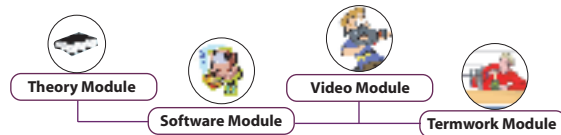


Theory of Machines

SoftTech ENGINEERS PVT.LTD. Introduces, Global e-Learning System in Education & Training in the form of Learning Resources with Computer Aided Instructions



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.

List of Topics

Fundamentals



Definitions, Types of Links, Kinematic Pairs, Classification of Pairs Depending, Upon Nature of Contact, Classification of Pairs Depending Upon Number of Relative Motions, Classification of Pairs Depending Upon Nature of Relative Motions, Constrained Motions, Four Bar Mechanism.

Types of Mechanisms

Introduction, Inversion, Inversions of Single Slider Crank Mechanism, Inversions of Double Slider Crank Chain, Inversions of Four Bar Chain.



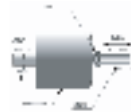
Study of Some Common Mechanisms



Introduction, Mini Drafter, Bicycle Rear Wheel Sprocket mechanism, Mechanism of Two Stroke I. C. Engines, Reciprocating Air Compressor Mechanism, Crane Mechanism (Winch), Geneva Mechanism, Foot Operated Air Pump Mechanism, Ackermann Steering Mechanism, Differential Mechanism of Automobiles, Shaper Quick Return Mechanism, Paper Feed Mechanism.

Cams and Followers

Introduction/ Definition of Cam, Classification of Followers / Knife Edged Roller Followers, Flat Followers, Spherical Followers, Classification : Type of Motion of Follower, Classification : The Line of Motion of Follower, Classification of Cams / Radial or Disc Cam, Yoke Cam, Pin Gear Cam, Cylindrical or Drum Cam, Different Follower Motions and Displacements.



Power Transmission Devices



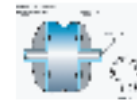
Introduction, Belt and Belt Drives, Types of Belts, Slip and Creep, Determination of Tension Ratio in Belt Drives, Length of Belt, Power Transmission, Condition for Maximum Power Transmission, Rope Drives and Types, Chain Drives and Their Elements, Classification of Chains, Concept of Friction Wheel, Classification of Gears, Laws of Gearing, Gear Trains and Their Types.

Flywheels and Governors

Introduction, Forces Acting on Slider Crank, Mechanism, Turning Moment, Diagram for Steam Engine, Turning Moment Diagram for I. C. Engine, Mechanical Press, Concept of Fluctuation of Energy, Coefficient of Fluctuation of Energy, Coefficient of Fluctuation of Speed, Derivation for Energy Stored, Flywheel, Governor and Their Types, Functions of Governor, Comparison of Flywheel and Governor.



Brakes and Dynamometers



Introduction to Brakes, Functions of Brakes, Block Brakes or Shoe Brakes, Band Brakes, Combined Block and Band Brake, Internal Expanding Brake, Hydraulically Operated Brake, Pneumatically Operated Brake, Vacuum Brake, Dynamometers, Classification of Dynamometers, Types of Absorption, Dynamometers, Types of Transmission Dynamometers.

Friction and Clutches

Introduction, Types of Friction, Classification of Friction, Laws of Friction, Uses of Friction, Types of Bearings, Frictional Torque for Simple Pivot Bearing, Frictional Torque for Conical Pivot Bearing, Single Plate Clutch, Multi Plate Clutch, Cone Clutch, Centrifugal Clutch, Screw Jack.



Software Module

Problems to find Absolute and Angular Velocity, Problems on Acceleration of Piston and Connecting Rod, Problems on Power Transmission, Problems on Gear and Gear Trains to find the teeth on wheels and pitch circle diameter, Problems on Calculation of Energy stored in Flywheels, Problems on Calculation of Torque in brakes, Problems on Friction.



Video Module



Practical Applications of Simple Mechanisms, Different types of Machines, Governors, Types of Pumps, Pulleys, Springs etc.