

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

NPTEL Video Course - Mechanical Engineering - NOC:Principles of Metal Forming Technology

Subject Co-ordinator - Dr. Pradeep K. Jha

Co-ordinating Institute - IIT - Roorkee

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

- Lecture 1 - Introduction to Metal Forming Technology
- Lecture 2 - Classification of Metal Working Processes
- Lecture 3 - Behavior of Materials
- Lecture 4 - Failure of Materials
- Lecture 5 - Concept of stress and strain
- Lecture 6 - Description of stress
- Lecture 7 - State of stress in three dimension
- Lecture 8 - Description of strain
- Lecture 9 - Hydrostatic and deviator components of stress and strain
- Lecture 10 - Elastic stress strain relationships
- Lecture 11 - Introduction to theory of plasticity and flow curve
- Lecture 12 - True stress and true strain
- Lecture 13 - Yield criteria for ductile materials
- Lecture 14 - Yield locus, Octahedral shear stress and strain
- Lecture 15 - Plastic stress strain relationships
- Lecture 16 - Measures of yielding and ductility in tensile testing
- Lecture 17 - Instability in tension
- Lecture 18 - Strain rate effects on flow properties
- Lecture 19 - Temperature effects on flow properties
- Lecture 20 - Influence of various parameters on flow properties
- Lecture 21 - Classification of metal working processes
- Lecture 22 - Mechanics of metalworking and analysis methods
- Lecture 23 - Determination of flow stresses in metal working
- Lecture 24 - Hot working and cold working
- Lecture 25 - Metallurgical considerations in metal forming
- Lecture 26 - Introduction and classification of forging processes
- Lecture 27 - Equipments used in forging
- Lecture 28 - Forging in plane strain
- Lecture 29 - Introduction and classification of rolling processes

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- Lecture 30 - Analysis of rolling load calculations
- Lecture 31 - Defects in rolled and forged products
- Lecture 32 - Introduction and classification of extrusion processes
- Lecture 33 - Analysis of extrusion processes
- Lecture 34 - Extrusion of tubes and pipes, extrusion defect
- Lecture 35 - Introduction to rod and wire drawing
- Lecture 36 - Analysis of wire drawing and tube drawing processes
- Lecture 37 - Sheet metal operations - I
- Lecture 38 - Sheet metal operations - II
- Lecture 39 - Powder metallurgy forming - I
- Lecture 40 - Powder metallurgy forming - II