

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

NPTEL Video Course - Mechanical Engineering - NOC:Manufacturing of Turbines (Gas, Steam, Hydro and Wind)

Subject Co-ordinator - Prof. Sunny Zafar

Co-ordinating Institute - IIT - Mandi

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

- Lecture 0 - Introduction to the Course
- Lecture 1 - Introduction to Turbines
- Lecture 2 - Need of Turbines
- Lecture 3 - General Specifications and Design Philosophy of Turbines
- Lecture 4 - Manufacturing Concepts and Classification of Engineering Materials
- Lecture 5 - Manufacturing Processes and Manufacturability
- Lecture 6 - Materials vs Manufacturing Processes
- Lecture 7 - Material Selection, Precision and Materology in Turbines
- Lecture 8 - Introduction to Gas Turbines
- Lecture 9 - Manufacturing of Gas Turbines - I
- Lecture 10 - Manufacturing of Gas Turbines - II
- Lecture 11 - Manufacturing of Gas Turbines - III
- Lecture 12 - Manufacturing of Gas Turbines - IV
- Lecture 13 - Manufacturing of Gas Turbines - V
- Lecture 14 - Finishing Process for Gas Turbine Blades
- Lecture 15 - Thermal Barrier Coatings for Gas Turbine Blades
- Lecture 16 - Manufacturing Processes for TBCs
- Lecture 17 - Material Reuirements for Steam Turbine Blades
- Lecture 18 - Investment Casting Process for Steam Turbines
- Lecture 19 - Deformation and Machining Processes for Steam Turbines
- Lecture 20 - Laster Metal Direct Fabrication and Welding Process for Steam Turbines
- Lecture 21 - Material Selection Challenges for Hydroturbines
- Lecture 22 - Casting Processes for Hydro turbines
- Lecture 23 - Forging and Welding Processes for Hydro Turbines
- Lecture 24 - Machining Processes for Hydro Turbines
- Lecture 25 - Coatings for Hydro Turbines
- Lecture 26 - Material Selection for Wind Turbines - I
- Lecture 27 - Material Selection for Wind Turbines - II
- Lecture 28 - Material Selection for Wind Turbines - III

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- Lecture 29 - Material Selection for Wind Turbines - IV
- Lecture 30 - Material Selection for Wind Turbines - V
- Lecture 31 - Manufacturing of Glass Fibers
- Lecture 32 - Manufacturing of Carbon Fibers
- Lecture 33 - Hand-Lay up and Spray-Up Process
- Lecture 34 - Vacuum Bag Molding Process
- Lecture 35 - Resin Transfer Molding
- Lecture 36 - Vacuum Infusion Processing
- Lecture 37 - Coatings for Wind Turbines - I
- Lecture 38 - Coatings for Wind Turbines - II
- Lecture 39 - Damage Prevention, Repair, Quality Assurance and Testing
- Lecture 40 - Summary of Turbines