



# COEP Technological University (COEP Tech)

A Unitary Public University of Government of Maharashtra

## CIVIL ENGINEERING DEPARTMENT

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No.COEP Tech/Civil/CT & SOM Lab/2026/5150 Dated: 16/02/2026

**Quotation Name: Quotations are called for the supply of following instruments for Concrete technology and Strength of Material Laboratory in Civil Engineering Department.**

Quotations are invited for the following details in **Concrete Technology and Strength of Material Laboratory** in the Civil Engineering Department, subject to the conditions listed below. The last date for receiving quotations is 23/02/2026 up to 5.00 pm

Sr.No.	Description	Qty	Cost per item(GST 18% extra)	Approximate Cost including GST
1	<b>Vibrating Table:</b> Often designed to comply with standards <b>such as IS: 2514:1963</b> <ul style="list-style-type: none"><li>• <b>Table Size:</b> Ranging from (for 4-6 molds) to or larger for precast.</li><li>• <b>Vibration Frequency:</b> Standard is 3000-3600 vibrations per minute (vpm) or 50 Hz, with 2600-3600 vpm being typical for laboratory, or 50Hz for standard.</li><li>• <b>Amplitude:</b> Usually 0.3 -1mm</li><li>• <b>Load Capacity:</b> 140 to 800 kg depending on size</li><li>• <b>Power:</b> 1 HP to 5 HP (single phase 230V or 3-phase 415V).</li><li>• <b>Material:</b> Mild steel top plate, often with a powder coating.</li><li>• <b>Features:</b> Often includes a variable speed motor, clamp system for moulds, and a timer.</li></ul>	1		
2	<b>Cement Vibrating Table:</b> Often designed to comply with standards <b>such as IS: 2514:1963</b> <ul style="list-style-type: none"><li>• <b>Drive System:</b> Electric motor with gear transmission</li></ul>	1		

	<ul style="list-style-type: none"> <li>• <b>Motor Power:</b> ~0.5 HP to 1 HP</li> <li>• <b>Operating Speed:</b> Approx. 300 – 400 rpm (controlled)</li> <li>• <b>Compaction Mechanism:</b> Cam-operated or mechanically driven hammer/rammer</li> <li>• <b>Spring Assembly:</b> Heavy-duty compression springs for load control</li> <li>• <b>Power Supply:</b> 220–240 V, 50 Hz, Single Phase</li> <li>• <b>Control Panel:</b> <ul style="list-style-type: none"> <li>○ ON/OFF switch</li> <li>○ Digital counter/display (for blow count or cycle count)</li> <li>○ Safety protection system</li> </ul> </li> <li>• <b>Frame:</b> Heavy-duty mild steel, powder-coated</li> <li>• <b>Base:</b> Bench-mounted rigid structure</li> <li>• <b>Components:</b> Brass, stainless steel, and hardened steel parts</li> <li>• <b>Finish:</b> Corrosion-resistant coating</li> </ul>			
3	<p>Concrete Permeability Tester:</p> <p><b>Test Assembly</b></p> <ul style="list-style-type: none"> <li>• Number of test cells: 1 / 2 / 3 cell model (as required)</li> <li>• Specimen size: 150 mm × 150 mm × 150 mm cube</li> <li>• Optional adaptor for 100 mm cube</li> <li>• Sealing arrangement: Rubber gasket with clamping bolts</li> <li>• Material of cells: High-strength steel / gunmetal</li> </ul> <p><b>Pressure System</b></p> <ul style="list-style-type: none"> <li>• Maximum pressure capacity: 10 bar (10 kg/cm<sup>2</sup>)</li> <li>• Operating pressure range: 1–10 bar</li> <li>• Pressure gauge: Dial type, 0–16 bar range</li> <li>• Pressure regulation: Precision pressure regulator</li> <li>• Safety valve: Provided</li> </ul> <p><b>Water System</b></p> <ul style="list-style-type: none"> <li>• Water tank capacity: Approx. 25–50 liters</li> <li>• Individual inlet valves for each cell</li> <li>• Drain valve provided</li> <li>• Corrosion-resistant water chamber</li> </ul> <p><b>Pump &amp; Electrical (Motorized Model)</b></p>	1		

- Pump type: Motorized high-pressure pump
- Motor power: 0.5 HP (approx.)
- Power supply: 220–240 V, 50 Hz, Single Phase
- Control panel: ON/OFF switch with indicator

**Test Procedure Capability**

- Continuous water pressure for **72 hours**
- Suitable for durability studies of structural concrete
- Post-test measurement of **water penetration depth**

**Construction**

- Heavy-duty mild steel frame
- Powder-coated finish
- Leak-proof design
- Bench-mounted / floor-mounted type

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**Izod Charpy Impact test machine.**

**Pendulum & Energy Capacity**

- Common small-capacity ranges such as 2.75 J, 5.5 J, 10.8 J, 21.68 J, 25 J — typical for plastics and low-toughness samples.

**Pendulum Release Angle**

- Standard launch angle for pendulum arm:  $\approx 150^\circ$ , ensuring a reproducible potential energy drop.

