

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Applied Mechanics

Subject Co-ordinator - Prof. Sanjeev Sanghi, Prof. R.K. Mittal

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Preliminary Concepts

Lecture 2 - Vector Analysis

Lecture 3 - Analysis of Forces

Lecture 4 - Analysis of Equilibrium

Lecture 5 - Structural Mechanics - Part-1

Lecture 6 - Structural Mechanics - Part-2

Lecture 7 - Friction and its Applications - Part-1

Lecture 8 - Friction and its Applications - Part-2

Lecture 9 - Friction and its Applications - Part-3

Lecture 10 - Properties of Surfaces - Part-1

Lecture 11 - Properties of Surfaces - Part-2

Lecture 12 - Properties of Surfaces - Part-3

Lecture 13 - Moments and Products of Inertia

Lecture 14 - Methods of Virtual Work and Potential Energy - Part-1

Lecture 15 - Methods of Virtual Work and Potential Energy - Part-2

Lecture 16 - Stability of Equilibrium

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Management Science I

Subject Co-ordinator - Prof. Anuradha Sharma

Co-ordinating Institute - IIT - Delhi

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

- Lecture 1 - Introduction
- Lecture 2 - Motivation
- Lecture 3 - Management
- Lecture 4 - Work Ethics
- Lecture 5 - Comparison Between Theories
- Lecture 6 - Job Enrichment
- Lecture 7 - Team Building and Participation
- Lecture 8 - Other Leadership Styles
- Lecture 9 - Empowerment
- Lecture 10 - Barriers to Communication
- Lecture 11 - Issues in Leadership
- Lecture 12 - Participation Management and Team Working Part - 1
- Lecture 13 - Participation Management and Team Working Part - 2
- Lecture 14 - Participation Management and Team Working Part - 3
- Lecture 15 - Participative Management and Team Working Part - 5
- Lecture 16 - Organizations
- Lecture 17 - Some Management Concepts - Part - 1
- Lecture 18 - Some Management Concepts - Part - 2
- Lecture 19 - Some Management Concepts - Part - 3
- Lecture 20 - Diversity at Work Place and Management Issues
- Lecture 21 - Industrial Relations and Conflict Management - Part - 1
- Lecture 22 - Industrial Relations and Conflict Management - Part - 2
- Lecture 23 - Selection and Training of Employees
- Lecture 24 - Performance Management - Part - 1
- Lecture 25 - Performance Management - Part - 2
- Lecture 26 - Performance Management - Part - 3
- Lecture 27 - Management Research
- Lecture 28 - Corporate Social Responsibilities
- Lecture 29 - Women, Work and Organizations

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- Lecture 30 - Women, Work and Organizations
- Lecture 31 - Selection, Recruitment and Training
- Lecture 32 - Management of Change in Organization
- Lecture 33 - Organizational Development
- Lecture 34 - Values, Ethics and Corporate Social Responsibilities - Part - 1
- Lecture 35 - Values, Ethics and Corporate Social Responsibilities - Part - 2
- Lecture 36 - Management
- Lecture 37 - Management
- Lecture 38 - Management
- Lecture 39 - Conclusions

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Materials Science

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

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Introduction  
Lecture 2 - Internal Energy Enthalpy  
Lecture 3 - Crystal Geometry  
Lecture 4 - Crystal Geometry  
Lecture 5 - Crystal Geometry  
Lecture 6 - Crystal Structure  
Lecture 7 - Close Packing of Spheres of Equal Size  
Lecture 8 - Structure of Solid Materials  
Lecture 9 - Non Crystalline Solids  
Lecture 10 - Polymers (Continued)  
Lecture 11 - Crystal Imperfections  
Lecture 12 - Crystal Imperfections  
Lecture 13 - Crystal Imperfections  
Lecture 14 - Crystal Imperfections  
Lecture 15 - Crystal Imperfections  
Lecture 16 - Phase Diagrams  
Lecture 17 - Phase Diagrams  
Lecture 18 - Phase Diagrams  
Lecture 19 - Diffusion in Solids  
Lecture 20 - Diffusion in Solids  
Lecture 21 - Phase Transformations  
Lecture 22 - Phase Transformations  
Lecture 23 - Phase Transformations  
Lecture 24 - Transformations in Steels  
Lecture 25 - Phase Transformations; Precipitation Hardening  
Lecture 26 - Mechanical Behaviour of Materials  
Lecture 27 - Plastic Deformation  
Lecture 28 - Plastic Deformation  
Lecture 29 - Plastic Deformation

