NPTEL : Electromagnetic Theory (Prof. D.K. Ghosh) (Physics)

Co-ordinators : Prof. D.K. Ghosh

NPTEL : Special Theory of Relativity (Physics)

Co-ordinators : Prof. Shiva Prasad

NPTEL : NOC:Quantum Information and Computing (Physics)

Co-ordinators : Prof.Dipan Ghosh

NPTEL : NOC:Theory of Groups for Physics Applications (Physics)

Co-ordinators : Prof. Urjit A. Yajnik

NPTEL : NOC:Quantum Mechanics-I (Physics)

Co-ordinators : Prof. Ramadevi

NPTEL : NOC:Path Integral and Functional Methods in Quantum Field Theory (Physics)

Co-ordinators : Prof. Urjit A. Yajnik

Lecture 32 - Topological Vacuum of Yang Mills Theories - II

NPTEL : NOC:Physics of Biological Systems (Physics)

Co-ordinators : Prof. Mithun Mitra

NPTEL : NOC:Group Theory Methods in Physics (Physics)

Co-ordinators : Prof. Ramadevi

NPTEL : NOC:Neutron Scattering for Condensed Matter Studies (Physics)

Co-ordinators : Prof. Saibal Basu

NPTEL : NOC:Accelerator Physics (Physics)

Co-ordinators : Prof. Rajni Pande, Prof. Amalendu Sharma, Prof. Pitamber Singh

NPTEL : Electronics (Physics)

Co-ordinators : Prof. D.C. Dube

NPTEL : Plasma Physics: Fundamentals and Applications (Physics)

Co-ordinators : Prof. Vijayshri, Prof. V.K. Tripathi

NPTEL : Quantum Electronics (Physics)

Co-ordinators : Prof. K. Thyagarajan

NPTEL : Quantum Mechanics and Applications (Physics)

Co-ordinators : Prof. Ajoy Ghatak

NPTEL : Semiconductor Optoelectronics (Physics)

Co-ordinators : Prof. M.R. Shenoy

NPTEL : NOC:Semiconductor Optoelectronics (Physics)

Co-ordinators : Prof. M. R. Shenoy

NPTEL : NOC:Introduction to LASER (Physics)

Co-ordinators : Unknown

NPTEL : NOC:Nuclear and Particle Physics (Physics)

Co-ordinators : Dr. P. Poulose

NPTEL : NOC:Advanced Condensed Matter Physics (Physics)

Co-ordinators : Dr. Saurabh Basu

NPTEL : NOC:Advanced Quantum Mechanics with Applications (Physics)

Co-ordinators : Dr. Saurabh Basu

NPTEL : NOC:A Brief Course on Superconductivity (Physics)

Co-ordinators : Dr. Saurabh Basu

NPTEL : NOC:Introduction to Statistical Mechanics (Physics)

Co-ordinators : Prof.Girish S. Setlur

Lecture 32 - Current algebra

NPTEL : NOC:Numerical Methods and Simulation Techniques for Scientists and Engineers (Physics)

Co-ordinators : Dr. Saurabh Basu

NPTEL : NOC:Theoretical Mechanics (Physics)

Co-ordinators : Dr. Charudatt Y. Kadolkar

NPTEL : NOC:Solar Energy Engineering and Technology (Physics)

Co-ordinators : Prof. Pankaj Kalita

NPTEL : NOC:Quantum Technology and Quantum Phenomena in Macroscopic Systems (Physics)

Co-ordinators : Prof. Amarendra Kumar Sarma

NPTEL : NOC:Dynamics of Classical and Quantum Fields (Physics)

Co-ordinators : Prof. Girish S. Setlur

NPTEL : NOC:Quantum Hall Effects (Physics)

Co-ordinators : Prof. Saurabh Basu

NPTEL : Nuclear Physics: Fundamentals and Applications (Physics)

Co-ordinators : Prof. H.C. Verma

NPTEL : NOC:Introduction to Electromagnetism (Physics)

Co-ordinators : Prof. Manoj K Harbola

NPTEL : NOC:Engineering Mechanics (Physics)

Co-ordinators : Prof. Manoj K Harbola

Lecture 64 - Rigid body motion IV - applying angular momentum conservation, a solved example

Lecture 65 - Rigid body motion V (fixed axis rotation) - some demonstrations of conservation of angular momentum about fixed axis

