

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

NPTEL Video Course - Mechanical Engineering - NOC:Elements of Metal Cutting, Machine tools, Gear Cutting and

Subject Co-ordinator - Unknown

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Introduction
Lecture 2 - Geometry of single point turning tools - 1
Lecture 3 - Geometry of turning tools - 2
Lecture 4 - Geometry of single point turning tools -3
Lecture 5 - Geometry of cutting tools and numerical problems
Lecture 6 - Different types of tools and mcq
Lecture 7 - Mechanism of chip formation
Lecture 8 - Mechanics of material removal
Lecture 9 - Measurement Of Cutting Forces
Lecture 10 - Numerical problems and MCQ
Lecture 11 - Tool wear and Tool life
Lecture 12 - Wear and life of cutting tools - 2
Lecture 13 - The lathe
Lecture 14 - Calculations on mechanisms in machine tools
Lecture 15 - Numerical problems on lathe
Lecture 16 - milling machines
Lecture 17 - Milling machine - indexing
Lecture 18 - Gear cutting CNC and non traditional machining
Lecture 19 - CNC and non-traditional machining methods
Lecture 20 - Numerical problems for week 4
Lecture 21 - Introduction
Lecture 22 - Simple Gear Calculations
Lecture 23 - Gear Geometry
Lecture 24 - Helical Gear Problems
Lecture 25 - Numerical Problem MCQ
Lecture 26 - Numerical Problem Milling of Helical Gears
Lecture 27 - Simple and Compound Indexing
Lecture 28 - Differential Indexing
Lecture 29 - Helical Gear Cutting on Milling Machine

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- Lecture 30 - Numerical Problems on Gear Milling
- Lecture 31 - Gear Shaping - I
- Lecture 32 - Gear Shaping - II
- Lecture 33 - Gear Shaping - III
- Lecture 34 - Gear Shaping - IV
- Lecture 35 - Gear Hobbing - I
- Lecture 36 - Gear Hobbing - II
- Lecture 37 - Gear Hobbing - III
- Lecture 38 - Gear Hobbing - IV
- Lecture 39 - Gear Hobbing - V
- Lecture 40 - Gear Hobbing - VI
- Lecture 41 - Introduction to computer control role of computers in automation
- Lecture 42 - Introduction (Continued...) binary logic and logic gates
- Lecture 43 - Classification of Computer numerical control (CNC) Point to point and continuous control
- Lecture 44 - Classification (Continued...) : Closed loop and open loop control
- Lecture 45 - Tutorial involving simple calculations on different aspects of CNC controls
- Lecture 46 - Questions, MCQ Discussions on Motors, Encoders, Decoders and Programming Practice
- Lecture 47 - Stepper motors, Permanent magnet DC motors
- Lecture 48 - Binary circuits and decoders
- Lecture 49 - Tachogenerator, printed circuit motors, Encoders
- Lecture 50 - Programming Practice - I
- Lecture 51 - Programming Practice - II
- Lecture 52 - Computer Aided Offline Programming
- Lecture 53 - Interpolators - Linear
- Lecture 54 - Interpolators - Curvilinear
- Lecture 55 - Questions on Programming and Interpolation
- Lecture 56 - 3-D Machining - Basic Concepts
- Lecture 57 - Curved Surface Geometry
- Lecture 58 - Cutter Path Generation for Curved Surfaces
- Lecture 59 - Cutter Path Generation (Concluding Part) and Current Status - CNC Machining and Related Processes
- Lecture 60 - Questions and Discussions on Curved Surface Machining