

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

NPTEL Video Course - Mechanical Engineering - NOC:Experimental Stress Analysis:An Overview

Subject Co-ordinator - Prof. K. Ramesh

Co-ordinating Institute - IIT - Madras

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

Lecture 1 - Introduction to Stress Analysis - Analytical and Numerical Approaches

Lecture 2 - Introduction to Stress Analysis - Experimental Approaches

Lecture 3 - Optical Methods Work as Optical Computers

Lecture 4 - Basic information provided by various experimental methods

Lecture 5 - Visual Appreciation of Field Information - Part 1

Lecture 6 - Visual Appreciation of Field Information - Part 2

Lecture 7 - Visual Appreciation of Field Information - Part 3

Lecture 8 - Visual Appreciation of Field Information - Part 4

Lecture 9 - Visual Appreciation of Field Information - Part 5

Lecture 10 - Completeness of a Numerical Solution

Lecture 11 - Principle of Strain Gauges

Lecture 12 - Overview of Strain Gauge Measurements

Lecture 13 - Elegance of Photoelasticity

Lecture 14 - Introduction to Photoelasticity

Lecture 15 - Different Polariscopes

Lecture 16 - Principles of Moiré

Lecture 17 - Introduction to Moiré

Lecture 18 - Introduction to Brittle Coatings

Lecture 19 - Introduction to Holography

Lecture 20 - Introduction to Hologram Interferometry

Lecture 21 - Introduction to Double exposure hologram interferometry

Lecture 22 - Introduction to Speckle Methods

Lecture 23 - Introduction to Speckle Interferometry Techniques

Lecture 24 - Introduction to TSA and DIC

Lecture 25 - Introduction to Caustics

Lecture 26 - Introduction to Coherent Gradient Sensor

Lecture 27 - Naming of Experimental Methods

Lecture 28 - Fringe Patterns - Richness of Qualitative Information

Lecture 29 - Key technologies that have influenced Experimental Mechanics

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- Lecture 30 - Multiscale analysis and trends in experimental mechanics
- Lecture 31 - Selection of an experimental technique - Part 1
- Lecture 32 - Selection of an experimental technique - Part 2