

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

NPTEL Video Course - Mechanical Engineering - Vibration of Structures

Subject Co-ordinator - Prof. A. Dasgupta

Co-ordinating Institute - IIT - Kharagpur

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

Lecture 1 - Transverse Vibrations of Strings - I  
Lecture 2 - Transverse Vibrations of Strings - II  
Lecture 3 - Axial and Torsional Vibrations of Bars  
Lecture 4 - Variational Formulation - I  
Lecture 5 - Variational Formulation - II  
Lecture 6 - Modal Analysis - I  
Lecture 7 - Modal Analysis - II  
Lecture 8 - Properties of the Eigenvalue Problem  
Lecture 9 - Modal Analysis  
Lecture 10 - Modal Analysis  
Lecture 11 - The Initial Value Problem  
Lecture 12 - Forced Vibration Analysis - I  
Lecture 13 - Forced Vibration Analysis - II  
Lecture 14 - Forced Vibration Analysis - III  
Lecture 15 - Damping in Structures  
Lecture 16 - Axially Translating Strings  
Lecture 17 - d' Alembert's Solution - I  
Lecture 18 - d' Alembert's Solution - II  
Lecture 19 - Harmonic Waves and Energetics of Wave Motion  
Lecture 20 - Scattering of Waves  
Lecture 21 - Applications of Wave Solution - I  
Lecture 22 - Applications of Wave Solution - II  
Lecture 23 - Beam Models - I  
Lecture 24 - Beam Models - II  
Lecture 25 - Modal Analysis of Beams  
Lecture 26 - Applications of Modal Solution  
Lecture 27 - Approximate Methods  
Lecture 28 - Topic in Beam Vibration - I  
Lecture 29 - Topic in Beam Vibration - II

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

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- Lecture 30 - Wave Propagation in Beams
- Lecture 31 - Dynamics of Curved Beams
- Lecture 32 - Vibrations of Rings and Arches
- Lecture 33 - Dynamics of Membranes
- Lecture 34 - Vibrations of Rectangular Membrane
- Lecture 35 - Vibrations of Circular Membrane
- Lecture 36 - Special Problems in Membrane Vibrations
- Lecture 37 - Dynamics of Plates
- Lecture 38 - Vibrations of Rectangular Plates
- Lecture 39 - Vibrations of Circular Plates
- Lecture 40 - Special Problems in Plate Vibrations