lecture 11 - Development of Microstructure - II

Lecture 12 - Surface Properties

Lecture 13 - Response to Stress - Part 1

Lecture 14 - Response to Stress - Part 2

Lecture 15 - Response to Stress - Part 3

Lecture 16 - Failure Theories

Lecture 17 - Fracture Mechanics - Part 1

Lecture 18 - Fracture Mechanics - Part 2

Lecture 19 - Rheology of Liquids and Solids

Lecture 20 - Thermal Properties

Lecture 21 - Review of Construction Materials

Lecture 22 - Wood and Wood Products - 1

Lecture 23 - Wood and Wood Products - 2

Lecture 24 - Wood and Wood Products - Guest Lecture

Lecture 25 - Polymers

Lecture 26 - Fibre Reinforced Polymer - 1

Lecture 27 - Fibre Reinforced Polymer - 2

Lecture 28 - Metals - Part 1

Lecture 29 - Metals - Part 2

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

Lecture 30 - Metals - Part 3
Lecture 31 - Bituminous Material - Part 1
Lecture 32 - Bituminous Material - Part 2
Lecture 33 - Concrete - Part 1
Lecture 34 - Concrete - Part 2
Lecture 35 - Concrete - Part 3
Lecture 36 - Concrete - Part 4
Lecture 37 - Concrete - Part 5
Lecture 38 - Glass - Guest Lecture
Lecture 39 - Social Perception - Guest Lecture
Lecture 40 - Water Proofing - Guest Lecture
Lecture 41 - Floor Finishes - Guest Lecture
Lecture 42 - Anchors - Guest Lecture

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

NPTEL Video Course - Civil Engineering - Urban transportation planning

Subject Co-ordinator - Dr. V. Thamizh Arasan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction
Lecture 2 - Introduction (Continued...)
Lecture 3 - Introduction (Continued...)
Lecture 4 - Course Outline
Lecture 5 - Conceptual Aspects
Lecture 6 - Conceptual Aspects (Continued...)
Lecture 7 - Conceptual Aspects (Continued...)
Lecture 8 - Conceptual Aspects (Continued...)
Lecture 9 - Trip Generation Analysis
Lecture 10 - Trip Generation Analysis (Continued...)
Lecture 11 - Trip Generation Analysis (Continued...)
Lecture 12 - Trip Generation Analysis (Continued...)
Lecture 13 - Modal Split Analysis
Lecture 14 - Modal Split Analysis (Continued...)
Lecture 15 - Modal Split Analysis (Continued...)
Lecture 16 - Modal Split Analysis (Continued...)
Lecture 17 - Modal Split Analysis (Continued...)
Lecture 18 - Modal Split Analysis (Continued...)
Lecture 19 - Modal Split Analysis (Continued...)
Lecture 20 - Trip Distribution Analysis
Lecture 21 - Trip Distribution Analysis (Continued...)
Lecture 22 - Trip Distribution Analysis (Continued...)
Lecture 23 - Trip Distribution Analysis (Continued...)
Lecture 24 - Trip Distribution Analysis (Continued...)
Lecture 25 - Trip Distribution Analysis (Continued...)
Lecture 26 - Trip Distribution Analysis (Continued...)
Lecture 27 - Route Assignment
Lecture 28 - Route Assignment (Continued...)
Lecture 29 - Route Assignment (Continued...)

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

- Lecture 30 - Route Assignment (Continued...)
- Lecture 31 - Transportation Surveys
- Lecture 32 - Transportation Surveys (Continued...)
- Lecture 33 - Transportation Surveys (Continued...)
- Lecture 34 - Transport Related Land-Use Models
- Lecture 35 - Transport Related Land-Use Models (Continued...)
- Lecture 36 - Transport Related Land-Use Models (Continued...)
- Lecture 37 - Urban Structure
- Lecture 38 - Urban Structure (Continued...)
- Lecture 39 - Urban Goods Movement
- Lecture 40 - Urban Goods Movement (Continued...)

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

NPTEL Video Course - Civil Engineering - Mechanics of Solids

Subject Co-ordinator - Prof. M.S. Sivakumar

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Planar Rigid Body
Lecture 2 - Degrees of freedom
Lecture 3 - Equations of Equilibrium
Lecture 4 - Planar rigid body Statics - Example 1
Lecture 5 - Rigid Body Statics - Example 2
Lecture 6 - Structural Systems with rigid bodies
Lecture 7 - Types of 1-D Structural Elements
Lecture 8 - Trusses - Axial members
Lecture 9 - Analysis of Truss Systems
Lecture 10 - Stability of Structural systems
Lecture 11 - Trusses - additional discussions
Lecture 12 - Trusses - Method of Sections
Lecture 13 - Beams - Example 1
Lecture 14 - Beams - BMD & SFD
Lecture 15 - Beams - loading, shear and BM relationships
Lecture 16 - Virtual work method
Lecture 17 - Virtual displacements
Lecture 18 - Finding virtual displacements
Lecture 19 - Virtual Work Method - Example 1
Lecture 20 - Virtual Work Method - Example 2
Lecture 21 - Static Friction - an understanding
Lecture 22 - Belt Friction
Lecture 23 - Friction
Lecture 24 - General concepts - rigid bodies
Lecture 25 - Motion of a rigid body = a translation + a rotation
Lecture 26 - Motion of a point of the rigid body
Lecture 27 - Motion of one point on a rigid body relative to another
Lecture 28 - Understanding rotational motion $\dot{r} = \omega \times r$
Lecture 29 - Kinematics velocity and acceleration

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

- Lecture 30 - Understanding Coriolis Acceleration
- Lecture 31 - Kinematics - Solving problems
- Lecture 32 - Equations of motion of a rigid body
- Lecture 33 - Tips and Techniques 1/2
- Lecture 34 - Tips and Techniques 2/2
- Lecture 35 - Solving Problems 1/4
- Lecture 36 - Solving Problems 2/4
- Lecture 37 - Solving Problems 3/4
- Lecture 38 - Solving Problems 4/4
- Lecture 39 - Engineering Statics - Solving problems

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

NPTEL Video Course - Civil Engineering - Pre-stressed Concrete Structures

Subject Co-ordinator - Prof. Devdas Menon, Dr. Amlan Kumar Sengupta

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Prestressing System
Lecture 2 - Types of Prestressing
Lecture 3 - Prestressing System and Devices (Pre-Tensioning)
Lecture 4 - Prestressing System and Devices (Post-Tensioning)
Lecture 5 - Concrete - Part-1
Lecture 6 - Concrete, Grout - Part-2
Lecture 7 - Prestressing Steel
Lecture 8 - Losses in Prestress
Lecture 9 - Friction & Anchorage Slip
Lecture 10 - Creep, Shrinkage & Relaxation Losses
Lecture 11 - Analysis of Members
Lecture 12 - Analysis of Members Under Flexure
Lecture 13 - Cracking Moment, Kern Point and Pressure Line
Lecture 14 - Analysis of Rectangular sections
Lecture 15 - Analysis of Flanged Sections
Lecture 16 - Analysis of Partially Prestressed Section
Lecture 17 - Design of Members
Lecture 18 - Design of Members for Flexure (Type1 Members)
Lecture 19 - Design of Members for Flexure (Type1 & Type3)
Lecture 20 - Choice of Sections and Determination of Limiting
Lecture 21 - Magnel's Graphical Method
Lecture 22 - Detailing Requirements
Lecture 23 - Analysis and Design for Shear and Torsion
Lecture 24 - Design for Shear - Part-1
Lecture 25 - Design for Shear - Part-2
Lecture 26 - Analysis of Torsion
Lecture 27 - Analysis of Torsion - Part-1
Lecture 28 - Analysis of Torsion - Part-2
Lecture 29 - Calculations of Deflection and Crack Width

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

- Lecture 30 - Transmission of Prestress
- Lecture 31 - Post-tensioned Members
- Lecture 32 - Cantilever Beams
- Lecture 33 - Continuous Beams - Part-1
- Lecture 34 - Continuous Beams - Part-2
- Lecture 35 - Composite Sections
- Lecture 36 - One-Way Slabs
- Lecture 37 - Two-Way Slabs - Part-1
- Lecture 38 - Two-Way Slabs - Part-2
- Lecture 39 - compression Members
- Lecture 40 - Circular Prestressing, Conclusion

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

NPTEL Video Course - Civil Engineering - Water and Waste Water Engineering

Subject Co-ordinator - Prof. B.S. Murty, Prof. C. Venkobachar, Prof. Ligy Philip

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction To Water & Waste Water Engineering
Lecture 2 - Water & Waste Water Quality Enhancement
Lecture 3 - Water & Waste Water Quantity Estimation
Lecture 4 - Water & Waste Water Quantity Estimation (Continued...)
Lecture 5 - Water & Waste Water Characteristics
Lecture 6 - Water & Waste Water Characteristics (Continued...)
Lecture 7 - Water Treatment System Unit Operations
Lecture 8 - Sedimentation
Lecture 9 - Sedimentation (Continued...)
Lecture 10 - Coagulation & Flocculation
Lecture 11 - Coagulation & Flocculation (Continued...)
Lecture 12 - Softening
Lecture 13 - Filtration
Lecture 14 - Filtration (Continued...)
Lecture 15 - Disinfection
Lecture 16 - Introduction To Domestic Waste Water Treatment
Lecture 17 - Physical Unit Processes For Waste Water Treatment
Lecture 18 - Introduction To Microbiology
Lecture 19 - Microbiology - (Continued...)
Lecture 20 - Waste Water Treatment Reactor Analysis
Lecture 21 - Biological Unit Processes - Activated Sludge Process
Lecture 22 - Activated Sludge Process - Modification
Lecture 23 - Activated Sludge Process (Continued...)
Lecture 24 - Aeration, Nitrification And Denitrification
Lecture 25 - Natural Waste Water Treatment Systems
Lecture 26 - Attached Growth Aerobic Process
Lecture 27 - Anaerobic Treatment
Lecture 28 - Anaerobic Process-UASB Reactor (Continued...)
Lecture 29 - UASB- Continued & Sludge Treatment

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

- Lecture 30 - Sludge Treatment (Continued...)
- Lecture 31 - Sludge Treatment (Continued...) & Waste Water Disposal
- Lecture 32 - Waste Water Disposal And Reuse
- Lecture 33 - Advanced Waste Water Treatment
- Lecture 34 - Adsorption
- Lecture 35 - Ion Exchange, Advanced Oxidation Process
- Lecture 36 - Industrial Waste Water Treatment
- Lecture 37 - Water Distribution Networks
- Lecture 38 - Sanitary sewerage systems
- Lecture 39 - Storm water sewerage systems
- Lecture 40 - Intake Structures And Pumping Installations

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

NPTEL Video Course - Civil Engineering - NOC:Sustainable River Basin Management

Subject Co-ordinator - Dr. Franziska Steinbruch

Co-ordinating Institute - IGCS

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
Lecture 12
Lecture 13
Lecture 14
Lecture 15
Lecture 16
Lecture 17
Lecture 18
Lecture 19
Lecture 20
Lecture 21
Lecture 22
Lecture 23
Lecture 24
Lecture 25
Lecture 26
Lecture 27
Lecture 28
Lecture 29

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Lecture 30
Lecture 31
Lecture 32
Lecture 33
Lecture 34
Lecture 35
Lecture 36
Lecture 37
Lecture 38
Lecture 39
Lecture 40

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

NPTEL Video Course - Civil Engineering - NOC:Project Planning and Control

Subject Co-ordinator - Dr. Koshy Varghese

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - What is Project Management? Is Project Management an Art/Science ?

Lecture 2 - Objectives of a Project, Scientific Way of Managing of Objectives

Lecture 3 - Course Scope and Plan, Questions and Discussions

Lecture 4 - Construction Industry and National Growth

Lecture 5 - Project Stakeholders, Project Phases, Project Organization

Lecture 6 - Project Scheduling Levels (Scheduling Engineer Responsibilities)

Lecture 7 - Time Management - Overview

Lecture 8 - Basics of Work Breakdown Structure (WBS)

Lecture 9 - Tools for Time Management

Lecture 10 - Gantt / Bar Chart - History, Representation, Progress Monitoring, Uses, Steps to draw a Bar Chart

Lecture 11 - Develop a Bar Chart (Exercise)

Lecture 12 - Bar Charts for Resource Usage, Pros and Cons

Lecture 13 - Duration Estimation - Types, Inputs, Methods, Parametric Estimation

Lecture 14 - Factors influencing Productivity, Example for Ideal Productivity, Factored Productivity and Work

Lecture 15 - Piling Activity Example, Applicability of different methods to Estimate Activity Duration

Lecture 16 - Summary of Key Topics, Types of Networks

Lecture 17 - Networks - Introduction, Techniques

Lecture 18 - Representing Results in a Bar Chart, AON Example-2

Lecture 19 - Introduction to Floats, Types of Floats and Example-1 Discussion

Lecture 20 - Example 4, Usage of Floats for Project Decisions

Lecture 21 - Two-Span Bridge

Lecture 22 - Two-Span Bridge

Lecture 23 - Two-Span Bridge

Lecture 24 - Review Network Analysis Concepts, Apply Network Analysis to Two-Span Bridge (Continued...)

Lecture 25 - Two-Span Bridge

Lecture 26 - Two-Span Bridge

Lecture 27 - Fast-Tracking vs Crashing, Relationship between Activity Direct Cost and Activity Duration - Ass

Lecture 28 - Time-Cost trade-off

Lecture 29 - Time-Cost trade-off

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

- Lecture 30 - Time-Cost trade-off
- Lecture 31 - Incorporating Factors such as Bonus and Penalty; Problem-4
- Lecture 32 - What is Resource?, Influence of Resources on Schedule, Two-Span Bridge Example, Resource Decision
- Lecture 33 - Projects and Resources, Example of Two Resources, Exercise, Two-Span Bridge Example
- Lecture 34 - Review Problem-1; Problem-2 (Cash Resource); Resolving Over-Allocation
- Lecture 35 - Problem 1 - Two Resources; Resolving Resource Allocation Problems
- Lecture 36 - Resource Profile Requirements
- Lecture 37 - Resource Leveling - Example Network
- Lecture 38 - Minimum Moment Concept
- Lecture 39 - Applying Improvement Factor - Illustration
- Lecture 40 - Introduction to Precedence Diagramming Method (PDM)
- Lecture 41 - PDM network representation and its issues, Network Calculation
- Lecture 42 - PDM - Problem #1
- Lecture 43 - Issues in PDM, Negative Lags, Problem #2 Solution
- Lecture 44 - PDM - Analysis with non-continuous duration, Floats
- Lecture 45 - Defining Relationship (Based on Construction Method) - Simple Shed
- Lecture 46 - Project Monitoring & Control - Typical Project Time Monitoring Process, Levels and Frequency of
- Lecture 47 - Project Control Process, Daily Progress Report, Macro Level Update- Data Need, Standard Progress
- Lecture 48 - Application
- Lecture 49 - Review of Key Issues in Project Monitoring, Earned Value Concept Through Examples
- Lecture 50 - Basic Earned Value Definitions and Terminology, Summary
- Lecture 51 - Uncertainty in Project Schedules
- Lecture 52 - PERT Background & Assumptions, Stepwise Procedure
- Lecture 53 - PERT Example Problem, Summary
- Lecture 54 - Course Conclusion
- Lecture 55 - Emerging Trends / Tools in Project Planning
- Lecture 56 - Industry Perspective - Prof. N. Raghavan
- Lecture 57 - Final Exam Pattern, Acknowledgements

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

NPTEL Video Course - Civil Engineering - NOC:Structural Dynamics

Subject Co-ordinator - Prof. Ramancharala Pradeep Kumar

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Module 1: Introduction of Structural Dynamics
Lecture 2 - Module 2: Types of Analysis
Lecture 3 - Module 3: Degrees of Freedom
Lecture 4 - Module 4: Vibrations of SDOF Systems
Lecture 5 - Module 5: Methods Solution of Equilibrium Equation
Lecture 6 - Module 6: UnDamped free Vibration
Lecture 7 - What is MATLAB?
Lecture 8 - Getting Started with MATLAB Online
Lecture 9 - MATLAB Variables
Lecture 10 - MATLAB as a Calculator
Lecture 11 - MATLAB Functions
Lecture 12 - Creating Vectors
Lecture 13 - Creating Uniformly Spaced Vectors (Colon Operator)
Lecture 14 - Creating Uniformly Spaced Vectors (Linspace)
Lecture 15 - Accessing Elements of a Vector
Lecture 16 - Calculations with Vectors
Lecture 17 - Creating Matrices
Lecture 18 - Matrix Creation Functions
Lecture 19 - Accessing Elements of a Matrix
Lecture 20 - Matrix Multiplication
Lecture 21 - Logical Operators
Lecture 22 - Writing a FOR Loop
Lecture 23 - If - Else Statements
Lecture 24 - While Loop
Lecture 25 - Line Plots
Lecture 26 - Annotating Graphs
Lecture 27 - Exploring Figures in MATLAB Online
Lecture 28 - Damped Free Vibration
Lecture 29 - Types of Damping

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

- Lecture 30 - Logarithmic Decrement
- Lecture 31 - Dynamic Equilibrium Equation Using Energy Method
- Lecture 32 - Module 1: UnDamped Forced Vibration
- Lecture 33 - Module 2: Damped Forced Vibration
- Lecture 34 - Module 3: Relationship between R_d , R_v & R_a
- Lecture 35 - Module 4: Resonant Frequency & Half Power Band Width
- Lecture 36 - Module 5: Transmissibility
- Lecture 37 - Module 1: Response to Arbitrary Force
- Lecture 38 - Module 2: Special Cases in Arbitrary Force
- Lecture 39 - Module 3: Fourier Transformation
- Lecture 40 - Module 1: Numerical Methods
- Lecture 41 - Module 2: Methods Based on Interpolation of Excitation
- Lecture 42 - Module 3: Central Difference Method
- Lecture 43 - Module 4: Numerical Methods based on Variation of Acceleration: Newmark's Method
- Lecture 44 - Central Difference Method (Tutorial)
- Lecture 45 - Module 1: Response Spectrum
- Lecture 46 - Module 2: Special Cases of Response Spectrum
- Lecture 47 - Module 3: Development of Tripartite Plot
- Lecture 48 - Module 1: Multi-Degree of Freedom System
- Lecture 49 - Module 2: Multi-Degree of Freedom System: Solution of Equilibrium Equation
- Lecture 50 - Module 3: Multi-Degree of Freedom System: Modal Orthogonality
- Lecture 51 - Module 4: Approximate Methods For Finding Natural Frequency
- Lecture 52 - Tutorial 01: Generation of Mass Matrix
- Lecture 53 - Tutorial 2: Eigen vector and Modal Orthogonality
- Lecture 54 - Module 1: Time History Analysis
- Lecture 55 - Module 2: Response Spectrum Analysis
- Lecture 56 - Module 1: Three Dimensional Dynamic Analysis
- Lecture 57 - Module 2: Generation of Elastic Design Response Spectra
- Lecture 58 - W09T01: Centre of Mass & Centre of Stiffness
- Lecture 59 - Module 1: Vibration of Continuous Systems
- Lecture 60 - Module 2: Example Problem on Continuous system
- Lecture 61 - Module 3: Theory of Seismometer
- Lecture 62 - Module 1: Dynamics of Non Structural Elements
- Lecture 63 - Module 2: Non Structural Elements Example
- Lecture 64 - W11T: Non Structural Elements
- Lecture 65 - Module 1: Classical and Non-classical Damping
- Lecture 66 - Module 2: Vibration Control
- Lecture 67 - Module 3: Base Isolation
- Lecture 68 - Module 4: Tuned Mass Damper

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

NPTEL Video Course - Civil Engineering - NOC:Mechanics of Materials

Subject Co-ordinator - Dr. U. Saravanan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Why this course?
Lecture 2 - Concepts and equations in this course
Lecture 3 - Objectives and prerequisite
Lecture 4 - Linear Algebra
Lecture 5 - Vector Algebra
Lecture 6 - Representation of Vector
Lecture 7 - Concept of Force
Lecture 8 - Definition of a body
Lecture 9 - Motion and Displacement field
Lecture 10 - Traction
Lecture 11 - Properties of traction
Lecture 12 - Definition of stress tensor and linear function
Lecture 13 - Tensor Algebra
Lecture 14 - Meaning of components of the stress tensor
Lecture 15 - Transformation of stress components
Lecture 16 - Mohr's Circle derivation
Lecture 17 - Example 1
Lecture 18 - Example 2
Lecture 19 - Example 3
Lecture 20 - Uniaxial stress
Lecture 21 - Hydrostatic, pure shear and deviatoric stress
Lecture 22 - Biaxial and Plane state of stress
Lecture 23 - Extreme stress for 3D stresses
Lecture 24 - Extremum shear stress
Lecture 25 - Stresses in the Octahedral plane
Lecture 26 - 2D Equilibrium equations
Lecture 27 - 3D Equilibrium equations
Lecture 28 - Stretch ratio and strain
Lecture 29 - Curves and arc Length

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- Lecture 30 - Gradient
- Lecture 31 - Deformation and displacement Gradient
- Lecture 32 - Right Cauchy Green Deformation tensor
- Lecture 33 - Homogeneous deformation
- Lecture 34 - Engineering strain
- Lecture 35 - Change in Angle
- Lecture 36 - Transformation of strain components/ Strain Rosette
- Lecture 37 - Compatibility condition
- Lecture 38 - Constitutive relation
- Lecture 39 - Young's Modulus and Poisson's Ratio
- Lecture 40 - Shear Modulus
- Lecture 41 - Bulk Modulus
- Lecture 42 - Restriction on material parameters
- Lecture 43 - Thermal strain
- Lecture 44 - Strain energy, load potential and total potential
- Lecture 45 - Stepped shaft subjected to axial force
- Lecture 46 - Inhomogeneous bar subjected to axial force
- Lecture 47 - Stepped shaft subjected to raise in temperature
- Lecture 48 - Traction in member subjected to bending
- Lecture 49 - Governing equilibrium equations
- Lecture 50 - Displacement field
- Lecture 51 - Bending equation
- Lecture 52 - Radius of curvature
- Lecture 53 - Shear force and bending moment diagram
- Lecture 54 - Variation of axial stress
- Lecture 55 - Deflected shape and rotation of cross section
- Lecture 56 - Expression to find shear stress
- Lecture 57 - Finding centroid of a cross section
- Lecture 58 - Parallel axis theorem and its application
- Lecture 59 - Vertical shear stress in I section
- Lecture 60 - Horizontal shear stress in I section
- Lecture 61 - Connection design
- Lecture 62 - Definition of shear center
- Lecture 63 - Shear center of Channel section
- Lecture 64 - Expression to find shear center
- Lecture 65 - Shear force and bending moment diagram
- Lecture 66 - Deflected shape and rotation of cross section
- Lecture 67 - Finding allowable load
- Lecture 68 - Modified bending equation

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

- Lecture 69 - Bending of a composite beam
- Lecture 70 - Connection design
- Lecture 71 - Moment of Intertia about arbitrarily oriented axis
- Lecture 72 - Example
- Lecture 73 - Bending equation for bending about principal axis
- Lecture 74 - Bending equation about arbitrary axis
- Lecture 75 - Neutral axis
- Lecture 76 - Load not about principal axis
- Lecture 77 - Load about principal axis
- Lecture 78 - Displacement field
- Lecture 79 - Torsion equation
- Lecture 80 - Example problems
- Lecture 81 - Expression relating angle of twist with torsion and shear stress
- Lecture 82 - Example problems
- Lecture 83 - Thin walled closed sections
- Lecture 84 - Example problems
- Lecture 85 - Cylindrical polar coordinate system
- Lecture 86 - Displacement field
- Lecture 87 - Governing differential equation and solution
- Lecture 88 - Example problems
- Lecture 89 - Thin walled pressure vessels
- Lecture 90 - General Principals
- Lecture 91 - Different failure modes
- Lecture 92 - Tresca Condition
- Lecture 93 - vonMises condition
- Lecture 94 - Maximum normal stress or rankine condition
- Lecture 95 - Mohr - Columb condition
- Lecture 96 - Drucker-Prager Condition
- Lecture 97 - General Concepts
- Lecture 98 - Euler critical load for simply supported column
- Lecture 99 - Euler critical load for column with any boundary condition
- Lecture 100 - Secant formula
- Lecture 101 - Pressure vessel and failure theory
- Lecture 102 - Determination of maximum load carrying capacity of a simple truss

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

NPTEL Video Course - Civil Engineering - NOC:Advanced Concrete Technology

Subject Co-ordinator - Prof. Manu Santhanam

Co-ordinating Institute - IIT - Madras

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

Lecture 0 - Introduction to course
Lecture 1 - Cement Production - Part 1
Lecture 2 - Cement Production - Part 2
Lecture 3 - Cement Composition - Part 1
Lecture 4 - Cement Composition - Part 2
Lecture 5 - Cement Classification - Part 1
Lecture 6 - Cement Classification - Part 2
Lecture 7 - Cement Chemistry - Part 1
Lecture 8 - Cement Chemistry - Part 2
Lecture 9 - Cement Chemistry - Part 3
Lecture 10 - Cement Chemistry - Part 4
Lecture 11 - Cement Chemistry - Part 5
Lecture 12 - Aggregates for concrete - Part 1
Lecture 13 - Aggregates for concrete - Part 2
Lecture 14 - Chemical admixtures - Part 1
Lecture 15 - Chemical admixtures - Part 2
Lecture 16 - Chemical admixtures - Part 3
Lecture 17 - Chemical admixtures - Part 4
Lecture 18 - Chemical admixtures - Part 5
Lecture 19 - Mineral admixtures - Part 1
Lecture 20 - Mineral admixtures - Part 2
Lecture 21 - Mineral admixtures - Part 3
Lecture 22 - Mineral admixtures - Part 4
Lecture 23 - Mineral admixtures - Part 5
Lecture 24 - Mineral admixtures - Part 6
Lecture 25 - Mineral admixtures - Part 7
Lecture 26 - Mixture proportioning
Lecture 27 - Fresh concrete - Part 1
Lecture 28 - Fresh concrete - Part 2

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- Lecture 29 - Fresh properties - Part 3
- Lecture 30 - Introduction to Harden concrete properties
- Lecture 31 - Post peak response and Fibre reinforced concrete
- Lecture 32 - Shrinkage
- Lecture 33 - Creep
- Lecture 34 - Shrinkage
- Lecture 35 - Shrinkage
- Lecture 36 - Introduction to Durability
- Lecture 37 - Performance based specifications for durable concrete
- Lecture 38 - Durability issues in concrete - Part 1
- Lecture 39 - Durability issues in concrete - Part 2
- Lecture 40 - Durability issues in concrete - Part 3
- Lecture 41 - Durability issues in concrete - Part 4
- Lecture 42 - Durability issues in concrete - Part 5
- Lecture 43 - Durability issues in concrete - Part 6

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

NPTEL Video Course - Civil Engineering - NOC:Glass in Buildings: Design and Application

Subject Co-ordinator - Prof. K.N. Satyanarayana

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction
Lecture 2 - Float Process for Manufacturing Glass - Part 1
Lecture 3 - Float Process for Manufacturing Glass - Part 2
Lecture 4 - Coatings on Glass - Need and Types - Part 2
Lecture 5 - Coatings on Glass - Need and Types - Part 2
Lecture 6 - Glass Design for Safety, Sustainability and Aesthetic - Part 1
Lecture 7 - Glass Design for Safety, Sustainability and Aesthetic - Part 2
Lecture 8 - Structural Control and Design for Energy Efficiency - Part I
Lecture 9 - Structural Control and Design for Energy Efficiency - Part II
Lecture 10 - Structural Control and Design for Energy Efficiency - Part III
Lecture 11 - Structural Control and Design for Energy Efficiency - Part IV
Lecture 12 - Structural Control and Design for Energy Efficiency - Part V
Lecture 13 - Design Tools for Glass Selection - Part I
Lecture 14 - Design Tools for Glass Selection - Part II
Lecture 15 - Modeling the Building Envelope - Part I
Lecture 16 - Modeling the Building Envelope - Part II
Lecture 17 - Modeling the Building Envelope - Part III
Lecture 18 - Innovations in Glass Future Facades - Part I
Lecture 19 - Innovations in Glass Future Facades - Part II
Lecture 20 - Standards Related to Glass
Lecture 21 - Introduction to Useful Daylighting in Buildings
Lecture 22 - Fundamentals of Daylighting - Part I
Lecture 23 - Fundamentals of Daylighting - Part II
Lecture 24 - Daylighting Strategies - Techniques - Part I - Video 1
Lecture 25 - Daylighting Strategies - Techniques - Part I - Video 2
Lecture 26 - Daylighting Strategies - Techniques - Part II - Video 1
Lecture 27 - Daylighting Strategies - Techniques - Part II - Video 2
Lecture 28 - Daylighting Strategies - Techniques - Part II - Video 3
Lecture 29 - ECBC and Green Building Requirements

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- Lecture 30 - Introduction to Daylight Simulation
- Lecture 31 - Daylighting Controls - Part I
- Lecture 32 - Daylighting Controls - Part II
- Lecture 33 - Achieving Acoustics Through Glass
- Lecture 34 - Glass Processing Overview - Part I
- Lecture 35 - Glass Processing Overview - Part II
- Lecture 36 - Interior Glazing Program - Part I
- Lecture 37 - Interior Glazing Program - Part II
- Lecture 38 - Interior Glazing Applications-Shower Enclosure - Part I
- Lecture 39 - Interior Glazing Applications-Shower Enclosure - Part II
- Lecture 40 - Interior Glazing Applications-Shower Enclosure - Part III
- Lecture 41 - Interior Glazing Applications-Shower Enclosure - Part IV
- Lecture 42 - Glass in Passive Fire Protection - Part I
- Lecture 43 - Glass in Passive Fire Protection - Part II
- Lecture 44 - Glass in Passive Fire Protection - Part III
- Lecture 45 - Glazing Choices for Project Segment - Part I
- Lecture 46 - Glazing Choices for Project Segment - Part II
- Lecture 47 - National Building Code 2016 - Part I
- Lecture 48 - National Building Code 2016 - Part II
- Lecture 49 - National Building Code 2016 - Part III
- Lecture 50 - National Building Code 2016 - Part IV
- Lecture 51 - Facade Fundamentals - Part I
- Lecture 52 - Facade Fundamentals - Part II
- Lecture 53 - Facade Fundamentals - Part III
- Lecture 54 - Facade Fundamentals - Part IV
- Lecture 55 - Glass Application on Facades - Part I
- Lecture 56 - Glass Application on Facades - Part II
- Lecture 57 - Glass Application on Facades - Part III
- Lecture 58 - Energy Efficiency Facade System
- Lecture 59 - Structural Design of Facades - Part I
- Lecture 60 - Structural Design of Facades - Part II
- Lecture 61 - Silicone for Structural Glazing - Part - I
- Lecture 62 - Silicone for Structural Glazing - Part - II
- Lecture 63 - Silicone for Structural Glazing - Part - III
- Lecture 64 - Facade Factory Operations - Part I
- Lecture 65 - Facade Factory Operations - Part II
- Lecture 66 - Performance Testing for Facades - Part I
- Lecture 67 - Performance Testing for Facades - Part II
- Lecture 68 - The Role of Windows in Building Design - Part I

