






ANNAMACHARYA UNIVERSITY
CIVIL ENGINEERING DEPARTMENT

Name of the Lab: Soil Mechanics



Name of the Lab in-charge: Mr. V. Haneef



S.No.	Equipment Photo	Name of the Equipment	Specifications	Price
1.		Casagrande Apparatus	<ul style="list-style-type: none"> • Brass cup with hard rubber base. • Cup drop height: 10 mm \pm 0.2 mm. • Handle providing 2 revolutions/sec (approx.). • Grooving tools: Casagrande type & ASTM type 	Rs.4,892/-
2.		CBR Test	<ul style="list-style-type: none"> • Loading frame: capacity 50 kN or more. • Penetration piston: 50 mm diameter, length \geq 100 mm. • Proving ring / load cell: 50 kN capacity, accuracy \pm 0.5%. • Dial gauge: 0.01 mm sensitivity, range 25 mm. • Mould: 150 mm diameter \times 175 mm height. 	Rs.1,28,781/-

3.		Consolidation Test	<ul style="list-style-type: none"> • Fixed ring oedometer cell. • Specimen size: 60 mm diameter, 20 mm thickness (standard). • Load frame: capacity 10 kN, lever ratio 1:10 or 1:12. • Dial gauge: 0.002 mm sensitivity, range 10 mm. • Porous stones top and bottom. 	Rs. 52,066/-

4.		Direct Shear Test	<ul style="list-style-type: none"> • Shear box size: 60 mm × 60 mm × 25 mm (standard). • Loading frame: capacity 5–10 kN. • Proving ring/load cell: accuracy ±0.5%. • Horizontal displacement dial gauge: 0.01 mm sensitivity. • Vertical dial gauge: 0.01 mm sensitivity 	Rs.1,34,608/-
5.		Hot Air Oven	<ul style="list-style-type: none"> • Temperature range: 50 °C to 250 °C. • Oven to maintain temperature at :105°C to 105 °C. • Thermostatic control with sensitivity ±1 °C. • Double-walled, insulated chamber. • Inside 450x450x450 mm 	Rs.23954/-

6.		Hydrometer	<ul style="list-style-type: none"> • Conforming to IS: 2720 (Part 4). • Range: specific gravity of soil suspension. • Calibration at 27 °C. • Graduated to read 0.995 to 1.030 (g/cm³). 	Rs.3.104/-
7.		Plastic Limit test	<ul style="list-style-type: none"> • Porcelain evaporating dish. • Ground glass plate: 300 mm × 300 mm. • Spatula: 75 mm long. • Rod: 3 mm diameter for rolling threads. 	Rs.1,621/-

8.		Compaction Test Apparatus	<ul style="list-style-type: none"> • Cylindrical mould: 1000 cc capacity, 100 mm diameter × 127 mm height (Light compaction). • Rammer: 2.5 kg, free fall 310 mm (Light compaction). • For Heavy compaction: <ul style="list-style-type: none"> • Mould same as above. • Rammer: 5 kg, free fall 450 mm. 	Rs.21,399/-
9.		Pycnometers	<ul style="list-style-type: none"> • Capacity: 1 liter. • Fitted with conical brass cap with a hole 6 mm dia. • Glass type or brass type (per IS: 2720 Part 3). 	Rs.3,049/-

10.		Sieves	<ul style="list-style-type: none"> • As per IS: 460. • Diameter: 200 mm or 300 mm. • Mesh sizes commonly used: 4.75 mm, 2.36 mm, 1.18 mm, 600 μm, 425 μm, 212 μm, 150 μm, 75 μm. • Frame: brass or stainless steel. • Brass sieves • IS Sieves(4.75mm to 150μ) (7) 	Rs.12,603/-
11.		Electronic Balance	<ul style="list-style-type: none"> • Electronic balance of 5kg with 0.5 g • Sensitivity: 0.01 g. • Counterpoise weights for moisture content and Atterberg limits. • Temperature $23 \pm 2^{\circ}\text{C}$ • Related humidity $50 \pm 10\%$ 	Rs.16,992/-

12.



Tri-axial Test

- Specimen size: 38 mm dia \times 76 mm height (standard).
- Cell pressure range: up to 10 kg/cm².
- Loading frame: 50 kN capacity.
- Dial gauges: 0.01 mm sensitivity.
- Pressure panel with mercury or digital gauge.

Rs.3,11,991/-

13.



Vane Shear Test

- Vane size: $12.7 \text{ mm} \times 12.7 \text{ mm}$ (height = $2 \times \text{dia}$).
- Torque measuring device: proving ring or torque head.
- Range: $0\text{--}2 \text{ kg/cm}^2$ (for soft to stiff clays).

Rs.23,588/-

14.



Water Permeability Test

- Specimen: 37.5 mm dia \times 1 m height (standard).
- Standpipe (falling head): internal diameter 5–10 mm.
- Compaction permeameter mould for remoulded soil.
- Pressure head arrangement for constant head.

Rs.39,250/-