

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

NPTEL Video Course - Mechanical Engineering - NOC:Plastic Working of Metallic Materials

Subject Co-ordinator - Prof. P.S. Robi

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Introduction to Plastic Working of Metals
- Lecture 2 - Uniaxial Tension Test Analysis
- Lecture 3 - Temperature effects in metal forming
- Lecture 4 - Friction and Lubrication
- Lecture 5 - Friction and Lubrication (Continued...)
- Lecture 6 - Deformation zone + worked examples
- Lecture 7 - Stresses at point and Theory of Plasticity
- Lecture 8 - Slab Analysis
- Lecture 9 - Slip Line Field Theory - Part 1
- Lecture 10 - Slip Line Field Theory - Part 2
- Lecture 11 - Upper Bound Theorem
- Lecture 12 - Plasticity equations
- Lecture 13 - Forging
- Lecture 14 - Analysis of Forging
- Lecture 15 - Analysis of Forging (Continued...)
- Lecture 16 - Forging Die Design consideration
- Lecture 17 - Forging Load
- Lecture 18 - Rolling of Metals
- Lecture 19 - Analysis of Rolling
- Lecture 20 - Analysis of Rolling (Continued...)
- Lecture 21 - Strain rate in the deformation zone
- Lecture 22 - Rolling mills
- Lecture 23 - Problem on rolling
- Lecture 24 - Drawing of Rods, Wires and Tubes
- Lecture 25 - Drawing of Rods, Wires and Tubes (Continued...)
- Lecture 26 - Analysis of Wire Drawing
- Lecture 27 - Wire Drawing
- Lecture 28 - Extrusion Process
- Lecture 29 - Analysis of Extrusion

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- Lecture 30 - Introduction
- Lecture 31 - Sheet deformation process
- Lecture 32 - Deformation of sheet in plane stress
- Lecture 33 - Analysis of stamping
- Lecture 34 - Instability in sheet metal forming
- Lecture 35 - Deep drawing
- Lecture 36 - Hydroforming