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- Lecture 30 - Strengthening Mechanisms Creep
- Lecture 31 - Fracture
- Lecture 32 - Conductors and Resistors
- Lecture 33 - Conductors and Resistors
- Lecture 34 - Superconductors
- Lecture 35 - Superconductors
- Lecture 36 - Semiconductors

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Numerical Methods and Computation

Subject Co-ordinator - Prof. S.R.K. Iyengar

Co-ordinating Institute - IIT - Delhi

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

Lecture 1 - Errors in Computation and Numerical Instability  
Lecture 2 - Solution of Nonlinear Algebraic Equations - Part 1  
Lecture 3 - Solution of Nonlinear Algebraic Equations - Part 2  
Lecture 4 - Solution of Nonlinear Algebraic Equations - Part 3  
Lecture 5 - Solution of Nonlinear Algebraic Equations - Part 4  
Lecture 6 - Solution of Nonlinear Algebraic Equations - Part 5  
Lecture 7 - Solution of Nonlinear Algebraic Equations - Part 6  
Lecture 8 - Solution of Nonlinear Algebraic Equations - Part 7  
Lecture 9 - Solution of Nonlinear Algebraic Equations - Part 8  
Lecture 10 - Solution of Nonlinear Algebraic Equations - Part 9  
Lecture 11 - Solution of a System of Linear Algebraic Equations - Part 1  
Lecture 12 - Solution of a System of Linear Algebraic Equations - Part 2  
Lecture 13 - Solution of a System of Linear Algebraic Equations - Part 3  
Lecture 14 - Solution of a System of Linear Algebraic Equations - Part 4  
Lecture 15 - Solution of a System of Linear Algebraic Equations - Part 5  
Lecture 16 - Solution of a System of Linear Algebraic Equations - Part 6  
Lecture 17 - Solution of a System of Linear Algebraic Equations - Part 7  
Lecture 18 - Solution of a System of Linear Algebraic Equations - Part 8  
Lecture 19 - Solution of a System of Linear Algebraic Equations - Part 9  
Lecture 20 - Solution of a System of Linear Algebraic Equations - Part 10  
Lecture 21 - Solution of a System of Linear Algebraic Equations - Part 11  
Lecture 22 - Solution of a System of Linear Algebraic Equations - Part 12  
Lecture 23 - Solution of a System of Linear Algebraic Equations - Part 13  
Lecture 24 - Solution of a System of Linear Algebraic Equations - Part 14  
Lecture 25 - Interpolation and Approximation - Part 1  
Lecture 26 - Interpolation and Approximation - Part 2  
Lecture 27 - Interpolation and Approximation - Part 3  
Lecture 28 - Interpolation and Approximation - Part 4  
Lecture 29 - Interpolation and Approximation - Part 5

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

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- Lecture 30 - Interpolation and Approximation - Part 6
- Lecture 31 - Interpolation and Approximation - Part 7
- Lecture 32 - Interpolation and Approximation - Part 8
- Lecture 33 - Interpolation and Approximation - Part 9
- Lecture 34 - Numerical Differentiation and Integration - Part 1
- Lecture 35 - Numerical Differentiation and Integration - Part 2
- Lecture 36 - Numerical Differentiation and Integration - Part 3
- Lecture 37 - Numerical Differentiation and Integration - Part 4
- Lecture 38 - Numerical Differentiation and Integration - Part 5
- Lecture 39 - Numerical Differentiation and Integration - Part 6
- Lecture 40 - Numerical Differentiation and Integration - Part 7
- Lecture 41 - Numerical Differentiation and Integration - Part 8

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Engineering Mechanics

Subject Co-ordinator - Prof. Manoj K Harbola

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Engineering Mechanics
- Lecture 2 - Equilibrium - I
- Lecture 3 - Equilibrium - II
- Lecture 4 - Equilibrium - III
- Lecture 5 - Plan Trusses - I
- Lecture 6 - Plan Trusses - II
- Lecture 7 - Friction
- Lecture 8 - Properties of Surfaces - I
- Lecture 9 - Properties of Surfaces - II
- Lecture 10 - Properties of Surfaces - III
- Lecture 11 - Method of Virtual Work
- Lecture 12 - Motion of Particles Planar Polar Coordinates
- Lecture 13 - Motion With Constraints
- Lecture 14 - Motion of Particle With Friction
- Lecture 15 - Motion of Particles With Drag
- Lecture 16 - Momentum
- Lecture 17 - Work and Energy - I
- Lecture 18 - Work and Energy - II
- Lecture 19 - Work and Energy - III
- Lecture 20 - Work and Energy - IV
- Lecture 21 - Rotational Motion - I
- Lecture 22 - Rotational Motion - II
- Lecture 23 - Rotational Motion - III
- Lecture 24 - Rotational Motion - IV
- Lecture 25 - Rotational Motion - V
- Lecture 26 - Rotational Motion - VI
- Lecture 27 - Simple Harmonic Motion - I
- Lecture 28 - Simple Harmonic Motion - II
- Lecture 29 - Simple Harmonic Motion - III