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

- Lecture 69 - The Role of Windows in Building Design - Part II
- Lecture 70 - Standards Related to Glass II
- Lecture 71 - FAQs about usage of Glass in Buildings
- Lecture 72 - Case Study of a Different Concept of Facade
- Lecture 73 - Case Studies-Envelope Design and Its Impact - Part I
- Lecture 74 - Case Studies-Envelope Design and Its Impact - Part II
- Lecture 75 - A Case Study of Building Envelope in the context of Environmentally Sustainable Design - Part I
- Lecture 76 - A Case Study of Building Envelope in the context of Environmentally Sustainable Design - Part II
- Lecture 77 - Sustainable Building and Facades - Part I
- Lecture 78 - Sustainable Building and Facades - Part II
- Lecture 79 - Building Envelope Design for Sustainable Buildings
- Lecture 80 - Building Envelope Design
- Lecture 81 - Case Study for Building Envelop Design - Part I
- Lecture 82 - Case Study for Building Envelop Design - Part II
- Lecture 83 - Case study-Commercial Buildings - Part I
- Lecture 84 - Case study-Commercial Buildings - Part II
- Lecture 85 - Case study-Commercial Buildings - Part III
- Lecture 86 - Case Study-The Untold Truth of the Unbuilt - Part I
- Lecture 87 - Case Study-The Untold Truth of the Unbuilt - Part II

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

NPTEL Video Course - Civil Engineering - NOC:Glass Processing Technology

Subject Co-ordinator - Prof. K.N. Satyanarayana

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction
Lecture 2 - Glass as Building Material - Part I
Lecture 3 - Glass as Building Material - Part II
Lecture 4 - Float Glass Manufacturing - Part I
Lecture 5 - Float Glass Manufacturing - Part II
Lecture 6 - Glass Coating Technology - Part I
Lecture 7 - Glass Coating Technology - Part II
Lecture 8 - Safety in Industries - Part I
Lecture 9 - Safety in Industries - Part II
Lecture 10 - Safety in Glass Handling - Part I
Lecture 11 - Safety in Glass Handling - Part II
Lecture 12 - Process Flow- PPE
Lecture 13 - Serviceability-Sales - Production Planning in Solutions Business - Part I
Lecture 14 - Serviceability-Sales - Production Planning in Solutions Business - Part II
Lecture 15 - Serviceability-Sales - Production Planning in Solutions Business - Part III
Lecture 16 - Environment and Eco packaging
Lecture 17 - Glass Warehouse Management - Part I
Lecture 18 - Glass Warehouse Management - Part II
Lecture 19 - Cutting and Snapping
Lecture 20 - Pre-Processing-Drilling - Part I
Lecture 21 - Pre-Processing-Drilling - Part II
Lecture 22 - Grinding and Fabrication
Lecture 23 - Pre-Processing - Washing
Lecture 24 - Tempering - Part I
Lecture 25 - Tempering - Part II
Lecture 26 - Tempering - Part III
Lecture 27 - Tempering - Part IV
Lecture 28 - Tempering - Part V
Lecture 29 - Tempering - Part VI

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Lecture 30 - Tempering - Part VII
Lecture 31 - Lamination - Part I
Lecture 32 - Lamination - Part II
Lecture 33 - Lamination - Part III
Lecture 34 - Insulating Glass Unit - Part I
Lecture 35 - Insulating Glass Unit - Part II
Lecture 36 - Insulating Glass Unit - Part III
Lecture 37 - Insulating Glass Unit - Part IV
Lecture 38 - Insulating Glass Unit - Part V
Lecture 39 - Insulating Glass Unit - Part VI
Lecture 40 - Insulating Glass Unit - Part VII
Lecture 41 - Insulating Glass Unit - Part VIII
Lecture 42 - Insulating Glass Unit - Part IX
Lecture 43 - Silicone Sealant for Insulated Glass - Part I
Lecture 44 - Silicone Sealant for Insulated Glass - Part II
Lecture 45 - Insulating Glass Unit - Part X
Lecture 46 - Insulating Glass Unit - Part XI
Lecture 47 - Insulating Glass Unit - Part XII
Lecture 48 - Processing Standards and Checks
Lecture 49 - Quality Testing - Part I
Lecture 50 - Quality Testing - Part II
Lecture 51 - Quality Testing - Part III
Lecture 52 - Quality Testing - Part IV - Video 1
Lecture 53 - Quality Testing - Part IV - Video 2
Lecture 54 - Quality Testing - Part V
Lecture 55 - Quality Testing - Part VI
Lecture 56 - Quality Testing - Part VII
Lecture 57 - Heat soaking - Part I
Lecture 58 - Heat soaking - Part II
Lecture 59 - Ceramic Printing on Glass - Part I
Lecture 60 - Ceramic Printing on Glass - Part II
Lecture 61 - Ceramic Printing on Glass - Part III
Lecture 62 - Ceramic Printing on Glass - Part IV
Lecture 63 - Glass Breakage Reasons
Lecture 64 - Internal Process Loss - Part I
Lecture 65 - Internal Process Loss - Part II
Lecture 66 - Internal Process Loss - Part III
Lecture 67 - Root Cause Analysis - Part I
Lecture 68 - Root Cause Analysis - Part II

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

- Lecture 69 - Post Manufacturing Expenses
- Lecture 70 - 5S in Glass Processing
- Lecture 71 - Introduction to Quality Management System - Part I
- Lecture 72 - Introduction to Quality Management System - Part II
- Lecture 73 - Glass Processing - Applications, Innovations and Futuristic Trends - Part I
- Lecture 74 - Glass Processing - Applications, Innovations and Futuristic Trends - Part II
- Lecture 75 - Sustainability on Glass Processing

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

NPTEL Video Course - Civil Engineering - NOC:Advanced Topics in the Science and Technology of Concrete

Subject Co-ordinator - Prof. Manu Santhanam, Dr. Ravindra Gettu

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Calcium sulfoaluminate cement-based binder
Lecture 2 - Micro-structural characterisation of cementitious materials - Part 1
Lecture 3 - Micro-structural characterisation of cementitious materials - Part 2
Lecture 4 - Micro-structural characterisation of cementitious materials - Part 3
Lecture 5 - Interview with Prof Karen Scrivener
Lecture 6 - Performance of Fiber reinforced materials
Lecture 7 - Ultra-High performance concrete (UHPC)
Lecture 8 - Ultra-High performance concrete (UHPC)
Lecture 9 - Closed-Loop testing - Part 1
Lecture 10 - Closed-Loop testing - Part 2
Lecture 11 - Uni-axial tensile test of textile reinforced concrete (TRC) panel
Lecture 12 - Fiber reinforced concrete
Lecture 13 - Strain softening response of concrete Under uniaxial compression
Lecture 14 - Tension test of 7-wire steel strand
Lecture 15 - Bond Test of Strand-concrete System
Lecture 16 - Interview with Prof. S. P. Shah
Lecture 17 - Introduction to concrete durability
Lecture 18 - Sulphate attack of concrete
Lecture 19 - Development and performance approach for durability and service life production for structures
Lecture 20 - Colorimetric test to assess carbonation resistance in concrete
Lecture 21 - Experiments on durability index
Lecture 22 - Prof. Mark Alexander
Lecture 23 - Chloride induced corrosion and service life of reinforced concrete structures - Part 1
Lecture 24 - Chloride induced corrosion and service life of reinforced concrete structures - Part 2
Lecture 25 - Corrosion control and cathodic protection of steel reinforcement
Lecture 26 - LCA of cement and concrete - Part 1
Lecture 27 - LCA of cement and concrete - Part 2
Lecture 28 - 8. Chloride threshold testing using linear polarization resistance (LPR) and electrochemical imp
Lecture 29 - Interview with Prof George Sergi

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

NPTEL Video Course - Civil Engineering - NOC:Infrastructure Planning and Managements

Subject Co-ordinator - Dr. Ashwin Mahalingam

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to infrastructure and the Transportation sector - Part 1A
Lecture 2 - Introduction to infrastructure and the Transportation sector - Part 1B
Lecture 3 - Introduction to infrastructure and the Transportation sector - Part 1C
Lecture 4 - Introduction to infrastructure and the Transportation sector - Part 1D
Lecture 5 - Introduction to Power and Telecom sectors - Part 2A
Lecture 6 - Introduction to Power and Telecom sectors - Part 2B
Lecture 7 - Urban and Rural Infrastructure - Part 1A
Lecture 8 - Urban and Rural Infrastructure - Part 1B
Lecture 9 - Urban and Rural Infrastructure - Part 1C
Lecture 10 - Phases and Players in Infrastructure Planning and Managements - Part 2A
Lecture 11 - Phases and Players in Infrastructure Planning and Managements - Part 2B
Lecture 12 - Infrastructure Economics and Finance
Lecture 13 - Public-Private Partnership for Infrastructure
Lecture 14 - Public-Private Partnership for Infrastructure - Case Studies - Part 1
Lecture 15 - Public-Private Partnership for Infrastructure - Case Studies - Part 2
Lecture 16 - Public-Private Partnership for Infrastructure - Case Studies - Part 3
Lecture 17 - Risks and Challenges in Infrastructure - Part 1
Lecture 18 - Risks and Challenges in Infrastructure - Part 2
Lecture 19 - Risks and Challenges in Infrastructure - Part 3
Lecture 20 - Economic Risk in Infrastructure - Part 1
Lecture 21 - Economic Risk in Infrastructure - Part 2
Lecture 22 - Political Risk in Infrastructure - Part 1
Lecture 23 - Political Risk in Infrastructure - Part 2
Lecture 24 - Social Environmental Risk in Infrastructure - Part 1
Lecture 25 - Social Environmental Risk in Infrastructure - Part 2
Lecture 26 - Actor Mapping and Social Network Analysis - Part 1
Lecture 27 - Actor Mapping and Social Network Analysis - Part 2
Lecture 28 - Fair Process and Negotiations - Part 1
Lecture 29 - Fair Process and Negotiations - Part 2

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- Lecture 30 - Design Thinking - Part 1
- Lecture 31 - Design Thinking - Part 2
- Lecture 32 - Sustainable Development and Socio - Economic Analysis - Part 1
- Lecture 33 - Sustainable Development and Socio - Economic Analysis - Part 2
- Lecture 34 - Public Sector Governance - Part 1
- Lecture 35 - Public Sector Governance - Part 2
- Lecture 36 - Flexibilities and Options on Projects - Part 1
- Lecture 37 - Flexibilities and Options on Projects - Part 2
- Lecture 38 - Module Flexibilities in Projects - Part 1
- Lecture 39 - Module Flexibilities in Projects - Part 2
- Lecture 40 - Case Study on PPP Project - Delhi Airport
- Lecture 41 - Case Study on PPP Project - Tirupur Water Supply
- Lecture 42 - Polycentric Governance and Incomplete Design - Part 1
- Lecture 43 - Polycentric Governance and Incomplete Design - Part 2
- Lecture 44 - Successful Project Delivery Strategies - Part 1
- Lecture 45 - Successful Project Delivery Strategies - Part 2
- Lecture 46 - Guest Lecture by K Venkatesh
- Lecture 47 - Guest Lecture by Kavitha Selvaraj

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

NPTEL Video Course - Civil Engineering - NOC:Design of Masonry Structures

Subject Co-ordinator - Prof. Arun Menon

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introductory - Part I
Lecture 2 - Introductory - Part II
Lecture 3 - Introductory - Part III
Lecture 4 - Introductory - Part IV
Lecture 5 - Masonry Materials and Properties - Part I
Lecture 6 - Masonry Materials and Properties - Part II
Lecture 7 - Masonry Materials and Properties - Part III
Lecture 8 - Masonry Materials and Properties - Part IV
Lecture 9 - Masonry Materials and Properties - Part V
Lecture 10 - Masonry Materials and Properties - Part VI
Lecture 11 - Strength and Behaviour of Masonry - Part I
Lecture 12 - Strength and Behaviour of Masonry - Part II
Lecture 13 - Strength and Behaviour of Masonry - Part III
Lecture 14 - Strength and Behaviour of Masonry - Part IV
Lecture 15 - Strength and Behaviour of Masonry - Part V
Lecture 16 - Strength and Behaviour of Masonry - Part VI
Lecture 17 - Strength and Behaviour of Masonry - Part VII
Lecture 18 - Strength and Behaviour of Masonry - Part VIII
Lecture 19 - Strength and Behaviour of Masonry - Part IX
Lecture 20 - Strength and Behaviour of Masonry - Part X
Lecture 21 - Strength and Behaviour of Masonry - Part XI
Lecture 22 - Design of Masonry Components and Systems - Part I
Lecture 23 - Design of Masonry Components and Systems - Part II
Lecture 24 - Design of Masonry Components and Systems - Part III
Lecture 25 - Design of Masonry Components and Systems - Part IV
Lecture 26 - Design of Masonry Components and Systems - Part V
Lecture 27 - Design of Masonry Components and Systems - Part VI
Lecture 28 - Design of Masonry Components and Systems - Part VII
Lecture 29 - Design of Masonry Components and Systems - Part VIII

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

- Lecture 30 - Design of Masonry Components and Systems - Part IX
- Lecture 31 - Design of Masonry Components and Systems - Part X
- Lecture 32 - Design of Masonry Components and Systems - Part XI
- Lecture 33 - Design of Masonry Components and Systems - Example I
- Lecture 34 - Design of Masonry Components and Systems - Example II
- Lecture 35 - Design of Masonry Components and Systems - Example III
- Lecture 36 - Special Topics - Confined Masonry
- Lecture 37 - Special Topics - Masonry Infill in RC Frames
- Lecture 38 - Special Topics - Assessment of Existing Masonry Structures - Part I
- Lecture 39 - Special Topics - Assessment of Existing Masonry Structures - Part II
- Lecture 40 - Special Topics - Assessment of Existing Masonry Structures - Part III

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

NPTEL Video Course - Civil Engineering - NOC:Characterization of Construction Materials

Subject Co-ordinator - Prof. Manu Santhanam, Prof. Piyush Chaunsali

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Characterization of Construction Materials

Lecture 2 - Characterization of Construction Materials

Lecture 3 - Structure of Construction Materials

Lecture 4 - Structure of Construction Materials

Lecture 5 - Structure of Construction Materials

Lecture 6 - Structure of Construction Materials

Lecture 7 - Calorimetry

Lecture 8 - Calorimetry

Lecture 9 - Calorimetry

Lecture 10 - Calorimetry

Lecture 11 - Calorimetry

Lecture 12 - X Ray diffraction

Lecture 13 - X Ray diffraction

Lecture 14 - X Ray diffraction

Lecture 15 - X Ray diffraction

Lecture 16 - X Ray diffraction

Lecture 17 - X Ray diffraction

Lecture 18 - X Ray diffraction

Lecture 19 - X Ray Diffraction

Lecture 20 - X Ray Diffraction

Lecture 21 - X Ray Diffraction

Lecture 22 - X Ray Diffraction

Lecture 23 - Thermal Analysis - Part 1

Lecture 24 - Thermal Analysis - Part 2

Lecture 25 - Application of thermal analysis to study construction materials - Part 1

Lecture 26 - Application of thermal analysis to study construction materials - Part 2

Lecture 27 - Surface Area Measurement

Lecture 28 - Surface Area Measurement

Lecture 29 - Surface Area Measurement

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

- Lecture 30 - Surface Area Measurement
- Lecture 31 - Surface Area Measurement
- Lecture 32 - Optical and Scanning Microscopy- Introduction and specimen preparation - Part 1
- Lecture 33 - Optical and Scanning Microscopy- Introduction and specimen preparation - Part 2
- Lecture 34 - Optical and Scanning Microscopy- Features and functions - Part 1
- Lecture 35 - Optical and Scanning Microscopy- Features and functions - Part 2
- Lecture 36 - Types of optical microscopy - Part 1
- Lecture 37 - Types of optical microscopy - Part 2
- Lecture 38 - Scanning electron microscope Part 1- Parts and Functioning - Part 1
- Lecture 39 - Scanning electron microscope Part 1- Parts and Functioning - Part 2
- Lecture 40 - Scanning electron microscope Part 2- Working Principles - Part 1
- Lecture 41 - Scanning electron microscope Part 2- Working Principles - Part 2
- Lecture 42 - Scanning electron microscope Part 3 - Analysis of cementitious systems 1 - Part 1
- Lecture 43 - Scanning electron microscope Part 3 - Analysis of cementitious systems 1 - Part 2
- Lecture 44 - Scanning electron microscope Part 4 - Analysis of cementitious system 2 - Part 1
- Lecture 45 - Scanning electron microscope Part 4 - Analysis of cementitious system 2 - Part 2
- Lecture 46 - Application of characterization techniques to assess composite binder with limestone-calcined cl
- Lecture 47 - Application of characterization techniques to assess composite binder with limestone-calcined cl
- Lecture 48 - Image analysis - Introduction and image mapping - Part 1
- Lecture 49 - Image analysis - Introduction and image mapping - Part 2
- Lecture 50 - Image analysis - Basic operations - Part 1
- Lecture 51 - Image analysis - Basic operations - Part 2
- Lecture 52 - Spectroscopy Techniques - Part 1 AAS, AES - Part 1
- Lecture 53 - Spectroscopy Techniques - Part 1 AAS, AES - Part 2
- Lecture 54 - Spectroscopy Techniques - Part 2 UV and IR spectroscopy - Part 1
- Lecture 55 - Spectroscopy Techniques - Part 2 UV and IR spectroscopy - Part 2
- Lecture 56 - Spectroscopy Techniques - Part 3 FTIR and NMR spectroscopy - Part 1
- Lecture 57 - Spectroscopy Techniques - Part 3 FTIR and NMR spectroscopy - Part 2
- Lecture 58 - Spectroscopy techniques - Part 4 Principle of NMR spectroscopy
- Lecture 59 - Porosity and pore structure - Introduction, significance of pore distribution
- Lecture 60 - Porosity and pore structure - Working of mercury intrusion porosimeter - Part 1
- Lecture 61 - Porosity and pore structure - Working of mercury intrusion porosimeter - Part 2
- Lecture 62 - Electrical Impedance analysis - Principle and different methods - Part 1
- Lecture 63 - Electrical Impedance analysis - Principle and different methods - Part 2
- Lecture 64 - Electrical Impedance analysis - Deliverables and Interpretation - Part 1
- Lecture 65 - Electrical Impedance analysis - Deliverables and Interpretation - Part 2
- Lecture 66 - Electrochemical testing (Corrosion) using Electrochemical Impedance Spectroscopy (EIS) - Part 1
- Lecture 67 - Electrochemical testing (Corrosion) using Electrochemical Impedance Spectroscopy (EIS) - Part 2

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

NPTEL Video Course - Civil Engineering - NOC:Introduction to Civil Engineering Profession

Subject Co-ordinator - Dr. Ravindra Gettu, Prof. Subhadeep Banerjee

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - What is Civil Engineering - Part 1
- Lecture 2 - What is Civil Engineering - Part 2
- Lecture 3 - Structural Conservation of Built Heritage
- Lecture 4 - Introduction to Environmental Engineering
- Lecture 5 - Interesting Environmental Projects
- Lecture 6 - Hydraulic and Water Resources Engineering
- Lecture 7 - Geotechnical Engineering
- Lecture 8 - Construction Materials and Methods
- Lecture 9 - Infrastructure Management
- Lecture 10 - Structural Engineering - 1
- Lecture 11 - Structural Engineering - 2
- Lecture 12 - Structural Engineering - Analysis and Design
- Lecture 13 - Structural Modeling
- Lecture 14 - Scope for Highway Engineers in Civil Engineering Profession - 1
- Lecture 15 - Scope for Highway Engineers in Civil Engineering Profession - 2
- Lecture 16 - Introduction to Civil Engineering Profession
- Lecture 17 - Hydrology and Water Security
- Lecture 18 - An Overview of Computational Science and Engineering
- Lecture 19 - Sustainability
- Lecture 20 - The Big Picture

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

NPTEL Video Course - Civil Engineering - NOC:Maintenance and Repair of Concrete Structures

Subject Co-ordinator - Prof. Radhakrishna G. Pillai

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Prologue

Lecture 2 - Corrosion of embedded metal; Significance and fundamentals of corrosion

Lecture 3 - Corrosion of embedded metal; Carbonation-induced and chloride-induced corrosion

Lecture 4 - Corrosion of embedded metal; Types of reinforcement - Bare steels

Lecture 5 - TM - Ring Test For Assessing The Quality of TMT/QST Steel Rebars

Lecture 6 - Corrosion of embedded metal; Types of reinforcement - Metallic and non metallic coated rebars

Lecture 7 - Corrosion in prestressed concrete

Lecture 8 - Deterioration of cementitious systems - Introduction, sulphate attack, biofouling and acid attack

Lecture 9 - Deterioration of cementitious systems - frost attack, freeze-thaw and alkali-silica reaction

Lecture 10 - Deterioration of cementitious systems - Shrinkage and Creep

Lecture 11 - Deterioration of cementitious systems - Fire attack, abrasion and erosion

Lecture 12 - Condition assessment of concrete structures

Lecture 13 - Condition assessment of concrete structures

Lecture 14 - Condition assessment of concrete structures; mechanical and corrosion testing of rebars

Lecture 15 - Strategies and materials for surface repair

Lecture 16 - Strategies and materials for surface repair

Lecture 17 - Strategies and materials for surface repair

Lecture 18 - Surface preparation and protective treatment

Lecture 19 - Surface preparation and Protective treatments

Lecture 20 - Surface preparation and Protective treatments

Lecture 21 - Surface preparation and Protective treatments

Lecture 22 - Surface preparation and Protective treatments

Lecture 23 - Coatings on concrete infrastructures

Lecture 24 - Waterproofing of concrete structures - 1

Lecture 25 - Waterproofing of concrete structures - 2

Lecture 26 - Structural Strengthening and Stabilization - Load effects and Introduction to S&S

Lecture 27 - Structural Strengthening and Stabilization - Beams and Slabs

Lecture 28 - Structural Strengthening and Stabilization - Columns and Walls

Lecture 29 - Structural strengthening - 4 (Joints and connections)

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- Lecture 30 - Injection Grouts for concrete repair
- Lecture 31 - Structural repair of prestressed concrete systems
- Lecture 32 - Case studies on structural repair (Right methodologies and systematic approach / case studies)
- Lecture 33 - Cathodic Protection in Concrete Structures - Laboratory and field studies
- Lecture 34 - Service life estimation - 1
- Lecture 35 - Service life estimation - 2

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

NPTEL Video Course - Civil Engineering - NOC:Mechanical Characterization of Bituminous Materials

Subject Co-ordinator - Dr. J. Murali Krishnan, Prof. M. R. Nivitha, Prof. Neethu Roy, Prof. A. Padmarekha

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Mechanical Characterization of Bituminous Materials-Introduction - Part 1
Lecture 2 - Mechanical Characterization of Bituminous Materials-Introduction - Part 2
Lecture 3 - Linear Viscoelastic Response - Part 1
Lecture 4 - Linear Viscoelastic Response - Part 2
Lecture 5 - Linear Viscoelastic Response - Part 3
Lecture 6 - Linear Viscoelastic Response - Part 4
Lecture 7 - Linear Viscoelastic Response - Part 5
Lecture 8 - Small Amplitude Oscillatory Shear - Part 1
Lecture 9 - Small Amplitude Oscillatory Shear - Part 2
Lecture 10 - Small Amplitude Oscillatory Shear - Part 3
Lecture 11 - Small Amplitude Oscillatory Shear - Part 4
Lecture 12 - Time temperature superposition principle - Part 1
Lecture 13 - Time temperature superposition principle - Part 2
Lecture 14 - Master curve models
Lecture 15 - Asphalt Usage and Processing - Part 1
Lecture 16 - Asphalt Usage and Processing - Part 2
Lecture 17 - Chemical composition of bitumen - Part 1
Lecture 18 - Chemical composition of bitumen - Part 2
Lecture 19 - Chemical composition of bitumen - Part 3
Lecture 20 - Chemical composition of bitumen - Part 4
Lecture 21 - Chemical composition of bitumen - Part 5
Lecture 22 - Aging of Bituminous Binders and Mixtures - Part I
Lecture 23 - Aging of Bituminous Binders and Mixtures - Part II
Lecture 24 - Aging of Bituminous Binders and Mixtures - Part III
Lecture 25 - Dynamic Shear Rheometer - Part I
Lecture 26 - Dynamic Shear Rheometer - Part II
Lecture 27 - Viscosity Grading - Part 1
Lecture 28 - Viscosity Grading - Part 2
Lecture 29 - Performance Grading - Part 1

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

- Lecture 30 - Performance Grading - Part 2
- Lecture 31 - PG-Theoretical Basis
- Lecture 32 - Low-temperature PG
- Lecture 33 - Modifiers for Bitumen - Part 1
- Lecture 34 - Modifiers for Bitumen - Part 2
- Lecture 35 - Modifiers for Bitumen - Part 3
- Lecture 36 - Modifiers for Bitumen - Part 4
- Lecture 37 - Mixing and Compaction Temperature - Part 1
- Lecture 38 - Mixing and Compaction Temperature - Part 2
- Lecture 39 - Mixing and Compaction Temperature - Part 3
- Lecture 40 - Dynamic Modulus of Bituminous Mixtures - Part 1
- Lecture 41 - Dynamic Modulus of Bituminous Mixtures - Part 2
- Lecture 42 - Resilient Modulus of Bituminous Mixtures - Part 1
- Lecture 43 - Resilient Modulus of Bituminous Mixtures - Part 2
- Lecture 44 - Rutting Characterisation - Different approaches
- Lecture 45 - Dry Rut Wheel Testing of Bituminous Mixtures
- Lecture 46 - Laboratory investigation for rutting of bituminous mixtures - Part 1
- Lecture 47 - Laboratory investigation for rutting of bituminous mixtures - Part 2
- Lecture 48 - Fatigue of Bituminous mixtures - Part 1
- Lecture 49 - Fatigue of Bituminous mixtures - Part 2
- Lecture 50 - Fatigue of Bituminous mixtures - Part 3
- Lecture 51 - Fatigue of Bituminous mixtures - Part 4
- Lecture 52 - Fatigue of Bituminous mixtures - Part 5
- Lecture 53 - Introduction to curve fitting using Matlab - Part 1
- Lecture 54 - Introduction to curve fitting using Matlab - Part 2
- Lecture 55 - MSCR Analysis using Matlab
- Lecture 56 - Summary

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

NPTEL Video Course - Chemical Engineering - NOC:Colloids and Surfaces

Subject Co-ordinator - Prof. Basavaraj Madivala Gurappa

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction and motivation
Lecture 2 - Colloidal dispersions, terminology and classification
Lecture 3 - Stability in colloids
Lecture 4 - Source, synthesis and characterisation of colloids
Lecture 5 - Characterisation of colloidal particles - I
Lecture 6 - Characterisation of colloidal particles - II
Lecture 7 - Introduction to forces acting on an individual colloidal particle
Lecture 8 - Introduction to interaction between colloidal particles
Lecture 9 - Application of Brownian force
Lecture 10 - Radiation used to study colloidal systems
Lecture 11 - Radiation used to study colloidal systems
Lecture 12 - Molecular origin of Van der waals forces
Lecture 13 - Vanderwaal interactions between particles
Lecture 14 - Problem on scaling of Vanderwaal interactions
Lecture 15 - Calculation of Vanderwaal's forces between semi-infinite blocks and Hamaker constant - I
Lecture 16 - Calculation of Vanderwaal's forces between semi-infinite blocks and Hamaker constant - II
Lecture 17 - Theories of Vanderwaal forces based on bulk properties and calculation of Hamaker constant using
Lecture 18 - Effect of medium on Vanderwaal's interactions - I
Lecture 19 - Effect of medium on Vanderwaal's interactions - II
Lecture 20 - Colloid Polymer mixtures
Lecture 21 - Colloid polymer mixtures
Lecture 22 - Colloid polymer mixtures
Lecture 23 - Colloid polymer mixtures
Lecture 24 - Depletion interactions
Lecture 25 - Steric interactions/osmotic repulsion
Lecture 26 - Tutorial problem on depletion interactions
Lecture 27 - Colloidal Interactions
Lecture 28 - Introduction to models of electrical double layer
Lecture 29 - Review and summary of Helmholtz model (or capacitor model) of electrical double layer

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- Lecture 30 - Models of electrical double layer
- Lecture 31 - Potential distribution near planar surfaces
- Lecture 32 - Potential distribution near planar surfaces
- Lecture 33 - Potential distribution near spherical surfaces
- Lecture 34 - Comparison of Capacitor model and Diffuse double layer model
- Lecture 35 - Models of electrical double layer
- Lecture 36 - Models of electrical double layer
- Lecture 37 - Structure of Electrical double layer
- Lecture 38 - Force of Repulsion between interacting surfaces
- Lecture 39 - Potential Energy of repulsion between Planar double layers and DLVO Theory
- Lecture 40 - Zeta Potential and Electrophoretic mobility of an ion
- Lecture 41 - Electrokinetic Phenomena
- Lecture 42 - Relation between Electrophoretic mobility and Zeta potential - I
- Lecture 43 - Relation between Electrophoretic mobility and Zeta potential - II
- Lecture 44 - Colloidal particles at interfaces
- Lecture 45 - Characterization of Particles at interface
- Lecture 46 - Experimental Observations -Concept of Electrostatic interactions and Stability at interfaces
- Lecture 47 - Implications from Surface energy balances and Estimation of energy required for detachment
- Lecture 48 - Colloidal interactions at interface

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

NPTEL Video Course - Chemical Engineering - NOC:Polymers: Concepts, Properties, Uses and Sustainability

