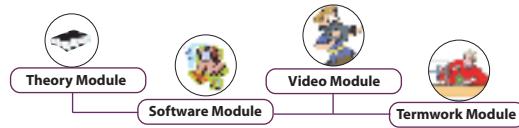


Machine Design



System Requirement:- IBM-PC Compatible with Window-OS, 128 MB RAM/Multimedia Kit

Theory module

Features : Theory, Figures, Photographs, Animations with controller, Highlighter tool, Note creation facility, Systematic page navigation, Printing facility, Access to Videos at appropriate locations.

List of Topics

Fundamentals



Working stress - Strain diagram for ductile and brittle materials, Factor of safety, Ductile and brittle fracture, Ductile materials subjected to steady stresses, Members subjected to bi- axial loading, Principal stresses, Stress concentration factor.

Riveted Joints

Types, Modes of failure, Strength and efficiency of riveted joints, Pitch of rivets, Design stresses, Structural joints of butt and lap type, Boiler joints, Rivets subjected to eccentric loading.



Keys And Pins



Types of keys, Stresses in keys, Design of square, rectangular and taper keys.

Shafting

Shafts subjected to twisting moment, Shaft subjected to bending moment, Shafts subjected to combined twisting and bending moment, Shafts subjected to fluctuating loads, Shafts subjected to axial load in addition to combined torsion and bending loads, Design of shafts on the basis of rigidity.



Coupling



Design of cast iron flange coupling, Marine or solid flange coupling

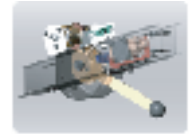
Cotter And Knuckling Joints



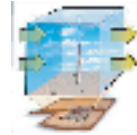
Socket and spigot cotter joints, Sleeve and cotter joints, Design of sleeve and cotter joints, Design of a gib and cotter joint for strap end of a connecting rod, Design of gib and cotter joint for square rods, Design procedure for knuckle joint.

Lever

Application of lever in engineering practice, Design of a lever, Foot lever, Cranked lever, Lever for lever safety valve, Bell crank lever.



Columns And Struts



Introduction, Failure of a column or a strut, Types of end conditions of column, Euler's column theory, Assumptions in Euler's column theory, Euler's formula, Slenderness ratio, Limitation of Euler's formula, Equivalent length of a column, Rankine formula for column.