

AS534 **CONCRETE STRUCTURE** (3-1-0)

Objective:

This Course Enables the Student to Understand the Design Principles of Reinforced Cement Concrete Structures and evolution of different design philosophies; Understanding limit state of collapse; knowledge of design of structural elements in limit state method and conversant with R.C.C Code of practice.

Module-1

Introduction to Design Of Reinforced Concrete Structures; Limit State method of design, different limit states; concept of different methods of design; theory of singly reinforced beam for bending; Design of singly reinforced rectangular simply supported and cantilever beams for flexure, bond, shear and torsion; Design of doubly reinforced rectangular sections for flexure; Design of singly reinforced T-sections for flexure.

Module-2

Limit state of collapse in compression; concept of short and long columns, end conditions; design of axially loaded short column
Types of slabs; Design of One way And Two Way Slabs.

Module-3

Footings: - Types of foundations and footings. Types of soils and their safe bearing capacities. Design of isolated column footing.

Water tank: - Types of water tanks, Design requirements as per std. practices.

Retaining Walls: - Types of retaining wall, Design requirements as per std. practices.

Preliminary proportioning of dimensions of elements of cantilever retaining wall: Understanding the Design principles of different elements of cantilever retaining wall and designing the stem.