Subject Co-ordinator - Dr. Abhijit P. Deshpande

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Why are polymers so common?
Lecture 2 - Polymers
Lecture 3 - Process, structure, property
Lecture 4 - Biopolymers
Lecture 5 - Molecular weight and distribution
Lecture 6 - Polymerization
Lecture 7 - Macromolecular nature
Lecture 8 - Renewable sources for polymers
Lecture 9 - Polymerization/depolymerization
Lecture 10 - States of interest
Lecture 11 - Application based terms
Lecture 12 - Reuse and repurpose
Lecture 13 - Molecular conformations
Lecture 14 - Size, mobility and flexibility
Lecture 15 - Polyelectrolytes
Lecture 16 - Structures in biopolymers
Lecture 17 - Amorphous/crystalline states - 1
Lecture 18 - Amorphous/crystalline states - 2
Lecture 19 - Orientation
Lecture 20 - Interactions
Lecture 21 - Kinetics of crystallization
Lecture 22 - Glass transition - 1
Lecture 23 - Glass transition - 2
Lecture 24 - States in environment
Lecture 25 - Liquid crystalline polymers
Lecture 26 - Copolymers - 1
Lecture 27 - Copolymers - 2
Lecture 28 - Blends - 1
Lecture 29 - Blends - 2

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Lecture 30 - Microstructure in polymers
Lecture 31 - Composites
Lecture 32 - Stress strain response
Lecture 33 - Additives for polymeric systems
Lecture 34 - Blends/composites in recycling
Lecture 35 - Physical/chemical crosslinking
Lecture 36 - Mechanical properties - I
Lecture 37 - Mechanical properties - II
Lecture 38 - Physical and chemical aging
Lecture 39 - Solutions
Lecture 40 - Conducting polymers
Lecture 41 - Dielectric response - I
Lecture 42 - Dielectric response - II
Lecture 43 - Plasticity
Lecture 44 - Properties of composites
Lecture 45 - Viscoelasticity
Lecture 46 - Thermal response
Lecture 47 - Viscoelasticity
Lecture 48 - Viscoelasticity
Lecture 49 - Dynamic Mechanical analysis
Lecture 50 - Damping Applications
Lecture 51 - Time Temperature superposition
Lecture 52 - Impact and energy absorption
Lecture 53 - Testing for applications
Lecture 54 - Properties of blends
Lecture 55 - Biomimetic polymers
Lecture 56 - Advanced mechanics
Lecture 57 - Viscoelastic response
Lecture 58 - Polymer packaging
Lecture 59 - Porous polymers/membranes
Lecture 60 - Polymer at interfaces
Lecture 61 - Diffusion in polymers
Lecture 62 - Compatibilizers
Lecture 63 - Biopolymer applications
Lecture 64 - Adhesives and Paints
Lecture 65 - Dissolution and recovery
Lecture 66 - Polymerization kinetics
Lecture 67 - Polymerization reactors
Lecture 68 - Polymer processing - I

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- Lecture 69 - Polymer processing - II
- Lecture 70 - Polymer processing - III
- Lecture 71 - Flow simulations
- Lecture 72 - Processing for recycling
- Lecture 73 - Recycle, up-down cycling - I
- Lecture 74 - Recycle, up-down cycling - II
- Lecture 75 - Flow behaviour - rheology
- Lecture 76 - Crosslinking
- Lecture 77 - Conversion of polymers
- Lecture 78 - Rheology and entanglement
- Lecture 79 - Rheological models
- Lecture 80 - Rheology and processing
- Lecture 81 - Absorption and leaching
- Lecture 82 - Swelling of polymers
- Lecture 83 - Viscosity for polymer processing
- Lecture 84 - Microplastics, aerosols, sediments
- Lecture 85 - Biodegradation of polymers
- Lecture 86 - Biodegradable polymers - 1
- Lecture 87 - Biodegradable polymers - 2

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

NPTEL Video Course - Civil Engineering - NOC:Basic Construction Materials

Subject Co-ordinator - Prof. Radhakrishna G. Pillai, Prof. Manu Santhanam

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to Construction Materials - Part 1
Lecture 2 - Introduction to Construction Materials - Part 2
Lecture 3 - Introduction to Construction Materials - Part 3
Lecture 4 - Materials Engineering Concepts - Part 1
Lecture 5 - Materials Engineering Concepts - Part 2
Lecture 6 - Materials Engineering Concepts - Part 3
Lecture 7 - Materials Engineering Concepts - Part 4
Lecture 8 - Materials Engineering Concepts - Part 5
Lecture 9 - Materials Engineering Concepts - Part 6
Lecture 10 - Materials Engineering Concepts - Part 7
Lecture 11 - Nature of Materials - Part 1
Lecture 12 - Nature of Materials - Part 2
Lecture 13 - Nature of Materials - Part 3
Lecture 14 - Nature of Materials - Part 5
Lecture 15 - Nature of Materials - Part 6
Lecture 16 - Nature of Materials - Part 6
Lecture 17 - Nature of Materials - Part 7
Lecture 18 - Stone, Brick and Mortar 1 - Part 1
Lecture 19 - Stone, Brick and Mortar 1 - Part 2
Lecture 20 - Stone, Brick and Mortar 1 - Part 3
Lecture 21 - Stone, Brick and Mortar 1 - Part 4
Lecture 22 - Stone, Brick and Mortar 2 - Part 1
Lecture 23 - Stone, Brick and Mortar 2 - Part 2
Lecture 24 - Cement and Concrete 1 - Part 1
Lecture 25 - Cement and Concrete 1 - Part 2
Lecture 26 - Cement and Concrete 1 - Part 3
Lecture 27 - Cement and Concrete 2 - Part 1
Lecture 28 - Cement and Concrete 2 - Part 2
Lecture 29 - Cement and Concrete 3 - Part 1

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Lecture 30 - Cement and Concrete 3 - Part 2
Lecture 31 - Cement and Concrete 4 - Part 1
Lecture 32 - Cement and Concrete 4 - Part 2
Lecture 33 - Metals - 1 - Part 1
Lecture 34 - Metals - 1 - Part 2
Lecture 35 - Metals - 2 - Part 1
Lecture 36 - Metals - 2 - Part 2
Lecture 37 - Metals - 3 - Part 1
Lecture 38 - Metals - 3 - Part 2
Lecture 39 - Metals - 4
Lecture 40 - Metals - 5 - Part 1
Lecture 41 - Metals - 5 - Part 2
Lecture 42 - Polymers and Composites - Part 1
Lecture 43 - Polymers and Composites - Part 2
Lecture 44 - Polymers and Composites - Part 3
Lecture 45 - Pavement Materials 1 - Part 1
Lecture 46 - Pavement Materials 1 - Part 2
Lecture 47 - Pavement Materials 2 - Part 1
Lecture 48 - Pavement Materials 2 - Part 2
Lecture 49 - Wood and wood products - Part 1
Lecture 50 - Wood and wood products - Part 2
Lecture 51 - Glass

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

NPTEL Video Course - Civil Engineering - NOC:Introduction to Lean Construction

Subject Co-ordinator - Prof. Koshy Varghese, Prof. N Raghavan

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Course Contents, Long-term Goals, Structure and Module 1 Topics
- Lecture 2 - Pedagogy, Approach, Institutions, Instructors, Audience and Pre-requisites
- Lecture 3 - ILCE, Conferences, Resources, Further Work Possible
- Lecture 4 - Lean Implementation in India from ILCE Directors and other Talks/Testimonials
- Lecture 5 - Status of Lean Implementation in India through Industry Panel Discussion with ILCE Directors
- Lecture 6 - History of Lean and other Management Philosophies; Toyota Production System (TPS); What is Lean?
- Lecture 7 - Lean Construction Timeline; Lean Project Delivery vs LC; Project Management vs LC
- Lecture 8 - Key Lean Concepts#1 (Wastes)
- Lecture 9 - Key Lean Concepts#1 (Value, Value Stream, Flow, Pull, Perfection)
- Lecture 10 - Key Lean Concepts#2 (Continuous Improvement, Collaborative working, Production System, Lean Culture)
- Lecture 11 - Key Lean Tools#1 (Productivity Measurement System, Work Sampling, Value Stream Mapping)
- Lecture 12 - Lean Overview - Key Lean Tools#2 (5S, CPS/ LPS, Big Room Approach)
- Lecture 13 - Lean Overview - Future module
- Lecture 14 - Productivity Measurement and Improvement, Construction Productivity, Productivity levels
- Lecture 15 - What is Productivity, Production?; Illustration
- Lecture 16 - Productivity and Production Impact; Visualizing Activity Productivity and Production Performance
- Lecture 17 - Profit, ROCE, Influences on Operational Productivity; Operational view vs. System view, Summary
- Lecture 18 - Outline, Planning and monitoring levels; Productivity Measurement System
- Lecture 19 - Measuring Output - Level of Effort (LOE)
- Lecture 20 - Productivity and Production Calculations: daily, weekly, cumulative
- Lecture 21 - Productivity and Production Calculations: Performance Evaluation
- Lecture 22 - Productivity and Production Calculations: Workhour Forecast and Analysis of Trends
- Lecture 23 - Factors Influencing Productivity, Productivity Improvement Approach, Summary
- Lecture 24 - Sampling/ Surveying Techniques - Data Sources in Construction
- Lecture 25 - Construction Activity with Workers doing VA/ NVAN/ NVA; WS vs PMS; Work Sampling
- Lecture 26 - Sampling basics, Sampling in construction
- Lecture 27 - Steps to Conduct a Work Sampling Study; WS Outcomes
- Lecture 28 - Illustration of Tour-based Work Sampling Approach
- Lecture 29 - Illustration of Crew-based Work Sampling Approach

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- Lecture 30 - Explore relationship between WS Categories and Productivity; Summary
- Lecture 31 - Sampling/ Surveying Techniques - Foreman delay survey
- Lecture 32 - Sampling/ Surveying Techniques - Foreman delay survey - Implementation
- Lecture 33 - Foreman delay survey - Illustrations; Comparison - PMS vs WS vs FDS - discussion
- Lecture 34 - Value Stream, Value Stream Mapping (VSM), System vs Process, References
- Lecture 35 - Illustration: Value and Value Stream in Food Delivery
- Lecture 36 - Value, Value Stream, VSM/PM, Language, Basic VSM - current state and future state
- Lecture 37 - Key steps for VSM, Work: Degrees of Granularity, Measurement Metrics
- Lecture 38 - VSM - Example 1 (Reinforcement)
- Lecture 39 - VSM - Example 2 (Blockwork); Summary
- Lecture 40 - Flow Process Chart, Symbols, Process mapping - steps and timing, Measurement metrics
- Lecture 41 - Process mapping - Illustration: Reinforcement shifting
- Lecture 42 - VSM vs PM; Process Flow chart - variations; Swim-lane diagrams; Summary
- Lecture 43 - Understand the Basics of 5S, Explanations and 5S Steps
- Lecture 44 -
- Lecture 45 - Understand Each -S- in Detail - Standardize, Sustain
- Lecture 46 - 5S: Key Points, Benefits, Signs of a 5S Site
- Lecture 47 - Experiment 5S with Yourself First, Project Implementation, Facilitations, Why 5S May Fail?, Recaps
- Lecture 48 - Understand the Applications of 5S through Case Studies_2 cases
- Lecture 49 - Understand the Applications of 5S through Case Studies_3 cases
- Lecture 50 - Understand the Applications of 5S through Case Study - Ms Diamond Barretto (Godrej Construction)
- Lecture 51 - Current Project Performance, Workflow Variation, Traditional PM vs Lean Production Management
- Lecture 52 - Some Key Lean Concepts, Focusing on frontline Execution, CPS - Collaborative Planning System
- Lecture 53 - CPS Process, Overall Schedules (Master Schedule, Phase Schedule, LAP, Weekly Plan), Constraint Analysis
- Lecture 54 - Collaborative -Pull- Planning, Percentage Plan Completed (PPC), Daily Huddle, Variance Analysis,
- Lecture 55 - Lean Work Structuring
- Lecture 56 - Impact of PPC on Productivity, Key aspects, Advantages, The Necessary Conditions, Blocks - CPS, Summary
- Lecture 57 - COLPLASSE: Look-Ahead Plan, Constraint Analysis, Weekly Plan, Summary
- Lecture 58 - Lean Project Delivery System, Conclusion
- Lecture 59 - Understand the Applications of CPS/LPS through Case Studies
- Lecture 60 - CPS/LPS implementation in Construction Projects through a Panel of Experts - Part 1
- Lecture 61 - CPS/LPS implementation in Construction Projects through a Panel of Experts - Part 2
- Lecture 62 - CPS/LPS implementation in Construction Projects through a Panel of Experts - Part 3
- Lecture 63 - Introduction of Big Room Approach, Some Requirements for Efficient Working, Virtual BR Meetings
- Lecture 64 - Big Room Approach through Case Studies
- Lecture 65 - Big Room Approach - Implementation case from URC Construction
- Lecture 66 - Future Construction Site, Lean Tools and Processes, Automation strategies and impact, Programming
- Lecture 67 - Document Management, Workflow Process, Communication/Collab./Authen., Sensing
- Lecture 68 - Mechanisation/ Robots, Visualization, AI/ Analytics, BIM, CPS/ IOT/ Industry 4.0, Digital Twin

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

- Lecture 69 - Challenges and Causes, Problem?, Lean, BIM?, Traditional vs BIM, Tools/Technology providers
- Lecture 70 - BIM uses; Metrics
- Lecture 71 - BIM and Lean, Implementation Framework, BIM Execution Plan, Evidence Cases, Key takeaway
- Lecture 72 - How to Start Practicing Lean Tools in Project Sites-1: Work Sampling
- Lecture 73 - How to Start Practicing Lean Tools in Project Sites-1: VSM
- Lecture 74 - How to Start Practicing Lean Tools in Project Sites-1: 5S
- Lecture 75 - How to Start Practicing Lean Tools in Project Sites-1: CPS/ LPS
- Lecture 76 - How to Start Practicing Lean Tools in Project Sites-1: Big Room Approach
- Lecture 77 - Acknowledgement

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

NPTEL Video Course - Civil Engineering - NOC:Design of Connections in Steel Structures

Subject Co-ordinator - Prof. Anil Agarwal

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Bolts: dimensions and material
- Lecture 2 - Bolts: installation techniques and clearances
- Lecture 3 - Design of Bearing type bolts in shear: Basic design principle
- Lecture 4 - Correction factors for bolts for long joints, long grip lengths, and thick packing plate
- Lecture 5 - Design of friction grip bolts in shear and design of bolts in tension
- Lecture 6 - Structural Welding Process
- Lecture 7 - Groove/Butt Welds
- Lecture 8 - Fillet Welds - 1
- Lecture 9 - Fillet Welds - 2
- Lecture 10 - Weld symbols, defects, and filler material
- Lecture 11 - Design of groove welds
- Lecture 12 - Design of fillet welds - 1
- Lecture 13 - Design of fillet welds - 2
- Lecture 14 - Design example of a bolt group
- Lecture 15 - Design example of a weld group
- Lecture 16 - Simple and rigid frame connections
- Lecture 17 - Design of double angle connections
- Lecture 18 - Design of seated angle connections
- Lecture 19 - End-plate rigid connection: Introduction
- Lecture 20 - End-plate connection: Design example
- Lecture 21 - Welded-flange rigid connection
- Lecture 22 - Ductile detailed beam-column connections - 1
- Lecture 23 - Ductile detailed beam-column connections - 2

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

NPTEL Video Course - Civil Engineering - NOC:Analysis and Design of Bituminous Pavements

Subject Co-ordinator - A. Padmarekha, J. Murali Krishnan, M. R. Nivitha, Neethu Roy

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Pavement Cross-sections and Pavement Design Process
Lecture 2 - Pavement Design Factors - I
Lecture 3 - Pavement Design Factors - II
Lecture 4 - Stresses and Strains in Bituminous Pavements - I
Lecture 5 - Stresses and Strains in Bituminous Pavements - II
Lecture 6 - Numerical Problems in One-layer Theory
Lecture 7 - Numerical Problems in Two-layer Theory
Lecture 8 - Introduction to KENLAYER
Lecture 9 - KENLAYER - 1
Lecture 10 - KENLAYER - 2
Lecture 11 - KENLAYER - 3
Lecture 12 - KENLAYER - 4
Lecture 13 - Traffic Analysis - ESWL - Part 1
Lecture 14 - Traffic Analysis - ESWL - Part 2
Lecture 15 - Traffic Analysis - EALF
Lecture 16 - Traffic Analysis - ESAL using VDF
Lecture 17 - Traffic Analysis - ESAL using TF
Lecture 18 - Traffic Analysis - Examples
Lecture 19 - Traffic Analysis - Load Spectra Factor
Lecture 20 - Modulus for Design - CBR
Lecture 21 - Modulus for Design - Resilient modulus (Granular material)
Lecture 22 - Modulus for Design - Resilient modulus (Bituminous material)
Lecture 23 - Modulus for Design - Dynamic Modulus
Lecture 24 - Environmental Effect - Part 1
Lecture 25 - Environmental Effect - Part 2
Lecture 26 - Environmental Effect - Part 3
Lecture 27 - Environmental Effect - Part 4
Lecture 28 - Enhanced Integrated Climatic Model - Part 1
Lecture 29 - Enhanced Integrated Climatic Model - Part 2

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

- Lecture 30 - Climate Consideration in Design Procedures
- Lecture 31 - Reliability in Pavement Design - Part 1
- Lecture 32 - Reliability in Pavement Design - Part 2
- Lecture 33 - Reliability in Pavement Design - Part 3
- Lecture 34 - Reliability in Pavement Design - Part 4
- Lecture 35 - Reliability in Pavement Design - Part 5
- Lecture 36 - Reliability in Pavement Design - Part 6
- Lecture 37 - Distress Transfer Function - Fatigue Cracking
- Lecture 38 - Rutting and Low-Temperature Cracking
- Lecture 39 - KENLAYER - Nonlinear Analysis
- Lecture 40 - KENLAYER - Damage Analysis
- Lecture 41 - IRC design steps
- Lecture 42 - Design Input and IITPAVE software
- Lecture 43 - Pavement design with granular base
- Lecture 44 - Pavement design with CTB
- Lecture 45 - Pavement design with RAP Base
- Lecture 46 - Overview of Mechanistic-Empirical Pavement Design Methods - IRC
- Lecture 47 - Overview of Mechanistic-Empirical Pavement Design Methods - South Africa - Part I
- Lecture 48 - Overview of Mechanistic-Empirical Pavement Design Methods - South Africa - Part II
- Lecture 49 - Overview of Mechanistic-Empirical Pavement Design Methods - South Africa - Part III
- Lecture 50 - Overview of Mechanistic-Empirical Pavement Design Methods - Australia - Part I
- Lecture 51 - Overview of Mechanistic-Empirical Pavement Design Methods - Australia - Part II
- Lecture 52 - Overview of Mechanistic-Empirical Pavement Design Methods - AASHTO - Part I
- Lecture 53 - Overview of Mechanistic-Empirical Pavement Design Methods - AASHTO - Part II
- Lecture 54 - Summary of the course and design projects

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

NPTEL Video Course - Civil Engineering - NOC:FEM and Constitutive Modelling in Geomechanics

Subject Co-ordinator - Prof. K Rajagopal

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Introductory lecture and course outline
- Lecture 2 - Matrix algebra and Gauss elimination method
- Lecture 3 - Development of equilibrium equations for 1-d systems
- Lecture 4 - Development of equilibrium equations for 2-d bar elements and truss structures
- Lecture 5 - Development of equilibrium equations for beam elements
- Lecture 6 - Virtual work and principle of stationary potential energy
- Lecture 7 - Introduction to Rayleigh-Ritz Method
- Lecture 8 - Use of GEOFEM finite element program - Part I
- Lecture 9 - Use of GEOFEM finite element program - Part II
- Lecture 10 - Stresses and strains in continuum
- Lecture 11 - 2-dimensional approximations of continuum
- Lecture 12 - Analysis of continuum systems
- Lecture 13 - 3-node Constant Strain Triangle
- Lecture 14 - Classical methods for developing shape functions
- Lecture 15 - Numerical integration techniques
- Lecture 16 - Isoparametric Elements - Part I
- Lecture 17 - Isoparametric Elements - Part II
- Lecture 18 - Isoparametric calculations for stiffness and load vectors
- Lecture 19 - Force vector due to surface traction
- Lecture 20 - Patch test and Finite Element Modelling
- Lecture 21 - GEOFEM - Part III
- Lecture 22 - In situ earth pressures, construction and excavation sequences
- Lecture 23 - Joint and interface element modelling
- Lecture 24 - Modelling of interfaces - Joint Elements
- Lecture 25 - Mapped infinite elements for semi-infinite soil medium
- Lecture 26 - Some observations of soil behaviour and stress invariants
- Lecture 27 - Nonlinear analysis technique - 1
- Lecture 28 - Nonlinear analysis technique - 2
- Lecture 29 - Nonlinear analysis technique - 3

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- Lecture 30 - Bilinear elastic models
- Lecture 31 - Nonlinear elastic and hyperbolic models
- Lecture 32 - Modified hyperbolic model and determination of material parameters
- Lecture 33 - Stress correction procedures in finite element analysis
- Lecture 34 - Numerical examples on working with modified hyperbolic models
- Lecture 35 - Some Limit solutions in geotechnical engineering
- Lecture 36 - Elastic - Plastic Constitutive Matrix
- Lecture 37 - Nonassociated Elastic - Plastic Joint Element
- Lecture 38 - Introduction to consolidation and dynamic analysis
- Lecture 39 - Cam Clay models
- Lecture 40 - Modified cam clay models
- Lecture 41 - FEM in Geotechnical applications
- Lecture 42 - Soil behaviour and An Introduction to the Existing Soil Models
- Lecture 43 - Simulation of soil liquefaction using FLAC
- Lecture 44 - Mitigation of soil liquefaction using granular columns

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

NPTEL Video Course - Civil Engineering - NOC:The Evolution of the Earth and life

Subject Co-ordinator - Prof. Devapriya Chattopadhyay

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Course Structure
Lecture 2 - Introduction to Google Earth
Lecture 3 - How Does Earth Science Work ?
Lecture 4 - What is a Mineral
Lecture 5 - Minerals and Rock Cycle
Lecture 6 - Continental Drift
Lecture 7 - Plate Tectonics
Lecture 8 - What are Igneous Rocks ?
Lecture 9 - Compositional Variation of Igneous Rocks
Lecture 10 - Why Does the Rock Melt ?
Lecture 11 - Igneous Activity and Plate Tectonics
Lecture 12 - Igneous Structures
Lecture 13 - Volcanoes
Lecture 14 - Discussion on Posted Questions
Lecture 15 - What are Metamorphic Rocks
Lecture 16 - Types of Metamorphism
Lecture 17 - Metamorphism and Plate Tectonics
Lecture 18 - Weathering and Erosion
Lecture 19 - Detrital Sedimentary Rocks
Lecture 20 - Chemical and Organic Sedimentary Rocks
Lecture 21 - Sedimentary Environment and Plate Tectonics
Lecture 22 - Discussion on Conceptual Questions
Lecture 23 - Discussion on Posted Questions
Lecture 24 - Diversity of Life
Lecture 25 - Why Do Groups Change ?
Lecture 26 - Nature of Paleontological Data
Lecture 27 - Introduction to PaleoDB
Lecture 28 - Relative Age
Lecture 29 - Correlation

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- Lecture 30 - Attempts to Estimate Absolute Age
- Lecture 31 - Radiometric Dating
- Lecture 32 - Rocks Full of Life
- Lecture 33 - Discussion on Posted Questions_3
- Lecture 34 - The Beginning
- Lecture 35 - The Formation of the Planets and Moon
- Lecture 36 - The Formation of the Continents
- Lecture 37 - The Formation of the Atmosphere and Ocean
- Lecture 38 - Origin of Life: Initial Ideas
- Lecture 39 - Origin of Life: Which Biomolecules Came First ?
- Lecture 40 - Origin of Life: Where did it all Start ?
- Lecture 41 - Evidence of Early Life
- Lecture 42 - Proterozoic Events and Life
- Lecture 43 - Discussion on Posted Questions_4
- Lecture 44 - Cambrian Earth and Life
- Lecture 45 - Cambrian Explosion
- Lecture 46 - Journey to Land: Fishes and Tetrapods
- Lecture 47 - Journey to Land: Transitional Forms
- Lecture 48 - Appearance of Amniotes
- Lecture 49 - Dinosaurs
- Lecture 50 - Dinosaurs Footprints
- Lecture 51 - Appearance of Feathers
- Lecture 52 - Mass Extinctions and Their Impact
- Lecture 53 - K-Pg Extinction: Patterns
- Lecture 54 - K-Pg Extinction: Mechanisms
- Lecture 55 - Paleoclimatic Reconstruction
- Lecture 56 - Cenozoic Climate
- Lecture 57 - Recovery from K-Pg: Paleogene Event
- Lecture 58 - Who are Whales ?
- Lecture 59 - Discussion on Posted Questions_5
- Lecture 60 - Development of Bipedality
- Lecture 61 - Early Hominids
- Lecture 62 - Megafaunal Extinction
- Lecture 63 - Recent Extinctions
- Lecture 64 - Anthropocene and Future
- Lecture 65 - Discussion on Posted Questions_6

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

NPTEL Video Course - Civil Engineering - NOC:Advanced Reinforced Concrete Design

Subject Co-ordinator - Prof S. Suriya Prakash

Co-ordinating Institute - IIT - Hyderabad

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

Lecture 1 - Introduction-Overview of RCC - Part 1
Lecture 2 - Introduction-Overview of RCC - Part 2
Lecture 3 - Introduction to Design Concepts and Philosophies - Part 1
Lecture 4 - Introduction to Design Concepts and Philosophies - Part 2
Lecture 5 - Materials Short Term Properties - Part 1
Lecture 6 - Materials Short Term Properties - Part 2
Lecture 7 - Materials Short Term Properties - Part 3
Lecture 8 - Materials Short Term Properties - Part 4
Lecture 9 - Materials Long Term Properties - Part 1
Lecture 10 - Materials Long Term Properties - Part 2
Lecture 11 - Materials Rebar Properties
Lecture 12 - Durability - Overview
Lecture 13 - Durability - Effect of Chemical actions
Lecture 14 - Durability - Effect of Physical,mechanical and corrosion
Lecture 15 - Durability - Design approaches and code provisions
Lecture 16 - Axial Behaviour - Introduction
Lecture 17 - Axial Behaviour of Reinforced Concrete
Lecture 18 - Axial Behaviour - Effect of Compressive Strength
Lecture 19 - Flexure Behaviour - Background to flexural theory
Lecture 20 - Flexure Behaviour - Moment curvature analysis-procedure
Lecture 21 - Flexure Behaviour - Example-Moment curvature of singly reinforced section
Lecture 22 - Flexure Behaviour - Effect of increasing reinforcement on Moment curvature behaviour
Lecture 23 - Flexure Behaviour - Effect of compressive strength on Moment curvature behaviour
Lecture 24 - Flexure Behaviour - Effect of axial Compression on Moment curvature behaviour - Part 1
Lecture 25 - Flexure Behaviour - Effect of axial Compression on Moment curvature behaviour - Part 2
Lecture 26 - Flexure Behaviour - Effect of Compression steel on Moment curvature behaviour - Part 1
Lecture 27 - Flexure Behaviour - Effect of Compression steel on Moment curvature behaviour - Part 2
Lecture 28 - Flexure Behaviour - Analysis and Design of Singly Reinforced Sections using IS Code - Part 1
Lecture 29 - Flexure Behaviour - Analysis and Design of Singly Reinforced Sections using IS Code - Part 2

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- Lecture 30 - Flexure Behaviour - Examples in Flexure using IS Code Provisions
- Lecture 31 - Flexure Behaviour - Analysis and Design of Doubly Reinforced Sections using IS Code
- Lecture 32 - Flexure Behaviour - Analysis and Design of Flanged Sections using IS Code Provisions
- Lecture 33 - Shear Behaviour of RC elements - Part 1
- Lecture 34 - Shear Behaviour of RC elements - Part 2
- Lecture 35 - Shear Behaviour of RC elements - Part 3
- Lecture 36 - Shear Behaviour - Shear Design using IS 456 Provisions
- Lecture 37 - Shear Behaviour - Examples for Shear Design using IS 456 Provisions
- Lecture 38 - Shear Behaviour - Torsional Behaviour of RC elements - Part 1
- Lecture 39 - Shear Behaviour - Torsional Behaviour of RC elements - Part 2
- Lecture 40 - Shear Behaviour - Torsional Behaviour of RC elements - Part 3
- Lecture 41 - Shear Behaviour - Torsion Design of RC Beams using IS 456 Provisions
- Lecture 42 - Compression behaviour of RC Columns - Intro and Types - Part 1
- Lecture 43 - Compression behaviour of RC Columns - Short vs Slender and Effective length - Part 2
- Lecture 44 - Compression behaviour of RC Columns - Lateral Flexibility and Example - Part 3
- Lecture 45 - Compression behaviour of RC Columns IS Code Provisions - Part 1
- Lecture 46 - Compression behaviour of RC Columns Confinement and Tied Vs Spiral Confined Columns - Part 2
- Lecture 47 - Compression behaviour of RC Columns - P-M Interaction : Theory
- Lecture 48 - Compression behaviour of RC Columns - P-M Interaction : Example as per IS 456
- Lecture 49 - Compression behaviour of Design of RC Columns for Biaxial Bending - Part 1
- Lecture 50 - Compression behaviour of Design of RC Columns for Biaxial Bending - Part 2
- Lecture 51 - Compression behaviour of Slender Column Design: Theory - Part 1
- Lecture 52 - Compression behaviour of Slender Column Design: Example as per IS 456 - Part 2
- Lecture 53 - Serviceability - Introduction to Deflection of RC Beam Part - 1
- Lecture 54 - Serviceability - Introduction to Deflection of RC Beam Part - 2
- Lecture 55 - Serviceability - Long term deflection and IS code Provisions
- Lecture 56 - Serviceability - Numerical Example for the calculation of Deflection of RC beam
- Lecture 57 - Crack width calculation - Theory - Part 1
- Lecture 58 - Crack width Calculation - Example - Part 2
- Lecture 59 - Serviceability - Design for Bond - Theory - Part 1
- Lecture 60 - Serviceability - Design for Bond - Theory - Part 2
- Lecture 61 - Serviceability - Design example for Bond and Splicing - Part 3
- Lecture 62 - Two way slabs - Background
- Lecture 63 - Two way slabs - Design Methods
- Lecture 64 - Two way slabs - Direct Design Method - Part 1
- Lecture 65 - Two way slabs - Direct Design Method - Part 2
- Lecture 66 - Two way slabs - Equivalent Frame Method - Part 1
- Lecture 67 - Two way slabs - Equivalent Frame Method (Example) - Part 2

