



मृदा अभियांत्रिकी #योगशाला

Geotechnical Engineering Lab

Major Equipments:

- Grain Size Analysis Apparatus (Set of Sieves and Hydrometer)
- Tri-axial Testing Machine with digital display
- Consolidation Apparatus (Analog)
- Consolidation Apparatus (Digital)
- CBR and UCS Test Apparatus
- Standard Penetration Test (SPT) Apparatus
- Direct Shear Test Apparatus (Analog)
- Direct Shear Test Apparatus (Digital)
- Constant Head Permeability Test App.
- Variable Head Permeability Test App.
- Digital Microprocessor based Tri-axial Testing Machine
- Apparatus for Atterberg limits
- Swell Test Apparatus
- Field Density Test Apparatus
- A) Core Cutter
- B) Sand Replacement



In Charge

Dr. S.K Jain
([9893367731](tel:9893367731))

Associated Faculties:

Prof. G. Bhadoriya
([9303223323](tel:9303223323))

Dr. Pratibha Singh
([8077138901](tel:8077138901))

Prof. Shivam Gupta ([8447447079](tel:8447447079))

Physical In Charge:

Er. Murali Lal Sahu
([9827233187](tel:9827233187))

Department Of Civil Engineering



मृदा अभियांत्रिकी #योगशाला

Geotechnical Engineering Lab

Major Equipments:

- Proctor Compaction test Apparatus
- A) Standard Proctor Test
- B) Modified Proctor Test
- Plate Load Test Apparatus
- Pile load Test Apparatus
- Lab Vane Shear Test Apparatus
- Field Vane Shear Test Apparatus
- Rapid Moisture Meter
- Oven
- Static-cone Penetration Apparatus



In Charge

Dr. S.K Jain
([9893367731](tel:9893367731))

Associated Faculties:

Prof. G. Bhadoriya
(9303223323)

Dr. Pratibha Singh
([8077138901](tel:8077138901))

Prof. Shivam Gupta ([8447447079](tel:8447447079))

Physical In Charge:

Er. Murali Lal Sahu
([9827233187](tel:9827233187))

Department Of Civil Engineering



मृदा अभियांत्रिकी #योगशाला

Geotechnical Engineering Lab

GENERAL PRACTICES TO BE FOLLOWED IN LABORATORY:

1. Enter in Lab with enclosed Shoes/Footwear (no sandals) and do not wear loose dress
2. Make sure that you know the location of First Aid Kit and Fire Extinguishers before you start your experiments.
3. Get First Aid immediately for any injury, no matter how small it is and do not wear loose dress.
4. Do not play with valves, screws and nuts.



DO's

- Be on time, at the start of the lab period, there will be a short introduction to the experiment you will perform that day.
- Thoroughly CLEAN your laboratory work space at the end of the laboratory session.
- Maintain silence and clean environment in the lab.

DON't

- Do not try to run and operate any machine without permission and knowledge of the Lab Personnel
- In case of any mishap - Do not Panic, be calm but quick to report at once to the Lab Personnel.
- Do not eat or drink in the Lab at any time.



मृदा अभियांत्रिकी #योगशाला

Geotechnical Engineering Lab

110402,

LIST OF EXPERIMENTS:

1. Determination of moisture content
2. Grain size analysis- mechanical method
3. Grain size analysis- hydrometer test
4. Determination of liquid limit test (by Casagrande apparatus)
5. Determination of plastic limit
6. Determination of shrinkage limit
7. Determination of In-situ density by
 - a) Core cutter method
 - b) Sand replacement method
8. Determination of Specific gravity by Pycnometer.
- 9.. Determination of Coefficient of permeability by
 - a) Constant head method
 - b) Variable head methods
10. Determination of OMC and MDD by
 - a) Standard proctor test and
 - b) Modified proctor test.
11. Determination of C & ϕ by
 - a) Direct shear test
 - b) Tri-axial test
 - c) Unconfined compression test
 - d) Vane shear test



मृदा अभियांत्रिकी #योगशाला

Geotechnical Engineering Lab

110402,

LIST OF EXPERIMENTS:

12. Determination of compression index and coefficient of consolidation. by consolidometer.
13. Demonstration of bearing capacity of soil in field by
 - a) Standard penetration test
 - b) Plate load test
 - c) Static cone penetration test

COURSE OUTCOMES :-

- CO1- Examine** physical properties of soil.
- CO2- Determine** strength properties of soil.
- CO3- Determine** the flow properties and stresses of soil.
- CO4- Evaluate** shear strength of soil.