

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

NPTEL Video Course - Mechanical Engineering - NOC:Machining Science

Subject Co-ordinator - Prof. Sounak Kumar Choudhury

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction to Machining
- Lecture 2 - Mechanism of plastic deformation
- Lecture 3 - Basic machining parameters, Cutting Tools and Types of Machining
- Lecture 4 - Types of Chips, Tool nomenclature and tool angles
- Lecture 5 - Tool Nomenclature in Normal Rake System and conversion of angles
- Lecture 6 - Selection of Tool angles
- Lecture 7 - Forces in machining, Merchant's Circle Diagram
- Lecture 8 - Stress, Strain and Strain Rate and Shear Plane Angle
- Lecture 9 - Numerical Examples; Lee and Shaffer's model
- Lecture 10 - Friction in metal cutting
- Lecture 11 - Practical Machining Operations
- Lecture 12 - Slab Milling; Measurement of Cutting Forces
- Lecture 13 - Dynamometers; Tool Wear and Tool Life
- Lecture 14 - Factors affecting tool life; Abrasive Machining Processes
- Lecture 15 - Mechanics of Grinding Process
- Lecture 16 - Chip length and specific energy in Grinding
- Lecture 17 - Grinding wheel wear; Oblique Cutting
- Lecture 18 - Rake angles in oblique cutting; Economics of Machining
- Lecture 19 - Economics of Machining (Continued...); Thermal aspects of machining
- Lecture 20 - Surface finish