

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

NPTEL Video Course - Metallurgy and Material Science - NOC:Friction and Wear of Materials: Principles and Cases

Subject Co-ordinator - Prof. Dr. B. V. Manoj Kumar, Prof. Bikramjit Basu

Co-ordinating Institute - IISc - Bangalore

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

Lecture 1 - Tribology  
Lecture 2 - Surfaces and contacts  
Lecture 3 - Friction  
Lecture 4 - Contact temperature  
Lecture 5 - Lubrication  
Lecture 6 - Wear mechanisms  
Lecture 7 - Wear mechanisms  
Lecture 8 - Wear mechanisms  
Lecture 9 - Wear mechanisms  
Lecture 10 - Wear mechanisms  
Lecture 11 - Overview of tribological materials  
Lecture 12 - Friction and wear of metal matrix composites  
Lecture 13 - Overview  
Lecture 14 - Fabrication of engineering polymers  
Lecture 15 - Polymer Ceramic Composites for Orthopedic Applications  
Lecture 16 - Processing concepts of ceramics  
Lecture 17 - Mechanical properties of ceramics  
Lecture 18 - Fracture and toughening of brittle solids  
Lecture 19 - Sliding wear of SiC Ceramics  
Lecture 20 - Sliding wear of SiC-WC Composites  
Lecture 21 - Friction and wear of HDPE-HA-Al<sub>2</sub>O<sub>3</sub>  
Lecture 22 - Wear behavior of bioceramics and biocomposites  
Lecture 23 - Tribological behavior of dental restorative materials  
Lecture 24 - Wear of transformation toughened zirconia  
Lecture 25 - Fretting wear of SiAlON Ceramics  
Lecture 26 - Tribochemistry in wear of cermets  
Lecture 27 - Overview  
Lecture 28 - Wear of YSZ nanoceramics  
Lecture 29 - Wear behavior of nanostructured WC-ZrO<sub>2</sub> nanocomposites

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- Lecture 30 - Erosive wear of SiC-WC composites
- Lecture 31 - Overview
- Lecture 32 - Sliding wear of alumina ceramics and zirconia ceramics in cryogenic environment
- Lecture 33 - Sliding wear of silicon carbide in cryogenic environment
- Lecture 34 - Wear of TiB<sub>2</sub> Ceramic Composites
- Lecture 35 - Erosive wear of ultra-high temperature NbB<sub>2</sub>-based ceramic composites
- Lecture 36 - Erosive wear of ultra-high temperature ZrB<sub>2</sub>-based ceramic composites
- Lecture 37 - Computational analysis in assessing wear
- Lecture 38 - Basics of ceramics coating techniques
- Lecture 39 - Erosive wear of WC-Co coating
- Lecture 40 - Abrasive wear of WC-Co coating