

MECHANICS OF MACHINES(ME- 312)

Pre-requisite: None

Credit Hours: 03

Contact Hours: 48

RECOMMENDED BOOK(S)

Theory of Machines, by R.S. Khurmi, J: K. Gupta, Eurasia Publishing House, 2005

REFERENCE BOOK(S)

Theory of Machines and Mechanisms, By J. E. Shigley&Uicker, McGraw-Hill

Mechanism Design, *By Erdman and Sanders*, McGraw-Hill.

Principles of Mechanisms, *By F. Dyson*, Oxford University Press.

Theory of Machines, *By W.G. Green* Blackie & Son.

Design of Machinery, 2nd Ed, Norton

COURSE OBJECTIVES

To understand the mechanics and mechanisms involved in various machine elements

To learn the application of various machine components.

S. No.	CLO/PLOS MAPPING	DOMAIN	PLO
1	Define the fundamental knowledge of the functional principles of machines and mechanisms	C1	01
2	Ability to explain mechanisms being used in various machines like Quick return mechanisms, Straight line mechanisms, Cam/Follower, gear trains etc	C2	02
3	Ability to solve simple problems regarding belts & ropes, brakes, governors, gear trains, flywheels etc	C3	03

COURSE CONTENTS

Simple mechanism, screw threads and efficiency, friction of pivot, collar and conical bearing, cone, plate and centrifugal clutch, belts and rope drives, chains and sp rockets, controlling bands and shoe brakes, governors, effort and power, sensitivity, force and stability, gyroscope, geometry of gears, gear trains, dynamometers. Linkages: synthesis and analysis, position, velocity and acceleration analysis, turning moment diagram, flywheels, cam and follower, steering gears, balancing.