Lecture 66 - Rigid body motion VI (fixed axis rotation) - Some more demonstrations and related problems

Lecture 67 - Rigid body motion VII (fixed axis rotation) - Kinetic energy and moment of inertia for fixed axis rotation and some solved examples

Lecture 68 - Rigid body motion VIII (fixed axis rotation) - solved examples for calculating moment of inertia and conservation of angular momentum

Lecture 69 - Rigid body motion IX (fixed axis rotation) - solved examples

Lecture 70 - Rigid body motion X - rotation and translation with axis moving parallel to itself

Lecture 71 - Rigid body motion XI - solved examples for rotation and translation with axis moving parallel to itself

Lecture 72 - Rigid-body dynamics XII - Some demonstrations on general motion of rigid bodies

Lecture 73 - Rigid-body dynamics XIII - Infinitesimal angles as vector quantities and change of a vector when rotated by an infinitesimal angle

Lecture 74 - Rigid-body dynamics XIV - Angular velocity and the rate of change of a rotating vector; relating change in angular velocity to an applied torque

Lecture 75 - Rigid-body dynamics XV - Relationship between angular momentum and angular velocity Â– the moment of inertia tensor and the principal axes

Lecture 76 - Rigid-body dynamics XVI - Solved examples

Lecture 77 - Rigid body motion XVII Â– A review of the relation between angular momentum and angular velocity, moment of inertia tensor and the principal axes Edit Lesson

Lecture 78 - Rigid body motion XVIII- Solved examples for calculating rate of change of angular momentum and torque when angular velocity and angular momentum are not parallel

Lecture 79 - Rigid body dynamics XIX - understanding demonstrations shown earlier using equation of motion

Lecture 80 - Rigid body dynamics XX - understanding demonstrations shown earlier using equation of motion (Euler equations)

Lecture 81 - Rigid body dynamics XXI - Euler equations, solved examples

Lecture 82 - Simple harmonic motion I - expanding potential energy about the equilibrium point and the corresponding force

Lecture 83 - Simple harmonic motion II - solving the equation of motion with given initial conditions

Lecture 84 - Simple harmonic motion III - solved examples

Lecture 85 - Simple harmonic motion IV - representing simple harmonic motion on a phasor diagram; energy of an oscillator

Lecture 86 - Simple harmonic motion V - solved examples

Lecture 87 - Simple harmonic motion VI - solving the equation of motion with constant friction in the system

Lecture 88 - Simple harmonic motion VII - harmonic oscillator with velocity-dependent damping (heavy damping)

Lecture 89 - Simple harmonic motion VIII - harmonic oscillator with velocity-dependent damping (critical damping)

Lecture 90 - Simple harmonic motion IX - solved examples

Lecture 91 - Simple harmonic motion X - harmonic oscillator with velocity-dependent damping (light damping)

Lecture 92 - Simple harmonic motion XI - solved examples

NPTEL : NOC:Computational Science and Engineering Using Python (Physics)

Co-ordinators : Prof. Mahendra Verma

NPTEL : NOC:Introductory Quantum Mechanics (Physics)

Co-ordinators : Prof. Manoj K Harbola

NPTEL : NOC:Introduction to Solid State Physics (Physics)

Co-ordinators : Prof. Satyajit Banerjee

NPTEL : NOC:Physics of Turbulence (Physics)

Co-ordinators : Prof. Mahendra Verma

NPTEL : NOC:Introduction to Astrophysical Fluids (Physics)

Co-ordinators : Prof. Supratik Banerjee

NPTEL : NOC:Introduction to Electromagnetic Theory (Hindi) (Physics)

Co-ordinators : Prof. Manoj Harbola

NPTEL : NOC:Scientific Computing Using Python (Physics)

Co-ordinators : Prof. Mahendra K. Verma

NPTEL : Astrophysics and Cosmology (Physics)

Co-ordinators : Prof. S. Bharadwaj

NPTEL : NOC:Mathematics Methods in Physics - I (Physics)

Co-ordinators : Prof. Samudra Roy

NPTEL : NOC:Classical Mechanics - from Newtonian to Lagrangian Formulation (Physics)

Co-ordinators : Prof. Debamalya Banerjee

NPTEL : NOC:Solid State Physics (Physics)

Co-ordinators : Prof. Amal Kumar Das

NPTEL : NOC:Atomic and Molecular Physics (Physics)

