



Techno-Social Excellence
Marathwada Mitra Mandal's
INSTITUTE OF TECHNOLOGY (MMIT)
Lohgaon, Pune-411047.

“Mechanized Design Application”
Department of Mechanical Engineering

Course Name: Solid Mechanics Class: SE Mechanical Engineering
Course Code: 202041 (2019 Pattern)

Course Objectives:

1. To acquire basic knowledge of stress, strain due to various types of loading.
2. To draw Shear Force and Bending Moment Diagram for transverse loading.
3. To determine Bending, Shear stress, Slope and Deflection on Beam.
4. To solve problems of Torsional shear stress for shaft and Buckling for the column.
5. To apply the concept of Principal Stresses and Theories of Failure.
6. To utilize the concepts of Solid Mechanics on application based combined mode of loading.

Course Outcomes:

On completion of the course, learner will be able to

- CO1. DEFINE various types of stresses and strain developed on determinate and indeterminate members.
- CO2. DRAW Shear force and bending moment diagram for various types of transverse loading and support.
- CO3. COMPUTE the slope & deflection, bending stresses and shear stresses on a beam.
- CO4. CALCULATE torsional shear stress in shaft and buckling on the column.
- CO5. APPLY the concept of principal stresses and theories of failure to determine stresses on a 2-D element.
- CO6. UTILIZE the concepts of SFD & BMD, torsion and principal stresses to solve combined loading application based problems.