

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

NPTEL Video Course - Mechanical Engineering - NOC:Principles of Casting 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 Casting Technology
- Lecture 2 - Mechanism of solidification
- Lecture 3 - Solidification of Pure Metals and Alloys
- Lecture 4 - Freeze Wave Mechanism and Solidification Time
- Lecture 5 - Problem Solving on Solidification
- Lecture 6 - Technology of pattern making
- Lecture 7 - Allowances in pattern making
- Lecture 8 - Moulding sands and its ingredients
- Lecture 9 - Testing of molding sands
- Lecture 10 - Sand preparation for casting
- Lecture 11 - Technology of mould making
- Lecture 12 - Technology of core making
- Lecture 13 - Special sand moulding process
- Lecture 14 - Organic binders
- Lecture 15 - Special moulding process
- Lecture 16 - Introduction of gating design
- Lecture 17 - Types of gate
- Lecture 18 - Pouring time calculation
- Lecture 19 - Aspiration effects in gating system
- Lecture 20 - Problem solving on gating design
- Lecture 21 - Solidification analysis
- Lecture 22 - Riser methods
- Lecture 23 - Shape factor
- Lecture 24 - Feeding and Chills effect
- Lecture 25 - Problem related to riser design
- Lecture 26 - Special casting process - 1
- Lecture 27 - Special casting process - 2
- Lecture 28 - Special casting process - 3
- Lecture 29 - Technology of melting

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- Lecture 30 - Melting practices
- Lecture 31 - Melting and Casting of cast metal
- Lecture 32 - Melting practice for gray iron
- Lecture 33 - Melting practice for Malleable iron and S.G iron
- Lecture 34 - Casting of steel and alloy steel
- Lecture 35 - Casting practices for non-ferrous metals and alloys
- Lecture 36 - Fettling of castings
- Lecture 37 - Heat treatment of castings
- Lecture 38 - Heat treatment practices for cast iron and non-ferrous metals and alloys
- Lecture 39 - Casting defects
- Lecture 40 - Diagnostics of casting defects