

GEOTECHNICAL ENGG. LAB (BCEP-502)

Course Outcomes:

1. Determine soil physical characteristics (including unit weight / density - water content relationship).
2. Determine the coefficient of permeability and equivalent hydraulic conductivity in stratified soil.
3. Describe the purposes and different phases of a soil investigation, soil exploration program, soil exploration methods and soil identification in the field.
4. Discuss the concept of effective stress and determine stress distribution within a soil mass.
5. Explain the 'shear strength' of soil, describe the direct shear test method and interpret direct shear test results.

List of Experiments:

1. Determination of Specific gravity of soil solids by Pycnometer method
2. Determination of Specific gravity of soil solids by Density bottle
3. Determination of water content of soil solids oven drying method.
4. Determination of water content of soil solids by Pycnometer method.
5. Determination of in-situ density by Core cutter method
6. Determination of in-situ density by Sand replacement method
7. Determination of particle size distribution by sieving (Grain size analysis)
8. Determination of liquid limit of fine soil by Casagrande apparatus
9. Determination of Plastic limit of the soil
10. Determination of Shrinkage limit of the soil
11. Determination of maximum dry density and optimum moisture content by Standard Proctor
12. Compaction Method
13. Determination of co-efficient of permeability by Constant head
14. Determination of co-efficient of permeability by variable head method
15. Determination of liquid limit of fine soil by Cone Penetration Method
16. Determination of shear parameters by Direct shear test of soil
17. Determination of unconfined compressive strength of soil
18. Vane Shear Test
19. Demonstration of Miscellaneous Equipments

**Department of
Civil Engineering**