



I.INTRODUCTION:

Brief Idea About Structural Engineering And Staad Pro.

II.ENGINEERING MECHANICS:

- a) Introduction
- b) Principles Of Equilibrium
- c) Actions And Reactions
- d) Free Body Diagrams
- e) Support Reactions
- f) Types Of Loading,
- g) Analysis Of Trusses
- h) Virtual Work.

III.STRENGTH OF MATERIALS:

- a) Simple Stresses And Strain
- b) Elastic Constants
- c) Complex Sresses And Strains
- d) Shear Force And Bending Moments
- e) Theory Of Simple Bending
- f) Centre Of Gravity And Moment Of Inertia,.
- g) Torsion
- h) Springs
- i) Deflection And Slopes
- j) Columns And Structs

IV.STRUCTURAL ANALYSIS:



- a) Fundamental Analysis/Assumptions
- b) Statically Determinate And Indeterminate Structures
- c) Basic Methods Of Structural Analysis
- d) Force Methods
- e) Displacement Methods
- f) Plastic Theory
- g) Influence Lines And Rolling Loads.
- h) Example Problems

V. STEEL STRUCTURES:

- a) Material
- b) Specification
- c) Slender
- d) Semicompact
- e) Plastic Section
- f) Connections
- g) Tension/ Compression Members
- h) Specification
- i) Member Truss
- j) Steel Design
- k) Bending Members
- l) Beam Column
- m) Plate Girders



n) Roof Trusses Mini Project 1

VI.RCC STRUCTURES:

- a) Material
- b) Workmanship
- c) Testing
- d) Working Stress And Limit State Design
- e) Limit State Of Collapse
- f) Limit State Of Serviceability
- g) Singly And Doubly Reinforced Beams
- h) Flanged Sections
- i) Shear
- j) Torsion
- k) Slabs.
- l) Compression
- m) Stairs
- n) Footings
- o) Pre-Stressed Concrete. Mini Project 2

Staad Pro V8i:

- a) Introduction
- b) Unit Systems
- c) Co-Ordinate Systems
- d) Creating A New Project



- e) Staad Editor
- f) Model Generation(Creating Nodes And Members)
- g) Enhanced Grid Tool
- h) Importing Options, Select Menu
- i) Member Property Specification
- j) Support Specification, Material Specifications
- k) Model Editing Tools
- l) Primary Load Cases And Load Combinations
- m) Introduction To Analysis, Seismology, Dynamic Analysis
- n) Cable Member Specification, Tension/Compression Member
- o) Specification, Member Truss, Steel Design
- p) Steel Design, Design Of Over Head Transmission Line Towers
- q) Interactive Steel Design, Pushover Analysis, Cylindrical Reverse
- r) Coordinate Systems
- s) Finite Element Modelling
- t) RC Design (Beams)
- u) Timber Design
- v) RC Design (Slabs, Shear Wall)
- w) RC Design (Columns, Foundation)
- x) RC Design (Foundations, Staircase)
- y) Staad Beava, Design Of Water Tank
- z) Report Setup, Plotting From Staad.Pro