

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

NPTEL Video Course - Mechanical Engineering - NOC:Principles of Mechanical Measurement

Subject Co-ordinator - Prof. Dipankar N. Basu

Co-ordinating Institute - IIT - Guwahati

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

- Lecture 1 - Introduction to measurement
- Lecture 2 - Generalized measurement system and static characteristics
- Lecture 3 - Uncertainties in measurement
- Lecture 4 - Statistical treatment of random errors
- Lecture 5 - System response to periodic inputs
- Lecture 6 - Zeroth and first order systems
- Lecture 7 - First and second order systems
- Lecture 8 - Basics of digitization and number systems
- Lecture 9 - Binary logic gates and binary codes
- Lecture 10 - Analog-to-digital conversion
- Lecture 11 - Digital-to-analog conversion
- Lecture 12 - Electromagnetic indicators
- Lecture 13 - Electronic amplifiers and filters
- Lecture 14 - Resistive devices
- Lecture 15 - Inductive, capacitive and optical devices
- Lecture 16 - Piezoelectric and nozzle-flapper transducers
- Lecture 17 - Resistive strain gages and associated circuitry
- Lecture 18 - Strain gage rosettes and gage orientation
- Lecture 19 - Elastic and strain gage load cells
- Lecture 20 - Various load cells and dynamometers
- Lecture 21 - Principles of manometry
- Lecture 22 - Piezometer and elastic pressure transducer
- Lecture 23 - Electric pressure transducer and high and low pressure measurement
- Lecture 24 - Bernoulli's equation in obstruction meters
- Lecture 25 - Obstruction meters and volume flowmeters
- Lecture 26 - Mass flowmeters and velocity probes
- Lecture 27 - Expansion-based devices
- Lecture 28 - RTD, Thermistor and Thermocouple
- Lecture 29 - Introduction to pyrometers

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- Lecture 30 - Basic seismic transducer
- Lecture 31 - Vibro-, velo- and accelerometer
- Lecture 32 - Introduction to acoustic measurement
- Lecture 33 - Radioactivity and its biological effects