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# **Geotechnical Engineering Laboratory Details**





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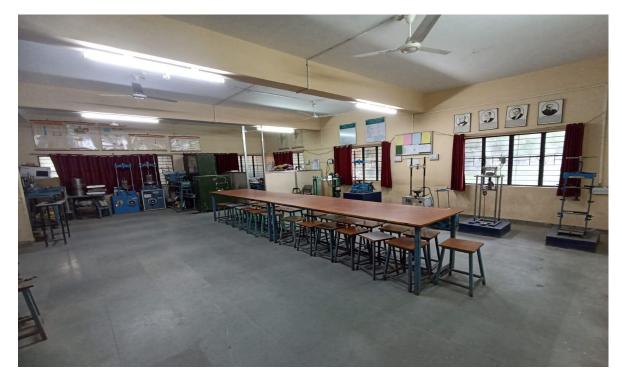
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# **Geotechnical Engineering Laboratory**



# **List of Major Equipment**

- Direct Shear Test Apparatus
- Unconfined Compression Test Apparatus
- California Bearing Ratio apparatus
- Triaxial shear test Apparatus
- Standard Penetration Test
- Static Cone Penetration Test

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# **Major Equipment**



# **Direct Shear Test Apparatus**

Manufacturer-Laxmi Sales & Agencies Amravati.

Cost- Rs. 13,730/-

**Application**- The Direct Shear Test Apparatus determines the shear strength of soil or rock samples. It measures the shear force required to cause failure along a predetermined plane, providing crucial data for geotechnical design, slope stability analysis, and foundation engineering.

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# **Unconfined Compression Test**

Manufacturer-Unique marketing co. Amravati.

Cost- Rs. 6,425/-

**Application**- The Unconfined Compression Test Apparatus measures the compressive strength of cohesive soils. It determines the maximum axial stress a soil sample can withstand without lateral support, providing vital information for foundation design, earthwork construction, and slope stability analysis.

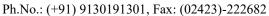


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# California Bearing Ratio (CBR) Apparatus

Manufacturer-Laxmi Sales & Agencies Amravati.

Cost- Rs. 22,325/-

**Application-** The California Bearing Ratio (CBR) apparatus assesses the load-bearing capacity of soil used in road and pavement construction. It determines the relative strength of the soil by measuring the force required to penetrate it, providing crucial data for pavement design and material selection.



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# **Triaxial Shear Test Apparatus**

Manufacturer-Unique marketing co. Amravati.

Cost- Rs. 32,408/-

**Application**- The Triaxial Shear Test Apparatus assesses the shear strength of soil samples under different confining pressures. It provides comprehensive data on soil behaviour, including strength parameters, deformation characteristics, and effective stress, crucial for geotechnical design and stability analysis.



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# **Standard Penetration Test Setup**

Manufacturer-HEKO, Instruments, PVT.LTD. New Delhi.

Cost- Rs. 93,000/-

**Application**- The Standard Penetration Test (SPT) apparatus is used to assess soil density and strength. It drives a sampler into the ground, counting the blows needed for penetration. This data helps engineers determine soil suitability for foundations and predict how it will behave under load.

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# **Static Cone Penetration Test setup**

Manufacturer-HEKO, Instruments, PVT.LTD. New Delhi.

Cost- Rs. 2,69,200/-

**Application-** The Static Cone Penetration Test (SCPT) setup assesses soil properties by pushing a cone into the ground. It measures tip resistance and sleeve friction, providing a continuous profile of soil strength and stratigraphy used in geotechnical investigations and foundation design.

