23CE21P2 STRENGTH OF MATERIALS LAB

Course Category	Professional Core	**Credits**	1.5
Course Type	Practical	**Lecture – Tutorial –Practical**	0-0-3
Prerequisite	-	**Sessional Evaluation**	30
		Semester End Exam. Evaluation	70
		Total Marks	100

Course Objectives	To determine the tensile strength and yield parameters of mild steel	
	To find out flexural strengths of Steel/Wood specimens and measure deflections	
	To determine the torsion parameters of mild steel bar	
	To determine the hardness numbers, impact and shear strengths of metals	
	To determine the load-deflection parameters for springs	
Course Outcomes	CO1	Conduct tensile strength test and draw stress-strain diagrams for ductile metals.
	CO2	Perform bending test and determine load-deflection curve of steel/wood.
	CO3	Able to conduct torsion test and determine torsion parameters.
	CO4	Perform hardness, impact and shear strength tests and calculate hardness numbers, impact and shear strengths.
	CO5	Able to conduct tests on closely coiled and open coiled springs and calculate deflections.
Course Content	**LIST OF EXPERIMENTS:** 1. Tension test on mild steel bar. 2. Tension test on HYSD bar. 3. Bending test on (Steel/ Wood) Cantilever beam. 4. Bending test on simply supported beam. 5. Bending test on fixed beam 6. Bending test on overhanging beam 7. Torsion test. 8. Rockwell and Brinell hardness test. 9. Compression test on Open coiled springs 10. Tension test on Closely coiled springs 11. Compression test on wood/ concrete 12. Izod /Charpy Impact test on metals 13. Shear test on metals 14. Use of electrical resistance strain gauges. 15. Continuous beam – deflection test.	
E-resources	https://eerc01-iiith.vlabs.ac.in/List%20of%20experiments.html	

CO-PO Mapping: 3-High Mapping, 2-Moderate Mapping, 1-Low Mapping, - -Not Mapping

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3
CO 1	3	3	-	2	-	-	-	2	-	-	1	2	1	1	2
CO 2	3	2	-	1	-	-	-	1	-	-	-	1	1	1	-
CO 3	3	2	-	1	-	-	-	1	-	-	-	1	-	1	-
CO 4	3	2	-	1	-	-	-	1	-	-	-	1	-	1	1
CO 5	3	2	-	1	-	-	-	1	-	-	-	1	-	1	-