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

NPTEL Video Course - Civil Engineering - NOC:Admixtures and Special Concretes

Subject Co-ordinator - Prof. Manu Santhanam

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Overview of Cement Chemistry and concrete performance: Cement history and production
Lecture 2 - Overview of Cement Chemistry and concrete performance: Quality control and composition
Lecture 3 - Overview of Cement Chemistry: Composition of Cement and Classification of Cement
Lecture 4 - Overview of Cement Chemistry: Hydration of Cement
Lecture 5 - Overview of Concrete Performance: Curing and Hardened Concrete
Lecture 6 - Overview of Concrete Performance: Basics of Hardened Concrete
Lecture 7 - Chemical Admixtures: Introduction
Lecture 8 - Chemical Admixtures: Water reducers - Part 1
Lecture 9 - Chemical Admixtures: Water reducers - Part 2
Lecture 10 - Chemical Admixtures: Water reducers - Part 3
Lecture 11 - Chemical Admixtures: Water reducers - Part 4
Lecture 12 - Chemical Admixtures: Water reducers - Part 5
Lecture 13 - Chemical Admixtures: Water reducers - Part 6
Lecture 14 - Chemical Admixtures: Set controllers
Lecture 15 - Chemical Admixtures: Set controllers - Accelerators
Lecture 16 - Chemical Admixtures: Set controllers - Retarders
Lecture 17 - Chemical Admixtures: Standards
Lecture 18 - Chemical Admixtures: Air entrainers - Part 1
Lecture 19 - Chemical Admixtures: Air entrainers - Part 2
Lecture 20 - Chemical Admixtures: Understanding Concrete Rheology - Part 1
Lecture 21 - Chemical Admixtures: Understanding Concrete Rheology - Part 2
Lecture 22 - Chemical Admixtures: Viscosity Modifying Agents (VMA)
Lecture 23 - Chemical Admixtures: Mechanism of corrosion
Lecture 24 - Chemical Admixtures: Corrosion inhibitors, Shrinkage reducing admixtures
Lecture 25 - Chemical Admixtures: Other specialty admixtures
Lecture 26 - Chemical Admixtures: Curing compounds
Lecture 27 - Mineral Admixtures: Introduction
Lecture 28 - Mineral Admixtures: Types, Composition and Particle size distribution
Lecture 29 - Mineral Admixtures: Microstructure of SCMs and Pozzolonic reactions

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- Lecture 30 - Mineral Admixtures: Pozzolonic activity
- Lecture 31 - Mineral Admixtures: Electrical Conductivity method, Frattini test and Lime saturation method
- Lecture 32 - Mineral Admixtures: Strength Activity test, Lime reactivity test, Mixture Proportioning and R3 test
- Lecture 33 - Mineral Admixtures: Flyash - Part 1: Introduction
- Lecture 34 - Mineral Admixtures: Flyash - Part 2: Classification and structure
- Lecture 35 - Mineral Admixtures: Flyash - Part 3: Effects on fresh concrete
- Lecture 36 - Mineral Admixtures: Flyash - Part 4: Effects on hardened concrete
- Lecture 37 - Mineral Admixtures: Silica fume - Part 1: Introduction
- Lecture 38 - Mineral Admixtures: Silica fume - Part 2: Effects on fresh and hardened concrete
- Lecture 39 - Mineral Admixtures: Silica fume - Part 3: Effects on Microstructure + GGBS - Part 1 : Introduction
- Lecture 40 - Mineral Admixtures: GGBS - Part 2 : Properties
- Lecture 41 - Mineral Admixtures: GGBS - Part 3 : Hydration of slag and Durability of slag cements
- Lecture 42 - Mineral Admixtures: Metakaolin
- Lecture 43 - Mineral Admixtures: LC3 - Part 1 : Introduction
- Lecture 44 - Mineral Admixtures: LC3 - Part 2 : Comparision with other SCMs
- Lecture 45 - Mineral Admixtures: LC3 - Part 3 : Durability Performance
- Lecture 46 - Mineral Admixtures: Agricultural ashes - Part 1 : Sugarcane bagasse ash
- Lecture 47 - Mineral Admixtures: Agricultural ashes - Part 2 : Rice husk ash
- Lecture 48 - Mineral Admixtures: Calorimeter
- Lecture 49 - Mineral Admixtures: Pore solution analysis
- Lecture 50 - Mineral Admixtures: CASH analysis in blended system and Life cycle assessment of concrete - Part 1
- Lecture 51 - Life cycle assessment of concrete - Part 2
- Lecture 52 - Life cycle assessment of concrete - Part 3
- Lecture 53 - Special concretes - High strength concrete - Definition, design and concept of particle packing
- Lecture 54 - Special concretes - High strength concrete - Particle packing models
- Lecture 55 - Special concretes - High strength concrete - Mix designs, strength and durability
- Lecture 56 - Special concretes - High strength concrete - Design attributes, fresh and hardened properties
- Lecture 57 - Special concretes - High strength concrete - Stress:strain relationships, applications
- Lecture 58 - Special concretes - Ultra high performance concrete - Design principles, strength, durability
- Lecture 59 - Special concretes: Self compacting concrete -Introduction, design requirements and plastic shrinkage
- Lecture 60 - Special concretes: Self compacting concrete - Segregation and laboratory tests
- Lecture 61 - Special concretes - Self Compacting Concrete - Workability test methods, classifications and issues
- Lecture 62 - Special concretes - Self Compacting Concrete - Design principles, mix designs, concrete properties
- Lecture 63 - Special concretes - Mass concrete - Introduction, materials, thermal cracking
- Lecture 64 - Special concretes - Mass concrete - Design guidelines, temperature differential measurement
- Lecture 65 - Special concretes - Mass concrete - Temperature differential measurement, Design
- Lecture 66 - Special concretes - Mass concrete - Temperature monitoring, nomogram, minimizing restraints
- Lecture 67 - Special concretes - Mass concrete - Heat modelling
- Lecture 68 - Special concretes - Lightweight concrete - Introduction, classifications

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

Lecture 69 - Special concretes - Lightweight concrete - Foamed concrete, lightweight aggregates
Lecture 70 - Special concretes - Lightweight concrete - Light weigh aggregates, aerated concrete
Lecture 71 - Special concretes - High density concrete - Heavy weight aggregates, design, case stud
Lecture 72 - Special concretes - Concrete for 3D printing - Introduction, classification, printing process
Lecture 73 - Special concretes - Concrete for 3D printing - Developments, advantages, case study
Lecture 74 - Special concretes - Concrete for 3D printing - Critical parameters, yield stress
Lecture 75 - Special concretes - Concrete for 3D printing - Mix design approach, admixtures
Lecture 76 - Special concretes - Concrete for 3D printing - Failure modes, buildability, early-age beahaviour

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

NPTEL Video Course - Civil Engineering - NOC:Advanced Topics in Science and Technology of Concrete

Subject Co-ordinator - Prof. Ravindra Gettu, Prof. Manu Santhanam

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Aggregates and their effects on concrete properties - Part 1
- Lecture 2 - Aggregates and their effects on concrete properties - Part 2
- Lecture 3 - An overview of recycled concrete aggregates (RCA): sources and types - Part 1
- Lecture 4 - An overview of recycled concrete aggregates (RCA): sources and types - Part 2
- Lecture 5 - Recycled Concrete Aggregate (RCA): Availability, Collection, and Processing Methods - Part 1
- Lecture 6 - Recycled Concrete Aggregate (RCA): Availability, Collection, and Processing Methods - Part 2
- Lecture 7 - Recycled Concrete Aggregates: Properties and Performance - Part 1
- Lecture 8 - Recycled Concrete Aggregates: Properties and Performance - Part 2
- Lecture 9 - Recycled Concrete Aggregates: Properties and Performance - Part 3
- Lecture 10 - Recycled Concrete Aggregates: Properties and Performance - Part 4
- Lecture 11 - Recycled Concrete Aggregates: Properties and Performance - Part 5
- Lecture 12 - Effect of moisture condition on the microstructure and design of RCA concrete - Part 1
- Lecture 13 - Effect of moisture condition on the microstructure and design of RCA concrete - Part 2
- Lecture 14 - Overview and generation of recycled concrete fines
- Lecture 15 - Utilisation of recycled concrete fines
- Lecture 16 - Recycled Concrete Aggregates: Properties, Design, and Standards
- Lecture 17 - Environmental impact and life cycle assessment (LCA) - Part 1
- Lecture 18 - Environmental impact and life cycle assessment (LCA) - Part 2
- Lecture 19 - Construction supply chains - Part 1
- Lecture 20 - Construction supply chains - Part 2
- Lecture 21 - Recycled concrete aggregates market: problems and prospects - Part 1
- Lecture 22 - Recycled concrete aggregates market: problems and prospects - Part 2

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

NPTEL Video Course - Civil Engineering - NOC:An Introduction to Climate Dynamics, Variability and Monitoring

Subject Co-ordinator - Prof. Sayak Banerjee

Co-ordinating Institute - IIT - Hyderabad

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

Lecture 1 - Introduction to Climate Dynamics, Variability and Monitoring - Part 1
Lecture 2 - Introduction to Climate Dynamics, Variability and Monitoring - Part 2
Lecture 3 - Climatic Variables of the Atmosphere
Lecture 4 - Atmospheric Layers; Troposphere; Temperature Lapse Rate
Lecture 5 - Atmospheric Structure and Composition
Lecture 6 - Atmospheric Gas Concentration and introduction to Atmospheric Pressure
Lecture 7 - Atmospheric Pressure and Mass
Lecture 8 - How to Measure Vertical Variation of Pressure
Lecture 9 - Fundamentals of Atmospheric Humidity and Weather Variables
Lecture 10 - Advanced Atmospheric Humidity Concepts Contours and Key Relationships
Lecture 11 - Virtual Temperature and Atmospheric Stability Concepts
Lecture 12 - Understanding Atmospheric Stability Adiabatic Relations and Lapse Rate
Lecture 13 - Potential Temperature, Adiabatic Lapse Rate of Moist Air, Three Possible Stability Relationships
Lecture 14 - Derivation of Potential Temperature, Deriving the Expression for Saturated Adiabatic Lapse Rate
Lecture 15 - Temperature Variation With Changes in Vertical Pressure
Lecture 16 - Temperature Gradient of Dry and Saturated Air Parcel, Earth Sun Relationship
Lecture 17 - Fundamentals of Earth'S Climate System Latitude, Longitude, and Temperature Dynamics
Lecture 18 - Understanding Earth'S Seasons Axial Tilt, Solstice, and Equinox Dynamics
Lecture 19 - Mean Emission Temperature of Earth and the Greenhouse Effect - Part 1
Lecture 20 - Mean Emission Temperature of Earth and the Greenhouse Effect - Part 2
Lecture 21 - Mean Emission Temperature of Earth and the Greenhouse Effect - Part 3
Lecture 22 - Net Radiative Flux Imbalance Annual Averaged and Seasonal
Lecture 23 - Derivation of Beam Spreading Effect, Derivation of the Greenhouse Effect
Lecture 24 - Derivation of Analysing the Atmosphere of Venus, Radiation Fluxes
Lecture 25 - Principles of Electromagnetic Radiation Spectral Intensity, Irradiance, and Material Interaction
Lecture 26 - Blackbody Radiation Relations
Lecture 27 - Atmospheric Absorption and Radiative Transfer
Lecture 28 - 28 Radiative Transfer in the Atmosphere Key Concepts
Lecture 29 - Infrared Radiative Transfer in the Earth'S Atmosphere

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

- Lecture 30 - Radiative Flux and Optical Depth
- Lecture 31 - Introduction to Atmospheric Heating and Heat Balance
- Lecture 32 - Advanced Atmospheric Heating and Heat Balance
- Lecture 33 - Temperature Distribution for a Continuously Stratified Atmosphere in Radiative Equilibrium - Part 1
- Lecture 34 - Temperature Distribution for a Continuously Stratified Atmosphere in Radiative Equilibrium - Part 2
- Lecture 35 - Temperature Distribution and Greenhouse Effect in a Continuously Stratified Atmosphere
- Lecture 36 - Atmospheric Circulation Systems - Basic Concepts
- Lecture 37 - Atmospheric Circulation Systems - Coriolis Forces
- Lecture 38 - Atmospheric Circulation Systems - Pressure Forces
- Lecture 39 - Atmospheric Circulation Systems - Frictional Forces and Surface Level Winds
- Lecture 40 - Atmospheric Circulation Systems - High Level Winds
- Lecture 41 - Seasonal Shifts - Advanced Concepts
- Lecture 42 - The Ocean and the Climate
- Lecture 43 - Ocean Salinity and Mixing Layer
- Lecture 44 - Importance of Mixing Layer and Wind Driven Surface Current
- Lecture 45 - Ocean Circulation and Deep Oceanic thermohaline Circulation
- Lecture 46 - Coupled Ocean Atmosphere Variability
- Lecture 47 - Global Temperature Model, Radiative Forcing and Zero Dimensional Energy Balance Model
- Lecture 48 - Zero Dimensional Energy Balance Model (Continued...)
- Lecture 49 - Energy Balance Model and Temperature Response to Radiative Forcing
- Lecture 50 - Temperature Response to Radiative Forcing (Continued...)
- Lecture 51 - Planck Feedback or Blackbody Radiative Feedback, Simple Radiative Balance Model
- Lecture 52 - Indirect Feedback: Water Vapour Feedback and Spectral Outgoing Longwave Radiation
- Lecture 53 - Absorption of Outgoing Longwave Radiation By Atmospheric CO₂
- Lecture 54 - Introduction to Principles of Measurement and Instrumentation - Part 1
- Lecture 55 - Introduction to Principles of Measurement and Instrumentation - Part 2
- Lecture 56 - Introduction to Principles of Measurement and Instrumentation - Part 3
- Lecture 57 - Automatic Weather Stations, Temperature Measurements and Humidity Measurements
- Lecture 58 - Humidity Measurements and Pressure Measurements
- Lecture 59 - Wind Measurements Techniques
- Lecture 60 - Radiation and Temperature Measurements - Part 1
- Lecture 61 - Radiation and Temperature Measurements - Part 2
- Lecture 62 - Radiation and Precipitation Measurements
- Lecture 63 - Upper Air Measurements
- Lecture 64 - Remote Sensing: Climatological Applications
- Lecture 65 - Types of Satellite Orbit and its Remote Sensing Applications, VNIR Imaging through Electro Optics
- Lecture 66 - Spatial and Spectral Resolution of Satellite Imagery and Application of VNIR Imaging in Climatology
- Lecture 67 - Application of VNIR Imaging in Climatology and Thermal Infrared Imaging Systems
- Lecture 68 - Cloud Detection, Nadir Viewing, Limb Sounding, Solar Occultation

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Lecture 69 - Ground Based Atmospheric Remote Sounding

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

NPTEL Video Course - Civil Engineering - NOC:Indoor Air Pollution: Sources, Effects, Monitoring, Control and

Subject Co-ordinator - Prof. Asif Qureshi

Co-ordinating Institute - IIT - Hyderabad

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

Lecture 1 - Introduction and Common Air Pollutants
Lecture 2 - Sources of indoor air pollutants - 1
Lecture 3 - Sources of indoor air pollutants - 2
Lecture 4 - Sources of indoor air pollutants - 3
Lecture 5 - Methods to estimate emissions
Lecture 6 - Mass balance
Lecture 7 - Mass balance Simple Examples
Lecture 8 - Residence times and Fractional losses
Lecture 9 - Multi-room (multi-box) models
Lecture 10 - Examples
Lecture 11 - Outdoor air as source to indoor air. Introduction
Lecture 12 - Outdoor air as source to indoor air. Infiltration, health
Lecture 13 - Indoor-Outdoor relationship
Lecture 14 - Air exchange and ventilation rates
Lecture 15 - Health-based ventilation framework
Lecture 16 - Aerosol Basics
Lecture 17 - Aerosol Deposition
Lecture 18 - Coagulation, condensation and evaporation processes
Lecture 19 - Aerosol sources and aerosol properties
Lecture 20 - Indoor air chemistry: basics of chemical kinetics
Lecture 21 - Indoor air chemistry: some key reactions
Lecture 22 - Surface reactions
Lecture 23 - Examples
Lecture 24 - Bioaerosols in the Indoor Atmosphere: Introduction
Lecture 25 - Bioaerosols in the Indoor Atmosphere: Sources
Lecture 26 - Indoor bioaerosols and health impacts
Lecture 27 - Environmental factors and bioaerosols
Lecture 28 - Indoor air exposure risk assessment - principles
Lecture 29 - Calculation of daily dose

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

- Lecture 30 - Time-activity and inhalation risk assessment
- Lecture 31 - Examples
- Lecture 32 - Indoor air pollution monitoring of physico-chemical pollutants: Introduction and sampling methods
- Lecture 33 - Indoor air pollution sampling and instruments
- Lecture 34 - Indoor air pollutants analysis - 1
- Lecture 35 - Indoor air pollutants analysis - 2
- Lecture 36 - Indoor bioaerosol sampling methods - 1
- Lecture 37 - Indoor bioaerosol sampling methods - 2
- Lecture 38 - Methods for bioaerosol analysis - 1
- Lecture 39 - Methods for bioaerosol analysis - 2
- Lecture 40 - Guest lecture: Case study on comparison of two methods for indoor bioaerosol sampling and analysis
- Lecture 41 - Indoor Air Pollution/Quality in the Indian Context
- Lecture 42 - Indoor Air Quality in India - Case studies 1
- Lecture 43 - Indoor Air Quality in India - Case studies 2
- Lecture 44 - Guest lecture: Case study on bioaerosols in Indian indoor environment
- Lecture 45 - Indoor Air Quality in India - Overview and Gaps
- Lecture 46 - Indoor air quality guidelines and control: Introduction
- Lecture 47 - IAQ guidelines and control: Ventilation
- Lecture 48 - IAQ control methods
- Lecture 49 - Introduction to Contam
- Lecture 50 - Indoor air pollution effects: sick building syndrome
- Lecture 51 - Managing indoor air quality
- Lecture 52 - Air pollution control methods
- Lecture 53 - Modeling Example

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

NPTEL Video Course - Civil Engineering - NOC:Geophysical Exploration Methods

Subject Co-ordinator - Prof. Elango Lakshmanan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction and Scope of Different Methods - I
Lecture 2 - Introduction and Scope of Different Methods - II
Lecture 3 - Electrical Methods
Lecture 4 - Comparison of Electrical and Hydraulic Properties
Lecture 5 - Array Advantages and Disadvantages - I
Lecture 6 - Electrical Resistivity Methods : Method of Field Operation, Electrical Profiling and Case Studies
Lecture 7 - Electrical Resistivity Methods : Vertical Electrical Sounding Methods
Lecture 8 - Electrical Resistivity Methods : Vertical Electrical Sounding Data interpretation Methods
Lecture 9 - Electrical Resistivity Methods : 3D Resistivity Tomography case study and Applications
Lecture 10 - Field Demonstration of Vertical Electrical Sounding
Lecture 11 - Application of VES and 3D Tomography for Identification of Seawater intrusion
Lecture 12 - Resistivity Methods for Estimation of Aquifer Properties
Lecture 13 - Expert Lectuer - Dr. V.Arulprakasam
Lecture 14 - Electrical Self Potential Method Introduction
Lecture 15 - Electrical Self Potential Method Field Procedure
Lecture 16 - Applications and Case studies - Self Potential method
Lecture 17 - Electrical Induced Polarization Method - 1
Lecture 18 - IP Time and Frequency Domain Methods
Lecture 19 - Electromagnetic Methods
Lecture 20 - Electromagnetic Method Field Demonstration
Lecture 21 - Expert Lectuers
Lecture 22 - Seismic Methods Introdcution
Lecture 23 - Seismic operation on land
Lecture 24 - Explosive Sources
Lecture 25 - Non-explosive Sources and Receiving Seismic Signals
Lecture 26 - Recording of Seismic Signals and Data Reduction
Lecture 27 - Seismic Method-Types : Refraction Method, Two layer case study
Lecture 28 - Refraction Method - Case study on Multi layer and Dipping layer
Lecture 29 - Borehole Seismics

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

- Lecture 30 - Geophysics for tunneling and Dam Construction - Expert Lectuer by Dr Sanjay Rana - 1
- Lecture 31 - Geophysics for tunneling and Dam Construction - Expert Lectuer by Dr Sanjay Rana - 2
- Lecture 32 - Seismic Reflection Method
- Lecture 33 - Seismic Reflection Applications and Case Studies - 1
- Lecture 34 - Seismic Reflection Applications and Case Studies - 2
- Lecture 35 - Expert Lectuer (Seismic Exploration) - Dr. N. Satyavani, NGRI
- Lecture 36 - Multichannel Analysis of Surface Waves (MASW)
- Lecture 37 - MASW - Case Studies
- Lecture 38 - Expert Lectuer (MASW) - Dr.K. Satish Kumar, NGRI
- Lecture 39 - Gravity Methods Introduction
- Lecture 40 - Gravity Method Principle and Types of Gravity Measurements
- Lecture 41 - Types of Gravimeters
- Lecture 42 - Calibration and Drift Correction
- Lecture 43 - Gravity data reduction or Correction - 1
- Lecture 44 - Gravity data reduction or Correction - 2
- Lecture 45 - Gravity Method (Interpretation) - Quantitative Methods
- Lecture 46 - Gravity Method indirect interpretation
- Lecture 47 - Gravity Method Application and Case Studies
- Lecture 48 - Gravity Recovery and Climate Experiment (GRACE Mission)
- Lecture 49 - GRACE - Case Studies
- Lecture 50 - Magnetic Methods Introduction
- Lecture 51 - Magnetometers
- Lecture 52 - Interpretation and Case studies
- Lecture 53 - Expert Lectuer - Prof.N. Sundararajan
- Lecture 54 - Ground Penetrating Radar
- Lecture 55 - GPR - Field Demonstration
- Lecture 56 - Synthetic Aperture Radar (SAR)
- Lecture 57 - Surface Nuclear Magnetic Resonance - 1
- Lecture 58 - Surface Nuclear Magnetic Resonance - 2
- Lecture 59 - Expert Lectuer - Dr. Pramod Kumar Sharma
- Lecture 60 - Radioactive Methods
- Lecture 61 - Geophysical Well Logging methods - I
- Lecture 62 - Geophysical Well Logging Methods - II
- Lecture 63 - Induction Log
- Lecture 64 - Radiometric logging and applications
- Lecture 65 - Other logging methods - Sonic, Caliper, Temperature
- Lecture 66 - Fluid conductivity and NMR logging
- Lecture 67 - Bore Hole Camera and Summary of Logging methods
- Lecture 68 - Answers to the Questions

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

NPTEL Video Course - Civil Engineering - NOC:Stability Aspects of Structural Steel Design: Concepts and Appli

Subject Co-ordinator - Prof. Mahendrakumar Madhavan

Co-ordinating Institute - IIT - Hyderabad

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

Lecture 1 - Introduction to Stability - 1
Lecture 2 - Introduction to Stability - 2
Lecture 3 - Introduction to Stability - 3
Lecture 4 - Introduction to Stability - 4
Lecture 5 - Classical Column Theory - 1
Lecture 6 - Classical Column Theory (Continued...)
Lecture 7 - Martix Method of Solving stability problems
Lecture 8 - Martix Method of Solving stability problems (Continued...)
Lecture 9 - Inelastic buckling theories of column
Lecture 10 - Shanley's Theory
Lecture 11 - Imperfect Columns
Lecture 12 - Residual Stresses and its effects on column design curves
Lecture 13 - Perry Robertson approach
Lecture 14 - European multiple column curves
Lecture 15 - American column curves
Lecture 16 - Introduction to beams
Lecture 17 - Solution for Uniform torsion or St.Venant's torsion
Lecture 18 - Torsional constant for open sections
Lecture 19 - Torsional constant for closed sections
Lecture 20 - Solution for Non-Uniform torsion or Vlasov's torsionv
Lecture 21 - Elastic critical moment for simply supported beam subjected to unifrm bending using differential
Lecture 22 - Solution for elastic critical moment of simply supported beam subjected to uniform bending using
Lecture 23 - Solution for elastic critical moment of simply supported beam subjected to non-uniform bending
Lecture 24 - Solution for elastic critical moment of simply supported beam subjected to concentrated load at
Lecture 25 - Elastic critical moment for fixed ended beam subjected to uniform bending
Lecture 26 - Critical loads for a cross-section under axial compression
Lecture 27 - Problem solving on Torsion
Lecture 28 - Problem solving on Beams
Lecture 29 - Deriving Von Karman's partial differential equation for thin plates

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

- Lecture 30 - Strain energy method for obtaining critical stress for plates
- Lecture 31 - Strain energy method for obtaining critical stress for plates under different loading conditions
- Lecture 32 - Generic equations for elastic plate buckling coefficient, k
- Lecture 33 - Development of width-to-thickness ratio limits
- Lecture 34 - Concept of post critical buckling
- Lecture 35 - Deriving the effective width of a plate under uniform compression as per AISI S100
- Lecture 36 - Problem solving: Effective Width Method (EWM)
- Lecture 37 - Tension Field Action in Plate girder - An application of post-critical buckling in thin plates
- Lecture 38 - Deriving the design equations in IS 800:2007 for Simple post-critical method and Tension field method
- Lecture 39 - Design of a plate girder-A design example - Part 1
- Lecture 40 - Design of a plate girder-A design example - Part 2
- Lecture 41 - Curved plate girders: An overview of fabrication and construction
- Lecture 42 - Importance of steel structures

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

NPTEL Video Course - Civil Engineering - Construction Economics and Finance

Subject Co-ordinator - Prof. Nikhil Bugalia

Co-ordinating Institute - IIT Madras

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

- Lecture 1 - Introduction to course and its objectives
- Lecture 2 - Basic concepts of Engineering Economy
- Lecture 3 - Economic Equivalence and Engineering Economy Factors - 1
- Lecture 4 - Economic Equivalence and Engineering Economy Factors - 2
- Lecture 5 - Arithmetic Gradient Factor
- Lecture 6 - Interest Rate Transformation : Effective Interest Rates
- Lecture 7 - Engineering Economy Factors Adjusted for Effective Interest Rates
- Lecture 8 - Basics of Financial Evaluation of Project Alternatives
- Lecture 9 - Present Worth Analysis Method
- Lecture 10 - Annual Worth Analysis Method and Internal Rate of Return (IRR) Method
- Lecture 11 - Incremental Rate of Return (IROR) method
- Lecture 12 - Cost-Benefit Analysis Method
- Lecture 13 - Sensitivity Analysis for Engineering Economy Analysis
- Lecture 14 - Risk-based Assessments in Engineering Economy - 1
- Lecture 15 - Risk-based Assessments in Engineering Economy - 2
- Lecture 16 - Monte-Carlo Simulation Concept and Example
- Lecture 17 - Break-even Analysis
- Lecture 18 - Break-even Analysis (Continued...) and Introduction to Depreciation
- Lecture 19 - Depreciation Methods and Switching Decisions
- Lecture 20 - Income Tax and Cash-flow Adjustment
- Lecture 21 - Inflation Adjustment and Introduction to Replacement Study
- Lecture 22 - Procedures to Perform Replacement Study
- Lecture 23 - Replacement Study Examples and Numericals
- Lecture 24 - Cost Estimation
- Lecture 25 - Analysis of Rates
- Lecture 26 - Working Capital and Revenue Recognition in Construction Projects
- Lecture 27 - Status of Multiple Projects and Introduction to Assets and Liabilities
- Lecture 28 - Introduction to Financial Statements
- Lecture 29 - Introduction to Accounting

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

- Lecture 30 - Formal and Informal Accounting Procedures
- Lecture 31 - Informal Accounting Examples
- Lecture 32 - Informal Accounting Examples - Recording Profits and Losses
- Lecture 33 - Working Capital Management for Construction Projects
- Lecture 34 - Ratio Analysis

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

NPTEL Video Course - Civil Engineering - NOC:Advanced Prestressed Concrete Design

Subject Co-ordinator - Prof. S. Suriya Prakash

Co-ordinating Institute - IIT - Hyderabad

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

Lecture 1 - Introduction-Overview of PSC - Part 1
Lecture 2 - Introduction-Overview of PSC - Part 2
Lecture 3 - Introduction-Overview of PSC - Part 3
Lecture 4 - Prestressing: Types, Systems and Devices - Part 1
Lecture 5 - Prestressing: Types, Systems and Devices - Part 2
Lecture 6 - Prestressing: Types, Systems and Devices - Part 3
Lecture 7 - Review of short term and long-term behaviour of prestressed concrete - Part 1
Lecture 8 - Review of short term and long-term behaviour of prestressed concrete - Part 2
Lecture 9 - Review of short term and long-term behaviour of prestressed concrete - Part 3
Lecture 10 - Prestressing Strand: Mechanical properties, Types and Production process - Part 1
Lecture 11 - Prestressing Strand: Mechanical properties, Types and Production process - Part 2
Lecture 12 - Introduction to losses in prestress
Lecture 13 - Elastic shortening losses : Post-tensioned members
Lecture 14 - Friction losses : Post-tensioned members
Lecture 15 - Anchorage slip losses : Post-tensioned members
Lecture 16 - Time dependent losses
Lecture 17 - Time dependent losses : Example problem
Lecture 18 - Introduction to response of prestress member in axial load
Lecture 19 - Developing load deformation curve for different prestressing conditions
Lecture 20 - Developing load deformation curve considering long term losses
Lecture 21 - Review of simple bending theory
Lecture 22 - Analysis of flexural members
Lecture 23 - Concept of equivalent load
Lecture 24 - Stress block parameters for moment curvature analysis
Lecture 25 - Obtaining moment curvature for various reinforcement conditions
Lecture 26 - Comparison of behaviour and layer-by-layer approach
Lecture 27 - Ultimate moment capacity
Lecture 28 - Moment capacity of flanged sections
Lecture 29 - Example for flanged section

