AS223 MECHANICS - II (3-0-0)

Statics

MODULE - I (Virtual Work)

Principles of virtual work: Equilibrium of Ideal Systems, Efficiency of simple mechanics, Stable and unstable equilibrium.

Text: Tuinoshenko, Ch-5

Dynamics

MODULE - II (Kinematics)

Kinematics of Curvilinear motion, Motion of Projectile, Moment of Momentum, Work & Energy in curvilinear motion.
Kinematics of Rotation, Rotation under the action of a constant moment, The compound pendulum,

MODULE - III (Moment of Inertia)

Moments of Inertia of Plane Figures with respect to an axis in it's plane, with respect to an axis perpendicular to the plane, Parallel axis theorem, Product of inertia, Principal axes and Principal moments .1
of inertia.

Solid Mechanics

MODULE - IV (Concepts of Stress & Strain)
Concepts of Stress and Strain, Normal stress, Sheer stress, normal strain, shear strain, Hooke's law, Poisson's ratio, Principal stresses, Principal strains, Mohr's Circle for stress and strain.

Textbooks:

Engineering Mechanics by : S. Tuimoshenko, D.H. Young, Mc-Graw Hill International Edition
Chapters: 1,2,3 & 6.

Reference Books:

Fundamentals of Engineering Mechanics, Second Edition, Publisher: Vikas Publishing House Pvt. Ltd. by S. Rajashekharan and G. Sankara Subhramanian.
Engineering Mechanics, K. L. Kumar, TMH
Elements of Strength of Materials by Tuinoshenko & Young