

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

NPTEL Video Course - Civil Engineering - NOC:Design of Steel Structures

Subject Co-ordinator - Prof. Damodar Maity

Co-ordinating Institute - IIT - Kharagpur

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

- Lecture 1 - Introduction to Design of Steel Structures (Limit State Method)
- Lecture 2 - Steel as a Structural Material
- Lecture 3 - Limit State Design
- Lecture 4 - Introduction to Connections
- Lecture 5 - Introduction to Bolt Connections
- Lecture 6 - Design of Ordinary Black Bolts
- Lecture 7 - Worked out Examples on Design of Ordinary Black Bolts
- Lecture 8 - Design of High Strength Friction Grip Bolts
- Lecture 9 - Weld connection
- Lecture 10 - Design of Fillet Welds
- Lecture 11 - Design of Butt Welds
- Lecture 12 - Design of Plug and Slot Weld
- Lecture 13 - Eccentric Connection (Load Lying in Plane of Bolted Joint)
- Lecture 14 - Design of Eccentric Connection (Load Lying in Plane of Bolted Joint)
- Lecture 15 - Eccentric Connection (Load Lying in Plane of Welded Joint)
- Lecture 16 - Eccentric Connection (Load Lying Perpendicular to Plane of Bolted Joint)
- Lecture 17 - Design of Eccentric Connection (Load Lying Perpendicular to Plane of Bolted Joint)
- Lecture 18 - Eccentric Connection (Load Lying Perpendicular to Plane of Welded Joint)
- Lecture 19 - Tension Members and Net Area
- Lecture 20 - Calculation of Net Area in Tension Members
- Lecture 21 - Net area, Staggered bolt, Chain bolt, Staggered pitch, Deduction of area
- Lecture 22 - Strength Calculation of Tension Members
- Lecture 23 - Strength of Tension Members with Weld Connection
- Lecture 24 - Steps for Design of Tension Members
- Lecture 25 - Design Calculation for Tension Members
- Lecture 26 - Design of Gusset Plate
- Lecture 27 - Lug Angles
- Lecture 28 - Splices in Tension Members
- Lecture 29 - Compression Members

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- Lecture 30 - Design Strength of Compression Members
- Lecture 31 - Compressive Strength
- Lecture 32 - Compressive Strength of Angle Struts
- Lecture 33 - Compressive Strength of Double Angles
- Lecture 34 - Design of Compression Members
- Lecture 35 - Design of Builtup Compression Members
- Lecture 36 - Lacing Systems
- Lecture 37 - Design of Lacing Systems
- Lecture 38 - Connection Design of Lacing Systems
- Lecture 39 - Design of Double Lacing System
- Lecture 40 - Batten Plates
- Lecture 41 - Design of Batten Plates using Bolt Connection
- Lecture 42 - Design of Batten Plates using Weld Connection
- Lecture 43 - Design of Column Splices
- Lecture 44 - Design of Column Splices due to Shear
- Lecture 45 - Introduction to Flexural Members
- Lecture 46 - Failure Modes of Flexural Members
- Lecture 47 - Laterally Supported Beams
- Lecture 48 - Design of Laterally Supported Beams
- Lecture 49 - Laterally Supported Beams with High Shear
- Lecture 50 - Laterally Unsupported Beams
- Lecture 51 - Strength Calculation of Laterally Unsupported Beams
- Lecture 52
- Lecture 53
- Lecture 54
- Lecture 55
- Lecture 56
- Lecture 57
- Lecture 58 - Worked out Example for Gantry Girder
- Lecture 59 - Slab Base
- Lecture 60 - Design of Slab Base
- Lecture 61 - Eccentrically Loaded Base Plate
- Lecture 62 - Gusset Base
- Lecture 63 - Design of Gusset Base