Co-ordinators : Prof. Amal Kumar Das

NPTEL : NOC:Modern Optics (Physics)

Co-ordinators : Prof. Partha Roy Choudhuri

NPTEL : NOC:Introduction to Non-linear Optics and its Applications (Physics)

Co-ordinators : Prof. Samudra Roy

NPTEL : NOC:Upstream LNG Technology (Physics)

Co-ordinators : Prof. Pavitra Sandilya

NPTEL : NOC:Experimental Physics-I (Physics)

Co-ordinators : Prof. Amal Kumar Das

Lecture 32 - Demonstration on the experiment of viscosity

Lecture 33 - Data analysis of recorded data on viscosity

Lecture 34 - Forced Oscillations Pohls pendulum

Lecture 35 - Coupled Pendulum

Lecture 36 - Demonstration on the experiment of compound pendulum

Lecture 37 - Theory regarding compound pendulum has been discussed

Lecture 38 - Experimental demonstration on the standing Waves on a String has been shown clearly how to determine the linear mass density of the string.

Lecture 39 - Linear expansion of metal

Lecture 40 - Expt. to study linear expansion

Lecture 41 - Determine the coefficient of thermal conductivity of a bad conductor

Lecture 42 - Determination of electrical equivalent of heat

Lecture 43 - Determination of specific heat of the given solid metals using Dulong-Petit's law

Lecture 44 - Determination of the calibration curve of a given (Type K chromelÃ¢â‚¬â€œalumel) thermocouple and hence determination of Seebeck coefficient

Lecture 45 - Theorey and Demonstartion Platinum Resistance thermometer

Lecture 46 - Experiment on Platinum Resistance thermometer

Lecture 47 - To study the current-voltage relationship of an L-R circuit

Lecture 48 - To study the variation in current and voltage in a series LCR circuit

Lecture 49 - Sensitivity of Blastic Galvanometer

Lecture 50 - Expt. for Sensitivity of Blastic Galvanometer

Lecture 51 - Theory on RC Circuit

Lecture 52 - Expt. on RC Circuit

Lecture 53 - Theory regarding the magnetic field along the axis of a circular coil

Lecture 54 - Experiment regarding the magnetic field along the axis of a circular coil

Lecture 55 - Study the induced e.m.f of inductance coil

Lecture 56 - Mutual inductance

Lecture 57 - Theory regarding permeability of air

Lecture 58 - Experiment to determination the permeability of air

Lecture 59 - Devices around us

Lecture 60 - Devices around us (Continued...)

NPTEL : NOC:Experimental Physics-II (Physics)

Co-ordinators : Prof. Amal Kumar Das

NPTEL : NOC:Experimental Physics-III (Physics)

Co-ordinators : Prof. Amal Kumar Das

NPTEL : NOC:Electronic Theory of Solids (Physics)

Co-ordinators : Prof. Arghya Taraphder

NPTEL : NOC:Physics of Linear and Nonlinear Optical Waveguides (Physics)

Co-ordinators : Prof. Samudra Roy

NPTEL : NOC:Physics of Renewable Energy Systems (Physics)

Co-ordinators : Prof. Amreesh Chandra

NPTEL : NOC:Thermal Physics (Physics)

Co-ordinators : Prof. Debamalya Banerjee

NPTEL : NOC:Concepts in Magnetism and Superconductivity (Physics)

Co-ordinators : Prof. A Taraphder

NPTEL : NOC:Foundations of Classical Electrodynamics (Physics)

Co-ordinators : Prof. Samudra Roy

NPTEL : NOC:Physics of Functional Materials and Devices (Physics)

Co-ordinators : Prof. Amreesh Chandra

NPTEL : Special Topics in Atomic Physics (Physics)

Co-ordinators : Prof. P.C. Deshmukh

NPTEL : Classical Field Theory (Physics)

Co-ordinators : Prof. Suresh Govindarajan

NPTEL : Topics in Nonlinear Dynamics (Physics)

Co-ordinators : Prof. V. Balakrishnan

NPTEL : Condensed Matter Physics (Physics)

Co-ordinators : Prof. G. Rangarajan

NPTEL : Quantum Field Theory (Physics)

Co-ordinators : Dr. Prasanta Tripathy

NPTEL : Quantum Mechanics I (Physics)

Co-ordinators : Prof. S. Lakshmi Bala

NPTEL : Special Topics in Classical Mechanics (Physics)