**Impact Speed**

- $\approx 3.46$  m/s for typical Izod/Charpy tests on plastics.
- For higher energy tests (metals), impact speeds up to  $\sim 5.2$ – $5.9$  m/s are common.

**Measurement & Resolution**

- Least Count / Resolution: often 0.01–0.1 J on digital units.
- Digital machines may offer multiple units (Joule, J/m, J/cm<sup>2</sup>, KJ/m<sup>2</sup>, etc.) for impact strength.

**Specimen Size**

- Standard test specimens for metals: 10 × 10 × 55 mm with a notch. (Some materials/testing regimes use other sizes — e.g., plastics may use 80 × 10 × 4 mm or variants).

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	<p><b>Span Distance (Charpy)</b></p> <ul style="list-style-type: none"> <li>• Typical support span for Charpy tests ~40 mm between supports on larger testers.</li> </ul> <p><b>Pendulum &amp; Blade Geometry</b></p> <ul style="list-style-type: none"> <li>• Radius of striking blade edge: <ul style="list-style-type: none"> <li>• Izod type ~0.8 mm ± tolerance</li> <li>• Charpy type ~2–3 mm ± tolerance</li> </ul> </li> </ul> <p><b>Display &amp; Controls</b></p> <ul style="list-style-type: none"> <li>• Digital display with impact energy and angle readout (LCD or LED).</li> <li>• Computerized versions can graph energy vs angle and export data.</li> </ul> <p><b>Electrical &amp; Physical features</b></p> <p>Power Supply: Typically 220 V AC, 50 Hz (single phase) for bench-top or digital units.</p> <ul style="list-style-type: none"> <li>• Construction: Strong mild-steel frame, powder-coated for durability.</li> <li>• Larger pendulum machines (for metals) are heavier and may use 3-phase power.</li> </ul>			
5	<p><b>Torsion Testing Machine</b></p> <p><b>Maximum Torque Capacity: 100 Nm</b></p> <p><b>Mechanical &amp; Load Parameters</b></p> <ul style="list-style-type: none"> <li>• Torque Resolution: ~0.01 Nm (high-resolution digital measurement)</li> <li>• Torque Accuracy: ±1 % of actual reading</li> <li>• Angle of Twist Measurement: Typically ~0.1° (0.1 degree resolution)</li> </ul> <p><b>Specimen Handling</b></p> <ul style="list-style-type: none"> <li>• Distance Between Grips: ~0–400 mm</li> <li>• Grips (Round Bars): <ul style="list-style-type: none"> <li>• ~4–8 mm &amp; 8–12 mm diameter standard</li> </ul> </li> <li>• Grips (Flat Bars): <ul style="list-style-type: none"> <li>• ~2–8 mm thickness &amp; ~25 mm width</li> </ul> </li> </ul> <p><b>Operation &amp; Drive</b></p> <ul style="list-style-type: none"> <li>• Torque Application: <ul style="list-style-type: none"> <li>• Manual/gearbox handle for slow controlled loading (ideal for modulus of rigidity tests)</li> <li>• Some models include geared motor for consistent application (selected models)</li> </ul> </li> <li>• Torsion Speed &amp; Direction: ~1.5 RPM reverse/controlled</li> <li>• Motor: ~0.5 HP AC geared motor (where included; optional if only hand operation)</li> </ul>	1		

**Digital Display & Output**

- Display Type: Microcontroller/LCD digital display showing both torque and angle of twist
- Measurement Units: Nm and selectable units (optional)
- Computer/Data Logging (optional):
  - Some machines offer PC connectivity (USB/serial/DAQ) for torque vs. angle graphs, export to Excel/PDF (model-dependent)

**Accuracy & Calibration**

- Torque Accuracy:  $\pm 1$  % of reading over most of capacity range
- Calibration: Optional traceable calibration (NABL/NPL-style) available on some models

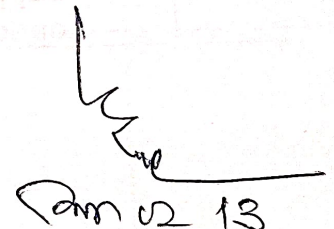
**Build & Safety**

- Frame & Construction: Mild steel/industrial steel body
- Enclosures: Some lab models include safety guards or covers
- Power Supply: Single or three-phase supply depending on model and motor option

... all taxes should be shown extra

**TERMS & CONDITIONS:**

1. The rate should be quoted at F.O.R. Pune and delivery at this college inclusive of all taxes should be shown extra if applicable.
2. Detailed specifications of the articles that you intend to supply should be given.
3. The price quoted should be inclusive of the demonstration of the equipment to the Consignee to their satisfaction.
4. The installation work should start within 10 days from the date of order.
5. Quotation should be sealed and superscripted as  
**"To, Head of Department, Civil Engineering Department  
Quotations are called for the supply of instruments for Concrete  
technology and Strength of Material Laboratory in Civil Engineering  
Department"**.
6. The quotation should be valid for 30 days from the date of this letter.
7. Quotations not complying with the above conditions will not be considered.
8. Right to reject any or all of the quotations is reserved with the undersigned.



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