

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

NPTEL Video Course - Physics - NOC:Introduction to Atmospheric and Space Sciences

Subject Co-ordinator - Prof. M V Sunil Krishna

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - An Introduction to the Earth's Atmosphere and Source of Energy - The Sun
- Lecture 2 - Primary Source of Energy on the Earth - The Sun
- Lecture 3 - Evolution of the Earth's Atmosphere
- Lecture 4 - Earth's Second Atmosphere and Rise of Oxygen
- Lecture 5 - Atmosphere of Other Planets in Solar System
- Lecture 6 - Structure of Earth's Atmosphere
- Lecture 7 - Vertical Structure of Atmosphere
- Lecture 8 - Characterization of Atmosphere Based on Electrical Properties
- Lecture 9 - Coupling of Solar Radiation with the Earth's Atmosphere
- Lecture 10 - Forces and Their Classifications
- Lecture 11 - Forces - Gravitational Force
- Lecture 12 - Forces - Viscous Force
- Lecture 13 - Forces - Coriolis Force
- Lecture 14 - Coriolis Force and Curvature Effect
- Lecture 15 - Hydrostatic Equation
- Lecture 16 - Hypsometric Equation
- Lecture 17 - Atmospheric Thermodynamics
- Lecture 18 - Thermodynamics - Dry Air
- Lecture 19 - Thermodynamics - Moist Air
- Lecture 20 - Geopotential and Scale Height
- Lecture 21 - Specific Heats
- Lecture 22 - Air Parcel and Potential Temperature
- Lecture 23 - Moisture Parameters
- Lecture 24 - Saturation Mixing Ratio and Relative Humidity
- Lecture 25 - Pseudo-Adiabatic Processes
- Lecture 26 - Convection of Air
- Lecture 27 - Atmospheric Stability and Cloud Formation
- Lecture 28 - Cloud Formation
- Lecture 29 - Cloud Formation and Lifting

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- Lecture 30 - Cloud Morphology
- Lecture 31 - Secondary Cloud Classification and Fog
- Lecture 32 - Atmospheric Stability
- Lecture 33 - Atmospheric Stability Conditions
- Lecture 34 - Stable Unstable and Neutral Atmosphere
- Lecture 35 - Cloud Seeding and Precipitation
- Lecture 36 - Measuring Precipitation
- Lecture 37 - Droplet Growth and Curvature Effect
- Lecture 38 - Droplet Growth and Solute Effect
- Lecture 39 - Radial Growth of Droplets by Diffusion
- Lecture 40 - Radial Growth of Droplets by Diffusion (Continued...)
- Lecture 41 - Ionospheric Layers and Photochemistry
- Lecture 42 - Ionization Processes
- Lecture 43 - Ionospheric Chemical Reactions and Layers
- Lecture 44 - Chapman's Theory of Layer Production
- Lecture 45 - Chapman's Theory of Layer Production (Continued...)
- Lecture 46 - Chapman's Alpha Layer
- Lecture 47 - Hydrogen in Ionosphere
- Lecture 48 - Debye's Shielding
- Lecture 49 - Debye's Shielding and Debye's Potential
- Lecture 50 - Debye's Potential (Continued...)
- Lecture 51 - Particle Motion in Uniform Electric Field
- Lecture 52 - Particle Motion in Uniform Magnetic Field
- Lecture 53 - Particle Motion in Uniform Magnetic Field and Guiding Center
- Lecture 54 - Particle Motion in Uniform Electric and Magnetic Fields
- Lecture 55 - Gradient Magnetic Field
- Lecture 56 - Gradient Drift and Curvature Drift
- Lecture 57 - Vacuum Drift and Planetary Ring Current
- Lecture 58 - Magnetic Mirroring
- Lecture 59 - Magnetic Mirroring and Loss Cone
- Lecture 60 - Airglow and Aurora