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

- Lecture 30 - Introduction : Kern points and pressure line
- Lecture 31 - Cracking moment, Camber and deflection in prestressed beams
- Lecture 32 - Stress analysis of flexural members : Example problem
- Lecture 33 - Introduction : Flexural design
- Lecture 34 - Design Example on type 1 member
- Lecture 35 - Type 2 member and design example on type 2 members, Detailing requirements
- Lecture 36 - Magnel's Graphical method and design example
- Lecture 37 - Basics of shear stress and shear transfer mechanism in PSC beam
- Lecture 38 - Effect of prestress on shear behaviour
- Lecture 39 - Analysis of PSC beam for shear
- Lecture 40 - Design of PSC beam for shear - 1
- Lecture 41 - Design of PSC beam for shear - 2
- Lecture 42 - Introduction to Torsion
- Lecture 43 - Analysis of PSC beam for Torsion prior to cracking
- Lecture 44 - Analysis of PSC beam for Torsion after cracking
- Lecture 45 - Evaluation of Torsional capacity of PSc beam
- Lecture 46 - Design of PSC beam for combined shear, torsion and bending
- Lecture 47 - Transfer of Prestress in Pre Tensioned Member - Part 1
- Lecture 48 - Transfer of Prestress in Pre Tensioned Member - Part 2
- Lecture 49 - Transfer of Prestress in Pre Tensioned Member - Part 3
- Lecture 50 - Transfer of Prestress in Pre Tensioned Member - Part 4
- Lecture 51 - Continuous beams: Introduction and basic concepts
- Lecture 52 - Continuous beams: Pressure line analysis, secondary and tertiary moments
- Lecture 53 - Continuous beams: Linear transformation and concordant cable profile
- Lecture 54 - Continuous Beams: Design Process
- Lecture 55 - Intorduction to composite construction
- Lecture 56 - Analysis of stress
- Lecture 57 - Deflection of composite beams, Differential shirnkage
- Lecture 58 - Analysis of composite section
- Lecture 59 - Design of composite section
- Lecture 60 - Concepts of Strut-and-tie model for design of disturbed regions
- Lecture 61 - Guidelines for the formulations of efficient strut-and-tie model and structural behaviour of dee
- Lecture 62 - Design example of post-tensioned deep beam using strut-and-tie model
- Lecture 63 - Design example of corbel using strut-and-tie model
- Lecture 64 - Basic force transfer mechanism of precast/prestressed connections and type of connections
- Lecture 65 - Types of precast/prestressed connections and their seismic aspects
- Lecture 66 - Precast concrete frames with unbonded prestressing
- Lecture 67 - Introduction to PT slabs
- Lecture 68 - PT systems and tendon dsitribution in slabs

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

- Lecture 69 - PT one-way slabs
- Lecture 70 - Two way PT slab
- Lecture 71 - Design criteria fot PT slabs
- Lecture 72 - Equivalent frame method
- Lecture 73 - Capacity of two-way slabs
- Lecture 74 - Design example of PT slab - preliminary design
- Lecture 75 - Design example of PT slab - equivalent frame analysis
- Lecture 76 - Design example of PT slab - design checks
- Lecture 77 - Importance of external post-tensioning system for strengthening applications
- Lecture 78 - Applications of external post-tensioning system for strengthening
- Lecture 79 - Analysis-design considerations and case studies of external post-tensioning strengthening system

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

NPTEL Video Course - Civil Engineering - NOC:Sustainable Groundwater Management

Subject Co-ordinator - Prof. Elango Lakshmanan

Co-ordinating Institute - IIT Madras

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

- Lecture 1 - Sustainable Groundwater Management - Introduction
- Lecture 2 - Groundwater Stress and Sustainability Indicators
- Lecture 3 - Sustainability Indicators : Groundwater Depletion and Seawater Intrusion
- Lecture 4 - Sustainability Indicators : Quality Degradation, Land Subsidence, and GDEs
- Lecture 5 - Future Groundwater Use and the Need for Sustainable Management
- Lecture 6 - Hydrologic Cycle and Aquifers
- Lecture 7 - Groundwater in different geological formations
- Lecture 8 - Porosity and factors affecting porosity
- Lecture 9 - Aquifer Storage Properties
- Lecture 10 - Aquifer Compressibility and Groundwater Flow
- Lecture 11 - Hydraulic Conductivity, Transmissivity and Groundwater flow velocity
- Lecture 12 - Determination of Hydraulic Conductivity: Empirical, Laboratory, and Field Methods
- Lecture 13 - Estimation of Hydraulic Conductivity by Tracer and Pumping Tests
- Lecture 14 - Aquifer tests for Sustainable Yield
- Lecture 15 - Aquifer Test Methods: Steady and Unsteady Flow Conditions
- Lecture 16 - Alternative Methods for Estimating Aquifer Parameters - Part 1 : Slug and Bail Tests
- Lecture 17 - Alternative Methods for Estimating Aquifer Parameters - Part 2 : Well Yield and Loss Analysis
- Lecture 18 - Well Performance Evaluation - Part 1 : Step-Drawdown and Loss Relationships
- Lecture 19 - Well Performance Evaluation - Part 2 : Efficiency, Deterioration, and Maintenance
- Lecture 20 - Surface Water - Groundwater Interaction
- Lecture 21 - Groundwater Recharge Estimation: Field Methods and Case Studies
- Lecture 22 - Groundwater Dependent Ecosystems: Classification and Controlling Factors
- Lecture 23 - Identifying and Assessing GDEs: Indicators, Mapping, and Monitoring Tools
- Lecture 24 - Major Threats to GDEs: Causes, Consequences, and the Need for Sustainability
- Lecture 25 - Groundwater Sustainability by Aquifer Recharge and Rejuvenation
- Lecture 26 - Natural Recharge Enhancement for Sustainable Groundwater Management
- Lecture 27 - Managed Aquifer Recharge Part I : Definition, Benefits, and Method Overview
- Lecture 28 - Managed Aquifer Recharge Part II : Design and Implementation
- Lecture 29 - Traditional Water Harvesting in India and Groundwater Rejuvenation Initiatives

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

- Lecture 30 - Policy and Management Approaches for Sustainable Groundwater Recharge
- Lecture 31 - Policy and Management Approaches for Sustainable Groundwater Recharge
- Lecture 32 - Hydrochemistry and Groundwater Quality
- Lecture 33 - Chemical Parameters and Composition of Groundwater
- Lecture 34 - Groundwater Sampling and Chemical Data Representation
- Lecture 35 - Geochemical Changes in Groundwater
- Lecture 36 - MAR and Geochemical process
- Lecture 37 - Groundwater Quality Criteria
- Lecture 38 - Application of Isotopes in Groundwater Sustainability
- Lecture 39 - Application of Isotopes in Groundwater Sustainability
- Lecture 40 - Artificial isotopes as tracers
- Lecture 41 - Groundwater Management and Contamination
- Lecture 42 - Type of contaminants - 1
- Lecture 43 - Type of contaminants - 2
- Lecture 44 - Health Risk Assessment
- Lecture 45 - Sustainable Mangement for addressing Groundwater Contamination
- Lecture 46 - Applications of Isotopic Techniques in Groundwater Hydrology
- Lecture 47 - Coastal Aquifers and Seawater Intrusion : Part I
- Lecture 48 - Coastal Aquifers and Seawater Intrusion : Part II
- Lecture 49 - Different Methods of Identification of Coastal Salinisation
- Lecture 50 - Methods of Prevention/Limiting Seawater Intrusion
- Lecture 51 - Sustainable management of coastal Aquifers
- Lecture 52 - Groundwater Modelling for sustainable management
- Lecture 53 - Numerical Approaches in Groundwater Modelling
- Lecture 54 - Solute Transport Process and Stages of Modelling
- Lecture 55 - Case Studies on Groundwater Modelling - South Chennai - Part I
- Lecture 56 - Case Studies on Groundwater Modelling - South Chennai - Part II
- Lecture 57 - Urban and Agricultural Management
- Lecture 58 - Urban Groundwater Pollution, Governance, and Management
- Lecture 59 - Methods of Urban Aquifer Recharge and Water Pricing : Case studies
- Lecture 60 - Sustainable Groundwater Use in Agriculture
- Lecture 61 - Sustainable Irrigation Practices
- Lecture 62 - Water Audit : Concept and Importance
- Lecture 63 - Expert Lectuer 1 - Integrated Water Resources Management (IWRM) Concepts, Challenges, and Oppurt
- Lecture 64 - Expert Lectuer 2 - Groundwater Sustainability Interaction of Science and Policy
- Lecture 65 - Governance, Policy and Institutional Frameworks - Part I
- Lecture 66 - Governance, Policy and Institutional Frameworks - Part II
- Lecture 67 - Urban Water and Agricultural Water Efficiency
- Lecture 68 - Case Studeis : Rural and Urban Solutions

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

- Lecture 69 - Groundwater Institutions, Laws and Stakeholders
- Lecture 70 - Sectorwise Analysis of Groundwater Regulation and Use
- Lecture 71 - Sustainable Groundwater Initiatives in India
- Lecture 72 - Groundwater Governance : History, Foundations and Constitutional Scheme
- Lecture 73 - Future Challenges and Innovations in Sustainable Groundwater Management
- Lecture 74 - Impacts of Climate Change on Groundwater: Future Projections and Case Studies
- Lecture 75 - Artificial Intelligence and Machine Learning for Groundwater Sustainability
- Lecture 76 - Future Challenges in Participatory Approaches to Sustainable Groundwater Management
- Lecture 77 - Strategies for Community Participation in Sustainable Groundwater Management
- Lecture 78 - Participatory Groundwater Management
- Lecture 79 - Policy Interventions for Sustainable Groundwater Management in India
- Lecture 80 - River bank Filtration : A Source for Sustainable Drinking Water

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

NPTEL Video Course - Civil Engineering - NOC:Climate Change - Extreme Events

Subject Co-ordinator - Prof. Somil Swarnkar

Co-ordinating Institute - IISER Bhopal

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

Lecture 1 - Climate Science Basics - Weather vs. Climate
Lecture 2 - Introduction to Climate Change
Lecture 3 - Introduction to Climate Extremes: Definitions, Types, and Global Impact
Lecture 4 - Week 1 Summary and Assignment
Lecture 5 - Week 1 Assignment Solution
Lecture 6 - Heatwaves and Cold Spells: Causes, Impacts, and Trends
Lecture 7 - Extreme Precipitation: Floods, Droughts, and Water Cycle Impacts
Lecture 8 - Tropical Cyclones, Storms, and Associated Weather Events
Lecture 9 - Week 2 Summary and Assignment
Lecture 10 - Week 2 Assignment Solution
Lecture 11 - Climate Data Sources and Observational Tools
Lecture 12 - Data Collection and Preprocessing: Handling Gaps, Errors, and Temporal Biases
Lecture 13 - Introduction to Climate Models: Types, Resolution, and Applications
Lecture 14 - Week 3 Summary and Assignment
Lecture 15 - Week 3 Assignment Solution
Lecture 16 - Probability Distributions and Climate Data Analysis
Lecture 17 - Introduction to Extreme Value Theory (EVT) and its Applications
Lecture 18 - Analyzing Frequency and Intensity of Extreme Events
Lecture 19 - Week 4 Summary and Assignment
Lecture 20 - Week 4 Assignment Solution
Lecture 21 - Time Series Analysis: Trends, Seasonality, Stationarity and Correlations
Lecture 22 - Detection of Changes in Extreme Events: Statistical Techniques
Lecture 23 - Attribution Studies: Linking Extremes to Anthropogenic Climate Change
Lecture 24 - Week 5 Summary and Assignment
Lecture 25 - Week 5 Assignment Solution
Lecture 26 - Risk Assessment Frameworks for Extreme Events
Lecture 27 - Calculating Return Periods for Rare Events
Lecture 28 - Uncertainty Analysis in Climate Projections and Risk Assessments
Lecture 29 - Week 6 Summary and Assignment

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

- Lecture 30 - Week 6 Assignment Solution
- Lecture 31 - The 2013 Uttarakhand and 2015 South India Floods
- Lecture 32 - The Millennium Drought of Australia
- Lecture 33 - The 2022 Heatwave Across Northern and Central India
- Lecture 34 - Week 7 Summary and Assignment
- Lecture 35 - Week 7 Assignment Solution
- Lecture 36 - Predictive Models for Climate Extremes: Statistical, and Machine Learning
- Lecture 37 - Building and Validating Statistical and ML-Based Models for Prediction
- Lecture 38 - Scenario Analysis and Projecting Future Extremes
- Lecture 39 - Week 8 Summary and Assignment
- Lecture 40 - Week 8 Assignment Solution
- Lecture 41 - Economic Costs of Extreme Events: Damage and Recovery
- Lecture 42 - Health and Social Impacts of Climate Extremes
- Lecture 43 - Vulnerability and Adaptation in Developing Regions
- Lecture 44 - Week 9 Summary and Assignment
- Lecture 45 - Week 9 Assignment Solution
- Lecture 46 - International Agreements and National Policies on Climate Change
- Lecture 47 - Risk Reduction Strategies and Community Resilience
- Lecture 48 - Adaptation Policies for Climate Extreme Events
- Lecture 49 - Week 10 Summary and Assignment
- Lecture 50 - Week 10 Assignment Solution
- Lecture 51 - Advances in Climate Extremes Research and Big Data Applications
- Lecture 52 - Remote Sensing and AI in Detections of Climate Extremes
- Lecture 53 - Role of Ecosystems in Mitigating Climate Extremes
- Lecture 54 - Week 11 Summary and Assignment
- Lecture 55 - Week 11 Assignment Solution
- Lecture 56 - Review of Statistical and Analytical Methods
- Lecture 57 - Integrated Case Study Project: Analyzing a Recent Extreme Event
- Lecture 58 - Course Wrap-Up and Discussion on Future Research Directions

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

NPTEL Video Course - Civil Engineering - Foundation Engineering

Subject Co-ordinator - Prof. Priti Maheswari, Prof. N.K. Samadhiya, Prof. Mahendra Singh

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Shallow Foundation - 1
Lecture 2 - Shallow Foundation - 2
Lecture 3 - Shallow Foundation - 3
Lecture 4 - Shallow Foundation - 4
Lecture 5 - Shallow Foundation - 5
Lecture 6 - Shallow Foundation - 6
Lecture 7 - Shallow Foundation - 7
Lecture 8 - Lateral Earth pressure Theories Retaining Walls - 1
Lecture 9 - Lateral Earth pressure Theories Retaining Walls - 2
Lecture 10 - Lateral Earth pressure Theories Retaining Walls - 3
Lecture 11 - Lateral Earth Pressure Theories Retaining Walls - 4
Lecture 12 - Lateral Earth Pressure Theories Retaining Walls - 5
Lecture 13 - Pile Foundations - 1
Lecture 14 - Pile Foundations - 2
Lecture 15 - Pile Foundations - 3
Lecture 16 - Pile Foundations - 4
Lecture 17 - Pile Foundations - 5
Lecture 18 - Pile Foundations - 6
Lecture 19 - Pile Foundations - 7
Lecture 20 - Machine Foundations - 1
Lecture 21 - Machine Foundations - 2
Lecture 22 - Machine Foundations - 3
Lecture 23 - Machine Foundations - 4
Lecture 24 - Well Foundations - 1
Lecture 25 - Well Foundations - 2
Lecture 26 - Well Foundations - 3
Lecture 27 - Foundation Engineering - 1
Lecture 28 - Foundation Engineering - 2
Lecture 29 - Foundation Engineering - 3

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

Lecture 30	-	Foundation Engineering	-	4
Lecture 31	-	Foundation Engineering	-	5
Lecture 32	-	Foundation Engineering	-	6
Lecture 33	-	Foundation Engineering	-	7
Lecture 34	-	Foundation Engineering	-	8
Lecture 35	-	Foundation Engineering	-	9
Lecture 36	-	Foundation Engineering	-	10
Lecture 37	-	Foundation Engineering	-	11
Lecture 38	-	Foundation Engineering	-	12
Lecture 39	-	Foundation Engineering	-	13
Lecture 40	-	Foundation Engineering	-	14

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

NPTEL Video Course - Civil Engineering - Modern Surveying Techniques

Subject Co-ordinator - Prof. S.K. Ghosh

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Geographic Information System An Introduction
Lecture 2 - Introduction to Global Positioning System
Lecture 3 - GPS Positioning Methods
Lecture 4 - GPS Solutions and Errors
Lecture 5 - GPS Application
Lecture 6 - Remote Sensing Introduction
Lecture 7 - Electromagnetic Spectrum
Lecture 8 - Sensors and Platform
Lecture 9 - Sensors and Platform
Lecture 10 - Image Interpretation
Lecture 11 - Statistical Evaluation of RS Data
Lecture 12 - Rectification and Restoration
Lecture 13 - Image Enhancement
Lecture 14 - Image Transformation
Lecture 15 - Orthogonal Transformation
Lecture 16 - Image Classification (Supervised Classification)
Lecture 17 - Image Classification (Unsupervised Classification)
Lecture 18 - Spatial Filtering-Noise Removal
Lecture 19 - Spatial Filtering-Edge Removal
Lecture 20 - Photogramatic-Basic concepts of a single photography
Lecture 21 - Stereoscopy-Basic concepts
Lecture 22 - Stereoscopy-Geometry of overlapping photograph
Lecture 23 - Terrestrial Photogrammetry
Lecture 24 - Digital Elevation Model-Basic Concepts
Lecture 25 - Digital Elevation Model-Data Input and Stamping
Lecture 26 - Digital Elevation Model-Surface representation and analysis
Lecture 27 - GIS-Introductory Concepts
Lecture 28 - GIS-Data Input
Lecture 29 - Data Verification and Editing

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

- Lecture 30 - GIS Data Model
- Lecture 31 - GIS Data Base
- Lecture 32 - Spatial Analysis
- Lecture 33 - Map Overlay and Spatial Correlation
- Lecture 34 - Application to Drought Management
- Lecture 35 - GIS base planning model for educational facilities in rural areas
- Lecture 36 - Application extraction of building attributes
- Lecture 37 - Zonal based tourism planning
- Lecture 38 - Zonal Planning using remote sensing
- Lecture 39 - Municipal GIS for assessment of property tax
- Lecture 40 - Application of remote sensing

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

NPTEL Video Course - Civil Engineering - Transportation Engineering II

Subject Co-ordinator - Prof. Rajat Rastogi

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Railway Engineering
Lecture 2 - Gauges and Permanent Way
Lecture 3 - Wheel and Axles, Coning of Wheels
Lecture 4 - Track Resistances, Hauling Capacity
Lecture 5 - Track Modulus, Stresses in Track
Lecture 6 - Stresses in Components of Track
Lecture 7 - Rails
Lecture 8 - Creep in Rails
Lecture 9 - Wears & Failures in Rails
Lecture 10 - Jointed or Welded rails
Lecture 11 - Sleepers
Lecture 12 - Ballast
Lecture 13 - Fastenings
Lecture 14 - Geometric Design - Alignment of Track
Lecture 15 - Horizontal Curve and Super elevation
Lecture 16 - Speeds on Track
Lecture 17 - Transition Curve & Widening of Track
Lecture 18 - Vertical Curve & Gradients
Lecture 19 - Turnouts - Components
Lecture 20 - Crossing and Design of Turnout
Lecture 21 - Track Junctions and Designs
Lecture 22 - Signals - Part 1
Lecture 23 - Signals - Part 2
Lecture 24 - Train Control Systems
Lecture 25 - Interlocking of Track
Lecture 26 - High Speed Tracks
Lecture 27 - Introduction of Air Transport
Lecture 28 - Aircraft Characteristics
Lecture 29 - Aircraft Controls, Airport Site&Size Selection

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

- Lecture 30 - Airport Obstructions
- Lecture 31 - Runway Orientation
- Lecture 32 - Runway Length
- Lecture 33 - Runway Geometric
- Lecture 34 - Taxiway
- Lecture 35 - Exit Taxiway
- Lecture 36 - Aprons and Aircraft Parking
- Lecture 37 - Terminal Area and Building
- Lecture 38 - Terminal Planning and Hangers
- Lecture 39 - Visual Aids-Markings
- Lecture 40 - Visual Aids-Lighting and Signage

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

NPTEL Video Course - Civil Engineering - NOC:Introduction to Geographic Information Systems

Subject Co-ordinator - Dr.Arun K.Saraf

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - What is Geographic Information Systems ?
- Lecture 2 - Different components of GIS
- Lecture 3 - Different types of vector data and concept of topology
- Lecture 4 - Raster data models and comparisons with vector
- Lecture 5 - TIN data model and comparisons with raster
- Lecture 6 - Non-spatial data (attributes) and their type
- Lecture 7 - Raster data compression techniques
- Lecture 8 - Spatial database systems and their types
- Lecture 9 - Pre-processing of spatial datasets
- Lecture 10 - Geo-referencing
- Lecture 11 - Different map projections
- Lecture 12 - Spatial interpolation techniques
- Lecture 13 - Digital Elevation Models and different types of resolutions
- Lecture 14 - Quality assessment of freely available DEMS
- Lecture 15 - GIS analysis - Part 1
- Lecture 16 - GIS analysis - Part 2 (Overlaying Operations)
- Lecture 17 - GIS analysis - Part 3 (Buffer Analysis)
- Lecture 18 - Classification Methods
- Lecture 19 - Errors in GIS and Key elements of maps
- Lecture 20 - Limitations of GIS

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

NPTEL Video Course - Civil Engineering - NOC:Principles and Applications of Building Science

Subject Co-ordinator - Dr. E. Rajasekar

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Solar Geometry
- Lecture 2 - Climate Classification
- Lecture 3 - Thermal Comfort in Built Environment - 1
- Lecture 4 - Thermal Comfort in Built Environment - 2
- Lecture 5 - Thermal Adaptation
- Lecture 6 - Bioclimatic Assessment
- Lecture 7 - Thermal Performance of Building Envelop
- Lecture 8 - Thermal Performance of Building Envelop - Indices and Measures (1/2)
- Lecture 9 - Thermal Performance of Building Envelop - Indices and Measures (2/2)
- Lecture 10 - Glazing and Shading Systems
- Lecture 11 - Shading Analysis
- Lecture 12 - Energy Efficiency and Simulation
- Lecture 13 - Building Acoustics - Basics
- Lecture 14 - Sound Propagation
- Lecture 15 - Acoustic Quality Indicators (1/2)
- Lecture 16 - Acoustic Quality Indicators (2/2)
- Lecture 17 - Acoustic Design Considerations
- Lecture 18 - Acoustic Materials
- Lecture 19 - Lighting - Basics
- Lecture 20 - Lighting & Design Concepts

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

NPTEL Video Course - Civil Engineering - NOC:GPS Surveying

Subject Co-ordinator - Dr.Jayanta Kumar Ghosh

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction (GPS Surveying and Applications)
Lecture 2 - GPS System
Lecture 3 - GPS Signal (Civilian Perspective)
Lecture 4 - GPS Receiver
Lecture 5 - GPS Software
Lecture 6 - GPS Position
Lecture 7 - GPS Positioning (Principle and Methods)
Lecture 8 - Field demonstration of GPS Positioning Method
Lecture 9 - GPS Observables (Types, Errors and Quality)
Lecture 10 - Errors in GPS Observables (Systematics Errors)
Lecture 11 - GPS Data Pre-Processing - I
Lecture 12 - GPS Data Pre-Processing - II
Lecture 13 - GPS Data Processing - I
Lecture 14 - GPS Data Processing - II
Lecture 15 - Quality Assessment of GPS Surveying
Lecture 16 - Procedure of GPS Surveying - I
Lecture 17 - Procedure of GPS Surveying - II
Lecture 18 - Procedure of GPS Surveying - III
Lecture 19 - GPS Field Surveying
Lecture 20 - GPS Data Processing

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

NPTEL Video Course - Civil Engineering - NOC:Digital Land Surveying And Mapping

Subject Co-ordinator - Prof. Jayanta Kumar Ghosh

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Introduction and Applications
- Lecture 2 - Fundamentals and Operations
- Lecture 3 - Overview of Digital Land Surveying
- Lecture 4 - Introduction of GPS
- Lecture 5 - GPS Signal (Civilian Perspective)
- Lecture 6 - GPS User Segment
- Lecture 7 - GPS Positioning of Control Point
- Lecture 8 - Demonstration of GPS Receivers, Software and Positioning of Control Point
- Lecture 9 - GPS Position
- Lecture 10 - Principle of GPS Positioning and GPS Observables
- Lecture 11 - Errors in GPS Observables
- Lecture 12 - GPS Data Pre-processing
- Lecture 13 - GPS Data Pre-processing
- Lecture 14 - GPS Data Processing
- Lecture 15 - GPS Data Processing
- Lecture 16 - Quality Assessment of GPS Surveying
- Lecture 17 - Introduction to Total Station
- Lecture 18 - Parts of Total Station
- Lecture 19 - Accessories of Total Station
- Lecture 20 - Handling and Setting of Total Station
- Lecture 21 - Measurement of Distance
- Lecture 22 - Measurement of Distance Using TS
- Lecture 23 - Measurement of Horizontal Angle Using TS
- Lecture 24 - Measurement of Vertical Angle and Height Using TS
- Lecture 25 - Errors in Total Station
- Lecture 26 - Other Errors in Total Station
- Lecture 27 - Errors and Quality of Surveying Measurements
- Lecture 28 - Error Propagation and Survey Specifications
- Lecture 29 - Basics of Vertical Representation

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- Lecture 30 - Contouring
- Lecture 31 - Mapping Fundamentals
- Lecture 32 - Mapping Basics
- Lecture 33 - Mapping Software
- Lecture 34 - Automated Mapping
- Lecture 35 - Working Steps
- Lecture 36 - Establishment of Control Point
- Lecture 37 - Detailing of Digital Land Surveying
- Lecture 38 - Demonstration of Digital Land Survey Detailing
- Lecture 39 - Data Preparation and Map Making
- Lecture 40 - Overview of the Course

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

NPTEL Video Course - Civil Engineering - NOC:Digital Image Processing of Remote Sensing Data

Subject Co-ordinator - Dr.Arun K.Saraf

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Remote-sensing Image and How it is represented
- Lecture 2 - Different Techniques of Image Acquisition
- Lecture 3 - Why is Digital Image processing Important ?
- Lecture 4 - Image characteristics and Different Resolutions in Remote Sensing
- Lecture 5 - Electromagnetic spectrum, solar reflection, and thermal emission
- Lecture 6 - Color Representation and Transformations
- Lecture 7 - Image histograms and statistics
- Lecture 8 - Geo-referencing Techniques
- Lecture 9 - Image Enhancement Techniques part 1
- Lecture 10 - Image Enhancement Techniques part 2
- Lecture 11 - Multispectral Transform, Scatter Plot, Principal Component Analysis and Decorrelation Stretch
- Lecture 12 - Spatial Filtering Techniques
- Lecture 13 - Frequency Domain Fourier Transformation
- Lecture 14 - Basic Image Compression Techniques and Different Image File Formats
- Lecture 15 - Image Classification Techniques
- Lecture 16 - Principles of Image Interpretation
- Lecture 17 - SAR Interferometry (InSAR) Techniques
- Lecture 18 - Image Merging and Image Mosaicing Techniques
- Lecture 19 - Application of Image Analysis
- Lecture 20 - Limitations and Future of Digital Image Processing

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

NPTEL Video Course - Civil Engineering - NOC:Applied Environmental Microbiology

Subject Co-ordinator - Dr. Gargi Singh

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction - I
Lecture 2 - Introduction - II
Lecture 3 - Cell Structure - I
Lecture 4 - Cell Structure - II
Lecture 5 - Central Dogma - I
Lecture 6 - Central Dogma - II
Lecture 7 - Microbial Energetics - I
Lecture 8 - Microbial Energetics - II
Lecture 9 - Microbial Energetics - III
Lecture 10 - Microbial Energetics - IV
Lecture 11 - Microbial Metabolism - I
Lecture 12 - Microbial Metabolism - II
Lecture 13 - Functional Diversity of Bacteria - I
Lecture 14 - Functional Diversity of Bacteria - II
Lecture 15 - Functional Diversity of Bacteria - III
Lecture 16 - Microbial Ecosystem - I
Lecture 17 - Microbial Ecosystem - II
Lecture 18 - Microbial Ecosystem - III
Lecture 19 - Microbial Ecosystem - IV
Lecture 20 - Microbial Ecosystem - V
Lecture 21 - Environmental Genomics - I
Lecture 22 - Environmental Genomics - II
Lecture 23 - Environmental Genomics - III
Lecture 24 - Environmental Genomics - IV
Lecture 25 - Environmental Genomics - V
Lecture 26 - Microbial Symbiosis - I
Lecture 27 - Microbial Symbiosis - II
Lecture 28 - Virus - I
Lecture 29 - Virus - II

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

Lecture 30 - Applied Environmental Microbiology
Lecture 31 - Techniques in Environmental Microbiology - I
Lecture 32 - Techniques in Environmental Microbiology - II
Lecture 33 - Bioremediation - I
Lecture 34 - Bioremediation - II
Lecture 35 - Bioremediation - III
Lecture 36 - Wastewater Microbiology - I
Lecture 37 - Wastewater Microbiology - II
Lecture 38 - Built Microbiology
Lecture 39 - Exposomes - I
Lecture 40 - Exposomes - II
Lecture 41 - Drinking Water Microbiology - I
Lecture 42 - Drinking Water Microbiology - II
Lecture 43 - Drinking Water Microbiology - III
Lecture 44 - Drinking Water Microbiology - IV
Lecture 45 - Drinking Water Microbiology - V
Lecture 46 - Solid Waste Microbiology - I
Lecture 47 - Solid Waste Microbiology - II
Lecture 48 - Solid Waste Microbiology - III
Lecture 49 - Antimicrobial Resistance - I
Lecture 50 - Antimicrobial Resistance - II
Lecture 51 - Epidemiology - I
Lecture 52 - Epidemiology - II
Lecture 53 - Biosensors - I
Lecture 54 - Biosensors - II
Lecture 55 - Biosensors - III
Lecture 56 - Bioinformatics - I
Lecture 57 - Bioinformatics - II
Lecture 58 - Bioinformatics - III
Lecture 59 - Bioinformatics - IV
Lecture 60 - Bioinformatics - V

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

NPTEL Video Course - Civil Engineering - NOC:Digital Elevation Models and Applications

Subject Co-ordinator - Prof. Arun K. Saraf

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Concept of Digital Elevation Model and How It Is Represented
- Lecture 2 - Various Techniques to Generate Digital Elevation Model - 1
- Lecture 3 - Various Techniques to Generate Digital Elevation Model - 2
- Lecture 4 - Various Techniques to Generate Digital Elevation Model - 3
- Lecture 5 - Importance of Spatial Resolution With DEMs
- Lecture 6 - How To Assess Quality of DEM?
- Lecture 7 - Integration of DEMs With Satellite Data
- Lecture 8 - Common Derivatives of DEMs- Slope and Aspect
- Lecture 9 - Triangulated Irregular Network (TIN) and Its Derivatives
- Lecture 10 - Shaded Relief Models and Their Applications
- Lecture 11 - DEMs Derivatives - 1
- Lecture 12 - DEMs Derivatives - 2
- Lecture 13 - DEMs Derivatives - 3
- Lecture 14 - DEMs Derivatives - 4
- Lecture 15 - DEM Based Surface Hydrologic Modelling - 1
- Lecture 16 - DEM Based Surface Hydrologic Modelling - 2
- Lecture 17 - DEM and DAM Simulation and Its Application In Ground Water Hydrology
- Lecture 18 - Applications of DEMs In Solar and Wind Energy Potential Estimations
- Lecture 19 - Applications of DEMs in Viewshed and Flood Hazard Mapping
- Lecture 20 - DEMs Sources, Limitations and Future of Digital Elevation Models