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

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Lecture 30 - Motion in Uniformly Accelerating Frames

Lecture 31 - Motion In Rotating Frame

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Engineering Physics II

Subject Co-ordinator - Prof. V. Ravishankar, Prof. S. Raychaudhuri

Co-ordinating Institute - IIT - Kanpur

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

Module - 1 lecture - 1  
Module - 1 lecture - 2  
Module - 1 lecture - 3  
Module - 1 lecture - 4  
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 - 3 lecture - 5 (Lecture Missing)  
Module - 3 lecture - 6  
Module - 3 lecture - 7  
Module - 3 lecture - 8  
Module - 4 lecture - 1  
Module - 4 lecture - 2  
Module - 4 lecture - 3  
Module - 4 lecture - 4  
Module - 4 lecture - 5  
Module - 4 lecture - 6  
Module - 4 lecture - 7  
Module - 4 lecture - 8  
Module - 4 lecture - 9  
Module - 4 lecture - 10  
Module - 4 lecture - 11  
Module - 4 lecture - 12

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Mathematics I

Subject Co-ordinator - Prof. Swagato K. Ray, Prof. Shobha Madan, Dr. P. Shunmugaraj

Co-ordinating Institute - IIT - Kanpur

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

Lecture 1 - Real Number  
Lecture 2 - Sequences I  
Lecture 3 - Sequences II  
Lecture 4 - Sequences III  
Lecture 5 - Continuous Function  
Lecture 6 - Properties of Continuous Function  
Lecture 7 - Uniform Continuity  
Lecture 8 - Differentiable Functions  
Lecture 9 - Mean Value Theorem  
Lecture 10 - Maxima - Minima  
Lecture 11 - Taylor's Theorem  
Lecture 12 - Curve Sketching  
Lecture 13 - Infinite Series I  
Lecture 14 - Infinite Series II  
Lecture 15 - Tests of Convergence  
Lecture 16 - Power Series  
Lecture 17 - Riemann Integral  
Lecture 18 - Riemann Integrable Functions  
Lecture 19 - Applications of Riemann Integral  
Lecture 20 - Length of a curve  
Lecture 21 - Line Integrals  
Lecture 22 - Functions of Several Variables  
Lecture 23 - Differentiation  
Lecture 24 - Derivatives  
Lecture 25 - Mean Value Theorem  
Lecture 26 - Maxima Minima  
Lecture 27 - Method of Lagrange Multipliers  
Lecture 28 - Multiple Integrals  
Lecture 29 - Surface Integrals

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

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- Lecture 30 - Green's Theorem
- Lecture 31 - Stokes Theorem
- Lecture 32 - Gauss Divergence Theorem

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Human Resource Management-I

Subject Co-ordinator - Prof. Kalyan Chakravarti

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Nature and Scope of HRM
- Lecture 2 - Analysing and Designing Job - I
- Lecture 3 - Analysing and Designing Job - II
- Lecture 4 - Human Resource Planning - I
- Lecture 5 - Human Resource Planning - II
- Lecture 6 - Recruitment and Selection
- Lecture 7 - Performance Evaluation and Appraisal - I
- Lecture 8 - Performance Evaluation and Appraisal (Continued...)
- Lecture 9 - Training and Development
- Lecture 10 - Employee Welfare
- Lecture 11 - Safety, Health, Environment
- Lecture 12 - Industrial Relations
- Lecture 13 - Total Quality Management
- Lecture 14 - Organization Culture
- Lecture 15 - Change Management - Part - I
- Lecture 16 - Change Management - Part - II
- Lecture 17 - Wage and Salary Administration
- Lecture 18 - Career Planning - Part - I
- Lecture 19 - Career Planning - Part - II
- Lecture 20 - Contemporary Issues in HRM - I
- Lecture 21 - Contemporary Issues in HRM - II
- Lecture 22 - Contemporary Issues in HRM - III

