

DESIGN OF CONCRETE STRUCTURES-II

Lectures / Tutorials : 4 / 1 Periods/Week

Sessional marks: 40

Semester End Exam. : 3 Hours

Semester End Exam. Marks : 60

Credits : 4

Course objectives:

- Course is designed to shape the concrete and use the steel bars for external loads on different building elements.
- To understand the codal recommendations for methods of design.
- To understand the design of continuous beams.
- To understand the design of one way, and cantilever slabs.
- To understand the design of continuous slabs.
- To understand the design of two way slabs, and flat slabs.
- To understand the design of columns.
- To understand the design of retaining walls and foundations

Course outcomes:

- Students can handle the isolated design of individual elements independently.
- Indian Standards of approach can be practiced by the student.

UNIT – I

Continuous Beam (Limit State Method)

Design of continuous beam

One way Slabs (Limit State Method)

Design of Simply supported, Cantilever and Continuous slabs

UNIT-II

Two Way Slabs (Limit State Method)

Design and detailing of two way slabs

Flat Slabs (Limit State Method)

Design and detailing of flat slabs by direct design method.

UNIT-III

COLUMNS (LIMIT STATE METHOD)

Assumptions; Design of axially loaded columns ; Design of rectangular columns (short and Long) subjected to axial load and bending moment using Interaction diagrams (SP-16 Charts)

UNIT-IV

Retaining Walls (Limit State Method)

Types of retaining walls, Forces on retaining walls; Stability requirements; Design and detailing of cantilever type retaining wall.

Foundations (Limit State Method)

Design and detailing of rectangular Isolated footing and Combined footing

NOTE

Two questions of 12 marks each will be given from each unit out of which one is to be answered. Twelve questions of one mark each will be given from entire syllabus which is a compulsory question.

TEXT BOOK

Reinforced concrete , Vol.1 & 2 by H. J. Shah, Charotar publishing house Pvt. Ltd.,2011.

REFERENCES

1. Reinforced Concrete (limit state design) by Ashok K. Jain; 6th Edition, NemChand & Bros., Roorkee
2. Reinforced concrete design by Pillai and Menon, 2nd Edition,Tata Mc Graw- Hill

WEB REFERNCES:

www.iitm.ac.in