ENGINEERING MECHANICS-II: DYNAMICS (ME-211)

Pre-requisite: None Credit Hours: 03 Contact Hours: 48

RECOMMENDED BOOK(S)

Engineering Mechanics (Vol. 1) 12th Edition by R.C. Hibbler, Prentice Hall,

REFERENCE BOOK(S)

Engineering Mechanics 6thEdition by Merriam &L.G.Kraige John Wiley & Sons Vector Mechanics for Engineers (Dynamics) 4thEditionby Ferdinand P. Beer & E. Russell Johnston Jr.McGraw-Hill Science

COURSE OBJECTIVES

Students will learn about Cartesian coordinate system, Position, Velocity, Acceleration, andPosition-Time, Velocity-Time, Acceleration –Time Graphs, Rectilinear, curvilinear motion and projectile motion. Students would be able to solve the problems related to Polar coordinate system and its application on space curvilinear motion. Students would be familiarized with Newton's second law and its application in Cartesian, Normal and tangential and polar coordinatessystem.Students would learn to apply principles of work energy impulse and momentum for particles and rigid bodies

S. No.	CLO/PLOS MAPPING	DOMAIN	PLO
1	Describe key concepts related to position, velocity and acceleration in Cartesian, Normal and Tangential and Polar Coordinate Systems, kinetics, work and energy for particles and rigid bodies.	C2	01
2	Analyze the problems related to kinematics of particles and rigid bodies using different coordinate systems.	C4	02
3	Analyze the problems related to Kinetics of rigid bodies using different principles and techniques for their solution.	C4	02

COURSE CONTENTS

Kinematics of aParticle Kinetics of a Particle: Force and Acceleration Kinetics of a Particle: Work and Energy Kinetics of a Particle: Impulse and Momentum Planar Kinematics of a Rigid Body Planar Kinetics of a Rigid Body: Force and Acceleration Planar Kinetics of a Rigid Body: Work and Energy Planar Kinetics of a Rigid Body: Impulse and Momentum