

# Mechanics of Solid Lab

**Lab-In-Charge:** Prof P K Goyal

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## **About the Lab:**

In this laboratory, students will have the opportunity to apply loads to various materials under different equilibrium conditions. The student will perform tests on materials in tension, compression, torsion, bending, and impact. These conditions and/or constraints are designed to reinforce classroom theory by having the student perform required tests, analyze subsequent data, and present the results in a professionally prepared report.

## **List of Equipment:**

1. Universal Testing Machine 400kN
2. Torsion Testing Machine
3. Brinell & Rockwell Hardness Machine
4. Fatigue Testing Machine
5. Impact testing machine

## **List of Experiments**

1. To determine ultimate tensile stress of a metal.
2. To conduct torsion test on mild steel or cast-iron specimen to determine modulus of rigidity.
3. To conduct hardness test on mild steel, carbon steel, brass and aluminum specimens.
4. To determine the Brinell hardness of the given test specimen.
5. To study the Rockwell Hardness testing machine and perform the Rockwell hardness test.

6. To perform compression test on UTM.
7. To Determine the impact strength of steel by Izod impact test