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Leadership

Subject Co-ordinator - Prof. Kalyan Chakravarti

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction to Leadership  
Lecture 2 - Leadership Roles  
Lecture 3 - Leadership Styles  
Lecture 4 - Leadership Behaviour  
Lecture 5 - Leadership Styles  
Lecture 6 - Case  
Lecture 7 - Leadership Skills  
Lecture 8 - Competencies and Skills of Leaders  
Lecture 9 - Case  
Lecture 10 - Case  
Lecture 11 - Case  
Lecture 12 - Case  
Lecture 13 - Case

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Management Information System

Subject Co-ordinator - Prof. Biswajit Mahanty

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction - I  
Lecture 2 - Introduction - II  
Lecture 3 - Introduction - III  
Lecture 4 - Concept of Information - I  
Lecture 5 - Concept of Information - II  
Lecture 6 - Decision Making Process  
Lecture 7 - Impact of IS on Management - I  
Lecture 8 - Impact of IS on Management - II  
Lecture 9 - Hardware Software Overview - I  
Lecture 10 - Hardware Software Overview - II  
Lecture 11 - Knowledge Management  
Lecture 12 - Learning Organization  
Lecture 13 - Decision Analysis - I  
Lecture 14 - Decision Analysis - II  
Lecture 15 - Decision Analysis - III  
Lecture 16 - Data Flow Diagrams - I  
Lecture 17 - Data Flow Diagrams - II  
Lecture 18 - Data Flow Diagrams - III  
Lecture 19 - Data Flow Diagrams - IV  
Lecture 20 - System Design - I  
Lecture 21 - System Design - II  
Lecture 22 - DBMS - I  
Lecture 23 - DBMS - II  
Lecture 24 - DBMS - III  
Lecture 25 - DBMS - IV  
Lecture 26 - DBMS - V  
Lecture 27 - OOAD - I  
Lecture 28 - OOAD - II  
Lecture 29 - OOAD - III

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Physics I - Oscillations and Waves

Subject Co-ordinator - Prof. S. Bharadwaj

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Simple Harmonic Oscillators  
Lecture 2 - Damped Oscillator - I  
Lecture 3 - Damped Oscillator - II  
Lecture 4 - Oscillator With External Forcing - I  
Lecture 5 - Oscillator With External Forcing  
Lecture 6 - Resonance  
Lecture 7 - Coupled Oscillations  
Lecture 8 - Sinusoidal Plane Waves - I  
Lecture 9 - Electromagnetic waves - I  
Lecture 10 - Electromagnetic Waves - II  
Lecture 11 - The Vector Nature of Electromagnetic Waves  
Lecture 12 - The Electromagnetic Spectrum  
Lecture 13 - The Electromagnetic Spectrum - II  
Lecture 14 - Interference - I  
Lecture 15 - Interference - II  
Lecture 16 - Interference - III  
Lecture 17 - Interference - IV  
Lecture 18 - Coherence  
Lecture 19 - Coherence  
Lecture 20 - Diffraction - I  
Lecture 21 - Diffraction - II  
Lecture 22 - Diffraction - III  
Lecture 23 - Diffraction - IV  
Lecture 24 - X-Ray Diffraction  
Lecture 25 - Beats  
Lecture 26 - The Wave Equation  
Lecture 27 - Solving the Wave Equation  
Lecture 28 - Waves  
Lecture 29 - Standing Waves

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- Lecture 30 - Standing Waves
- Lecture 31 - Polarization
- Lecture 32 - Compton Effect
- Lecture 33 - Wave - Particle Duality
- Lecture 34 - Wave - Particle Duality
- Lecture 35 - Probability Amplitude
- Lecture 36 - Probability
- Lecture 37 - Schrodinger Wave Equation
- Lecture 38 - Measurements
- Lecture 39 - Particle in a Potential
- Lecture 40 - Potential Well
- Lecture 41 - Potential Well
- Lecture 42 - Potential Well
- Lecture 43 - Quantum Tunneling
- Lecture 44 - Quantum Tunneling

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Strategic Management

Subject Co-ordinator - Prof. Kalyan Chakravarti

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Strategy

Lecture 2 - Strategy

Lecture 3 - Case Study - Group Presentation on Case - I (Baddi`s Solvent)

Lecture 4 - Case Study - Group Presentation on Case - II

Lecture 5 - Case Study - Group Presentation on Case - III

Lecture 6 - Case Study - Group Presentation on Case - IV Form

Lecture 7 - Strategy

Lecture 8 - Strategy

Lecture 9 - Case Study

Lecture 10 - Case Study

Lecture 11 - Group Presentation - II

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Basic Electronics and Lab

Subject Co-ordinator - Prof. T.S. Natarajan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to Basic Electronics

