PRESTRESSED CONCRETE TECHNOLOGY
(Elective – I)

Course Code: 13CE 2206 **L P C**
4 0 3

Course Outcomes:

At the end of the course the student will be able to

CO1 : Discuss various pre-stressing methods and related basic issues.

CO2 : Analyse and design the beams for a given pre-stressing force.

CO3 : Apply the principles to design beams for shear, bond and bearing

CO4 : Compute deflection in pre-stressed concrete beams.

CO5 : Apply the concepts underlying design principles of various miscellaneous PSC structural members.

UNIT-I

Materials, Pre-stressing Systems, End Anchorages, Losses of Pre-stress.

UNIT-II

Analysis and Design of Sections for Flexure.

UNIT-III

Design for Shear, Bond and Bearing.

UNIT-IV

Camber, Deflections, Cable Layouts. Continuous Beams. Load-Balancing Method.

UNIT-V

Slabs: Tension Members, Circular Pre-stressing. Compression Members, and Piles.

TEXT BOOKS

1. Krishnam Raju,N., *"Design of Prestressed Concrete Srtuctures"*, 4th Edition, TMH, 2004
2. Lin., T.Y., *"Design of Prestressed Concrete Structures"*, 2nd Edition, John Wiley & Sons, 1999.

REFERENCES

1. Edward G. Nawy, *"Prestressed Concrete A Fundamental Approach",* 1st Edition, Prentice Hall, 2002.
2. Rajagopalan. N, *"Prestressed Concrete"*, 2nd Edition, Narosa publications, 2006.

POWER PLANT DESIGN
(Elective – I)

Course Code: 13CE 2108

L	P	C
4	0	3

Course Outcomes:

At the end of the course the student will be able to

CO1: Outline the basic knowledge of on different power plant layouts and design of chimneys.
CO2: Describe different types of cooling towers.
CO3: Demonstrate knowledge of design and analysis of foundations.
CO4: Assess the knowledge about intake towers.
CO5: Explain the knowledge about storage structures.

UNIT – I

Power Plants: Planning and Layout of different types of power plants.

Chimneys: Analysis and Design of Chimneys. IS codal provisions.

UNIT – II

Cooling Towers: Induced draught and natural draught cooling towers.

UNIT – III

Foundation: Machine foundations & Turbo generator foundations.

UNIT – IV

Intake Towers: Dams, wells and Intake galleries

UNIT – V

Storage Structures: Analysis and Design of ware house structures.