





DEPARTMENT OF CIVIL ENGINEERING
MATERIAL TESTING LABORATORY
COLLEGE OF TECHNOLOGY

Sardar Vallabhbhai Patel University of Agriculture & Technology Meerut 250110 (UP)

List of Equipment's



S. No.	Name of Equipment	Technical Specification	Figure of Equipment/Model/Device
01	Universal Testing Machine	<p>A UTM or universal testing machine is referred to as universal because it can be used to perform a variety of static tests, including tensile tests and compression tests, as well as flexural strength, bending, shear, hardness, and torsion testing, providing valuable data for designing and ensuring the quality of materials.</p>	
02	Torsion Testing Machine	<ul style="list-style-type: none">• Suitable for Torsion and twist tests on various metal rods and flats.• Torque measurement by torque cell.• One range with a high resolution throughout the range.• Geared motor to apply the torque to specimen through gear box• Measurement of Angle of Twist by Rotary Encoder.• Accuracy of torque measurement $\pm 1\%$ in the range from 4% to 100% of machine capacity.	



DEPARTMENT OF CIVIL ENGINEERING
MATERIAL TESTING LABORATORY
COLLEGE OF TECHNOLOGY

Sardar Vallabhbhai Patel University of Agriculture & Technology Meerut 250110 (UP)

List of Equipment's



03	Slump Test apparatus	<p>The slump test cone is a frustum of a cone made of metal, typically steel, with specific internal dimensions:</p> <ul style="list-style-type: none">• Bottom diameter: 20 cm (200 mm)• Top diameter: 10 cm (100 mm)• Height: 30 cm (300 mm).• The metal sheet for the cone should not be thinner than 1.6 mm. The cone is used to measure the workability of freshly mixed concrete by observing how much the concrete sags after the cone is removed.	
04	Concrete Mixture	<p>Concrete mixers come in various sizes and specifications depending on their intended use, with key features including drum capacity, engine power, and mixing methods.</p>	



DEPARTMENT OF CIVIL ENGINEERING
MATERIAL TESTING LABORATORY
COLLEGE OF TECHNOLOGY

Sardar Vallabhbhai Patel University of Agriculture & Technology Meerut 250110 (UP)

List of Equipment's



05	Vibrating Table	<p>A Vibrating Table machine, also known as a Concrete Vibrating Table, is used to consolidate fresh concrete or other materials by vibration, typically for forming molds or testing.</p> <p>Key Specifications:</p> <ul style="list-style-type: none">• Load Capacity: Typically ranges from 140 kg to 500 kg, depending on the specific model and application.• Table Size: 75cm x 75cm.• Frequency: It is adjustable frequency between 3600 vibrations per minute down to 2600 vibrations per minute.• Power: 2 HP motors or 1-2 kW• Vibration Characteristics: Vibration characteristics can be tested according to standards like IS 2514.• Material: The table top may be made of stainless steel or other materials suitable for the intended use.• Automation: Fully automatic.	
06	Impact Testing Machine for IZOD & Charpy Test	<p>Izod and Charpy Impact Testing Machine MSW-106ITM: Suitable for Charpy & Izod Impact tests on various materials. Works on Pendulum principle.</p> <p>Specifications:</p> <ul style="list-style-type: none">• The Pendulum is mounted on antifriction bearings.• It has two starting positions, the upper one for Charpy and the lower one for Izod testing. On release, the pendulum swings down to break the specimen and the energy absorbed in doing so is measured as the difference between the height of drop before rupture & height of raise after rupture of the test specimen; the measurement is read from the maximum pointer on the dial scale.• The Pendulum is supported in the starting position is a self-resetting latch. The release mechanism is operated by a lever. The pendulum release latch moves only when this lever is operated.• Strikers & Supports: There are two strikers & one combined support available for fitting into the pendulum & on to the base of the machine for Izod, or Charpy test. Changing from one striker to another is achieved simply by fixing the new striker into its position.	



DEPARTMENT OF CIVIL ENGINEERING
MATERIAL TESTING LABORATORY
COLLEGE OF TECHNOLOGY

Sardar Vallabhbhai Patel University of Agriculture & Technology Meerut 250110 (UP)

List of Equipment's


07	Drop Hammer Testing Machine	<p>The machine is used to test impact resistance of materials, such as plastic sheet, pipes, special-shaped material, glass, ceramic, etc.</p> <p>It adopts imported and components, electromagnetic braking against secondary impact with high reliability and lifting height by the ruler display which is intuitive and accurate.</p> <p>Technical parameters</p> <p>Hammer block mass:0.25~15.0kg</p> <p>Hammer block radius: R5mm, R10mm, R25 mm, R30mm, R50mm or customized</p> <p>Sample diameter:10 mm~400 mm</p> <p>Impact height: 0 mm~200 mm</p> <p>Net weight:280kg</p> <p>Plate type:120°V or flat plate with support and fixture</p> <p>Power:AC220V 50Hz</p> <p>Shape size:750mm×550mm×3500mm</p> <p>Table travel:0mm~400mm</p> <p>Deviation between impact center and fixture center: ≤ 2m</p>	
08	Deflection of Beam Apparatus	<p>A bench mounted beam apparatus to allow students to investigate the deflections and reactions in simply supported and cantilevered beams</p> <ul style="list-style-type: none">• The bench mounted apparatus has a steel base with support at ends.• The supports can be fitted with knife edges or clamp plates.• A steel beam and two load hangers are supplied together with two dial gauges for measuring beam deflections and slopes.• This equipment is part of a ranged to both, demonstrate and experimentally confirm basic engineering principles.	



DEPARTMENT OF CIVIL ENGINEERING
MATERIAL TESTING LABORATORY
COLLEGE OF TECHNOLOGY

Sardar Vallabhbhai Patel University of Agriculture & Technology Meerut 250110 (UP)

List of Equipment's

09	Concrete cube moulds	Concrete cube moulds are typically square and used for casting concrete cubes, usually 150mm x 150mm x 150mm. They are usually made of steel or cast iron. Size: 150x150mm Material: Cast Iron Color: Any which available in stock Heavy quality and well packed	
10	Curing Tank	A Curing Tank is a specialized water tank designed to maintain a consistent temperature and moisture level, crucial for proper concrete curing. Key specifications include temperature control (usually between 20-27°C/68-80°F), sufficient capacity for the intended number of concrete samples (cubes or cylinders), insulation to maintain temperature, and a system for circulating water to ensure even temperature distribution.	