



**BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE  
(AUTONOMOUS)  
DEPARTMENT OF CIVIL ENGINEERING**

<b>Regulation</b>	<b>BR23</b>				
<b>II B.TECH . I SEMESTER</b>	<b>Course Code: 23CE3L05</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>Course Title:</b>	<b>STRENGTH OF MATERIALS LAB</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>1.5</b>

**Course objectives:** By the end of this course student will be able to

1. To determine the tensile strength and yield parameters of mild steel
2. To find out flexural strengths of Steel/Wood specimens and measure deflections
3. To determine the torsion parameters of mild steel bar
4. To determine the hardness numbers, impact and shear strengths of metals
5. To determine the load-deflection parameters for springs

**Course Outcomes:**

On Completion of the course, the students will be able to

<b>Cos</b>	<b>Statements</b>	<b>Bloom Level</b>
CO1	Conduct tensile strength test and draw stress-strain diagrams for ductile metals	<b>L3</b>
CO2	Perform bending test and determine load-deflection curve of steel/wood	<b>L5</b>
CO3	Able to conduct torsion test and determine torsion parameters	<b>L5</b>
CO4	Perform hardness, impact and shear strength tests and calculate hardness numbers, impact and shear strengths	<b>L3</b>
CO5	Able to conduct tests on closely coiled and open coiled springs and calculate deflections	<b>L3</b>

**LIST OF EXPERIMENTS:**

Students have to perform any 10 of the following Experiments:

1. Tension test.
2. Bending test on (Steel/Wood) Cantilever beam.
3. Bending test on simply supported beam.
4. Torsion test.
5. Hardness test.
6. Compression test on Open coiled springs
7. Tension test on Closely coiled springs
8. Compression test on wood/ concrete
9. Izod / Charpy Impact test on metals
10. Shear test on metals
11. Use of electrical resistance strain gauges.
12. Continuous beam – deflection test.

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