Course Type	Course Code	Name of the course	L	T	P	Credit
DP	CEC303	**Structural Engineering Laboratory**	0	0	2	2

Course Objective

Experimental evaluation of properties and behaviour of steel and concrete subjected to simple loading

Learning Outcomes

After doing this course, students should be able to:

- Understand the physico-chemical water quality parameters and the significance.
- Understanding the operational condition during project work.

Unit No	Topics to be Covered	Lecture Hours	Learning Outcome
1	**Experiment-1** Influence of boundary conditions on the buckling of columns.	**1**	To understand the buckling behaviour of column
2	**Experiment-2** Influence of eccentricity and lateral loading on the buckling of columns.	**1**	To understand the buckling behaviour of eccentric column
3	**Experiment-3** Determination of flexural rigidity of beam under lateral loading	**1**	Determination elastic properties of given steel beam models
4	**Experiment-4** Verification of Betti's law	**1**	Determination elastic properties of given steel beam models
5	**Experiment-5** Torsion Test: Circular section	**1**	Determination elastic properties of cylindrical rod.
6	**Experiment-6** Concrete Mix Design by IS Code, Casting of Test Samples and Workability Tests	**1**	Evaluation of mix proportions for given strength of concrete
7	**Experiment-7** Design, Casting and Testing of Under-Reinforced Concrete Beam	**1**	Understand the behavior of under reinforced beam its moment of resistance
8	**Experiment-8** Design, Casting and Testing of Over-Reinforced Concrete Beam	**1**	Understand the behavior of over reinforced beam its moment of resistance
9	**Experiment-9** Compressive, Split-tensile and Flexural Strength of testing samples	**1**	Determination of properties of hardened concrete
10	**Experiment-10** Test for Determination of Static Modulus of Elasticity of Concrete	**1**	Determination of elastic properties of hardened concrete.
11	**Experiment-11** Non-Destructive Test of Concrete – Rebound Hammer and UPV	**2**	To know different NDT tests on concrete
12	**Revision and Evaluation**	**2**	

Text Books/References:

1. Relevant Indian and International Standard code of practice.