



**NATIONAL INSTITUTE OF TECHNOLOGY MEGHALAYA**  
**DEPARTMENT OF MECHANICAL ENGINEERING**  
**STRENGTH OF MATERIAL LABORATORY**

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**List of experiments perform:**

- 1. To determine the hardness of a specimen of mild steel by using Rockwell hardness testing machine.**
- 2. To determine the hardness of the set of specimen by Vickers hardness testing machine.**
- 3. To determine the hardness of the set of specimen by Brinell hardness testing machine.**
- 4. Uni-axial Tensile Testing Experiment.**
  - i. To obtain the stress-strain relation of mild steel.**
  - ii. To determine the Young's modulus, proportional limit, yield stress, ultimate tensile stress, true fracture stress, 0.2% offset yield strength, 0.2% proof stress and normal and true fracture stress and % elongation.**
- 5. Torsion Test Experiment.**
  - i. To obtain twisting moment-twist relationship of a specimen.**
  - ii. To determine shear modulus, yield stress in pure shear, theoretical and experimental ultimate torque based on elastic-perfectly plastic model of material.**
- 6. Compression testing using Universal Testing machine.**
  - i. To perform compression test by Universal testing machine.**
  - ii. To determine the Young's modulus of compression, ultimate tensile compressive stress.**
- 7. Impact Test Experiment.**
  - i. To study the toughness or energy absorbing properties of various materials under two types of impact tests i.e. Izod and Charpy impact tests.**

