

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

NPTEL Video Course - Mechanical Engineering - NOC: Metal Additive Manufacturing

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Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction to Metal Additive Manufacturing
- Lecture 2 - Additive Manufacturing Processes: Classification and Challenges
- Lecture 3 - Additive Manufacturing Processes: Applications and Challenges
- Lecture 4 - Metal Additive Manufacturing, Glossary - Part 1
- Lecture 5 - Metal Additive Manufacturing, Glossary - Part 2
- Lecture 6 - CAD for Additive Manufacturing
- Lecture 7 - Basic Processes - Part 1
- Lecture 8 - Basic Processes - Part 2
- Lecture 9 - Laser Based Processes - Part 1
- Lecture 10 - Laser Based Processes - Part 2
- Lecture 11 - Electron Beam Process
- Lecture 12 - Powder/Wire Fed Systems
- Lecture 13 - Solidification of Parts - Part 1
- Lecture 14 - Solidification of Parts - Part 2
- Lecture 15 - Solidification of Parts - Part 3
- Lecture 16 - Process Parameters
- Lecture 17 - MAM Printed Parts: Mechanical Properties, Hardness
- Lecture 18 - MAM Printed Parts: Mechanical Properties, Strength
- Lecture 19 - Common Defects and Post Processing
- Lecture 20 - Design for Additive Manufacturing (DFAM) - Part 1
- Lecture 21 - Design for Additive Manufacturing (DFAM) - Part 2
- Lecture 22 - Topology Optimization Techniques
- Lecture 23 - On-Machine Sensing in MAM - Part 1
- Lecture 24 - On-Machine Sensing in MAM - Part 2
- Lecture 25 - In-situ Control Systems
- Lecture 26 - Additive Manufacturing of Metal Matrix Composites - Part 1
- Lecture 27 - Additive Manufacturing of Metal Matrix Composites - Part 2
- Lecture 28 - Additive Manufacturing of Metal Matrix Composites - Part 3
- Lecture 29 - Additive Manufacturing of Metal Matrix Composites - Part 4

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

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- Lecture 30 - Reverse Engineering in MAM - Part 1
- Lecture 31 - Reverse Engineering in MAM - Part 2
- Lecture 32 - Reverse Engineering in MAM - Laboratory Demonstration - I
- Lecture 33 - Reverse Engineering in MAM - Laboratory Demonstration - II
- Lecture 34 - CAD and Topology Optimization Laboratory Demonstration - I
- Lecture 35 - CAD and Topology Optimization Laboratory Demonstration - II
- Lecture 36 - Non-Destructive Testing - Part 1
- Lecture 37 - Non-Destructive Testing - Part 2
- Lecture 38 - Sustainability in MAM - Part 1
- Lecture 39 - Sustainability in MAM - Part 2
- Lecture 40 - Sustainability in MAM - Part 3
- Lecture 41 - Metal 3D Printing Laboratory Demonstration - I
- Lecture 42 - Metal 3D Printing Laboratory Demonstration - II
- Lecture 43 - Safety in MAM
- Lecture 44 - Costing in MAM - Part 1
- Lecture 45 - Costing in MAM - Part 2
- Lecture 46 - Costing in MAM - Part 3
- Lecture 47 - Industry 4.0 and MAM