# SECOND YEAR - FOURTH SEMESTER

**AC 404 STRUCTURES-IV (L=2, S=2,W=0) CREDITS =03**

**INTERNAL ASSESSMENT (TERMWORK) = 50 CONTACT HRS/WK = 04**
**UNIVERSITY EXAMINATION = 50**

**Focus :** Design of Concrete Structure.

**Contents:** Study of cement and concrete as a structural material.
Definition of Permissible stresses, balanced section, under reinforced and over-reinforced section.
Design methods of R.C.C. structures : working stress method and limit state method.
Application of relevant IS codes.
Design of simply supported one way slab, two way slab & continuous slabs.
Design of singly reinforced and doubly reinforced beams – ELL beams – T-beams. Design of shear reinforcements.
Axially and eccentrically loaded columns, types of columns. Design of axially loaded columns & reinforcement detailing.
Design of isolated footing (square & rectangular).
Concept of 'Hinge' in RCC members.

**Methods:** Preparation of structural drawing along with schedules

**REFERENCES:**

| SR.NO. | TITLE | AUTHOR |
|---|---|---|
| 01. | Design Of R.C.C. Structures | H.J.Shah |
| 02. | Design Of R.C.C. Structures | Ramamruthan |
| 03. | Plain & Reinforce Concrete | Jain & Jaykrishna |
| 04. | Design Of R.C.C. Structures | K.L.Rao |
| 05. | Limit State Method Of R.C.C. Design | Ramchandra |
| 06. | IS Code – 456 -2000, Code Of Practice For Plain & Reinforce Concrete | BIS, New Delhi |
| 07. | IS Code - 875 – 1987 , Code Of Practice For Design Loads. | BIS, New Delhi |
| 08. | S.P. – 16 Design Aids to IS 456 | BIS, New Delhi |