

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

NPTEL Video Course - Aerospace Engineering - NOC:Aircraft Structures - I

Subject Co-ordinator - Dr. Anup Ghosh

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 - Load Encountered by a Typical Aircraft
Lecture 5 - Conceptual Structural Details of a Typical Aircraft
Lecture 6 - Airworthiness of An Aircraft
Lecture 7 - Aerodynamic Loads and Load Factors
Lecture 8 - Loads From A Symmetric Manoeuvre Of An Aircraft
Lecture 9 - Shear and Moment on Wing An Aircraft
Lecture 10 - Distribution Of Load On The Fuselage
Lecture 11 - Unit Load Analysis Of Fuselage
Lecture 12 - Truss System
Lecture 13 - Truss System (Continued...)
Lecture 14 - Space Structures
Lecture 15 - Space Structures (Continued...)
Lecture 16 - Wing Truss System
Lecture 17 - Introduction to Energy Methods
Lecture 18 - Dummy and Unit Load Method
Lecture 19 - Dummy and Unit Load Method - Examples
Lecture 20 - Castigliano's Theorems
Lecture 21 - Rayleigh - Ritz Method
Lecture 22 - Statically Indeterminate Structures
Lecture 23 - Theory of Elasticity - Stress
Lecture 24 - Theory of Elasticity - Equilibrium
Lecture 25 - Stress Transformation and Principal Stress
Lecture 26 - Theory of Elasticity - Principal Stress Boundary Condition
Lecture 27 - Shear Stresses
Lecture 28 - Introduction of Strain
Lecture 29 - Introduction of strain - Equations of compatibility

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- Lecture 30 - Formulation of Elasticity Problems
- Lecture 31 - Inverse Method of Solution
- Lecture 32 - Semi-Inverse Method of Solution
- Lecture 33 - Equilibrium Equation in Polar Coordinate System
- Lecture 34 - Compatibility Condition in Polar Coordinate System
- Lecture 35 - Effects of Circular Hole on Stress Distributions in a Plate
- Lecture 36 - Effects of Circular Hole on Stress Distributions in a Plate
- Lecture 37 - Effects of Circular Hole on Stress Distributions in a Plate
- Lecture 38 - Theory of Elasticity - Torsion Problems
- Lecture 39 - Theory of Elasticity - Torsion Problems (Continued...)
- Lecture 40 - Torsion of an Elliptical Bar
- Lecture 41 - Membrane Analogy for Torsion Problem
- Lecture 42 - Membrane Analogy for Torsion Problem (Continued...)