COURSE TITLE : GEOTECHNICAL ENGINEERING LAB
COURSE CODE : 409
COURSE CATEGORY : A
PERIODS/WEEK : 3
PERIODS/SEMSTER : 54
CREDITS : 2

Course content

1. Specific gravity of soil
2. Water content in soil
3. void ratio
4. Sieve analysis
5. Particle size distribution of soil (hydrometer method)
6. Field and dry unit weight of soils (core cutter method)
7. Field and dry unit weight of soils (sand replacement method)
8. Atterberg's limits of soil – a) liquid limit, b) plastic limit c) shrinkage limit d) plasticity index
9. Permeability test on soil by – a) constant head b) variable head
10. Compaction test
11. Direct shear test
12. Consolidation test

EXPERIMENTS

1. Conduct a test on soil and find out the value of specific gravity
2. Conduct a test on soil and find out the % water content in that soil
3. Conduct the test to calculate the void ratio of soil.
4. Conduct sieve analysis sand and draw a graph "sieve size" against "corresponding" "% retain of soil in the sieve" in semi log graph sheet and find the effective size, uniformity coefficient and fineness modulus by using the graph
5. Conduct hydrometer analysis and draw the particle size distribution curves
6. Conduct the core cutter method and calculate the field and dry densities of the soil
7. Conduct the sand replacement method and calculate the field and dry densities of the soil
8. Conduct a test on soil sample to get the Atterbergs limit; namely liquid limit, plastic limit and shrinkage limit and plasticity index
9. Conduct permeability test on soil and calculate the coefficient of permeability by constant head and variable head methods
10. Conduct compaction test determine max.dry density corresponding to OMC
11. Determine shear strength parameters c and Ø
12. Determine compression index from e-log p curve.