Lecture 2 - Electronic Devices 1

Lecture 3 - Electronics Devices II Resistor in series and parallel

Lecture 4 - Some Useful Laws in Basic Electronics

Lecture 5 - Some Useful Theorems in Basic Electronics

Lecture 6 - Semi Conductor Diodes

Lecture 7 - Applications of Diodes

Lecture 8 - Wave Shaping using Diodes

Lecture 9 - Zener Diode Characteristics

Lecture 10 - Transistors

Lecture 11 - Transistor Biasing - Common Emitter Circuits, Fixed Bias, Collector to base Bias

Lecture 12 - Transistor Biasing - Emitter Current Bias, Thermal Stability (RC Coupled Amplifier)

Lecture 13 - Basic Characteristic of an Amplifier - Simple Transistor model, Common emitter Amplifier

Lecture 14 - Hybrid Equivalent Circuit, H-Parameters

Lecture 15 - Circuit Analysis using H-Parameters

Lecture 16 - Frequency Response of Amplifiers

Lecture 17 - Frequency Analysis

Lecture 18 - Power Amplifiers

Lecture 19 - Differential Amplifiers Circuit

Lecture 20 - Integrated Chip

Lecture 21 - Typical Characteristic of Operation Amplifier

Lecture 22 - Four Types of Feed Back

Lecture 23 - Four Types of Feed Back

Lecture 24 - Mathematical Operations

Lecture 25 - Mathematical Operations

Lecture 26 - Mathematical Operations

Lecture 27 - Characteristics of Operation Amplifier

Lecture 28 - Characteristics of Operation Amplifier

Lecture 29 - Characteristics of Operation Amplifier

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- Lecture 30 - Inverter/Non-Inverter Circuits
- Lecture 31 - Applications of Op Amps
- Lecture 32 - Non-Linear Op Amp circuits
- Lecture 33 - Applications of Op Amps
- Lecture 34 - Active Diode Circuits
- Lecture 35 - Oscillators
- Lecture 36 - Logarithmic and Anti-Logarithmic Amplifier
- Lecture 37 - Filters
- Lecture 38 - Unit Junction Transistor
- Lecture 39 - Silicon Controlled Rectifier
- Lecture 40 - Field Effect Transistor

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Classical Physics

Subject Co-ordinator - Prof. V. Balakrishnan

Co-ordinating Institute - IIT - Madras

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

- Lecture 1 - Introduction
- Lecture 2 - Newtonian mechanics
- Lecture 3 - Dynamics in phase space
- Lecture 4 - Linear dynamical systems
- Lecture 5 - Autonomous dynamical systems (Part 1)
- Lecture 6 - Autonomous dynamical systems (Part 2)
- Lecture 7 - Lagrangian formalism
- Lecture 8 - Summary of classical electromagnetism
- Lecture 9 - Charged particle in an electromagnetic field
- Lecture 10 - Hamiltonian dynamics (Part 1)
- Lecture 11 - Hamiltonian dynamics (Part 2)
- Lecture 12 - Hamiltonian dynamics (Part 3)
- Lecture 13 - Dynamical symmetry (Part 1)
- Lecture 14 - Dynamical symmetry (Part 2)
- Lecture 15 - Randomness in phase space; chaos
- Lecture 16 - Discrete-time dynamics
- Lecture 17 - Discrete-time dynamics
- Lecture 18 - Problems and solutions (Part 1)
- Lecture 19 - Problems and solutions (Part 2)
- Lecture 20 - Classical statistical mechanics
- Lecture 21 - Some probability distributions; isolated system
- Lecture 22 - The microcanonical ensemble
- Lecture 23 - Thermodynamics
- Lecture 24 - The canonical ensemble
- Lecture 25 - Connection between statistical mechanics and thermodynamics
- Lecture 26 - Probability distributions
- Lecture 27 - Probability distributions (concl'd.). Phase transitions (Part 1)
- Lecture 28 - Phase transitions (Part 2)
- Lecture 29 - Phase transitions (Part 3)

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- Lecture 30 - Phase transitions (Part 4); misc. topics
- Lecture 31 - Problems and solutions (Part 3)
- Lecture 32 - Continuous groups in physics (Part 1)
- Lecture 33 - Continuous groups in physics (Part 2)
- Lecture 34 - Continuous groups in physics (Part 3)
- Lecture 35 - Noether's Theorem. Special Relativity (Part 1)
- Lecture 36 - Special Relativity (Part 2)
- Lecture 37 - Special Relativity (Part 3)
- Lecture 38 - Special Relativity (Part 4)

