

Course Code	Course Name	L-T-P-Credits	Year of Introduction
CE333	GEOTECHNICAL ENGINEERING LAB	0-0-3-1	2016

Pre-requisite : CE208 Geotechnical Engineering - I

Course objectives:

- To understand the laboratory tests used for determination of physical, index and Engineering properties of soil.

List of Experiments:

1. Determination of Water Content, Specific Gravity and Shrinkage Limit
2. Field Density determination and Sieve Analysis
3. Atterberg Limits (Liquid Limit and Plastic Limit)
4. Hydrometer Analysis
5. Direct Shear test
6. Standard Proctor Compaction Test
7. Permeability Test and Unconfined Compression Test
8. Consolidation Test
9. Swelling Test
10. Heavy compaction
11. California Bearing Ratio Test.

Expected Outcomes:

The students will

- i. have thorough knowledge about the procedures of laboratory tests used for determination of physical, index and engineering properties of soils
- ii. have the capability to classify soils based on test results and interpret engineering behavior based on test results
- iii. be able to evaluate the permeability and shear strength of soils
- iv. be able to evaluate settlement characteristics of soils
- v. be able to evaluate compaction characteristics required for field application

Text Books / References:

1. IS codes relevant to each test
2. C. Venkatramaiah, Geotechnical Engineering, New Age International publishers, 2012
3. Gopal Ranjan and A. S. R. Rao, Basic and Applied Soil Mechanics, New Age International Publishers, 2012
4. K. R. Arora, Soil Mechanics and Foundation Engineering, Standard Publishers, 2011