

## CE 561: STRUCTURAL ENGINEERING LAB-2 (0-0-2:1)

### Tentative list of experiments

1. Design of concrete mix by IS code and ACI methods.
2. Design of Special Concrete likes fibers, SCC, HPC
3. Strength tests on concrete (compression, tension and bending – modulus of elasticity)
4. Durability test of concrete (permeability test and Rapid Chloride Permeability Test (RCPT))
5. Passing ability test on Self Compacting concrete using U-box, L-box, Fill-box, and J-ring test methods.
6. Filling Ability of Self Compacting Concrete using slump flow, V-funnel test.
7. Non-destructive tests on concrete.
8. Corrosion test on concrete
9. Testing of R.C. beams and study of their behaviour
10. Testing of R.C. slab and study of their behaviour.
11. Use of various types of strain gauges.

### Text Books and References:

1. Gambhir, M.L., "Building and Construction Materials: Testing and Quality Control", McGraw Hill, 2017.
2. Neville, A.M., "*Properties of Concrete*", Standard Publishers Distributors, 2011.
3. Shetty. M.S., "*Concrete Technology*", S.Chand & Company Ltd, 2006.
4. Colin. D.J., "*Fibre Reinforced Cements and Concrete*," Taylor and Francis Publishers, 1<sup>st</sup> edition 2006.
5. Geert D.S. Peter J.M. B., Peter D., John G. "*Self Compacting Concrete*," Whittles Publishing, 1<sup>st</sup> edition 2008.