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Engineering Chemistry I

Subject Co-ordinator - Prof. K. Mangala Sunder

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to Chemistry & Quantum Chemical Mechanics

Lecture 2 - Particle in a box (one and two dimensions)

Lecture 3 - Particle in a box (One and Two Dimensions) Continued

Lecture 4 - Harmonic Oscillator and Molecular Vibration

Lecture 5 - Harmonic Oscillator (Continued)

Lecture 6 - Hydrogen Atom - Radial Solution

Lecture 7 - Hydrogen Atom Part III Angular Solutions

Lecture 8 - Hydrogen Atom - Angular Solutions (Continued)

Lecture 9 - Hydrogen Atom - Angular Solutions (Continued)

Lecture 10 - Oppenheimer Approximation and Superposition

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Numerical Methods and Programming

Subject Co-ordinator - Prof. P.B. Sunil Kumar

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Programming Basics  
Lecture 2 - Introduction to Pointers  
Lecture 3 - Pointers And Arrays  
Lecture 4 - External Functions and Argument Passing  
Lecture 5 - Representation of Numbers  
Lecture 6 - Numerical Error  
Lecture 7 - Error Propagation and Stability  
Lecture 8 - Polynomial Interpolation-1  
Lecture 9 - Polynomial Interpolation-2  
Lecture 10 - Error In Interpolation Polynomial  
Lecture 11 - Polynomial Interpolation  
Lecture 12 - Cubic Spline Interpolation  
Lecture 13 - Data Fitting  
Lecture 14 - Data Fitting  
Lecture 15 - Data Fitting  
Lecture 16 - Matrix Elimination and Solution  
Lecture 17 - Solution To Linear Equations  
Lecture 18 - Matrix Elimination  
Lecture 19 - Eigen Values of A Matrix  
Lecture 20 - Eigen Values And Eigen Vectors  
Lecture 21 - Solving NonLinear Equations  
Lecture 22 - Solving NonLinear Equations Newton Raphson Method  
Lecture 23 - Methods For Solving NonLinear Equations  
Lecture 24 - System of NonLinear Equations  
Lecture 25 - Numerical Derivations  
Lecture 26 - High order Derivatives From Difference Formula  
Lecture 27 - Numerical Integration - Basic Rules  
Lecture 28 - Comparison of Different Basic Rules  
Lecture 29 - Gaussian Rules

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

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- Lecture 30 - Comparison of Gaussian Rules
- Lecture 31 - Solving Ordinary Differential Equations
- Lecture 32 - Solving ordinary differential equations
- Lecture 33 - Adaptive step size Runge Kutta scheme
- Lecture 34 - Partial Differential Equations
- Lecture 35 - Explicit and Implicit Methods
- Lecture 36 - The Crank - Nicholson Scheme For Two Spatial
- Lecture 37 - Fourier Transforms
- Lecture 38 - Fast Fourier Transforms

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Quantum Physics

Subject Co-ordinator - Prof. V. Balakrishnan

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to Quantum Physics;Heisenberg's uncertainty principle

Lecture 2 - Introduction to linear vector spaces

Lecture 3 - Characteristics of linear vector spaces

Lecture 4 - Functions in a linear vector space

Lecture 5 - Linear operations in a linear vector space and their eigenvalues

Lecture 6 - Classical Vs Quantum Mechanics

Lecture 7 - Quantum Physics

Lecture 8 - Quantum Physics

Lecture 9 - Quantum Physics

Lecture 10 - Quantum Physics

Lecture 11 - Quantum Physics

Lecture 12 - Quantum Physics

Lecture 13 - Quantum Physics

Lecture 14 - Quantum Physics

Lecture 15 - Quantum Physics

Lecture 16 - Quantum Physics

Lecture 17 - Quantum Physics

Lecture 18 - Quantum Physics

Lecture 19 - Quantum Physics

Lecture 20 - Quantum Physics

Lecture 21 - Quantum Physics

Lecture 22 - Quantum Physics

Lecture 23 - Quantum Physics

Lecture 24 - Quantum Physics

Lecture 25 - Quantum Physics

Lecture 26 - Quantum Physics

Lecture 27 - Quantum Physics

Lecture 28 - Quantum Physics

Lecture 29 - Quantum Physics

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

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Lecture 30 - Quantum Physics

Lecture 31 - Quantum Physics

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Engineering Physics I

Subject Co-ordinator - Prof. Rajdeep Chatterjee, Prof. B.K. Patra, Prof. M.K. Srivastava, Prof. G.D. Verma

