

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

NPTEL Video Course - Physics - NOC:Applied Optics

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Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Course Overview
- Lecture 2 - Introduction to Geometrical Optics
- Lecture 3 - Ray Theory, Fermat's Principle
- Lecture 4 - Refraction from Single Interface
- Lecture 5 - Refraction from double interface
- Lecture 6 - Matrix method in paraxial optics - I
- Lecture 7 - Matrix Method in Paraxial Optics - II
- Lecture 8 - Thick and Thin Lenses, Unit Planes
- Lecture 9 - Nodal Planes, System of Thin Lenses
- Lecture 10 - Problems on Geometrical Optics
- Lecture 11 - Concept of Wavefront, Huygens Principle - I
- Lecture 12 - Concept of Wavefront, Huygens Principle - II
- Lecture 13 - Superposition of Waves
- Lecture 14 - Introduction to Polarization, Linear and Circular Polarization
- Lecture 15 - Elliptical Polarization
- Lecture 16 - Interference of Light Waves, Interference of Polarized Light - I
- Lecture 17 - Interference of Light Waves, Interference of Polarized Light - II
- Lecture 18 - Young's Double Slit Experiment - I
- Lecture 19 - Young's Double Slit Experiment - II
- Lecture 20 - Interference with White Light, Displacement of Fringes, Fresnel's Biprism
- Lecture 21 - Interference by Division of Amplitude
- Lecture 22 - Thin Parallel Films, Wedge Shaped Films
- Lecture 23 - Newton's Rings
- Lecture 24 - Michelson Interferometer and Its Applications - I
- Lecture 25 - Michelson Interferometer and Its Applications - II
- Lecture 26 - Multiple Beam Interference
- Lecture 27 - Fabry-Perot Interferometer and Etalon - I
- Lecture 28 - Fabry-Perot Interferometer and Etalon - II
- Lecture 29 - Concept of Coherence - I

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- Lecture 30 - Concept of Coherence - II
- Lecture 31 - Introduction to Diffraction
- Lecture 32 - Fraunhofer Diffraction
- Lecture 33 - Single Slit Diffraction
- Lecture 34 - Double Slit Diffraction
- Lecture 35 - Multiple Slit Diffraction
- Lecture 36 - Diffraction at a Rectangular Aperture
- Lecture 37 - Diffraction at a Circular Aperture
- Lecture 38 - Diffraction Grating
- Lecture 39 - Grating Spectrum and Resolving Power
- Lecture 40 - Fresnel Diffraction
- Lecture 41 - Fresnel Half Period Zones
- Lecture 42 - Vibration Curve
- Lecture 43 - Circular Obstacle, Zone Plates
- Lecture 44 - Rectangular Aperture
- Lecture 45 - Diffraction of a Plane Wave by a Long Narrow Slit
- Lecture 46 - Brewster's Law, Malus' Law
- Lecture 47 - Phenomenon of Double Refraction
- Lecture 48 - Normal and Oblique Incidence
- Lecture 49 - Production of Polarized Light
- Lecture 50 - Quarter and Half Wave Plates
- Lecture 51 - Analysis of Polarized Light and Optical Activity
- Lecture 52 - Plane Wave Propagation in Anisotropic Media - I
- Lecture 53 - Plane Wave Propagation in Anisotropic Media - II
- Lecture 54 - Antireflecting Coating
- Lecture 55 - Basic Concepts of Holography - I
- Lecture 56 - Basic Concepts of Holography - II
- Lecture 57 - Basic Concepts and Ray Optics Consideration of Optical Fiber
- Lecture 58 - Introduction to Lasers - I
- Lecture 59 - Introduction to Lasers - II
- Lecture 60 - Trifle