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

NPTEL Video Course - Civil Engineering - NOC:Environmental Engineering-Chemical Processes

Subject Co-ordinator - Prof. Bhanu Prakash Vellanki

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction, Fundamentals of Equilibrium and Kinetics
Lecture 2 - Equilibrium-Process Feasibility, Gibbs Energy-Standard Condition
Lecture 3 - Gibbs Free Energy-Non Standard Conditions - I
Lecture 4 - Gibbs Free Energy-Non Standard Conditions - II
Lecture 5 - Phase Equilibrium
Lecture 6 - Component Balance
Lecture 7 - Reaction Kinetics
Lecture 8 - Rate of Reaction - I
Lecture 9 - Rate of Reaction - II, Types of Reactors
Lecture 10 - Mass Balance on different types of Reactors
Lecture 11 - Material Balance for Complex Reactions
Lecture 12 - Material Balance for Reversible Reactions
Lecture 13 - Determination of Kinetic Equations
Lecture 14 - Acid-Base Reactions
Lecture 15 - Acid Dissociation Constant, Strength of Acid
Lecture 16 - Ionization Fractions
Lecture 17 - Introduction to VMINTEQ
Lecture 18 - Estimation of pH using VMINTEQ
Lecture 19 - Mixing Problems
Lecture 20 - Inverse Dose Problems
Lecture 21 - logC-pH Diagram
Lecture 22 - Carbonate System
Lecture 23 - Carbonate System
Lecture 24 - VMINTEQ
Lecture 25 - VMINTEQ
Lecture 26 - VMINTEQ
Lecture 27 - Buffer Intensity
Lecture 28 - Alkalinity
Lecture 29 - Alkalinity

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- Lecture 30 - Acidity and its Applications
- Lecture 31 - Alkalinity and Acidity
- Lecture 32 - Mixing of Two Solutions and Conservative Quantities - I
- Lecture 33 - Mixing of Two Solutions and Conservative Quantities - II
- Lecture 34 - Carbonate and Non-Carbonate Alkalinity
- Lecture 35 - Anaerobic Digester
- Lecture 36 - Aqueous Complexes
- Lecture 37 - Aqueous Complexes
- Lecture 38 - Aqueous Complexes of Aluminium (Al)
- Lecture 39 - Aqueous Complexes of Mercury (Hg)
- Lecture 40 - Precipitation and Dissolution
- Lecture 41 - Applications of Precipitation and Dissolution
- Lecture 42 - Different Stages in Precipitation, Equilibrium of Precipitation - I
- Lecture 43 - Equilibrium of Precipitation - II
- Lecture 44 - Examples Related to Equilibrium of Precipitation
- Lecture 45 - Other Examples of Equilibrium of Precipitation
- Lecture 46 - Solubility and Competitive Precipitation
- Lecture 47 - Predominance Area Diagram and Introduction to Redox Processes
- Lecture 48 - Redox Reactions and its Applications
- Lecture 49 - Balancing of Redox and Development of Half Reaction
- Lecture 50 - Kinetics of Redox Processes
- Lecture 51 - Equilibrium of Redox - I
- Lecture 52 - Equilibrium of Redox - II and Reaction Feasibility
- Lecture 53 - Reaction Feasibility Based on P_e - I
- Lecture 54 - Reaction Feasibility Based on P_e - II
- Lecture 55 - Effect of Complexation on Redox
- Lecture 56 - Effect of Complexation and Solid Phase on Redox
- Lecture 57 - Reaction Feasibility based on E_h
- Lecture 58 - Introduction to Electrochemical cell (E_{cell})
- Lecture 59 - Applications of E_{cell}
- Lecture 60 - $\log C$ - P_e and pH - P_e Diagram

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

NPTEL Video Course - Civil Engineering - NOC:Environmental Remediation of Contaminated Sites

Subject Co-ordinator - Prof. Bhanu Prakash Vellanki, Prof. Thomas Boving

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction - I

Lecture 2 - Introduction - II

Lecture 3 - Course Outline

Lecture 4 - Introduction to hazardous waste laws and risk assessment

Lecture 5 - The major aspects of Risk Assessment

Lecture 6 - Risk Characterization

Lecture 7 - Risk Assessment - Deterministic approach

Lecture 8 - Risk Assessment - Stochastic Approach

Lecture 9 - Hazardous Waste laws - The TCLP Test

Lecture 10 - Hazardous rules and regulations

Lecture 11 - Remediation of contaminated GW-Plume Containment

Lecture 12 - Remediation of contaminated GW-Javandel et al's approach

Lecture 13 - Remediation of contaminated GW by Pump and Treat - I

Lecture 14 - Remediation of contaminated GW by Pump and Treat - II

Lecture 15 - Remediation of contaminated GW- Calculation of remediation time and introduction to source control

Lecture 16 - Permeable Reactive Barriers - I

Lecture 17 - Permeable Reactive Barriers - II

Lecture 18 - Permeable Reactive Barriers - III

Lecture 19 - Design of Permeable Reactive Barriers

Lecture 20 - Case Study on Permeable Reactive Barriers - I

Lecture 21 - Case Study on Permeable Reactive Barriers - II

Lecture 22 - Case Study- PRB (Utah)

Lecture 23 - Case Study (Utah) (Continued...)

Lecture 24 - Mechanism of natural attenuation and the affecting factors

Lecture 25 - Introduction to natural attenuation and its types

Lecture 26 - Pathways of Contaminant Transport and Rate of Degradation of Contaminant

Lecture 27 - Rate of Degradation of Contaminant when advection is considered

Lecture 28 - Rate of Degradation of Contaminant when both diffusion and advection are considered

Lecture 29 - Example of Rate of Degradation in natural attenuation

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- Lecture 30 - Case study: Natural Attenuation
- Lecture 31 - Results of Case Study: Natural Attenuation
- Lecture 32 - Introduction of Soil/Sediments contamination with some examples
- Lecture 33 - Case Study: Soil/Sediments Contamination and remediation by Excavation and Disposal
- Lecture 34 - Hazardous waste disposal site/TSDF
- Lecture 35 - Different type of fluxes through containment barrier
- Lecture 36 - Introduction to Solidification and Stabilisation and Case Study
- Lecture 37 - Different contaminant reactions during solidification and stabilisation
- Lecture 38 - Diffusion of contaminant through solidified form
- Lecture 39 - Calculations for fractions of binders, admixtures, waste and water used in solidification
- Lecture 40 - Discussion of TCLP approach in solidification and its examples
- Lecture 41 - Discussion of TCLP approach (contd.) and Cost estimation of Solidification
- Lecture 42 - Case Study: Solidification and Stabilization
- Lecture 43 - Chemical Treatment
- Lecture 44 - Case Study: In-Situ Chemical Oxidation - Part I
- Lecture 45 - Case Study: In-Situ Chemical Oxidation - Part II
- Lecture 46 - Case Study: In-Situ Chemical Oxidation - Part III
- Lecture 47 - Surfactant Extraction - Part I
- Lecture 48 - Surfactant Extraction - Part II
- Lecture 49 - Case Study: Surfactant Extraction - Part I
- Lecture 50 - Case Study: Surfactant Extraction - Part II
- Lecture 51 - Soil Vapor Extraction - Part I
- Lecture 52 - Soil Vapor Extraction - Part II
- Lecture 53 - Bioremediation - Part I
- Lecture 54 - Bioremediation - Part II
- Lecture 55 - Case Study: Bioremediation
- Lecture 56 - Case Study: Soil Vapor Extraction - Part I
- Lecture 57 - Case Study: Soil Vapor Extraction - Part II
- Lecture 58 - Phyto-remediation
- Lecture 59 - Conceptual Site Model
- Lecture 60 - Adaptive Design in Remediation Engineering
- Lecture 61 - Solubilization Theory - Part I
- Lecture 62 - Solubilization Theory - Part II
- Lecture 63 - Enhanced Aquifer Flushing Technologies

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

NPTEL Video Course - Civil Engineering - NOC:Global Navigation Satellite Systems and Applications

Subject Co-ordinator - Prof. Arun K. Saraf

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Introduction to Global Navigation Satellite System (GNSS)
- Lecture 2 - How position is determined by the GNSS? - Part I
- Lecture 3 - How position is determined by the GNSS? - Part II
- Lecture 4 - How position is determined by the GNSS? - Part III
- Lecture 5 - NAVSTAR - Global Positioning System
- Lecture 6 - Global Navigation Satellite System (GLONASS)
- Lecture 7 - BeiDou Navigation Satellite System (BDS)
- Lecture 8 - Indian Regional Navigation Satellite System (IRNSS)
- Lecture 9 - GALILEO
- Lecture 10 - Quasi-Zenith Satellite System (QZSS)
- Lecture 11 - Differential Global Navigation Satellite System (DGNSS)
- Lecture 12 - Real-Time Kinematic (RTK)
- Lecture 13 - Satellite Based Augmentation System (SBAS)
- Lecture 14 - GNSS Errors
- Lecture 15 - GNSS Correction Methods
- Lecture 16 - Why altitude estimated by GNSS receivers is not very accurate
- Lecture 17 - Global Navigation Satellite Systems (GNSS) Applications - I
- Lecture 18 - Global Navigation Satellite Systems (GNSS) Applications - II
- Lecture 19 - GNSS
- Lecture 20 - GNSS

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

NPTEL Video Course - Civil Engineering - NOC:Geomorphology

Subject Co-ordinator - Prof. Pitambar Pati

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Geomorphology and Concept of Time Scale in a Geomorphic System
Lecture 2 - Process of Landform Development
Lecture 3 - Energy Flow in Geomorphic System and Role of Uniformitarianism Vs Catastrophism
Lecture 4 - Landform Development - Equilibrium and Evolution
Lecture 5 - Process Geomorphology - I
Lecture 6 - Process Geomorphology - II
Lecture 7 - Weathering and soil Formation Introduction - I
Lecture 8 - Weathering and soil Formation Introduction - II
Lecture 9 - Weathering and Soil Formation (Types of Weathering)
Lecture 10 - Weathering and Soil Formation (Mechanical Weathering)
Lecture 11 - Weathering and Soil Formation (Mechanical and Chemical Weathering)
Lecture 12 - Weathering and Soil Formation (Chemical and Biological Weathering)
Lecture 13 - Weathering of Silicate rocks and Weathering Products
Lecture 14 - Factors of Weathering
Lecture 15 - Soil Formation
Lecture 16 - Soil Formation Processes
Lecture 17 - Soil Classification
Lecture 18 - Mass Wasting
Lecture 19 - Classification of Mass Wasting - I
Lecture 20 - Classification of Mass Wasting - II
Lecture 21 - Hill Slope Evolution - I
Lecture 22 - Hill Slope Evolution - II
Lecture 23 - Arid Zone Geomorphology
Lecture 24 - Landforms in Dry Region
Lecture 25 - Pediment Evolution
Lecture 26 - Aeolian Processes and Landforms - I
Lecture 27 - Aeolian Processes and Landforms - II
Lecture 28 - Wind Erosional Landforms - I
Lecture 29 - Wind Erosional Landforms - II

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

Lecture 30 - Dune Classification - I
Lecture 31 - Dune Classification - II
Lecture 32 - Coastal Geomorphology - I
Lecture 33 - Coastal Geomorphology and Landforms
Lecture 34 - Coastal Geomorphology - II
Lecture 35 - Coastal Geomorphology - III
Lecture 36 - Shoreline Platform
Lecture 37 - Coastal Geomorphology - IV
Lecture 38 - Coastal Geomorphology - V
Lecture 39 - Coastal Geomorphology - VI
Lecture 40 - Coastal Geomorphology - VII
Lecture 41 - Coastal Geomorphology - VIII
Lecture 42 - Coastal Geomorphology - IX
Lecture 43 - Tectonic Geomorphology
Lecture 44 - Fluvial Process
Lecture 45 - Fluvial Process - I
Lecture 46 - Fluvial Process - II
Lecture 47 - Fluvial Process - III
Lecture 48 - Fluvial Process - IV
Lecture 49 - Fluvial Process - V and Drainage Analysis
Lecture 50 - Fluvial Process - VI and Drainage Analysis
Lecture 51 - Fluvial Geomorphology River System - I
Lecture 52 - Fluvial Geomorphology River System - II
Lecture 53 - Glacial Geomorphology - I
Lecture 54 - Glacial Geomorphology - II (Valley Glacier)
Lecture 55 - Glacial Geomorphology - III
Lecture 56 - Glacial Geomorphology - IV (Geomorphic Changes by Glacier)
Lecture 57 - Exploration Geomorphology in Oil field Sandbody Geometry - I
Lecture 58 - Exploration Geomorphology in Oil Field Sandbody Geometry - II
Lecture 59 - Seismic Geomorphology - I
Lecture 60 - Seismic Geomorphology - II

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

NPTEL Video Course - Civil Engineering - NOC:Remote Sensing Essentials

Subject Co-ordinator - Dr.Arun K.Saraf

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Rudiments of Remote Sensing and Advantages
- Lecture 2 - Historical Perspective of development of remote sensing technology
- Lecture 3 - EM spectrum, solar reflection and thermal emission
- Lecture 4 - Interaction of EM radiation with atmosphere including atmospheric scattering, absorption and emission
- Lecture 5 - Interaction mechanisms of EM radiation with ground, spectral response curves
- Lecture 6 - Laws of Radiation and their relevance in Remote Sensing
- Lecture 7 - Basis of remote sensing image representation
- Lecture 8 - Various Remote Sensing Platforms
- Lecture 9 - Multi-spectral scanners and imaging devices
- Lecture 10 - Significant characteristics of LANDSAT, SPOT, Sentinel sensors
- Lecture 11 - Prominent characteristics of IRS, Cartosat, ResourceSat sensors
- Lecture 12 - Unmanned Aerial Vehicle/Drone
- Lecture 13 - Passive Microwave Remote Sensing
- Lecture 14 - Image characteristics and different resolutions in Remote Sensing
- Lecture 15 - Different techniques of Image acquisition
- Lecture 16 - Importance of digital image processing
- Lecture 17 - Digital Image Processing Software
- Lecture 18 - Basic image enhancement techniques
- Lecture 19 - Colour representations and transformations
- Lecture 20 - Image Histograms and statistics
- Lecture 21 - Atmospheric errors and corrections
- Lecture 22 - Geometric transformations/Geo-referencing Technique
- Lecture 23 - Digital Image Processing Software Demonstration - 1
- Lecture 24 - Image enhancement techniques - 1
- Lecture 25 - Image enhancement techniques - 2
- Lecture 26 - Digital Image Processing Software Demonstration - 2
- Lecture 27 - Spatial Filtering Techniques, Band rationing and PCA
- Lecture 28 - Frequency Domain Fourier Transformation
- Lecture 29 - Digital Image Processing Software Demonstration - 3

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

- Lecture 30 - Unsupervised image classification and density slicing techniques
- Lecture 31 - Supervised image classification techniques and limitations
- Lecture 32 - Digital Image Processing Software Demonstration - 4
- Lecture 33 - LiDAR Technique and applications
- Lecture 34 - Mosaicking, subsets, sub-sampling techniques and applications
- Lecture 35 - False Topographic Phenomena and correction techniques - 1
- Lecture 36 - False Topographic Phenomena and correction techniques - 2
- Lecture 37 - High Spatial Resolution Satellite Images and limitations
- Lecture 38 - Basic Image Compression techniques and different image file formats
- Lecture 39 - Hyperspectral Remote Sensing
- Lecture 40 - Digital Image vs Digital Photograph
- Lecture 41 - NDVI and other indices
- Lecture 42 - Active Microwave Remote Sensing - 1
- Lecture 43 - Active Microwave Remote Sensing - 2
- Lecture 44 - Radar Images interpretation and applications
- Lecture 45 - SAR Interferometry (InSAR) Technique - 1
- Lecture 46 - SAR Interferometry (InSAR) Technique - 2
- Lecture 47 - Principles of image interpretation
- Lecture 48 - Image interpretation of different geological landforms, rock types and structures
- Lecture 49 - Remote Sensing of Moon and Mars
- Lecture 50 - Google Earth and its Applications
- Lecture 51 - Integrated applications of RS and GIS in groundwater studies - 1
- Lecture 52 - Integrated applications of RS and GIS in groundwater studies - 2
- Lecture 53 - Applications of Remote Sensing in Earthquake Studies - 1
- Lecture 54 - Applications of Remote Sensing in Earthquake Studies - 2
- Lecture 55 - Different sources of free satellite images
- Lecture 56 - Limitations of Remote Sensing Techniques

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

NPTEL Video Course - Civil Engineering - NOC:Earthquake Resistant Design of Foundations

Subject Co-ordinator - Prof. B. K. Maheshwari

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction
Lecture 2 - Shallow Foundations
Lecture 3 - Shallow Foundations
Lecture 4 - Shallow Foundations
Lecture 5 - Shallow Foundations
Lecture 6 - Combined Footings
Lecture 7 - Raft Foundations
Lecture 8 - Raft Foundations
Lecture 9 - Footings under Dynamic Loads
Lecture 10 - Footings under Dynamic Loads
Lecture 11 - Footings under Dynamic Loads
Lecture 12 - Footings under Dynamic Loads
Lecture 13 - Pile Foundations subjected to Static Vertical Load
Lecture 14 - Pile Foundations
Lecture 15 - Pile Foundations under Lateral Loads
Lecture 16 - Pile Foundations under Lateral Loads
Lecture 17 - Pile Foundations under Lateral Loads
Lecture 18 - Pile Foundations under Lateral Loads
Lecture 19 - Dynamic Analysis of Piles under Vertical and Horizontal Vibrations
Lecture 20 - Dynamic Analysis of Piles under Horizontal Vibration
Lecture 21 - Seismic Response of Pile Foundations - 1
Lecture 22 - Seismic Response of Pile Foundations - 2
Lecture 23 - Combined Pile-Raft Foundations (CPRF) - General
Lecture 24 - Geotechnical and Seismic Analyses of CPRF
Lecture 25 - Design of Piles in Liquefiable Soils - 1
Lecture 26 - Design of Piles in Liquefiable Soils - 2
Lecture 27 - Introduction to Well Foundations
Lecture 28 - Lateral Stability of Well Foundations
Lecture 29 - Lateral Stability, Construction and Sinking of Well Foundation

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- Lecture 30 - Titling and Shifting of Wells, Numerical Problems
- Lecture 31 - Introduction to Soil-Structure Interaction
- Lecture 32 - Effects of Soil-Structure Interaction
- Lecture 33 - SGM and Wave Propagation
- Lecture 34 - Dispersion, Attenuation of Waves and Damping
- Lecture 35 - Ground Response Analysis (GRA)
- Lecture 36 - Soil-Pile Interaction (SPI)
- Lecture 37 - Raft Foundations â Numerical Examples
- Lecture 38 - Foundations on Slopes - 1
- Lecture 39 - Foundations on Slopes - 2
- Lecture 40 - Codal Provisions

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

NPTEL Video Course - Civil Engineering - NOC:Geographic Information Systems

Subject Co-ordinator - Prof. Arun K. Saraf

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - What is Geographic Information Systems ?
Lecture 2 - Essential Components of GIS
Lecture 3 - Different types of vector data
Lecture 4 - Concept of topology
Lecture 5 - Demonstration through GIS software
Lecture 6 - Raster data model and comparisons with vector
Lecture 7 - TIN data model and comparisons with raster
Lecture 8 - Non-spatial data (attributes) and their types
Lecture 9 - Vector data compression techniques
Lecture 10 - Demonstration through GIS software
Lecture 11 - Raster data compression techniques - 1
Lecture 12 - Raster data compression techniques - 2
Lecture 13 - Georeferencing
Lecture 14 - Pre-processing of spatial datasets - 1
Lecture 15 - Demonstration through GIS software
Lecture 16 - Pre-processing of spatial datasets - 2
Lecture 17 - Pre-processing of spatial datasets - 3
Lecture 18 - Spatial Interpolation Techniques - 1
Lecture 19 - Spatial Interpolation Techniques - 2
Lecture 20 - GIS ANALYSIS - 1
Lecture 21 - GIS Analysis - 2
Lecture 22 - GIS Analysis - 3
Lecture 23 - GIS Analysis - 4
Lecture 24 - GIS Analysis - 5
Lecture 25 - Demonstration through GIS software
Lecture 26 - GIS Analysis - 6
Lecture 27 - GIS Analysis - 7
Lecture 28 - Attributes Classification Methods
Lecture 29 - Special database systems and their types - 1

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- Lecture 30 - Demonstration through GIS software
- Lecture 31 - Spatial database systems and their types - 2
- Lecture 32 - Concept of NoData in Raster
- Lecture 33 - Different map projections
- Lecture 34 - Concept of digital elevation model (DEM) and how it is represented
- Lecture 35 - Demonstration through GIS software
- Lecture 36 - Various techniques to generate digital elevation model - 1
- Lecture 37 - Various techniques to generate digital elevation model - 2
- Lecture 38 - Various techniques to generate digital elevation model - 3
- Lecture 39 - Digital Elevation Models and different types of resolutions
- Lecture 40 - Demonstration through GIS software
- Lecture 41 - How to assess quality of a DEM?
- Lecture 42 - Integration of DEMs with satellite data
- Lecture 43 - Demonstration through GIS software...
- Lecture 44 - Common derivatives of DEMs - Slope and aspect - 1
- Lecture 45 - Common derivatives of DEMs - Slope and aspect - 2
- Lecture 46 - Common derivatives of DEMs - Slope and aspect - 3
- Lecture 47 - Demonstration through GIS software
- Lecture 48 - DEMs derivatives - 1
- Lecture 49 - DEMs derivatives - 2
- Lecture 50 - DEMs derivatives - 3
- Lecture 51 - DEMs derivatives - 4
- Lecture 52 - Shaded relief models and their applications
- Lecture 53 - DEM based Surface Hydrologic Modelling - 1
- Lecture 54 - DEM based Surface Hydrologic Modelling - 2
- Lecture 55 - DEMs and Dam Simulation and its application in groundwater hydrology
- Lecture 56 - Applications of DEMs in Viewshed and Flood Hazard Mapping
- Lecture 57 - Applications of DEMs in solar and wind energy potential estimations
- Lecture 58 - DEMs Sources, limitations and future of Digital Elevation Models
- Lecture 59 - Errors in GIS and key elements of maps
- Lecture 60 - Limitations of GIS

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

NPTEL Video Course - Civil Engineering - NOC:Water and Waste Water Treatment

Subject Co-ordinator - Prof. Bhanu Prakash Vellanki

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Importance of water and wastewater treatment
Lecture 2 - Life expectancy and real-world scenario
Lecture 3 - Course outline
Lecture 4 - Review of fundamentals
Lecture 5 - Mass balance
Lecture 6 - Mass Balance: Batch reactor, CSTR, and Plug flow reactors
Lecture 7 - Mass balance: Comparison of CSTR and Plug flow reactor
Lecture 8 - Mass Balance: Non ideal system and Water quality parameters
Lecture 9 - Water quality: DO and ways to measure it
Lecture 10 - Water quality: Nutrients in water
Lecture 11 - Water quality: Total suspended solids and Pathogens
Lecture 12 - Wastewater treatment plant: basic principals
Lecture 13 - Wastewater treatment plant: Preliminary treatment
Lecture 14 - Wastewater treatment plant: Sedimentation and basics
Lecture 15 - Sedimentation: Discrete and Flocculant settling
Lecture 16 - Design of primary settling tank
Lecture 17 - Biological treatment: BOD and Nutrient removal
Lecture 18 - Analysis of biological removal process(ASP)
Lecture 19 - Activated sludge process: Material balance for aeration basin
Lecture 20 - Oxygen transfer: types and basic principals
Lecture 21 - Relevance of F/M ratio and Design Parameters of Activated Sludge Process
Lecture 22 - Sludge Bulking and Activated Sludge Variations
Lecture 23 - Sequencing Batch Reactor
Lecture 24 - Nitrogen Removal - I
Lecture 25 - Nitrogen Removal - II and Phosphorus Removal - I
Lecture 26 - Phosphorus Removal - II
Lecture 27 - Secondary Clarifiers and Attached Growth System
Lecture 28 - Disinfection
Lecture 29 - Chlorination Disinfection

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

- Lecture 30 - Disinfection By-products (DBPs) and Disinfectant Removal
- Lecture 31 - Water demand
- Lecture 32 - Water Quality Parameters
- Lecture 33 - Overview of Water Treatment
- Lecture 34 - Physico-Chemical treatment
- Lecture 35 - Coagulation - I
- Lecture 36 - Coagulation - II
- Lecture 37 - Rapid Mixing
- Lecture 38 - Flocculation - I
- Lecture 39 - Flocculation - II
- Lecture 40 - Flocculent settling
- Lecture 41 - Filtration
- Lecture 42 - Depth filtration
- Lecture 43 - Design of Sand filter and Surface filtration
- Lecture 44 - Disinfection
- Lecture 45 - Hardness - I
- Lecture 46 - Hardness - II
- Lecture 47 - Lime-Soda softening - I
- Lecture 48 - Lime-Soda softening - II
- Lecture 49 - Recarbonation
- Lecture 50 - Types of Softening Basin and Adsorption
- Lecture 51 - Adsorption
- Lecture 52 - Adsorption Isotherms
- Lecture 53 - Ion Exchange
- Lecture 54 - Nanofiltration and RO
- Lecture 55 - Aeration: Removal of Fe and Mn
- Lecture 56 - Residual Management
- Lecture 57 - Sludge Thickening
- Lecture 58 - Stabilization of Sludge
- Lecture 59 - Anaerobic and Aerobic digestion of sludge
- Lecture 60 - Conditioning, Dewatering and Disposal of Sludge

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

NPTEL Video Course - Civil Engineering - NOC:Rock Engineering

Subject Co-ordinator - Prof. Priti Maheshwari

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction
Lecture 2 - Minerals and Rock Classes
Lecture 3 - Mineral Identification Procedure
Lecture 4 - Rock Identification Procedure
Lecture 5 - Geological Structures and Discontinuities
Lecture 6 - Spherical Representation of Geological Data - 1
Lecture 7 - Spherical Representation of Geological Data - 2
Lecture 8 - Spherical Representation of Geological Data - 3
Lecture 9 - Application of Graphical Representation of Geological Data
Lecture 10 - Laboratory Testing of Rocks - Sampling
Lecture 11 - Laboratory testing of Rocks - Preparations and UCS
Lecture 12 - Factors Influencing UCS and Modes of Failure in Compression
Lecture 13 - Failure Mechanism and Post-Failure Behaviour in Compression, Indirect Method for UCS
Lecture 14 - Indirect Method for UCS, Brazilian Test, Schmidt Rebound Hardness Test
Lecture 15 - Sound Velocity Test, Slake Durability Test, Swelling Pressure and Free Swell Test and Void Index
Lecture 16 - Shear Tests - 1
Lecture 17 - Shear Tests - 2
Lecture 18 - Engineering Classification of Intact Rocks, Concept of Rock Mass, RQD
Lecture 19 - Concept of Rock Mass, Factors Affecting Discontinuities
Lecture 20 - Factors Affecting Discontinuities
Lecture 21 - Classification of Rock Mass: Rock Mass Rating (RMR) - 1
Lecture 22 - Classification of Rock Mass: Rock Mass Rating (RMR) - 2
Lecture 23 - Classification of Rock Mass: Rock Mass Quality (Q-system) - 1
Lecture 24 - Classification of Rock Mass: Rock Mass Quality (Q-system) - 2
Lecture 25 - Classification of Rock Mass: Geological Strength Index (GSI)
Lecture 26 - Strength Criteria for Isotropic and Anisotropic Rock - 1
Lecture 27 - Strength Criteria for Isotropic and Anisotropic Rocks -2, Mohr's Failure Theory
Lecture 28 - Mohr-Coulomb Failure Criterion
Lecture 29 - Mohr-Coulomb Failure Criterion, Coulomb Navier Failure Criterion

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- Lecture 30 - Concept of Instantaneous c and $\dot{\epsilon}$: Balmer Approach
- Lecture 31 - Empirical Failure Criteria: Basics of Regression Analysis
- Lecture 32 - Hoek and Brown Criterion (1980)
- Lecture 33 - Parameters of Failure Criteria
- Lecture 34 - Failure Criteria for Rock Mass
- Lecture 35 - Tunneling: Underground Excavations
- Lecture 36 - Tunneling: Ground Conditions
- Lecture 37 - Elastic Stress Distribution Around Circular Tunnels - 1
- Lecture 38 - Elastic Stress Distribution Around Circular Tunnels - 2
- Lecture 39 - Elastic Analysis of Circular Tunnels - Displacements
- Lecture 40 - Thick Wall Cylinder in Biaxial Stress Field
- Lecture 41 - Elasto-Plastic Stress Distribution Around Circular Tunnel
- Lecture 42 - Underground Excavation Failure Mechanisms
- Lecture 43 - Structurally Controlled Failure: Roof Failure
- Lecture 44 - Structurally Controlled Failure: Sidewall Failures - 1
- Lecture 45 - Structurally Controlled Failure: Sidewall Failures - 2
- Lecture 46 - Rock Mass Support Interaction Analysis - 1
- Lecture 47 - Rock Mass Support Interaction Analysis - 2
- Lecture 48 - Rock Slope Stability
- Lecture 49 - Rock Slope Stability - Plane Failure
- Lecture 50 - Rock Slope Stability - Wedge Failure
- Lecture 51 - Rock Slope Stability - Circular Failure
- Lecture 52 - Rock Slope Stability - Toppling Failure - 1
- Lecture 53 - Rock Slope Stability - Toppling Failure - 2
- Lecture 54 - Rock Slope Stability - Toppling Failure - 3
- Lecture 55 - Rock Slope Stabilization
- Lecture 56 - Foundations on Weak Rocks
- Lecture 57 - Ultimate Bearing Capacity Using Bell's Approach
- Lecture 58 - Bearing Capacity from Classification Approaches and Based on UCS
- Lecture 59 - Bearing Capacity Based on Plate Load test; Treatment of Foundations
- Lecture 60 - Dam Foundation Problems

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

NPTEL Video Course - Civil Engineering - NOC:Finite Element Method and Computational Structural Dynamics

