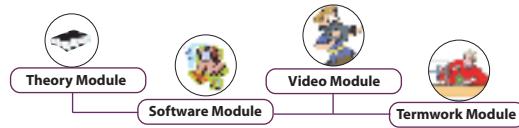


Elements of Civil Engineering



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

Linear Measurement



Direct Measurement by tape & chain only, ranging out survey line.
Measurement of a sloping ground -Errors-Tape correction problems.
Make measurement-Temporary adjustment, holding the stalk, reading the staff.

Vertical Measurement

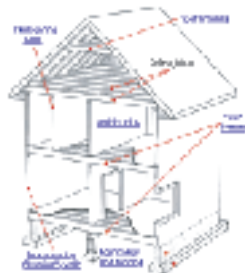
Levelling instruments(Dumpy level, Tilting level, & Auto level), Levelling Staff(folding type only).
Recording measurement in the field book, Deduction of level- height of collimation method only.
Introduction to Distomat & total Station (description only)-
How to make linear and angular measurement using total station,
Contouring -computation of area from plan.



Measurement of Area



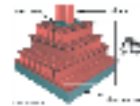
Selection of Site for Building,
Measurement of Area by Planimeter.



Types of Building

Components of Building.
Loads.
Types of Structures.

Sub Structure



Definition & purpose of foundation,
What is safe bearing capacity of soil?
Importance of determination of the Safe Bearing Capacity of Soil.
Types of Foundation,

Super Structure

Types of Masonary- Stone Masonary, Brick Masonary,
Test for checking the quality of stone & brick (Brief description),
Partition- Materials used for making partition-plywood, perticle boards and glass.
Flooring- Using mosaic tiles, ceramic tiles,marble, granite& synthetic materials.
Roofing- Selection of type of roof-flat roof, sloping roof,concrete roof,tiled roof, timber roof, GL sheet,AC sheet, PVC sheet,selection of roof covering material.
Types of doors & windows-material used for the construction of doors & window-wood, steel, Aluminium.
Plastering-cement mortar,
Painting - How to prepare the surface for painting-plastered, wood and steel surface-types of paintenamel.



Properties & uses of Materials



Concrete- Ingredients-cement, aggregate- and water,qualities of ingredients.
IS specification. IS specification for preparation and determation of motor strength.
Plain Cement Concrete (PCC)Prepartion-proportioning-mixing of concrete.
IS specification for the compressive strength of concrete.Steel-common typed used in construction-Mild steel, HYSD steel and their property

Tests of Materials

Tests of determine the qualities of fine aggregate fineness modules & grading curves.
Cement consistency, initial and final setting times,
Coarse aggregate-specific gravity, bulk density,porosity and void ratio.
Test of fresh concrete- Slump test & Compaction Factor Test,Test on Hardened concrete to determine the compressive strength of concrete.

