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| **Course Code** | **Course Name** | **L-T-P - Credits** |
| **CE251** | **SOLID MECHANICS LAB** | **0-0-3 : 3** |
| Prerequisite: Corequisite: |
| **Course Objective:** To study the practical behaviour of different materials when subjected to Tension, torsion & hardness |
| **Syllabus (List of Experiments)** |
| 1. | Hardness test: To determine the hardness of a given set of specimens by 1. Brinell
2. (ii) Vickers and
3. (iii)Rockwell hardness testing machines
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| 2. | Uni-axial tension test:To obtain the stress-strain relation of mild steel using a circular cylindrical Specimen and determine 1. Young’s modulus (E),
2. proportional limit (p),
3. yield stress (y),
4. ultimate tensile stress (u) and
5. percentage elongation.
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| 3. | Torsion test: To obtain twisting moment- twist relationship of a mild steel specimen. To determine 1. shear modulus G,
2. yield stress y in pure shear,
3. theoretical and
4. experimental ultimate torque based on elastic-perfectly plastic model of material.
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| **Supplementary Readings:**1. Kazimi S.M.A., “Solid mechanics”, Tata McGraw Hill.
2. Popov E. P., “Engineering Mechanics of Solids”, Dorling Kindersley (India) Pvt Ltd.
3. “Gere & Timoshenko – Mechanics of Materials” by James M. Gere & Stephen P. Timoshenko
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