Course code	Course Name	L-T-P - Credits	Year of Introduction
MT234	MECHANICAL TESTING LAB	0-0-3-1	2016

Prerequisite : MT208 Mechanical behaviour and testing

Course Objectives

To know the concepts of mechanical testing and to apply them for the testing of various structural engineering applications.

List of Exercises/Experiments :

1. Tensile testing: Theory of testing, standard specimens, calculation of various engineering and true properties – yield strength, tensile strength, fracture strength, % elongation, % area reduction, resilience, toughness
2. Rockwell & Brinell hardness measurements
3. Vickers, hardness measurements
4. Brinell hardness measurements.
5. Impact testing: Theory, Standard specimen test methods
6. Direct tension test on plain carbon steels
7. Direct tension test on copper, Aluminium and stainless steels
8. Young's Modulus of metal specimen by direct tension test
9. Compression test on wooden beam
10. Vicker's, Brinell and Rockwell hardness tests on metallic samples
11. Torsion test to determine the rigidity modulus of a shaft
12. Charpy impact test on mild steel specimen
13. Izod impact test on mild steel specimen
14. Tension test on close coiled spring
15. Compression test on open coiled spring
16. Double shear test on M.S rod
17. Fatigue test
18. Creep test

Expected Outcome.

At the end of this course, the students would be able to:

i. Understand different mechanical testing methodology

ii. Test materials for evaluating different mechanical properties

iii. Understand the inherent merits and limitations of various testing methods

iv. Analyze the test results from different testing methods

v. Solve the materials problems associated testing