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Introduction
- Lecture 2 - Malus law & Superposition of ways
- Lecture 3 - Double Refraction
- Lecture 4 - Interference of polarized light
- Lecture 5 - Optical Activity
- Lecture 6 - Introduction
- Lecture 7 - Stationary Waves & Reflection, Refraction and Diffraction
- Lecture 8 - Ultrasonics
- Lecture 9 - Acoustics of Buildings - Part I
- Lecture 10 - Acoustics of Buildings - Part II
- Lecture 11 - Interference of light Part-1
- Lecture 12 - Interference of light Part-2
- Lecture 13 - Interference of light Part-3
- Lecture 14 - Interference by Division of Wave front
- Lecture 15 - Interference by Division of Amplitude
- Lecture 16 - Coherence and Application of Interference
- Lecture 17 - Diffraction Part-1
- Lecture 18 - Diffraction Part-2
- Lecture 19 - Diffraction Part-3
- Lecture 20 - Diffraction by a circular aperture
- Lecture 21 - Kinetic theory of gases - Part-1
- Lecture 22 - Kinetic theory of gases - Part-2
- Lecture 23 - Maxwellian distribution law of velocity - Part-1
- Lecture 24 - Maxwellian distribution law of velocity - Part-2
- Lecture 25 - Maxwellian distribution law of velocity - Part-3
- Lecture 26 - Vanderwaal's equation of states - Part-1
- Lecture 27 - Vanderwaal's equation of states - Part-2
- Lecture 28 - Vanderwaal's equation of states - Part-3
- Lecture 29 - Fluid Mechanics - Part-1

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

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- Lecture 30 - Fluid Mechanics - Part-2
- Lecture 31 - Introduction of special relativity
- Lecture 32 - Consequences of special relativity-1
- Lecture 33 - Consequences of special relativity-2
- Lecture 34 - Consequences of special relativity-3
- Lecture 35 - Consequences of special relativity-4
- Lecture 36 - Consequences of special relativity-5
- Lecture 37 - Introduction
- Lecture 38 - Image formation by lenses
- Lecture 39 - Lens aberrations - Part I
- Lecture 40 - Lens aberrations - Part II

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Mathematics II

Subject Co-ordinator - Dr. Sunita Gakkhar, Prof. H.G. Sharma, Dr. Tanuja Srivastava

Co-ordinating Institute - IIT - Roorkee

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

Lecture 1 - Complex Integration  
Lecture 2 - Contour Integration  
Lecture 3 - Cauchy's Integral Theorem  
Lecture 4 - Cauchy's Integral Formula  
Lecture 5 - Application of Cauchy Integral Formula  
Lecture 6 - Zeros, Singularities and Poles  
Lecture 7 - Residue Integration Method  
Lecture 8 - Residue Theorem  
Lecture 9 - Evaluation of Real Integrals  
Lecture 10 - Evaluation of Real Improper Integrals-1  
Lecture 11 - Evaluation of Real Improper Integrals-2  
Lecture 12 - Evaluation of Real Improper Integrals-3  
Lecture 13 - Evaluation of Real Improper Integrals-4  
Lecture 14 - Evaluation of Real Integrals - Revision  
Lecture 15 - Matrix Algebra Part - 1  
Lecture 16 - Matrix Algebra Part - 2  
Lecture 17 - Determinants Part - 1  
Lecture 18 - Determinants Part - 2  
Lecture 19 - Solution of System Equation  
Lecture 20 - Linear Algebra Part - 1  
Lecture 21 - Linear Algebra part - 2  
Lecture 22 - Linear Algebra Part - 3  
Lecture 23 - Linear Algebra Part - 4  
Lecture 24 - Inner Product  
Lecture 25 - Linear Transformation Part - 1  
Lecture 26 - Linear Transformation Part - 2  
Lecture 27 - Eigenvalues Eigenvectors Part - 1  
Lecture 28 - Eigenvalues Eigenvectors Part - 2  
Lecture 29 - Quadratic Forms

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

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- Lecture 30 - Diagonalization Part - 1
- Lecture 31 - Diagonalization Part - 2
- Lecture 32 - Solution of System of Linear Equation
- Lecture 33 - Functions of Complex Variables Part - 1
- Lecture 34 - Functions of Complex Variables Part - 2
- Lecture 35 - Taylor Series
- Lecture 36 - Laurent Series
- Lecture 37 - Rank of a Matrix
- Lecture 38 - Complex Numbers Their Geometrical Representation

