COURSE TITLE : GEOTECHNICAL ENGINEERING LAB
COURSE CODE : 5018
COURSE CATEGORY : P
PERIODS/WEEK : 3
PERIODS/SEMESTER: 39
CREDITS : 2

TIME SCHEDULE

Module	Topics	Period
1	Index properties of soil	21
2	Permeability Test Compaction Test Shear Test Consolidation Test	18
TOTAL		**39**

COURSE OUTCOME

Sl.	Sub	Student will be able to
1	1	Determine the index properties of soil
	2	Determine the coefficient of permeability of soil
	3	Evaluate OMC and corresponding max. density of soil by compaction test
2	1	Determine shear strength parameters of soil
	2	Determine compression index of soil

SPECIFIC OUTCOME

Upon completion of course students should be able to

1. Determine Specific gravity of soil using specific gravity bottle method
2. Determine Water content in soil using oven drying method
3. Determine Void ratio and porosity of soil
4. Determine Particle size distribution by Sieve analysis of soil and draw gradation curve
5. Demonstrate Particle size distribution of fine grained soil using hydrometer method.
6. Determine Field and dry unit weight of soils using core cutter method.

7. Determine Field and dry unit weight of soils using sand replacement method.
8. Determine Atterberg's limits of soil – a) liquid limit, b) plastic limit c) shrinkage limit
   d) plasticity index.
9. Determine coefficient of Permeability of soil by – a) constant head b) variable head methods.
10. Determine OMC and maximum dry density of soil using Proctor compaction test.
11. Determine Shear strength parameters of soil using direct shear test

CONTENT DETAILS

Tests on soil - specific gravity - water content - the void ratio - porosity - bulk density-
effective size - uniformity coefficient - fineness modulus- Gradation curve - field and dry densities - liquid limit - plastic limit- shrinkage limit - plasticity index - coefficient of permeability -max.dry density corresponding to OMC – shear strength parameters C and Ø.