Subject Co-ordinator - Prof. Manish Shrikhande

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Scientific Computations - I
Lecture 2 - Introduction to Scientific Computations - II
Lecture 3 - Basic Concepts of Linear Algebra
Lecture 4 - Polynomial Interpolation and Numerical Quadrature - I
Lecture 5 - Polynomial Interpolation and Numerical Quadrature - II
Lecture 6 - Polynomial Interpolation and Numerical Quadrature - III
Lecture 7 - Polynomial Interpolation and Numerical Quadrature - IV
Lecture 8 - Mathematical Modelling and Approximate Solutions - I
Lecture 9 - Mathematical Modelling and Approximate Solutions - II
Lecture 10 - Mathematical Modelling and Approximate Solutions - III
Lecture 11 - Approximation via Variational Principles
Lecture 12 - Introduction to the Finite Element Concept
Lecture 13 - Finite Elements of C^0 Continuity in 1-D - I
Lecture 14 - Finite Elements of C^0 Continuity in 1-D - II
Lecture 15 - Finite Elements of C^0 Continuity in 1-D - III
Lecture 16 - Finite Elements of C^0 Continuity in 1-D - IV
Lecture 17 - Finite Elements of C^1 Continuity in 1-D - I
Lecture 18 - Finite Elements of C^1 Continuity in 1-D - II
Lecture 19 - Finite Elements of C^0 Continuity in 2-D and 3-D - I
Lecture 20 - Finite Elements of C^0 Continuity in 2-D and 3-D - II
Lecture 21 - Finite Elements of C^0 Continuity in 2-D and 3-D - III
Lecture 22 - Finite Elements of C^0 Continuity in 2-D and 3-D - IV
Lecture 23 - Finite Elements of C^0 Continuity in 2-D and 3-D - V
Lecture 24 - Finite Elements of C^0 Continuity in 2-D and 3-D - VI
Lecture 25 - Finite Elements of C^0 Continuity in 2-D and 3-D - VII
Lecture 26 - Finite Elements of C^0 Continuity in 2-D and 3-D - VIII
Lecture 27 - Finite Elements of C^0 Continuity in 2-D and 3-D - IX
Lecture 28 - Finite Elements of C^0 Continuity in 2-D and 3-D - X
Lecture 29 - Finite Elements of C^0 Continuity in 2-D and 3-D - XI

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- Lecture 30 - Finite Elements of C^0 Continuity in 2-D and 3-D - XII
- Lecture 31 - Mapped Elements - I
- Lecture 32 - Mapped Elements - II
- Lecture 33 - Mapped Elements - III
- Lecture 34 - Mapped Elements - IV
- Lecture 35 - Mapped Elements - V
- Lecture 36 - Variational Crimes
- Lecture 37 - The Patch Test
- Lecture 38 - Finite Elements for Plates and Shells - I
- Lecture 39 - Finite Elements for Plates and Shells - II
- Lecture 40 - Finite Elements for Plates and Shells - III
- Lecture 41 - The Time Dimension and Dynamic Effects - I
- Lecture 42 - The Time Dimension and Dynamic Effects - II
- Lecture 43 - Solution of Linear Simultaneous Equations - I
- Lecture 44 - Solution of Linear Simultaneous Equations - II
- Lecture 45 - Solution of Linear Simultaneous Equations - III
- Lecture 46 - Solution of Linear Simultaneous Equations - IV
- Lecture 47 - The Algebraic Eigenvalue Problem - I
- Lecture 48 - The Algebraic Eigenvalue Problem - II
- Lecture 49 - The Algebraic Eigenvalue Problem - III
- Lecture 50 - The Algebraic Eigenvalue Problem - IV
- Lecture 51 - Time Marching - I
- Lecture 52 - Time Marching - II
- Lecture 53 - Time Marching - III
- Lecture 54 - Discrete Fourier Transform - I
- Lecture 55 - Discrete Fourier Transform - II
- Lecture 56 - Discrete Fourier Transform - III
- Lecture 57 - Discrete Fourier Transform - IV
- Lecture 58 - Discrete Fourier Transform - V
- Lecture 59 - Discrete Fourier Transform - VI
- Lecture 60 - Discrete Fourier Transform - VII

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

NPTEL Video Course - Civil Engineering - NOC:Sustainable Transportation systems

Subject Co-ordinator - Prof. Bhola Ram Gurjar

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Transportation Systems - I
Lecture 2 - Introduction to Transportation Systems - II
Lecture 3 - Concept of Sustainability
Lecture 4 - Current Scenario of Transportation in India
Lecture 5 - Climate Change: Indicators and Impacts
Lecture 6 - Impacts of Transportation Systems - I
Lecture 7 - Impacts of Transportation Systems - II
Lecture 8 - Impacts of Transportation Systems - III
Lecture 9 - Impacts of Transportation Systems - IV
Lecture 10 - Impacts of Transportation Systems - V
Lecture 11 - Introduction to Environment Impact Assessment (EIA)
Lecture 12 - EIA Processes - I
Lecture 13 - EIA Processes - II
Lecture 14 - Methodologies of EIA
Lecture 15 - EIA Process in India
Lecture 16 - Global practices in EIA process
Lecture 17 - EIA Case Study - I
Lecture 18 - EIA Case Study - II
Lecture 19 - EIA Case Study - III
Lecture 20 - EIA Case Study - IV
Lecture 21 - EIA Case Study - V
Lecture 22 - Introduction of Land use
Lecture 23 - Land use Planning and Zoning
Lecture 24 - Transit Oriented Development (TOD)
Lecture 25 - TOD Implementation
Lecture 26 - TOD Case study-I: Section of Delhi Metro
Lecture 27 - TOD Case study-II: TOD planning for Belgrade, Serbia
Lecture 28 - TOD Case study-III: Naya Raipur
Lecture 29 - Introduction to Sustainable Transport Planning

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

- Lecture 30 - Sustainable Transport Planning and Approaches-I: The Traditional Transport Planning Process
- Lecture 31 - Sustainable Transport Planning and Approaches-II: The Contemporary Planning Process
- Lecture 32 - Sustainable Transport Planning and Approaches-III: Management Strategies
- Lecture 33 - Life Cycle Assessment (LCA): An Introduction
- Lecture 34 - Life Cycle Assessment: Theory and Practice
- Lecture 35 - LCA Case Study
- Lecture 36 - Material Flow Analysis (MFA)
- Lecture 37 - Material Flow Analysis: Case Study
- Lecture 38 - Concept of Circular Economy
- Lecture 39 - Circular Economy in Transport Sector
- Lecture 40 - Modelling of Transport Emissions - I
- Lecture 41 - Modelling of Transport Emissions - II
- Lecture 42 - Dispersion Models for Transport Emissions
- Lecture 43 - Traffic Noise Emission Models
- Lecture 44 - Initiatives and Policies for Environmental Sustainability
- Lecture 45 - National Clean Air Programme and Transport Sector
- Lecture 46 - Decarbonizing the Transport Sector
- Lecture 47 - Alternate Fuels and Sustainable Transportation
- Lecture 48 - Electric Vehicles and Sustainability
- Lecture 49 - Emerging Transport Technology - Hyperloop
- Lecture 50 - Case Study-I: Bus Rapid Transit System (BRTS)
- Lecture 51 - Case Study-II: Mass Rapid Transit (MRT) Systems
- Lecture 52 - Case Study-III: Sustainability in Airports
- Lecture 53 - Case Study-IV: Sustainable Water Transport
- Lecture 54 - Case Study-V: Non-Motorized Transport (NMT)
- Lecture 55 - openLCA - An LCA Tool
- Lecture 56 - openLCA Application - Case Study
- Lecture 57 - Material Flow Analysis Tool - STAN
- Lecture 58 - Sustainability Indicators
- Lecture 59 - Sustainable Transport Appraisal Rating (STAR)
- Lecture 60 - Measuring Sustainability

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

NPTEL Video Course - Civil Engineering - NOC:Air Pollution and Control

Subject Co-ordinator - Prof. Bhola Ram Gurjar

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Introduction to Air Pollution - I
- Lecture 2 - Introduction to Air Pollution - II
- Lecture 3 - Impact of Air Pollution on Human Health
- Lecture 4 - Impact of Air Pollution on Vegetation and Animals
- Lecture 5 - Impact of Air Pollution on Building Materials and Structures
- Lecture 6 - Impact of Air Pollution on Atmosphere, Soil and Water Bodies
- Lecture 7 - Sources and Classification of Air Pollutants
- Lecture 8 - Atmospheric Formation and Fate of Air Pollutants
- Lecture 9 - Meteorological Parameters and Air Pollution
- Lecture 10 - Atmospheric Stability and Lapse Rates
- Lecture 11 - Atmospheric Stability and Plume Behaviour
- Lecture 12 - Boundary Layer, Mixing Height, Stack Height and Plume Rise
- Lecture 13 - Status of Air Quality Monitoring in India
- Lecture 14 - Air Quality Index (AQI)
- Lecture 15 - Introduction to Air Quality Modelling
- Lecture 16 - Gaussian Dispersion Model for Point Source
- Lecture 17 - Gaussian Dispersion Model for Line Source and Area Source
- Lecture 18 - Determination of Concentration of Pollutants using Gaussian Dispersion Model
- Lecture 19 - Assimilative Capacity of an Airshed
- Lecture 20 - Emission Inventory
- Lecture 21 - Transport Emission Inventory
- Lecture 22 - Emission Inventory for Industrial Sector
- Lecture 23 - Emission Inventory for Agriculture Sector
- Lecture 24 - Emission Inventory for Residential and Commercial Sectors
- Lecture 25 - Application of Remote Sensing/Satellite-Based Data in Air Quality Management
- Lecture 26 - Emission Inventory: Case Study
- Lecture 27 - Methods of Source Apportionment
- Lecture 28 - Source apportionment using Receptor Modeling
- Lecture 29 - Indoor Air Quality: An Introduction

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

- Lecture 30 - Specific Sources and Types of Indoor Air Pollutants
- Lecture 31 - Health Impacts Due to Indoor Air Pollution
- Lecture 32 - Assessment of Exposure to Indoor Air Pollution
- Lecture 33 - Indoor Air Quality Modelling
- Lecture 34 - Technologies to Mitigate Indoor Air Pollution
- Lecture 35 - Personal Exposure to Fine Particles: A Case Study
- Lecture 36 - Indoor Air Quality in Nursery Buildings, UAE â Case Study
- Lecture 37 - Global and Regional Environmental Issues - Ozone Depletion
- Lecture 38 - Global and Regional Environmental Issues - Global Warming
- Lecture 39 - Global and Regional Environmental Issues - Climate Change
- Lecture 40 - Global and Regional Environmental Issues - Acid Rain
- Lecture 41 - Introduction to Air Pollution Control
- Lecture 42 - Air Pollution Control Devices - Part 1
- Lecture 43 - Air Pollution Control Devices - Part 2
- Lecture 44 - Air Pollution Control Devices - Part 3
- Lecture 45 - Air Pollution Control Devices - Part 4
- Lecture 46 - Tutorial-II - Practice Examples on Particulate Emission Control Devices
- Lecture 47 - Tutorial-III - Practice Examples on Gaseous Emission Control Devices
- Lecture 48 - Air Quality Standards
- Lecture 49 - Air Pollution Legislations and Regulations
- Lecture 50 - National Policies for Managing the Ambient Air Quality (AAQ)
- Lecture 51 - International Environmental Treaties to Reduce Air Pollution and GHG Emissions
- Lecture 52 - Impact of Lockdown on Air Quality
- Lecture 53 - Sector Wise Mitigation Measures to Control Air Pollution
- Lecture 54 - Challenges and the Way Forward
- Lecture 55 - Sampling and Analysis of PM10 in Ambient Air
- Lecture 56 - Sampling and Analysis of PM2.5 in Ambient Air
- Lecture 57 - Sampling and Analysis of SO2 and NO2 in Ambient Air
- Lecture 58 - Stack Emission Monitoring using Isokinetic Sampling
- Lecture 59 - Indoor Air Quality Assessment using Multi Gas Monitor
- Lecture 60 - Sampling and Analysis of PM10 and PM2.5 using Spectrometer

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

NPTEL Video Course - Civil Engineering - NOC:Underground Space Technology

Subject Co-ordinator - Prof. Priti Maheshwari

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Basics of Rock Engineering: Introduction
Lecture 2 - Basics of Rock Engineering: coring, sampling, UCS of intact rock
Lecture 3 - Basics of Rock Engineering: Tensile strength and shear strength of intact rock
Lecture 4 - Basics of Rock Engineering: Classification of intact rocks, concept of rock mass, RQD
Lecture 5 - Basics of Rock Engineering: Classification of rock mass - 1
Lecture 6 - Basics of Rock Engineering: Classification of rock mass: Q-system and GSI
Lecture 7 - Basics of Rock Engineering: Failure criteria for rocks - 1
Lecture 8 - Basics of Rock Engineering: Empirical failure criteria
Lecture 9 - Tunneling: Underground excavations
Lecture 10 - Tunneling: Ground conditions
Lecture 11 - Planning of and exploration for underground construction projects
Lecture 12 - Underground excavation failure mechanisms
Lecture 13 - Application of stereographic projection method: roof failure
Lecture 14 - Application of stereographic projection method: sidewall failures - 1
Lecture 15 - Application of stereographic projection method: sidewall failures - 2
Lecture 16 - Elastic stress distribution around circular tunnels - 1
Lecture 17 - Elastic stress distribution around circular tunnels - 2
Lecture 18 - Elastic analysis of circular tunnels-displacements
Lecture 19 - Thick wall cylinder in biaxial stress field
Lecture 20 - Stress distribution around non-circular openings in elastic ground conditions - 1
Lecture 21 - Stress distribution around non-circular openings in elastic ground conditions - 2
Lecture 22 - Stress distribution under different in-situ stress conditions: design principles
Lecture 23 - Stress distribution for multiple openings
Lecture 24 - Openings in laminated rocks - 1
Lecture 25 - Openings in laminated rocks - 2
Lecture 26 - Openings in laminated rocks - 3
Lecture 27 - Openings in laminated rocks - 4
Lecture 28 - Elasto-plastic analysis of tunnels: Tresca yield criterion - 1
Lecture 29 - Elasto-plastic analysis of tunnels: Tresca yield criterion - 2

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

- Lecture 30 - Elasto-plastic analysis of tunnels: Mohr-Coulomb criterion
- Lecture 31 - Application of rock mass classification system: Terzaghi's rock load theory - 1
- Lecture 32 - Application of rock mass classification system: Terzaghi's rock load theory - 2
- Lecture 33 - Application of rock mass classification system: rock mass rating (RMR)
- Lecture 34 - Tunnel hazards
- Lecture 35 - Tunnel hazards: squeezing ground conditions
- Lecture 36 - Application of rock mass classification system: rock mass quality system - 1
- Lecture 37 - Application of rock mass classification system: rock mass quality system - 2, NATM, NMT
- Lecture 38 - Modulus of deformation of rock mass using Q-system, rock mass number, plate loading test
- Lecture 39 - Modulus of deformation of rock mass: uni-axial jacking/plate jacking test
- Lecture 40 - Modulus of deformation of rock mass: radial jacking test and Goodman jack test
- Lecture 41 - Rock mass support interaction analysis: ground response and support reaction curves - 1
- Lecture 42 - Rock mass support interaction analysis: ground response and support reaction curves - 2
- Lecture 43 - Rock mass support interaction analysis: influencing factors, Ladanyi's E-P analysis
- Lecture 44 - Ladanyi's elasto-plastic analysis of tunnels: analysis of stresses and deformations
- Lecture 45 - Rock-support interaction analysis: required support line, analysis of available support
- Lecture 46 - Rock-support interaction analysis: for shotcrete/concrete lining and blocked steel sets
- Lecture 47 - Rock-support interaction analysis: for ungrouted rock bolts, grouted rock bolts/cables
- Lecture 48 - Calculation sequence for rock-support interaction analysis - 1
- Lecture 49 - Calculation sequence for rock-support interaction analysis - 2
- Lecture 50 - Calculation sequence for rock-support interaction analysis - example
- Lecture 51 - Methods of tunnel excavation, various support systems: shotcrete
- Lecture 52 - Shotcrete
- Lecture 53 - Various support systems: rock bolts
- Lecture 54 - Permeability and groutability - 1
- Lecture 55 - Permeability and groutability - 2
- Lecture 56 - Rock stress determination: flat jack test
- Lecture 57 - Rock stress determination: hydraulic fracturing technique
- Lecture 58 - Instrumentation and monitoring of tunnels - 1
- Lecture 59 - Instrumentation and monitoring of tunnels - 2
- Lecture 60 - Few case studies

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

NPTEL Video Course - Civil Engineering - NOC:Environmental Modeling and Simulation

Subject Co-ordinator - Prof. Gargi Singh

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction - Part I
Lecture 2 - Introduction - Part II
Lecture 3 - 1D Models - Part I
Lecture 4 - 1D Models - Part II
Lecture 5 - Logistic Growth Models - Part I
Lecture 6 - Logistic Growth Models - Part II
Lecture 7 - 1D Models: Auto Catalysis
Lecture 8 - Semi Quantitative Approach to Solve 1D Models
Lecture 9 - Using MATLAB for 1D systems
Lecture 10 - Using R for 1D Systems
Lecture 11 - Bifurcations - I
Lecture 12 - Bifurcations - II
Lecture 13 - Bifurcations - III
Lecture 14 - Bifurcations - IV
Lecture 15 - Bifurcations - V
Lecture 16 - Insect Outbreak Model
Lecture 17 - 2D Systems - I
Lecture 18 - 2D Systems - II
Lecture 19 - 2D Systems - III
Lecture 20 - 2D Systems - IV
Lecture 21 - 2D Systems - V
Lecture 22 - 2D Systems - VI
Lecture 23 - 2D Systems - VII
Lecture 24 - 2D Systems - VIII
Lecture 25 - 2D Systems - IX
Lecture 26 - 2D Systems - X
Lecture 27 - 2D Systems - XI
Lecture 28 - 2D Systems - XII
Lecture 29 - Limit Cycles - I

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

Lecture 30 - Limit cycles - II and Bifurcations
Lecture 31 - Bifurcations
Lecture 32 - Bifurcations - I
Lecture 33 - Bifurcations - II
Lecture 34 - Bifurcations - III
Lecture 35 - Application of Empirical Approach - I
Lecture 36 - Application of Empirical Approach - II
Lecture 37 - Application of Empirical Approach - III
Lecture 38 - Gaussian Plumes - Air - I
Lecture 39 - Gaussian Plumes - Air - II
Lecture 40 - Gaussian Plumes - Air - III
Lecture 41 - Gaussian Plumes - Air - IV
Lecture 42 - Gaussian Plumes - Air - V
Lecture 43 - Gaussian Plumes - Air - VI
Lecture 44 - Ground Water - I
Lecture 45 - Ground Water - II
Lecture 46 - Environmental Transport Processes
Lecture 47 - Environmental Non-reactive and Reactive Processes - I
Lecture 48 - Environmental Non-reactive and Reactive Processes - II
Lecture 49 - Environmental Non-reactive and Reactive Processes - III
Lecture 50 - Homogeneous reactors
Lecture 51 - Heterogeneous Reactors - I
Lecture 52 - Heterogeneous Reactors - II
Lecture 53 - Ground Water Extraction
Lecture 54 - 2D Model Using MATLAB
Lecture 55 - Phase Portrait of 1D Models Using R
Lecture 56 - Phase Portrait of 2D Models Using R
Lecture 57 - Simulations - I
Lecture 58 - Simulations - II
Lecture 59 - Application: Climate change and GDP - I
Lecture 60 - Application: Climate change and GDP - II

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

NPTEL Video Course - Civil Engineering - NOC:Advanced Geomatics Engineering

Subject Co-ordinator - Prof. Pradeep Kumar Garg

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Geomatics Engineering
Lecture 2 - Various Applications of Geomatics Engineering
Lecture 3 - Photogrammetry - An Introduction
Lecture 4 - Photogrammetry - Geometry of Aerial Photographs
Lecture 5 - Photogrammetry - Scale of Aerial Photographs
Lecture 6 - Photogrammetry - Relief Displacement
Lecture 7 - Photogrammetry - Stereo Pairs and Stereovision
Lecture 8 - Photogrammetry - Stereovision with Stereoscopes
Lecture 9 - Photogrammetry - Parallax in Photographs
Lecture 10 - Height Determination from Stereo-Pairs
Lecture 11 - Photogrammetry - 3D Mapping, DEM, DTM and DSM
Lecture 12 - Digital Photogrammetry
Lecture 13 - Remote Sensing - An Introduction
Lecture 14 - Remote Sensing - Electromagnetic Spectrum
Lecture 15 - Remote Sensing - Energy Interaction with Atmosphere / Earth Surface
Lecture 16 - Remote Sensing - Blackbody and Atmospheric Window
Lecture 17 - Spectral Signature in Remote Sensing
Lecture 18 - Remote Sensing - Types of Resolutions
Lecture 19 - Multi-concepts in Remote Sensing
Lecture 20 - Remote Sensing - Satellite Orbits
Lecture 21 - Remote Sensing - Various Sensors
Lecture 22 - Remote Sensing Sensors and Platforms - I
Lecture 23 - Remote Sensing Sensors and Platforms - II
Lecture 24 - Very High Resolution Remote Sensing Data
Lecture 25 - Remote Sensing - Thermal, Microwave, and Hyperspectral Images
Lecture 26 - Remote Sensing - Visual Interpretation Method
Lecture 27 - GPS Surveying - Introduction and Components
Lecture 28 - GPS Surveying - Working Principle
Lecture 29 - GPS Surveying - Various Methods

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- Lecture 30 - GPS Surveying - Sources of Errors
- Lecture 31 - GPS - Applications
- Lecture 32 - LiDAR - An Introduction
- Lecture 33 - Data Collection with Mobile Laser Scanners
- Lecture 34 - Data Collection with Airborne LiDAR Systems
- Lecture 35 - Unmanned Aerial Vehicles - An Introduction
- Lecture 36 - Classifications of UAVs/Drones
- Lecture 37 - Various Components of Drone and Their Functions
- Lecture 38 - Flying Drones for Data Collection
- Lecture 39 - Unmanned Aerial Vehicles - Various Applications
- Lecture 40 - Digital Image Processing - An Introduction
- Lecture 41 - Pre-processing - Atmospheric Corrections
- Lecture 42 - Pre-processing - Geometric Corrections
- Lecture 43 - Pre-processing - Resampling Methods
- Lecture 44 - Digital Image Enhancement Methods
- Lecture 45 - Spatial Filtering in Digital Remote Sensing
- Lecture 46 - Digital Image Transformation Methods
- Lecture 47 - Supervised Classification Methods
- Lecture 48 - Unsupervised Classification Methods
- Lecture 49 - Accuracy Assessment of Classification
- Lecture 50 - Geographic Information System - An Introduction
- Lecture 51 - Various Components of a GIS
- Lecture 52 - GIS - Various Data Types and Their Characteristics
- Lecture 53 - Geographic Information System - Data Input
- Lecture 54 - GIS Databases and Their Uses
- Lecture 55 - GIS - Based Extraction of Parameters from DEM
- Lecture 56 - Buffering and Overlay Analysis in GIS
- Lecture 57 - Spatial and Network Analysis in GIS
- Lecture 58 - Geomatics Applications - Site Suitability Analysis
- Lecture 59 - Geomatics Applications - Transportation Route Planning
- Lecture 60 - Geomatics Applications - Smart City Planning

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

NPTEL Video Course - Civil Engineering - NOC:Pavement Materials (Under Pavement Engineering)

Subject Co-ordinator - Prof. Nikhil Saboo

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Soil as a Highway Material
Lecture 2 - Particle Size Distribution - Part 1
Lecture 3 - Particle Size Distribution - Part 2
Lecture 4 - Consistency Limits and Classification of Soils - Part 1
Lecture 5 - Consistency Limits and Classification of Soils - Part 2
Lecture 6 - Strength Properties of Soil - Part 1
Lecture 7 - Strength Properties of Soil - Part 2
Lecture 8 - Strength Properties of Soil - Part 3
Lecture 9 - Strength Properties of Soil - Part 4
Lecture 10 - Expansive Soils and Stabilization Techniques
Lecture 11 - Introduction to Mineral Aggregates: Origin and Types
Lecture 12 - Production and Storage of Aggregates
Lecture 13 - Classification and Gradation of Aggregates - Part 1
Lecture 14 - Classification and Gradation of Aggregates - Part 2
Lecture 15 - Mineralogy of Aggregates and its Importance
Lecture 16 - Aggregates Shape and Surface Texture
Lecture 17 - Aggregate Properties - Part 1
Lecture 18 - Aggregate Properties - Part 2
Lecture 19 - Aggregate Properties - Part 3
Lecture 20 - Aggregate Properties - Part 4
Lecture 21 - Bitumen Basics
Lecture 22 - Chemistry of Bitumen
Lecture 23 - Physical Properties of Bitumen - Part 1
Lecture 24 - Physical Properties of Bitumen - Part 2
Lecture 25 - Physical Properties of Bitumen - Part 3
Lecture 26 - Introduction to Viscoelasticity
Lecture 27 - Rheological Properties of Bitumen - Part 1
Lecture 28 - Rheological Properties of Bitumen - Part 2
Lecture 29 - Grading of Bitumen - Part 1

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

- Lecture 30 - Grading of Bitumen - Part 2
- Lecture 31 - Modified Bitumen
- Lecture 32 - Bitumen Emulsion
- Lecture 33 - Production of Bituminous Mixtures
- Lecture 34 - Role and Desirable Properties: Mix Design
- Lecture 35 - Volumetrics in Mix Design - Part 1
- Lecture 36 - Volumetrics in Mix Design - Part 2
- Lecture 37 - Volumetrics in Mix Design - Part 3
- Lecture 38 - Volumetrics in Mix Design - Part 4
- Lecture 39 - Volumetrics in Mix Design - Part 5
- Lecture 40 - Marshall and Superpave Mix Design - Part 1
- Lecture 41 - Marshall and Superpave Mix Design - Part 2
- Lecture 42 - Hot Recycled Mixtures - Part 1
- Lecture 43 - Hot Recycled Mixtures - Part 2
- Lecture 44 - Hot Recycled Mixtures - Part 3
- Lecture 45 - Cold Bituminous Mixtures
- Lecture 46 - Performance Based Mix Design Concepts
- Lecture 47 - Characterization of Bituminous Mixtures - Part 1
- Lecture 48 - Characterization of Bituminous Mixtures - Part 2
- Lecture 49 - Cementitious Materials - Part 1
- Lecture 50 - Cementitious Materials - Part 2
- Lecture 51 - Types of Cement, Admixtures, Geopolymers - Part 1
- Lecture 52 - Types of Cement, Admixtures, Geopolymers - Part 2
- Lecture 53 - Mix Design of PQC - IRC 44
- Lecture 54 - Mix Design of PQC - Examples - Part 1
- Lecture 55 - Mix Design of PQC - Examples - Part 2
- Lecture 56 - Mix Design of DLC - IRC SP 49
- Lecture 57 - Mix Design of Pervious Concrete - Part 1
- Lecture 58 - Mix Design of Pervious Concrete - Part 2
- Lecture 59 - Overview of Alternate Pavement Materials - Part 1
- Lecture 60 - Overview of Alternate Pavement Materials - Part 2

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

NPTEL Video Course - Civil Engineering - NOC:Geometric Design of Highways

Subject Co-ordinator - Prof. Rajat Rastogi

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction and Design Controls - 1
Lecture 2 - Design Controls - 2
Lecture 3 - Design Controls - 3
Lecture 4 - Design Controls - 4
Lecture 5 - Design Controls and Space Requirements
Lecture 6 - Space and Sight Distance Requirements - 1
Lecture 7 - Sight Distance Requirements - 2
Lecture 8 - Sight Distance Requirements - 3
Lecture 9 - Sight Distance Requirements - 4
Lecture 10 - Sight Distance Requirements - 5
Lecture 11 - Cross-Section Elements - 1
Lecture 12 - Cross-Section Elements - 2
Lecture 13 - Cross-Section Elements - 3
Lecture 14 - Cross-Section Elements - 4
Lecture 15 - Cross-Section Elements - 5
Lecture 16 - Cross-Section Elements - 6
Lecture 17 - Cross-Section Elements - 7
Lecture 18 - Cross-Section Elements - 8
Lecture 19 - Cross-Section Elements - 9
Lecture 20 - Crossing Facility and Road Furniture - 1
Lecture 21 - Road Furniture - 2
Lecture 22 - Road Furniture - 3
Lecture 23 - Road Furniture - 4
Lecture 24 - Road Furniture - 5
Lecture 25 - Road Furniture - 6
Lecture 26 - Road Furniture - 7
Lecture 27 - Alignment Design - 1
Lecture 28 - Alignment Design - 2
Lecture 29 - Alignment Design - 3

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Lecture 30	- Alignment Design	- 4
Lecture 31	- Alignment Design	- 5
Lecture 32	- Alignment Design	- 6
Lecture 33	- Alignment Design	- 7
Lecture 34	- Alignment Design	- 8
Lecture 35	- Alignment Design	- 9
Lecture 36	- Alignment Design	- 10
Lecture 37	- Alignment Design	- 11
Lecture 38	- Alignment Design	- 12
Lecture 39	- Alignment Design	- 13
Lecture 40	- Alignment Design	- 14
Lecture 41	- Alignment Design	- 15
Lecture 42	- Alignment Design	- 16
Lecture 43	- Intersection Layouts	- 1
Lecture 44	- Intersection Layouts	- 2
Lecture 45	- Intersection Layouts	- 3
Lecture 46	- Intersection Layouts	- 4
Lecture 47	- Intersection Layouts	- 5
Lecture 48	- Intersection Layouts	- 6
Lecture 49	- Intersection Layouts	- 7
Lecture 50	- Intersection Layouts	- 8
Lecture 51	- Intersection Layouts	- 9
Lecture 52	- Intersection Layouts	- 10
Lecture 53	- Design of Facilities	- 1
Lecture 54	- Design of Facilities	- 2
Lecture 55	- Design of Facilities	- 3
Lecture 56	- Design of Facilities	- 4
Lecture 57	- Design of Facilities	- 5
Lecture 58	- Design of Facilities	- 6
Lecture 59	- Design of Facilities	- 7
Lecture 60	- Design of Facilities	- 8
Lecture 61	- Design of Facilities	- 9
Lecture 62	- Design of Facilities	- 10