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Mathematics III

Subject Co-ordinator - Prof. P.N. Agrawal, Dr. Tanuja Srivastava

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Solution of ODE of First Order and First Degree
- Lecture 2 - Linear Differential Equations of the First Order
- Lecture 3 - Approximate Solution of An Initial Value
- Lecture 4 - Series Solution of Homogeneous Linear I
- Lecture 5 - Series Solution of Homogeneous Linear II
- Lecture 6 - Bessel Functions and Their Properties
- Lecture 7 - Bessel Functions And Their Properties (Continued..)
- Lecture 8 - Laplace Transformation
- Lecture 9 - Laplace Transformation (Continued..)
- Lecture 10 - Applications Of Laplace Transformation
- Lecture 11 - Applications Of Laplace Transformation (Continued..)
- Lecture 12 - One Dimensional Wave Equation
- Lecture 13 - One Dimensional Heat Equation
- Lecture 14 - Introduction to Differential Equation
- Lecture 15 - First Order Differential Equations and Their Geometric Interpretation
- Lecture 16 - Differential Equations of First Order Higher Degree
- Lecture 17 - Linear Differential Equation of Second Order-Part - 1
- Lecture 18 - Linear Differential equation of Second Order-Part - 2
- Lecture 19 - Euler-Cauchy Theorem
- Lecture 20 - Higher Order Linear Differential Equations
- Lecture 21 - Higher Order Non homogeneous Linear Equations
- Lecture 22 - Boundary Value Problems
- Lecture 23 - Sturm Liouville boundary Value Problem
- Lecture 24 - Fourier Series-Part - 1
- Lecture 25 - Fourier Series-Part - 2
- Lecture 26 - Convergence of the Fourier Series
- Lecture 27 - Fourier Integrals
- Lecture 28 - Fourier Transforms
- Lecture 29 - Partial Differential Equation

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

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- Lecture 30 - First Order Partial Differential Equation
- Lecture 31 - Second Order Partial Differential Equations - I
- Lecture 32 - Second Order Partial Differential Equations - II
- Lecture 33 - Solution of One Dimensional Wave Equation
- Lecture 34 - Solution of HomogeneousNon Homogeneous Equations
- Lecture 35 - Fourier Integral Transform Method for Heat Equation
- Lecture 36 - Three Dimensional Laplace Equation
- Lecture 37 - Solution of Drichlet Problem
- Lecture 38 - Numerical Method for Laplace Poisson equation
- Lecture 39 - ADI Method for Laplace and Poisson Equation

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

NPTEL Video Course - Basic Courses (Semester 1 and 2) - Concept of Management and Evolution of Management Tho

Subject Co-ordinator - Prof. K.B. Akhilesh

Co-ordinating Institute - IISc - Bangalore

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

- Lecture 1 - Introduction - Concept of Management
- Lecture 2 - Lecture 2
- Lecture 3 - Management By Objectives
- Lecture 4 - Organizing & Organization
- Lecture 5 - Organizing - II
- Lecture 6 - Coordinating
- Lecture 7 - Communication - I
- Lecture 8 - Communication - II
- Lecture 9 - Leadership
- Lecture 10 - Controlling
- Lecture 11 - Motivation and Organization Culture
- Lecture 12 - Japanese Management
- Lecture 13 - Comparison of Japanese and American Management
- Lecture 14 - Managerial Functions in International Business
- Lecture 15 - Marketing Functions
- Lecture 16 - Management and Society
- Lecture 17 - Social Responsibility and Ethics - II
- Lecture 18 - Functions of Personnel Management
- Lecture 19 - Manpower Planning
- Lecture 20 - Selection - I
- Lecture 21 - Selection - II
- Lecture 22 - Performance Appraisal - I
- Lecture 23 - Performance Appraisal - II
- Lecture 24 - Training and Development - I
- Lecture 25 - Training and Development - II
- Lecture 26 - Job Design and Payment Systems - I
- Lecture 27 - Job Design and Compensation Systems
- Lecture 28 - Organizational Development - I
- Lecture 29 - Organizational Development - II

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

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- Lecture 30 - Organization Theory - I
- Lecture 31 - Organization Theory - II
- Lecture 32 - Group Dynamics - I
- Lecture 33 - Group Dynamics - II
- Lecture 34 - Group Dynamics - III
- Lecture 35 - Conflict Management - I
- Lecture 36 - Conflict Management - II
- Lecture 37 - Managing Creativity and Innovation
- Lecture 38 - Creativity and Managing Innovation Process - II
- Lecture 39 - Stress Management - I
- Lecture 40 - Stress Management - II