

Dicipline:	civil	Semester:	3rd	Name of the Teaching Faculty	Swarupa Meharthy
Subject:	Geo-tech Engg.	No of Days/Week Class Allotted:	04	Semester From date:	To date:
				No of Weeks:	

WEEK	Class Day	Theory Topics
	1st	Introduction Soil & Soil Engineering
	2nd	Scope of Soil Mechanics Origin & Formation of Soil
	3rd	Origin and Formation of Soil
	4th	Preliminary Definitions and Relationship Soil as a three phase, Relationship
	5th	
	1st	Water content, Density, Specific gravity void ratio, Porosity
	2nd	% Percentage of air voids, air content degree of saturation
	3rd	density Index, Bulk / saturated / dry / submerged density
	4th	Interrelationship of various soil parameters
	5th	
	1st	Interrelationship of various soil parameters.
	2nd	Interrelationship of various soil parameters
	3rd	Interrelationship of various soil parameters
	4th	water content, Specific gravity
	5th	

WEEK	Class Day	Theory Topics
	1st	Particle size distribution: sieve analysis
	2nd	Sieve Analysis
	3rd	Wet Mechanical Analysis
	4th	Particle size distribution curve & its uses
	5th	
	1st	Particle size distribution curve and its uses.
	2nd	Consistency of soils, Types of limit
	3rd	Liquid limit, Plastic limit, Shrinkage limit, Atterberg's limit
	4th	Classification of soil
	5th	
	1st	Classification of soil, plasticity chart
	2nd	Permeability, example
	3rd	Darcy's Law, Co-efficient of permeability
	4th	Co-efficient of permeability
	5th	

Discipline: <u>Civil</u>	Semester: <u>3rd</u>	Name of the Teaching Faculty: <u>Swarnupa Mohanty</u>
Subject: <u>Geotech</u>	No of Days/Week Class Allotted: <u>04</u>	Semester From date: _____ To date: _____ No. of Weeks: _____

WEEK	Class Day	Theory Topics
	1st	Factors affecting permeability
	2nd	Factors affecting permeability
	3rd	constant head permeability and falling head permeability test
	4th	constant head permeability & falling head permeability test
	5th	
	1st	Seepage pressure
	2nd	Effective stress, Phenomenon of quick sand.
	3rd	Compaction, light and heavy compaction test
	4th	Optimum moisture content of soil, Maximum dry density, zero air void line
	5th	
	1st	Factors affecting compaction, field compaction Method & their suitability, consolidation - distinction between compaction and consolidation
	2nd	
	3rd	Terzaghi's model analogy of compression
	4th	Shear strength - concept of shear strength
	5th	

WEEK	Class Day	Theory Topics
	1st	Mohr-Coulomb Failure theory, cohesion Angle of internal friction
	2nd	Strength envelope for different type of soil
	3rd	Measurement of shear strength :- Direct shear test, triaxial shear test
	4th	unconfined compression test and vane shear test
	5th	
	1st	Active earth pressure, passive earth pressure, earth pressure at rest
	2nd	Use of Rankine's formula for the following cases (i) Backfill with no surcharge
	3rd	(ii) Backfill with uniform surcharge
	4th	Foundation Engineering :- Types of foundation.
	5th	
	1st	Functions of foundations, shallow and deep foundation
	2nd	Different type of shallow & deep foundations
	3rd	Types of failure (shallow & deep foundation)
	4th	Bearing capacity of soil
	5th	

Name: civil Semester: 3rd Name of the Teaching Faculty: Swarna Mohanty  
 Subject: Geotech Engrg No of Days/Week Class Allotted: 04 Semester From date: \_\_\_\_\_ To date: \_\_\_\_\_ No. of Weeks: \_\_\_\_\_

WEEK	Class Day	Theory Topics
	1st	Bearing capacity of soils using Terzaghi's formulae & IS code formulae for strip.
	2nd	Circular & Square footings, Effect of water table on bearing capacity of soil.
	3rd	Effect of water table on bearing capacity of soil.
	4th	Plate load test and Standard Penetration test
	5th	
	1st	
	2nd	
	3rd	
	4th	
	5th	
	1st	
	2nd	
	3rd	
	4th	
	5th	