



छोटुभाई गोपालभाई पटेल प्रौद्योगिकी संस्थान, बारडोली
Chhotubhai Gopalbhai Patel Institute of Technology, Bardoli

CHHOTUBHAI GOPALBHAI PATEL INSTITUTE OF TECHNOLOGY, UTU

DEPARTMENT OF CIVIL ENGINEERING

Report on Two day's Practical Workshop on Soil Testing in Building Construction

 Chhotubhai Gopalbhai Patel
Institute of Technology <https://cgpit-bardoli.edu.in/>

Two Day's
Practical Workshop
on
Soil Testing
in Building Construction

March 15-16, 2024
Friday-Saturday

at Material Testing Laboratory,
Department of Civil Engineering, CGPIT,
UTU, Malba Campus, Bardoli, Surat.

**FREE
of
Cost**

Workshop Details:

Overview & Practical Sessions:

- ✓ Moisture Content Test
- ✓ Specific Gravity Test
- ✓ Dry Density Test
- ✓ Atterberg Limits Test
- ✓ Plastic Limit Test (PL)
- ✓ Proctor's Compaction Test

Minimum 20 Students
Timing: 9:30 AM Onwards
Reporting: 9:00 AM

**ITI/ Diploma & Degree Students
Can Apply**



Registration Link
<https://forms.gle/B6d3VCq9H6PDTheP6>


Uka Tarsadia University
Malba Campus, Bardoli

Organized by:
Department of Civil Engineering
CGPIT, UTU

Coordinators:
Dr. Vaibhav Pawar: 9408629954
Prof. Gunwant Solanki: 9408629954
Prof. Grishma Salvi: 9408629954

Date : 15 & 16 March 2024

Venue : K-004/ Geotechnical Engineering Lab

Time: 10:00 AM – 3:00PM

Total No. of Participants:

Name of the Expert: Asst. Prof. Grishma P. Thaker & Asst. Prof. Gunvant R. Solanki

Event Coordinator: Asst. Prof. Grishma P. Thaker & Asst. Prof. Vaibhav Pawar

Program objective: To understand the actual application in the field of Geotechnical Engineering lab and civil engineering construction work.

Program outline: The session was so prepared, that students understand the basics test of soil testing in field problems.

Program outcomes: Participants understand the basics soil testing in building construction.

Schedule of Events in a tabular format

Time	Activity
10:00AM -10:15 AM	Introduction of the expert
10:15AM – 11:00AM	Introduction of the Geotechnical Lab
11:00AM – 03:00PM	Practical session

List of Participants in a tabular format.

Name of Participant	Stream	Name of Program
Pranav S. Patel	Engineering	Diploma Civil Engineering 4 th sem
Meet L. Patel	Engineering	Diploma Civil Engineering 4 th sem
Jenish N. Chaudhari	Engineering	Diploma Civil Engineering 4 th sem
Siddharth P. Patel	Engineering	Diploma Civil Engineering 4 th sem
Het R. Halpati	Engineering	Diploma Civil Engineering 4 th sem
Krish Patel	Engineering	Diploma Civil Engineering 4 th sem
Dhrauv Chaudhari	Engineering	Diploma Civil Engineering 4 th sem
Riyank Singh	Engineering	Diploma Civil Engineering 4 th sem

Details of the session:

Soil testing is an essential aspect of building construction, serving as the foundation for structural integrity and stability. It involves evaluating the physical and chemical properties of the soil at a construction site to determine its suitability for supporting the proposed structure. Here's a brief introduction to soil testing in building construction:

1. **Purpose:** The primary purpose of soil testing is to assess the load-bearing capacity of the soil and identify any potential issues that could affect the stability and durability of the structure.
2. **Process:** Soil testing typically involves taking soil samples from various depths at the construction site. These samples are then analysed in a laboratory to determine parameters such as composition, density, moisture content, permeability, shear strength, and compressibility.
3. **Types of Tests:** Various tests are conducted during soil testing, including:
 - **Particle Size Analysis:** Determines the distribution of particle sizes within the soil sample.
 - **Atterberg Limits:** Measures the moisture content at which soil transitions between solid, plastic, and liquid states.
 - **Proctor Compaction Test:** Evaluates soil compaction characteristics to assess its suitability for construction.
 - **Shear Strength Tests:** Determine the soil's resistance to shear stresses, crucial for assessing slope stability and foundation design.
 - **Triaxial Test :** To find out the C value of soil ϕ value of soil and modulus of elasticity of soil.
4. **Foundation Design:** Soil testing results guide engineers in designing appropriate foundations for the structure. The type of foundation—such as shallow (spread footings, raft foundations) or deep (piles, drilled shafts)—is selected based on the soil conditions and load requirements.
5. **Risk Mitigation:** Soil testing helps identify potential risks such as expansive soils, high water tables, or organic content that could lead to settlement, instability, or other problems during or after construction.
6. **Compliance:** Soil testing is often a regulatory requirement in building construction to ensure compliance with local building codes and standards.
7. **Cost Savings:** Identifying soil-related issues early in the construction process can prevent costly repairs or structural failures later on, making soil testing a cost-effective investment.



Introduction of participants



Introduction of Testing lab machine



Start the practical session with expert



Triaxial Test specimen Preparation



Specimen fix in triaxial apparatus



Discussion with head of department



Certificate destitution



Certificate destitution



Group Photo of Certificate distribution of participants



Group Photo with participants

Concluding Remarks

It's great to hear that the session was informative and that students engaged with the practical session in the Geotechnical Lab. and Practical sessions in the lab offer invaluable hands-on experience that complements theoretical knowledge gained in lectures.

Report prepared by: Asst. Prof. Grishma P. Thaker and Vaibhav

Pawar

Date: 19/03/2024

Sign of the HOD