Velammal College of Engineering and Technology, Madurai
Department of Mechanical Engineering
21ME202 STRENGTH OF MATERIALS FOR MECHANICAL ENGINEERS
Unit I: Rigid bodies and deformable solids
Date 3.07.2025 Day order 02 Period 02

Session Objectives

At the end of this session, the learner will be able to:

- Define Rigid Body
- Define Deformable Body
- Define Elastic Body
- Define Plastic Body
- Differentiate Rigid body and Deformable body
- Differentiate Elastic body and Plastic body

Teaching Learning Material

- Models

Rigid Body

A rigid body is a perfect representation of a body that does not deform or change shape	

Deformable Body

A deformable body is a physical body that deforms, meaning it changes its shape or volume while being acted upon by an external force. • Elastic Body: A body which completely regains its original configuration immediately after the removal of deforming force on it • Plastic body: The bodies which remain in deformed state even after removal of the deforming force	

	

Demonstration:

- Using the model demonstrate Rigid body and Deformable body
- Hands on training is given to the students.

Summary

In this session, we learnt to:

- Define Rigid Body
- Define Deformable Body
- Define Elastic Body
- Define Plastic Body
- Differentiate Rigid body and Deformable body
- Differentiate Elastic body and Plastic body

References

- Bansal, R.K., "Strength of Materials", 6th Edition, Laxmi Publications (P) Ltd., 2022
- https://archive.nptel.ac.in/content/storage2/courses/101104010/lecture9/9_5.htm

Course In-Charge **Module Coordinator** **HOD/MECH**