

Advanced Strength of Materials - Video course

Module 1 (1 hrs)

Introduction

Module 2 (10 hrs)

Stress and Strains in 3-D – Cauchy formula, Principal Stress, hydrostatic stress, deviatoric stress, stress transformations, Mohr circle, octahedral shear stress, strain energy densities, etc.

Module 3 (4 hrs)

Theories of failure

Module 4 (3 hrs)

Beam on elastic foundations

Module 5 (2 hrs)

Bending of curved beams – Crane Hooks & Chains

Module 6 (6hrs)

Torsion of Non-circular members, hollow members, thin walled sections; Membrane Analogy

Module 8 (5 hrs)

Columns -- Straight & initially curved columns, Rankine formula

Module 9 (3 hrs)

Energy Methods – Energy Theorems, Use of energy theories for calculating deflections, twists, solution to torsion (non-circular) problems

Module 10 (2 hrs)

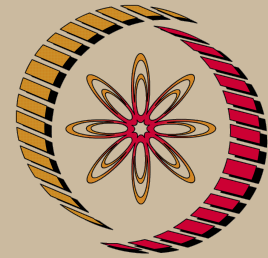
Unsymmetrical bending, shear centre

Module 11 (4 hrs)

Introduction to Photoelasticity

TOTAL HOURS = 40

REQUIRE ONE R.A. FULL TIME



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Mechanical Engineering

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