

CE8703

STRUCTURAL DESIGN AND DRAWING

L T P C 3 0 2 4

OBJECTIVE:

- This course aims at providing students with a solid background on the principles of structural engineering design. Students will be acquire the knowledge of liquid retaining structures, bridges components, retaining wall and industrial structures.

UNIT I RETAINING WALLS

9+6

Reinforced concrete Cantilever and Counter fort Retaining Walls–Horizontal Backfill with Surcharge–Design of Shear Key–Design and Drawing.

UNIT II FLAT SLAB and BRIDGES

9+6

Design of Flat Slabs with and without drops by Direct Design Method of IS code- Design and Drawing - IRC Specifications and Loading – RC Solid Slab Bridge – Steel Foot-over Bridge- Design and Drawing.

UNIT III LIQUID STORAGE STRUCTURES

9+6

RCC Water Tanks - On ground, Elevated Circular, underground Rectangular Tanks– Hemispherical Bottomed Steel Water Tank --Design and Drawing

UNIT IV INDUSTRIAL STRUCTURES

9+6

Structural steel Framing - Steel Roof Trusses – Roofing Elements – Beam columns – Codal provisions - Design and Drawing.

UNIT V GIRDERS AND CONNECTIONS

9+6

Plate Girders – Behaviour of Components-Deign of Welded Plate Girder-Design of Industrial Gantry Girders – Design of Eccentric Shear and Moment Resisting connections.