Year & Sem: E1S1	Course Code: CE1101	Course Name: **Engineering Mechanics**	No. of Credits: 4	L	T&PS	P
				2	2	0

UNIT I: Forces &Friction

Introduction to Engineering Mechanics- basic concepts, equilibrium of forces, Triangle law of forces, polygon law of forces, Lami's theorem, forces in space. Friction-, Sliding friction and Ladder friction and applications of friction.

UNIT II: Centroid and Centre of Gravity:

Introduction-Centroid of plane figures and compound areas; centre of gravity of simple and composite objects; pappu's theorem-I and theorem –II

UNIT III: Moment of Inertia

Introduction-Second moment of an area; polar moment of inertia; radius of gyration; transfer formula; moment of inertia of simple and composite areas; product of inertia of simple and compound objects- transfer formula for product of inertia; Mass moment of inertia of simple and compound objects - transfer formula for mass moment of inertia

UNIT IV: Analysis of Trusses

Definition of static determinacy and indeterminacy; Analysis of statically determinate plane trusses- method of joints and sections; analysis of statically determinate space trusses- tension coefficient method

UNITV: Kinematics

Rectilinear motion; curvilinear motion-fixed axis rotation- constant and variable acceleration, projectiles-horizontal and inclined projection at same level and different levels.

UNIT VI: Kinetics

Newton's second law; Translation and Fixed axis rotation; D'Alembert's principle; concept of work energy equation and impulse momentum equation.

References/Text Books:

1. Engineering Mechanics, S.Timoshenko& D.H Young, McGraw Hill publications.
2. Engineering Mechanics, S. S. Bhavikatti, K. G. Rajashekarappa
3. Engineering Mechanics ,Basudeb Bhattacharyya, Oxford University Press

Lecture Plan: Unit-I & -II syllabus for MID-I, Unit-III & -IV syllabus for MID-II and Unit-V & -VI syllabus for MID-III examinations.

Video Lectures (Web Links):

1. https://www.youtube.com/watch?v=LG0YzGeAFxk&list=PL63F5D8638872CC3E
2.
3.