



COLLEGE OF TECHNOLOGY AND ENGINEERING

DEPARTMENT OF CIVIL ENGINEERING

4 YEAR BE I SEMESTER SESSION 2015-16

1. Course Code : **CE 416 (c)**
2. Course Title : **DESIGN OF PRE-STRESS STRUCTURES**
3. Credit : 3(2+1)
4. Theory Lecture Outlines :

1.	<i>Basics of Pre-stressed Concrete:</i> Concepts, materials
2.	various pre-tensioning and post tensioning systems
3.	various pre-tensioning and post tensioning systems
4.	various pre-tensioning and post tensioning systems
5.	losses in pre-stressing
6.	Concept of partial pre-stressing
7.	Concept of partial pre-stressing
8.	Machinery and equipments of pre-stressing.
9.	Machinery and equipments of pre-stressing.
10.	<i>Analysis:</i> Analysis of sections (Stress concept, Load balancing concept and Strength concept)
11.	<i>Design:</i> Design of simply supported beams of rectangular and flanged sections for flexure and shear as per I.S. code (using limit state design).
12.	<i>Design:</i> Design of simply supported beams of rectangular and flanged sections for flexure and shear as per I.S. code (using limit state design)
13.	<i>End Blocks:</i> Design of end blocks
14.	<i>End Blocks:</i> Design of end blocks
15.	Transmission & anchorage zone stresses (anchorage zone reinforcement)
16.	Transmission & anchorage zone stresses (anchorage zone reinforcement)
17.	Transmission & anchorage zone stresses (anchorage zone reinforcement)
18.	<i>Continuous Beams:</i> Analysis of continuous beams of two spans
19.	<i>Continuous Beams:</i> Analysis of continuous beams of two spans
20.	<i>Continuous Beams:</i> Analysis of continuous beams of two spans
21.	<i>Continuous Beams:</i> Analysis of continuous beams of two spans
22.	Concept of cable profile.

23.	Concept of cable profile.
24.	<i>Indeterminate Structures</i> : Design of continuous beams (Two Span)
25.	<i>Indeterminate Structures</i> : Design of continuous beams (Two Span)
26.	<i>Composite Construction</i> : Analysis for flexural stresses and strength of composite members
27.	<i>Composite Construction</i> : Analysis for flexural stresses and strength of composite members
28.	<i>Composite Construction</i> : Analysis for flexural stresses and strength of composite members
29.	Numerical
30.	Revision

Suggested Books & References

1. Lin T.Y. 'Design of Pre-stress concrete structures'.
2. Krinsharaju N, 'Pre-stressed concrete', Tata McGraw Hill, New Delhi.

(**Dr. B.S. Singvi**)
Prof.& Head (Civil Engg)