EXPERIMENTAL TECHNIQUES IN STRUCTURAL ENGINEERING LAB

Course Code: 15CE2208

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Course Outcomes: At the end of the course the student will be able to

CO1: Draw stress-strain curve of concrete
CO2: Determine elastic properties of steel
CO3: Assess the flexural and shear capacity of R.C beams
CO4: Measure the strength of concrete using Non-Destructive testing methods
CO5: Estimate the double shear strength of steel specimen.

1. Elastic properties of concrete and steel.
2. Shear capacity of R.C. beams.
3. Flexural test on R.C. Beams.
4. Flexural capacities of R.C. slabs.
5. Flexural capacity of corrugated metal decks and slabs.
6. Non-Destructive testing of Concrete.
7. Double shear test on steel rod specimen.
8. Pre-stressing of beam (pre-tensioning)
9. Strain measurement in cylinder using De-Mec gauge.
10. Strain measurement in flexural members using strain gauges.
11. Natural frequency of cantilever beam (with and without damage).
12. Natural frequency of simply supported beam (with and without damage).

REFERENCES

1. Relevant IS Codes: 456-2000, IS: 800-2007, IS: 10262-2009.
2. Shetty M.S; *"Concrete Technology"*, 3rd Edition, S chand Publications – 2008.
3. Neville A.M. *"Properties of Concrete",* 4th Edition, S Chand Publications.