

# 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  $G_{max}$ , 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

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

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

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

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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
- Lecture 38 - Pipe Flow Systems
- Lecture 39 - Pipe Flow Systems
- Lecture 40 - Pipe Flow Systems
- 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  
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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 57 - Soil Mechanics

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

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 Lecture Topic List - Created by LinuXpert Systems, Chennai

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



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

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

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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...)

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## 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

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

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

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

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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

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

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

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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

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

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

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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

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- 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 - 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

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

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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

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- 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

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- 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) Landfills

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

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- 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

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

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- 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

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- 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 - 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

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- 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

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

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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

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- 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

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# 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

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- 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

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## 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

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

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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-mediacal, 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

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- 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

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

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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 Pekkat

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 - Conservation 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

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

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

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

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

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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

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- 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 - 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

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

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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

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- 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

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

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

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

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

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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

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

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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

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- 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

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## 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

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## 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

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

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

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

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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

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

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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

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- 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

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

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

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

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- 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

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- 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

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

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

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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

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

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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

## 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 - 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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- 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

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

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

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- 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

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- 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

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

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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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- 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

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

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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...)

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

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

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

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

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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

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

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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...)

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

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

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

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

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

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

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

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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

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

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

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

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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...)

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

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

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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

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# 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

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

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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

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

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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  
Lecture 23 - Review of Random Variables - Part 6  
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  
Lecture 31 - Common Probability Distributions - Part 2  
Lecture 32 - Common Probability Distributions - Part 3  
Lecture 33 - Common Probability Distributions - Part 4  
Lecture 34 - Common Probability Distributions - Part 5  
Lecture 35 - Common Probability Distributions - Part 6  
Lecture 36 - Common Probability Distributions - Part 7  
Lecture 37 - Common Probability Distributions - Part 8  
Lecture 38 - Common Probability Distributions - Part 9  
Lecture 39 - Common Probability Distributions - Part 10  
Lecture 40 - Common Probability Distributions - Part 11  
Lecture 41 - Common Probability Distributions - Part 12  
Lecture 42 - Common Probability Distributions - Part 13  
Lecture 43 - Common Probability Distributions - Part 14  
Lecture 44 - Common Probability Distributions - Part 15  
Lecture 45 - Common Probability Distributions - Part 16  
Lecture 46 - Common Probability Distributions - Part 17  
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  
Lecture 53 - Joint Probability Distributions - Part 4  
Lecture 54 - Joint Probability Distributions - Part 5  
Lecture 55 - Joint Probability Distributions - Part 6  
Lecture 56 - Joint Probability Distributions - Part 7  
Lecture 57 - Joint Probability Distributions - Part 8  
Lecture 58 - Joint Probability Distributions - Part 9  
Lecture 59 - Joint Probability Distributions - Part 10  
Lecture 60 - Joint Probability Distributions - Part 11  
Lecture 61 - Joint Probability Distributions - Part 12  
Lecture 62 - Joint Probability Distributions - Part 13  
Lecture 63 - Joint Probability Distributions - Part 14  
Lecture 64 - Joint Probability Distributions - Part 15  
Lecture 65 - Joint Probability Distributions - Part 16  
Lecture 66 - Joint Probability Distributions - Part 17  
Lecture 67 - Joint Probability Distributions - Part 18  
Lecture 68 - Joint Probability Distributions - Part 19

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- Lecture 69 - Monte Carlo Simlulations - Part 1
- Lecture 70 - Monte Carlo Simlulations - Part 2
- 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
- Lecture 77 - Monte Carlo Simlulations - Part 9
- Lecture 78 - Monte Carlo Simlulations - Part 10
- 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
- Lecture 98 - Representation of systems - Part 2
- Lecture 99 - Representation of systems - Part 3
- Lecture 100 - Representation of systems - Part 4
- Lecture 101 - Representation of systems - Part 5
- Lecture 102 - Representation of systems - Part 6
- Lecture 103 - Representation of systems - Part 7
- 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
- Lecture 138 - Component Reliability - Time Defined - Part 17
- Lecture 139 - Component Reliability - Time Defined - Part 18
- Lecture 140 - Component Reliability - Time Defined - Part 19
- 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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## NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

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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

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

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

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

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

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

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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

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- 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

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

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- 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

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

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- 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...)

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

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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

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- 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 - 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

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- 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  
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Lecture 27  
Lecture 28  
Lecture 29

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

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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

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## 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

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- 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

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- 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

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- 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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- 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

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- 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

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

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

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- 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

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

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

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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

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

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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

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

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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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- 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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- 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

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

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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

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

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

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

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

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

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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?, Reca
- 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 Anal
- 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, Summ
- 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, Programmin
- 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

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

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

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

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

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

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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 t
- 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
- 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 shrin
- Lecture 60 - Special concretes: Self compacting concrete - Segregation and laboratory tests
- Lecture 61 - Special concretes - Self Compacting Concrete - Workability test methods, classifications and iss
- Lecture 62 - Special concretes - Self Compacting Concrete - Design principles, mix designs, concrete properti
- 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

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- 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

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## 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

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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

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- 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

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- 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

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## 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

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## 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

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

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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

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

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

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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

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

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

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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

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

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

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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

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- 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

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- 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

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- 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

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

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

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

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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 - 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

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- 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

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

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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

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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

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

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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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- 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...)
- Lecture 43 - Seismic microzonation of various Indian cities
- Lecture 44 - Seismic microzonation of various Indian cities (Continued...)
- Lecture 45 - Global Equation model
- Lecture 46 - Global Earthquake risk map
- Lecture 47 - Seismic Microzonation of Bangalore
- Lecture 48 - Seismic Microzonation of Bangalore
- Lecture 49 - Seismic zonation of India
- Lecture 50 - IS 1893 version 2002 and 2016 explained
- Lecture 51 - Zonation Map of India
- Lecture 52 - Seismicity of India
- Lecture 53 - Seismicity of India
- Lecture 54 - SeismoTectonics of India - 1
- Lecture 55 - SeismoTectonics of India - 2
- Lecture 56 - SeismoTectonics of India - 3
- Lecture 57 - Seismic Hazard Analysis - Introduction
- Lecture 58 - SHA (Continued...) - Seismic Study area and Seismotectonic Map
- Lecture 59 - SHA (Continued...) - Seismic Data Collection
- Lecture 60 - SHA (Continued...) - Maximum Magnitude Estimation
- Lecture 61 - SHA - Source and Source-Site Distance
- Lecture 62 - SHA - Prediction Equation for India
- Lecture 63 - SHA - Selection of GMPE
- Lecture 64 - SHA - Estimation of Hazard