

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

NPTEL Video Course - Metallurgy and Material Science - NOC: Powder Metallurgy

Subject Co-ordinator - Dr. Ranjit Bauri

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to Powder Metallurgy  
Lecture 2 - Powder Fabrication Methods  
Lecture 3 - Powder Fabrication Methods  
Lecture 4 - Powder Fabrication Methods  
Lecture 5 - Powder Fabrication Methods  
Lecture 6 - Gas atomization  
Lecture 7 - Water Atomization  
Lecture 8 - Centrifugal Atomization  
Lecture 9 - Comparison of Atomization techniques  
Lecture 10 - Nucleation and Growth  
Lecture 11 - Thermodynamics and Kinetic of Solidification  
Lecture 12 - Microstructure Control  
Lecture 13 - Microstructure control  
Lecture 14 - Dendritic growth in pure metals  
Lecture 15 - Dendritic growth in alloys  
Lecture 16 - Crystalline and Amorphous structures  
Lecture 17 - Crystalline vs Amorphous  
Lecture 18 - T-T-T diagram  
Lecture 19 - Effect of particle size on microstructure  
Lecture 20 - Powder Characterization  
Lecture 21 - Basis for particle size measurement  
Lecture 22 - Measurement of particle size and size distribution  
Lecture 23 - Particle size distribution  
Lecture 24 - Dynamic Light Scattering - 1  
Lecture 25 - Dynamic Light Scattering - 2  
Lecture 26 - Particle size measurement - Other methods  
Lecture 27 - Surface Area Analysis - 1  
Lecture 28 - Surface Area Analysis - 2  
Lecture 29 - BET Surface Area Analysis

---

Get Digi-MAT (Digital Media Access Terminal) For High-Speed Video Streaming of NPTEL and Educational Video Courses in LAN

[www.digimat.in](http://www.digimat.in)

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

---

- Lecture 30 - Interparticle friction
- Lecture 31 - Powder packing
- Lecture 32 - Powder mixing and blending
- Lecture 33 - Powder Lubrication and Coating
- Lecture 34 - Powder compaction - 1
- Lecture 35 - Powder compaction - 2
- Lecture 36 - Powder compaction - 3
- Lecture 37 - Cold Isostatic Pressing and; Powder Injection Molding
- Lecture 38 - Powder Injection Molding - 2
- Lecture 39 - Slurry Techniques
- Lecture 40 - Tape casting
- Lecture 41 - Sintering - 1
- Lecture 42 - Sintering - 2
- Lecture 43 - Sintering - 3
- Lecture 44 - Sintering - 4
- Lecture 45 - Sintering - 5
- Lecture 46 - Sintering - 6
- Lecture 47 - Sintering - 7
- Lecture 48 - Sintering - 8
- Lecture 49 - Sintering - 9
- Lecture 50 - Sintering - 10
- Lecture 51 - Liquid Phase Sintering - 1
- Lecture 52 - Liquid Phase Sintering - 2
- Lecture 53 - Liquid Phase Sintering - 3
- Lecture 54 - Liquid Phase Sintering - 4
- Lecture 55 - Liquid Phase Sintering - 5
- Lecture 56 - Full Density Processing - 1
- Lecture 57 - Full Density Processing - 2
- Lecture 58 - Full Density Processing - 3
- Lecture 59 - Full Density Processing - 4
- Lecture 60 - Spark Plasma Sintering (SPS)