

Mechanical Engineering

Facilities & Services provided by dept.

- Sivert type apparatus to **measure gas storing capacity** of metal powder.
- Universal Testing Machine (UTM), Capacity: 40Tonnes to carry out Flexural test (Tensile, compression, bending and shear strength test of wood and steel specimen) to **determine tensile strength, compressive strength & shear strength** of sample.
- Flatness tester to determine the **flatness of the specimen**.
- Ultrasonic flow detector Capacity: 5 to 10 MHz to **detect the presence of defects** in the specimen
- Hardness testing machine to Evaluate Rockwell hardness and brinell**hardness number**
- Impact testing machine, Capacity: 300 Joule to **measure toughness** of metal.(using Izod and Charpy tests)
- Fatigue testing machine (Maximum bending moment= 200 kg-cm, load= 5 to 40 kg, Range= 100 to 200 kg-cm) to **evaluate of fatigue life of metal bars or pipes** in revolutions.
- Torsion testing machine Capacity: 200 N-m to measure **torsion strength** of specimen.
- Surface Roughness tester to **check surface roughness**.
- Fabrication & Civil structures
- Wood working carving, design & prototyping with wood working

Consultancy areas:-

- Stress analysis
- Solid Modeling
- Material testing & characterization for strength
- Product life cycle analysis
- Fracture mechanics & Failure analysis

Available Equipments in the Department of Mechanical Engineering for consultancy.

Sr. No.	Name of the Equipment	Nature of Testing	Photos
01	Universal Testing Machine (UTM), Capacity: 40Tonnes	Flexural test: Tensile, compression, bending and shear strength test	

02	Torsion testing machine Capacity: 200 N-m	Torsion testing	
03	Fatigue testing machine (Maximum bending moment= 200 kg-cm, load= 5 to 40 kg, Range= 100 to 200 kg-cm)	Evaluation of fatigue life in revaluations	

04	<p>Ultrasonic flow detector Capacity: 5 to 10 MHz</p>	<p>To detect the presence of defects in the specimen</p>	 <p>The image shows a vintage ultrasonic flow detector. It is a rectangular, light-colored metal unit with a CRT display on the left side showing a grid pattern. To the right of the display is a control panel with several knobs, switches, and ports. The text 'ULTRASONIC FLOW DETECTOR' is visible on the top right of the front panel. The unit is sitting on a dark surface.</p>
05	<p>Flatness tester</p>	<p>To determine the flatness of the specimen</p>	 <p>The image shows a digital flatness tester. It is a small, rectangular device with a digital display screen showing the number '0.000'. The device is resting on a cardboard box with the brand name 'Manis' and 'Mitsuboyo Corporation' visible. A black cable is connected to the side of the device. The background shows a dark surface and some papers.</p>

06	Rockwell cum brinell hardness testing machine	Rockwell hardness test and brinell hardness test (Evaluation of Hardness number)	 A photograph of a Rockwell and Brinell hardness testing machine. The machine is primarily white with blue accents on the top and sides. It features a vertical column with a dial at the top and a sample holder at the bottom. The machine is placed on a wooden surface in a laboratory setting.
07	Impact testing machine, Capacity: 300 Joule	Charpy and izod impact test	 A photograph of a Charpy and Izod impact testing machine. The machine is tall and slender, with a blue frame and a white base. It has a vertical column with a pendulum arm at the top. The machine is placed on a wooden surface in a laboratory setting.

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Sivert type
apparatus

To measure gas storing
capacity of metal powder



9	Surface Roughness tester	to measure surface roughness	 A photograph of a surface roughness tester. The device consists of a black base unit with a digital display on the front, and a vertical probe assembly mounted on top. The probe assembly includes a vertical column and a horizontal arm that holds the measuring stylus. The entire setup is placed on a grey table. A small digital display unit with a green screen is connected to the main device via a cable.
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