Co-ordinators : Prof. P.C. Deshmukh

NPTEL : Special, Select Topics in the Theory of Atomic Collisions and Spectroscopy (Physics)

Co-ordinators : Prof. P.C. Deshmukh

NPTEL : Selected Topics in Mathematical Physics (Physics)

Co-ordinators : Prof. V. Balakrishnan

NPTEL : Nuclear Reactors and Safety - An Introduction (Physics)

Co-ordinators : Dr.G.Vaidyanathan

NPTEL : Physical Applications of Stochastic Processes (Physics)

Co-ordinators : Prof. V. Balakrishnan

NPTEL : NOC:Mechanics, Heat Oscillations and Waves (Physics)

Co-ordinators : Prof. V. Balakrishnan

NPTEL : Nonequilibrium Statistical Mechanics (Physics)

Co-ordinators : Prof. V. Balakrishnan

NPTEL : NOC:Statistical Mechanics (Physics)

Co-ordinators : Prof. Ashwin Joy

NPTEL : NOC:Computational Physics (Physics)

Co-ordinators : Prof. Prasenjit Ghosh

NPTEL : NOC:Waves and Oscillations (Physics)

Co-ordinators : Prof. M. S. Santhanam

NPTEL : NOC:Physics through Computational Thinking (Physics)

Co-ordinators : Prof. Auditya Sharma, Prof. Ambar Jain

NPTEL : NOC:Electromagnetism (Physics)

Co-ordinators : Prof. Nirmal Ganguli

NPTEL : NOC:Introduction to Classical Mechanics (Physics)

Co-ordinators : Prof. Anurag Tripathi

NPTEL : NOC:Fluid Dynamics for Astrophysics (Physics)

Co-ordinators : Prof. Prasad Subramanian

Lecture 64 - Solar eruptions : Coronal Mass Ejections (CMEs) and solar flares

NPTEL : NOC:Quantum Transport (Physics)

Co-ordinators : Prof. Madhu Thalakulam

NPTEL : NOC:Statistical Mechanics (2021) (Physics)

Co-ordinators : Prof. Dipanjan Chakraborty

Lecture 65 - Ultra Relativistic Bose Gas Stefan Boltzmann Law

NPTEL : NOC:Solid State Physics (2021) (Physics)

Co-ordinators : Prof. Nirmal Ganguli

NPTEL : NOC:Introduction to Quantum Field Theory (Theory of Scalar Fields) (Physics)

Co-ordinators : Prof. Anurag Tripathi

NPTEL : NOC:Introduction to Quantum Field Theory (Theory of Scalar Fields) - Part 2 (Physics)

Co-ordinators : Prof. Anurag Tripathi

NPTEL : NOC:Radio Astronomy (Physics)

Co-ordinators : Prof. Abhirup Datta

NPTEL : NOC:Fiber Optics (Physics)

Co-ordinators : Prof. Vipul Rastogi

NPTEL : NOC:Solar Photovoltaics Fundamentals, Technology and Applications (Physics)

Co-ordinators : Prof. Soumitra SataPathi

NPTEL : NOC:Introduction to Atmospheric and Space Sciences (Physics)

Co-ordinators : Prof. M V Sunil Krishna

NPTEL : NOC:Optical Sensors (Physics)

Co-ordinators : Prof. Sachin Kumar Srivastava

NPTEL : NOC:Advanced Atmospheric Physics (Physics)

Co-ordinators : Prof. M V Sunil Krishna

NPTEL : NOC:Nuclear Astrophysics (Physics)

Co-ordinators : Prof. Anil Kumar Gourishetty

NPTEL : NOC:Applied Optics (Physics)

Co-ordinators : Prof. Akhilesh Kumar Mishra

NPTEL : NOC:Newtonian Mechanics With Examples (Physics)

Co-ordinators : Prof. Shiladitya Sengupta

NPTEL : Relativistic Quantum Mechanics (Physics)

Co-ordinators : Prof. Apoorva D Patel

NPTEL : NOC:Control System Design (Physics)

Co-ordinators : Prof. G R Jayanth

NPTEL : NOC:Bonds and Bands in Solids (Physics)

Co-ordinators : S. Ramashesha

NPTEL : NOC:Advanced NMR Techniques in Solution and Solid-State (Physics)

Co-ordinators : Prof. N. Suryaprakash