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

NPTEL Video Course - Civil Engineering - NOC:Plate Tectonics

Subject Co-ordinator - Prof. Pitambar Pati

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Interior of Earth - I
Lecture 2 - Interior of Earth - II
Lecture 3 - Interior of Earth - III
Lecture 4 - Interior of Earth - IV
Lecture 5 - Interior of Earth - V
Lecture 6 - Interior of Earth - VI
Lecture 7 - Oceanic Crust - I
Lecture 8 - Oceanic Crust - II
Lecture 9 - Continental Crust - I
Lecture 10 - Continental Crust - II
Lecture 11 - Types of Plates and Plate Margins
Lecture 12 - Basic Assumption of Plate Tectonics
Lecture 13 - Relative Motion of Lithospheric Plates
Lecture 14 - Euler's Theory on Lithospheric Plate Motion
Lecture 15 - Constructive/Creative Plate Margin
Lecture 16 - Slow and Fast Spreading Ridges
Lecture 17 - Magma Chamber Properties at Mid-Oceanic Ridge
Lecture 18 - Age-Depth Relationship Around the Mid-Oceanic Ridge
Lecture 19 - Along Axis Segmentation of the Mid Oceanic Ridge
Lecture 20 - Propagating Rifts and Microplate Development
Lecture 21 - Conservative Plate Margin - I
Lecture 22 - Conservative Plate Margin - II, Continental Transform Faults
Lecture 23 - Conservative Plate Margin - III, Transform Continental Margins
Lecture 24 - Conservative Plate Margin - IV, Continental Transform Faults
Lecture 25 - Destructive Plate Margins - I
Lecture 26 - Destructive Plate Margins - II, The Oceanic Trench
Lecture 27 - Destructive Plate Margins - III, The Island Arc System
Lecture 28 - Destructive Plate Margins - IV, The Back Arc Basin and Accretionary Prism
Lecture 29 - Destructive Plate Margins - V, Seismicity in the Subduction Zone

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- Lecture 30 - Destructive Plate Margins - VI, Gravity Anomaly and Thermal Structure at Subduction Zone
- Lecture 31 - Magmatism and Metamorphism at Different Plate Settings - I, Magmatism at Subduction Zone
- Lecture 32 - Magmatism and Metamorphism at Different Plate Settings - II, Metamorphic at Subduction Zone
- Lecture 33 - Orogeny and Epiorogeny - I, Ocean-Continent Collision
- Lecture 34 - Orogeny and Epiorogeny - II, Continent-Continent Collision
- Lecture 35 - Orogeny and Epiorogeny - III, Arc-Continent Collision
- Lecture 36 - Fault Plane Solution
- Lecture 37 - Plate Tectonics and Mineralisation - I
- Lecture 38 - Plate Tectonics and Mineralisation - II
- Lecture 39 - Plate Tectonics and Mineralisation at Divergent Margins - III
- Lecture 40 - Plate Tectonics and Mineralisation at Divergent Margins - IV
- Lecture 41 - Plate Tectonics and Mineralisation at Convergent Margins - V
- Lecture 42 - Plate Tectonics and Mineralisation at Convergent Margins - VI
- Lecture 43 - Plate Tectonics and Mineralisation at Convergent Margins - VII
- Lecture 44 - Plate Tectonics and Mineralisation at Intraplate Tectono-Metallogenic System - VIII
- Lecture 45 - Plate Tectonics and Hydrocarbon Exploration - I
- Lecture 46 - Plate Tectonics and Hydrocarbon Exploration - II
- Lecture 47 - Plate Tectonics and Climate Change
- Lecture 48 - Stability of Triple Junction
- Lecture 49 - Volcano
- Lecture 50 - Volcano and its Products - I
- Lecture 51 - Volcano and its Products - II
- Lecture 52 - Himalayan Tectonics - I
- Lecture 53 - Himalayan Tectonics - II
- Lecture 54 - Indian Seismicity
- Lecture 55 - Neotectonics - I
- Lecture 56 - Neotectonics - II
- Lecture 57 - Continental Drift - I
- Lecture 58 - Continental Drift - II
- Lecture 59 - Seafloor Spreading
- Lecture 60 - Global Positioning System (GPS) and Plate

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

NPTEL Video Course - Civil Engineering - NOC:Earthquake Geotechnical Engineering

Subject Co-ordinator - Prof. B.K. Maheshwari

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction
Lecture 2 - Introduction (Continued...)
Lecture 3 - Engineering Seismology
Lecture 4 - Engineering Seismology (Continued...)
Lecture 5 - Strong Ground Motion
Lecture 6 - Strong Ground Motion (Continued...)
Lecture 7 - Seismic Hazard Analysis
Lecture 8 - Seismic Hazard Analysis (Continued...)
Lecture 9 - Wave Propagation
Lecture 10 - Wave Propagation (Continued...)
Lecture 11 - Stress Conditions
Lecture 12 - Field Tests
Lecture 13 - Field Tests (Continued...)
Lecture 14 - Field Tests (Continued...)
Lecture 15 - Laboratory Tests
Lecture 16 - Laboratory Tests (Continued...)
Lecture 17 - Laboratory Tests (Continued...)
Lecture 18 - Constitutive Relationships of Soils
Lecture 19 - Constitutive Relationships of Soils (Continued...)
Lecture 20 - Constitutive Relationships of Soils (Continued...)
Lecture 21 - One-Dimensional
Lecture 22 - One-Dimensional (Continued...)
Lecture 23 - One-Dimensional (Continued...)
Lecture 24 - Two Dimensional
Lecture 25 - Soil-Structure Interaction
Lecture 26 - Soil-Structure Interaction (Continued...)
Lecture 27 - Local Site Effects
Lecture 28 - Local Site Effects (Continued...)
Lecture 29 - Local Site Effects (Continued...)

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- Lecture 30 - Local Site Effects (Continued...)
- Lecture 31 - Introduction
- Lecture 32 - Liquefaction Susceptibility
- Lecture 33 - Liquefaction Susceptibility (Continued...)
- Lecture 34 - Initiation of Liquefaction
- Lecture 35 - Initiation of Liquefaction (Continued...)
- Lecture 36 - Initiation of Liquefaction (Continued...)
- Lecture 37 - Initiation of Liquefaction (Continued...)
- Lecture 38 - Initiation of Liquefaction (Continued...)
- Lecture 39 - Initiation of Liquefaction (Continued...)
- Lecture 40 - Effects of Liquefaction
- Lecture 41 - Slope Stability Analysis
- Lecture 42 - Slope Stability Analysis (Continued...)
- Lecture 43 - Slope Stability Analysis (Continued...)
- Lecture 44 - Slope Stability Analysis (Continued...)
- Lecture 45 - Slope Stability Analysis (Continued...)
- Lecture 46 - Introduction to Retaining Walls
- Lecture 47 - Static Pressure on Retaining Walls
- Lecture 48 - Static Pressure on Retaining Walls (Continued...)
- Lecture 49 - Design of Retaining Walls
- Lecture 50 - Design of Retaining Walls (Continued...)
- Lecture 51 - Slope Stability and Retaining Walls: Design of Retaining Walls
- Lecture 52 - Ground Improvement Techniques: Types of GIT
- Lecture 53 - Ground Improvement Techniques: Types of GIT
- Lecture 54 - Ground Improvement Techniques: Types of GIT
- Lecture 55 - Ground Improvement Techniques: Geosynthetics
- Lecture 56 - Ground Improvement Techniques: Geosynthetics
- Lecture 57 - Ground Improvement Techniques: Vertical Drains
- Lecture 58 - Ground Improvement Techniques: Vertical Drains
- Lecture 59 - Ground Improvement Techniques: Reinforced Fibers
- Lecture 60 - Ground Improvement Techniques: Verification and IS Code

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

NPTEL Video Course - Civil Engineering - NOC:Railway Engineering

Subject Co-ordinator - Prof. Rajat Rastogi

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction
Lecture 2 - Permanent Way
Lecture 3 - Gauges
Lecture 4 - Wheels and Axles, Locomotives, Wagons
Lecture 5 - Wagons, Coning of Wheels
Lecture 6 - Rail Sections
Lecture 7 - Rail Length, Tests and Failures
Lecture 8 - Sleepers - Density and Spacing
Lecture 9 - Sleepers - Types and Uses
Lecture 10 - Ballast Cushion
Lecture 11 - Traction and Resistances
Lecture 12 - Resistances
Lecture 13 - Hauling Capacity and Tractive Effort
Lecture 14 - Hauling Capacity Numerical
Lecture 15 - Track Modulus and Relief of Stresses
Lecture 16 - Track Stresses - Vertical Lateral Longitudinal
Lecture 17 - Track Stresses - Rails
Lecture 18 - Track Stresses - Rails and Sleepers
Lecture 19 - Track Stresses - Ballast Formation
Lecture 20 - Joints in Rails - Types and Requirements
Lecture 21 - Joints in Rails - Insulated and Welded
Lecture 22 - Joints in Rails - Flash Butt Weld
Lecture 23 - SWR Rails
Lecture 24 - Creep in Rails
Lecture 25 - Buckling, Hogging, Battering, Corrosion and Corrugation
Lecture 26 - Corrosion, Corrugation and Rail Failures - I
Lecture 27 - Rail Failures - II
Lecture 28 - Rail Failures and Wears
Lecture 29 - Rail Wears

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Lecture 30 - Permissible Wear, LWR and CWR
Lecture 31 - LWR and CWR
Lecture 32 - Fastenings - Rail to Rail
Lecture 33 - Fastenings - Rail to Sleeper (Elastic)
Lecture 34 - Fastenings - Rail to Sleeper (Others)
Lecture 35 - Track Alignment
Lecture 36 - Speed on Track
Lecture 37 - Circular Curve on Track
Lecture 38 - Superelevation on Track - I
Lecture 39 - Superelevation on Track - II and Transition Curves - I
Lecture 40 - Transition Curves - II, Extra Clearances
Lecture 41 - Widening of Gauge and Vertical Curves
Lecture 42 - Realignment of Curves
Lecture 43 - Turnouts, Points and Crossings - I
Lecture 44 - Turnouts, Points and Crossings - II
Lecture 45 - Crossings and Turnout Design
Lecture 46 - Turnout Design and Maintenance
Lecture 47 - Track Junctions and Design - I
Lecture 48 - Track Junctions and Design - II
Lecture 49 - Signaling - I
Lecture 50 - Signaling - II
Lecture 51 - Signaling - III
Lecture 52 - Interlocking Systems - I
Lecture 53 - Interlocking Systems - II
Lecture 54 - Interlocking Systems - III
Lecture 55 - Interlocking Systems - IV
Lecture 56 - Train Control Systems - I
Lecture 57 - Train Control Systems - II
Lecture 58 - Stations, Yards, Level Crossings
Lecture 59 - Track Maintenance - I
Lecture 60 - Track Maintenance - II
Lecture 61 - Track Maintenance - III
Lecture 62 - Track Maintenance - IV
Lecture 63 - Track Renewals and Drainage
Lecture 64 - High Speed Tracks

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

NPTEL Video Course - Civil Engineering - NOC:Groundwater Engineering

Subject Co-ordinator - Prof. Arun K. Saraf

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Introduction to Groundwater Hydrology - 1
Lecture 2 - Introduction to Groundwater Hydrology - 2
Lecture 3 - Why to study groundwater
Lecture 4 - Hydrological Cycle - 1
Lecture 5 - Hydrological Cycle - 2
Lecture 6 - Surface water vs groundwater
Lecture 7 - Water Balance and its Components
Lecture 8 - Types of aquifers - 1
Lecture 9 - Types of aquifers - 2
Lecture 10 - Infiltration and Percolation
Lecture 11 - Porosity
Lecture 12 - Permeability
Lecture 13 - Surface Runoff
Lecture 14 - Darcy's Law - 1
Lecture 15 - Darcy's Law - 2
Lecture 16 - Darcy's Law - 3
Lecture 17 - Reynolds Number
Lecture 18 - Groundwater Flow and Flow Nets
Lecture 19 - Darcy's law applied to aquifers
Lecture 20 - Flow to a well
Lecture 21 - Transmissibility
Lecture 22 - Speed of Groundwater Movement
Lecture 23 - Drawdowns in the vicinity of discharging wells
Lecture 24 - Aquifer Boundaries
Lecture 25 - Flow nets near aquifer boundaries
Lecture 26 - Nonsteady state steady state and steady state conditions
Lecture 27 - Jacob Method
Lecture 28 - Field determination of transmissibility and storage coefficient - 1
Lecture 29 - Field determination of transmissibility and storage coefficient - 2

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- Lecture 30 - Theis Equation and example of superposition for solution
- Lecture 31 - Theis Equation Theis Equation Assumptions and Applications - 1
- Lecture 32 - Theis Equation Theis Equation Assumptions and Applications - 2
- Lecture 33 - Geologic Formations as Aquifers - 1
- Lecture 34 - Geologic Formations as Aquifers - 2
- Lecture 35 - Geologic Formations as Aquifers - 3
- Lecture 36 - Springs
- Lecture 37 - Springs in India - 1
- Lecture 38 - Springs in India - 2
- Lecture 39 - Groundwater Exploration - 1
- Lecture 40 - Groundwater Exploration - 2
- Lecture 41 - Groundwater Exploration - 3
- Lecture 42 - Groundwater Exploration - 4
- Lecture 43 - Groundwater Exploration - 5
- Lecture 44 - Groundwater Exploration - 6
- Lecture 45 - Groundwater Exploration - 7
- Lecture 46 - Groundwater Exploration - 8
- Lecture 47 - Groundwater Exploration - 9
- Lecture 48 - Groundwater Exploration - 10
- Lecture 49 - Groundwater Exploration - 11
- Lecture 50 - Groundwater Exploration - 12
- Lecture 51 - Groundwater Exploration - 13 : Sampling
- Lecture 52 - Groundwater Exploration - 14 : Hydrogeological Well Logging
- Lecture 53 - Groundwater Exploration - 15 : Spontaneous potential logging
- Lecture 54 - Groundwater Exploration - 16 : Selection of types of wells and Exploration for Art-Rec sites
- Lecture 55 - Groundwater Exploration - 17 : Exploration for hot springs
- Lecture 56 - Groundwater Exploration - 18 : Pollution related exploration
- Lecture 57 - Groundwater Quality
- Lecture 58 - Conjunctive use of ground and surface water
- Lecture 59 - Groundwater Modelling - 1
- Lecture 60 - Groundwater Modelling - 2
- Lecture 61 - Groundwater Recharge Methods in India
- Lecture 62 - Artificial Recharge Techniques and Designs

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

NPTEL Video Course - Civil Engineering - NOC:Introduction to Sequence Stratigraphy

Subject Co-ordinator - Prof. Biplab Bhattacharya

Co-ordinating Institute - IIT Roorkee

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

Lecture 1 - Introduction
Lecture 2 - Terminology
Lecture 3 - Different Types of Stratigraphy
Lecture 4 - Lithostratigraphy vs. Sequence Stratigraphy
Lecture 5 - Concept of Scale in Sequence Stratigraphy
Lecture 6 - Correlations of Stratigraphic Successions
Lecture 7 - Cyclicity in Sedimentary Successions - I
Lecture 8 - Cyclicity in Sedimentary Successions - II
Lecture 9 - Relative vs. Absolute Ages - I
Lecture 10 - Relative vs. Absolute Ages - II
Lecture 11 - Concept of Facies - I
Lecture 12 - Concept of Facies - II
Lecture 13 - Facies Models and Depositional Environment - I
Lecture 14 - Facies Models and Depositional Environment - II
Lecture 15 - Facies Models and Depositional Environment - III
Lecture 16 - Ichnology, Ichnofabric and Ichnofacies - I
Lecture 17 - Ichnology, Ichnofabric and Ichnofacies - II
Lecture 18 - Sea Level Changes
Lecture 19 - Relative Sea Level Changes
Lecture 20 - Shoreline Trajectories
Lecture 21 - Base level and Accommodation - I
Lecture 22 - Base level and Accommodation - II
Lecture 23 - Base Level vs. Shoreline Trajectory - I
Lecture 24 - Base Level vs. Shoreline Trajectory - II
Lecture 25 - Accommodation vs. Stratal Terminations
Lecture 26 - Data Input and Workflow in Sequence Stratigraphy
Lecture 27 - Basic Concepts of Sequence Stratigraphic Elements - I
Lecture 28 - Basic Concepts of Sequence Stratigraphic Elements - II
Lecture 29 - Basic Concepts of Sequence Stratigraphic Elements - III

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- Lecture 30 - Basic Concepts of Sequence Stratigraphic Elements - IV
- Lecture 31 - Surfaces in Sequence Stratigraphy - I: Introduction
- Lecture 32 - Surfaces in Sequence Stratigraphy - II: Unconformity
- Lecture 33 - Surfaces in Sequence Stratigraphy - III: Correlative Conformity
- Lecture 34 - Surfaces in Sequence Stratigraphy - IV: BSFR
- Lecture 35 - Surfaces in Sequence Stratigraphy - V: RSME
- Lecture 36 - Surfaces in Sequence Stratigraphy - VI: MRS
- Lecture 37 - Surfaces in Sequence Stratigraphy - VII: MFS
- Lecture 38 - Surfaces in Sequence Stratigraphy - VIII: TRS - Part 1
- Lecture 39 - Surfaces in Sequence Stratigraphy - IX: TRS - Part 2
- Lecture 40 - Surfaces in Sequence Stratigraphy - X: Within Trend Facies Contacts
- Lecture 41 - The Systems Tracts - I: Introduction
- Lecture 42 - The Systems Tracts - II: Highstand Systems Tract - Part 1
- Lecture 43 - The Systems Tracts - III: Highstand Systems Tract - Part 2
- Lecture 44 - The Systems Tracts - IV: Falling-stage Systems Tract - Part 1
- Lecture 45 - The Systems Tracts - V: Falling-stage Systems Tract - Part 2
- Lecture 46 - The Systems Tracts - VI: Falling-stage Systems Tract - Part 3
- Lecture 47 - The Systems Tracts - VII: Falling-stage Systems Tract - Part 4
- Lecture 48 - The Systems Tracts - VIII: Lowstand Systems Tract - Part 1
- Lecture 49 - The Systems Tracts - IX: Lowstand Systems Tract - Part 2
- Lecture 50 - The Systems Tracts - X: Lowstand Systems Tract - Part 3
- Lecture 51 - The Systems Tracts - XI: Transgressive Systems Tract - Part 1
- Lecture 52 - The Systems Tracts - XII: Transgressive Systems Tract - Part 2
- Lecture 53 - The Systems Tracts - XIII: Transgressive Systems Tract - Part 3
- Lecture 54 - The Systems Tracts - XIV: Transgressive Systems Tract - Part 4
- Lecture 55 - The Systems Tracts - XV: Regressive Systems Tract
- Lecture 56 - Sequence Stratigraphy of Fluvial Environment
- Lecture 57 - Sequence Stratigraphy of Carbonate Depositional Environments - I
- Lecture 58 - Sequence Stratigraphy of Carbonate Depositional Environments - II
- Lecture 59 - Sequence Stratigraphy of Carbonate Depositional Environments - III
- Lecture 60 - Sequence Stratigraphy of Carbonate Depositional Environments - IV

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

NPTEL Video Course - Civil Engineering - Ground Improvement Techniques

Subject Co-ordinator - Dr. G.L. Sivakumar Babu

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Need for Ground Improvement
Lecture 2 - Classification of ground modification techniques
Lecture 3 - Emerging trends in ground improvement
Lecture 4 - Mechanical modification
Lecture 5 - Compaction Control
Lecture 6 - Deep compaction
Lecture 7 - Dynamic compaction
Lecture 8 - Vibro-compaction methods
Lecture 9 - Case studies in stone columns
Lecture 10 - Prefabricated Vertical Drains (PVDS) - I
Lecture 11 - Prefabricated drains (PVDS) - II
Lecture 12 - Dewatering - I
Lecture 13 - Dewatering - II
Lecture 14 - Electro-kinetic stabilization
Lecture 15 - Heating and freezing methods, Blasting methods - I
Lecture 16 - Heating and freezing methods, Blasting methods - II
Lecture 17 - Ground Treatment with lime - I
Lecture 18 - Ground Treatment with lime - II
Lecture 19 - Ground treatment with cement
Lecture 20 - Grouting procedures
Lecture 21 - Grouting
Lecture 22 - Micropiles
Lecture 23 - Introduction to Geosynthetics - I
Lecture 24 - Introduction to Geosynthetics - II
Lecture 25 - Reinforced soil principles and mechanisms
Lecture 26 - Material properties
Lecture 27 - Factors affecting reinforced soil
Lecture 28 - Bearing capacity improvement - I
Lecture 29 - Bearing capacity improvement - II

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

- Lecture 30 - Reinforced soil slopes
- Lecture 31 - Reinforced Soil Walls
- Lecture 32 - Reinforced Soil Walls - I
- Lecture 33 - Soil Nailing
- Lecture 34 - Design of embankments on soft soil using geosynthetics
- Lecture 35 - Design of embankments on soft soil using geocells, Use of geosynthetics for filtration and drainage
- Lecture 36 - Applications in filtration and drainage & erosion control
- Lecture 37 - Geosynthetics in pavements
- Lecture 38 - Sustainable development and energy geotechnology
- Lecture 39 - Microbial geotechnology and Ground Improvement
- Lecture 40 - Nano-technologies in ground improvement and site remediation

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

NPTEL Video Course - Civil Engineering - Stochastic Hydrology

Subject Co-ordinator - Prof. P.P. Mujumdar

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Introduction
Lecture 2 - Bivariate Distributions
Lecture 3 - Independence ; Functions of Random Variables
Lecture 4 - Moments of a Distribution
Lecture 5 - Normal Distribution
Lecture 6 - Other Continuous Distributions
Lecture 7 - Parameter Estimation
Lecture 8 - Covariance and Correlation
Lecture 9 - Data Generation
Lecture 10 - Time Series Analysis (1)
Lecture 11 - Time Series Analysis (2)
Lecture 12 - Time Series Analysis (3)
Lecture 13 - Frequency Domain Analysis (1)
Lecture 14 - Frequency Domain Analysis (2) and ARIMA Models (1)
Lecture 15 - ARIMA Models (2)
Lecture 16 - ARIMA Models (3)
Lecture 17 - ARIMA Models (4)
Lecture 18 - Case Studies (1)
Lecture 19 - Case Studies (2)
Lecture 20 - Case Studies (3)
Lecture 21 - Case Studies (4)
Lecture 22 - Markov Chains (1)
Lecture 23 - Markov Chains (2)
Lecture 24 - Frequency Analysis (1)
Lecture 25 - Frequency Analysis (2)
Lecture 26 - Frequency Analysis (3) and Probability Plotting (1)
Lecture 27 - Probability Plotting (2)
Lecture 28 - Goodness of Fit
Lecture 29 - IDF Relationships

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

- Lecture 30 - Multiple Linear Regression
- Lecture 31 - Principal Component Analysis
- Lecture 32 - Regression on Principal Components
- Lecture 33 - Multivariate Stochastic Models (1)
- Lecture 34 - Multivariate Stochastic Models (2)
- Lecture 35 - Multivariate Stochastic Models (3)
- Lecture 36 - Data Consistency Checks (1)
- Lecture 37 - Data Consistency Checks (2)
- Lecture 38 - Data Consistency Checks (3)
- Lecture 39 - Recent Applications
- Lecture 40 - Summary of the Course

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

NPTEL Video Course - Civil Engineering - Stochastic Structural Dynamics

Subject Co-ordinator - Prof. C.S. Manohar

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Definition of probability measure and conditional probability
Lecture 2 - Scalar random variables - 1
Lecture 3 - Scalar random variables - 2
Lecture 4 - Multi-dimensional random variables - 1
Lecture 5 - Multi-dimensional random variables - 2
Lecture 6 - Random processes - 1
Lecture 7 - Random processes - 2
Lecture 8 - Random processes - 3
Lecture 9 - Random processes - 4, Random vibrations of sdof systems - 1
Lecture 10 - Random processes - 4, Random vibrations of sdof systems - 1
Lecture 11 - Random vibrations of sdof systems - 2
Lecture 12 - Random vibrations of sdof systems - 3
Lecture 13 - Random vibrations of sdof systems - 4
Lecture 14 - Random vibrations of mdof systems - 1
Lecture 15 - Random vibrations of mdof systems - 2
Lecture 16 - Random vibrations of mdof systems - 3
Lecture 17 - Random vibrations of mdof systems - 4
Lecture 18 - Failure of randomly vibrating systems - 1
Lecture 19 - Failure of randomly vibrating systems - 2
Lecture 20 - Failure of randomly vibrating systems - 3
Lecture 21 - Failure of randomly vibrating systems - 4
Lecture 22 - Markov vector approach - 1
Lecture 23 - Markov vector approach - 2
Lecture 24 - Markov vector approach - 3
Lecture 25 - Markov vector approach - 4
Lecture 26 - Markov vector approach - 5, Monte Carlo simulation approach - 1
Lecture 27 - Markov vector approach - 5 & Monte Carlo simulation approach - 1
Lecture 28 - Monte Carlo simulation approach - 2
Lecture 29 - Monte Carlo simulation approach - 3

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Lecture 30	- Monte Carlo simulation approach	- 4
Lecture 31	- Monte Carlo simulation approach	- 5
Lecture 32	- Monte Carlo simulation approach	- 6
Lecture 33	- Monte Carlo simulation approach	- 7
Lecture 34	- Probabilistic methods in earthquake engineering	- 1
Lecture 35	- Probabilistic methods in earthquake engineering	- 2
Lecture 36	- Probabilistic methods in earthquake engineering	- 3
Lecture 37	- Probabilistic methods in earthquake engineering	- 4
Lecture 38	- Fatigue failure & Vibration energy flow models	
Lecture 39	- Problem solving session	- 1
Lecture 40	- Problem solving session	- 2
Lecture 41	- Problem solving session	- 3
Lecture 42	- Problem solving session	- 4

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

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

Subject Co-ordinator - Prof. P.P. Mujumdar

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

- 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

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

NPTEL Video Course - Civil Engineering - Finite Element method for vibration and Stability analyses

Subject Co-ordinator - Prof. C.S. Manohar

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Equations of motion using Hamilton's principle
- Lecture 2 - Equations of motion for continuous systems and Rayleigh's quotient
- Lecture 3 - Rayleigh Ritz method and method of weighted residuals
- Lecture 4 - FEM
- Lecture 5 - Beam elements. Reference system. Assembly of matrices. Imposition of BCS. Final equation of motion
- Lecture 6 - FE modelling of planar structures
- Lecture 7 - FE modelling of planar structures (Continued...)
- Lecture 8 - FRF-s and damping models-1
- Lecture 9 - FRF-s and damping models-2
- Lecture 10 - Material damping models. Dynamic stiffness and transfer matrices
- Lecture 11 - Twisting of circular bars and rectangular bars. Analysis of grids
- Lecture 12 - 3D frames
- Lecture 13 - Mathematical preliminaries and terminologies; Euler's forward and backward difference methods
- Lecture 14 - Forward and backward Euler method. Central difference method
- Lecture 15 - Second order implicit methods
- Lecture 16 - Energy conservation. Nonlinear systems
- Lecture 17 - Model reduction schemes
- Lecture 18 - Substructuring schemes
- Lecture 19 - Plane stress models
- Lecture 20 - Plane stress models (Continued...)
- Lecture 21 - 3d Solid element
- Lecture 22 - Axisymmetric models. Plate bending elements.
- Lecture 23 - Plate bending elements (Continued...)
- Lecture 24 - Plate bending elements (Continued...)
- Lecture 25 - Plate bending elements (Continued...)
- Lecture 26 - Introduction
- Lecture 27 - Introduction (Continued...)
- Lecture 28 - Nonlinear dynamical systems, fixed points and bifurcations
- Lecture 29 - Energy methods in stability analysis

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- Lecture 30 - FEM for stability analysis. Euler-Bernoulli beam and general formulations
- Lecture 31 - 3D beam element; plate element; imperfection sensitive structures; beams on elastic foundations;
- Lecture 32 - Dynamic analysis of stability and analysis of time varying systems
- Lecture 33 - Dynamic analysis of stability and analysis of time varying systems
- Lecture 34 - FE modelling of vehicle structure interactions
- Lecture 35 - Inverse response sensitivity analysis
- Lecture 36 - Inverse response sensitivity analysis (Continued...)
- Lecture 37 - Introduction and review of continuum mechanics
- Lecture 38 - Review of measures of strain and stress; balance laws
- Lecture 39 - Total and updated Lagrangian formulations
- Lecture 40 - Closure

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

NPTEL Video Course - Civil Engineering - NOC:Introduction to Engineering Seismology

Subject Co-ordinator - Dr. P. Anbazhagan

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Introduction
Lecture 2 - Earthquake hazard
Lecture 3 - Different Earthquake Hazards
Lecture 4 - Different Earthquake Hazards (Continued...)
Lecture 5 - Earthquake Terminologies
Lecture 6 - Plate Tectonics
Lecture 7 - Faults; Seismic Sources
Lecture 8 - Types of Earthquakes; Causes of Earthquakes
Lecture 9 - Introduction to Wave Propagation
Lecture 10 - Seismic Wave propagation;
Lecture 11 - Instrumentation to record Earthquake
Lecture 12 - Seismic Sensors
Lecture 13 - Seismic Instrumentation in India
Lecture 14 - Seismic Instrumentation in India (Continued...)
Lecture 15 - Intensity scales of Earthquake
Lecture 16 - Road Damage Intensity Scale; and Seismic Vulnerability assessment
Lecture 17 - Quantification of Earthquake (magnitude)
Lecture 18 - Energy released due to earthquakes
Lecture 19 - Interpretation of Earthquake records; Baseline correction
Lecture 20 - Interpretation of Earthquake records (Continued...); Time Domain Parameters
Lecture 21 - Time Domain Parameters (Continued...)
Lecture 22 - Duration parameters; Duration Prediction Equations
Lecture 23 - Frequency Domain Characteristics; Response Spectrum
Lecture 24 - Fourier Spectrum
Lecture 25 - Seismic Source Parameters;
Lecture 26 - Time history; response Spectra (design); Stochastic models
Lecture 27 - Ground Motion Simulation models
Lecture 28 - Prediction Relationships
Lecture 29 - Recapitulation - 1

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

Lecture 30 - Recapitulation - 2
Lecture 31 - Recapitulation - 3
Lecture 32 - Recapitulation - 4
Lecture 33 - Recapitulation - 5
Lecture 34 - Recapitulation - 6
Lecture 35 - Recapitulation - 7
Lecture 36 - Recapitulation - 8
Lecture 37 - Earthquake Prediction
Lecture 38 - Earthquake prediction (Continued...)
Lecture 39 - Seismic Gap
Lecture 40 - Earthquake Prediction (some Precautions)
Lecture 41 - Seismic zonation and microzonation
Lecture 42 - Seismic zonation and microzonation (Continued...)
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