

Lesson Plan

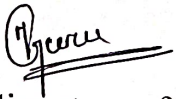
Subject:-Geo-Tech Egg. (TH.4) Code-CEPC207 Name of faculty: - Er. TINA GURU

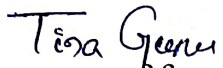
Semester:-3rd Class allotted: 45Hrs Branch: - Civil Egg. Session: 2025(W)

Discipline	Semester:-3 rd	From date:- 14/07/2025 TO 15/11/2025	Teaching Aid
Subject:	No. of days/ per week 3p/w :	Theory/ Practical –Topics/Lesson	
Week	Date/Period		

1	15/07/2025 TO 19/07/2025	1.Overview of Geology and Geotechnical Engineering : Introduction of Geology, Branches of Geology,• Importance of Geology for civil engineering structure and composition of earth, Definition of a rock: Classification based on their• genesis (mode of origin), formation. Classification and engineering uses of igneous, sedimentary and metamorphic rocks.	White board & marker
2	21/07/2025 TO 26/07/2025	Importance of soil as construction material in Civil• engineering structures and as foundation bed for structures. (Concepts only) Field application of geotechnical engineering for• foundation design, pavement design, design of earth retaining structures, design of earthen dam.	White board & marker
3	28/07/2025 TO 02/08/2025	2.Physical and Index Properties of Soil: Soil as a three phase system, water content,• determination of water content by oven drying method as per BIS code, void ratio, porosity and degree of saturation, density index., air Content, Percentage of air voids, Relation between the parameters.	White board & marker
4	04/08/2025 TO 09/08/2025	Unit weight of soil mass – bulk unit weight, dry unit• weight, unit weight of solids, saturated unit weight, submerged unit weight. Determination of bulk unit weight and dry unit weight by core cutter and sand replacement method, Determination of specific gravity by pycnometer.	White board & marker
5	11/08/2025 TO 16/08/2025	Consistency of soil, Atterberg limits of consistency:• Liquid limit, plastic limit and shrinkage limit. Plasticity index. Particle size distribution test and plotting of curve.	White board & marker& smart board
6	18/08/2025 TO 23/08/2025	• Determination of effective diameter of soil well graded and uniformly graded soils, BIS classification of soil.	White board & marker
7	25/08/2025 TO 30/08/2025	3. Permeability and Seepage: Definition of permeability, Darcy's law of permeability,• coefficient of permeability, factors affecting permeability.	White board & marker
8	01/09/2025 TO 06/09/2025	Determination of coefficient of permeability by constant head and falling head tests, simple problems to determine coefficient of permeability. Seepage through earthen structures, seepage velocity, seepage pressure, phreatic line, flow lines, application of flow net.	White board & marker

	08/09/2025 TO 13/09/2025	(Concepts only No numerical problems). Effective stress, quick Sand concepts).	White board & marker
10	15/09/2025 TO 20/09/2025	4. Compaction, Consolidation and stabilization of soil : Concept of compaction, Standard and Modified proctor test as per IS code, Plotting of Compaction curve for determining: Optimum moisture content (OMC)	White board & marker
11	22/09/2025 TO 27/09/2025	maximum dry density (MDD), Zero air voids line. Factors affecting compaction, field methods of compaction – rolling, ramming and vibration. Consolidation, λ	White board & marker
12	08/10/2025 TO 11/10/2025	Difference between compaction and consolidation. Terzaghi's Model analogy of compression/springs showing the process of consolidation, Field implications Concept of soil stabilization, necessity of soil stabilization, •.	White board & marker & smart board
13	13/10/2025 TO 18/10/2025	Different methods of soil stabilization. California bearing ratio (CBR) test - Meaning and Utilization in Pavement Construction Necessity of site investigation and soil exploration: Types • of exploration, criteria for deciding the location and number of test pits and bores.	White board & marker
14	20/10/2025 TO 25/10/2025	Field identification of soil – dry strength test, dilatancy test and toughness test. • 5. Shear Strength of Soil: Shear failure of soil-General, local and punching shear, • concept of shear strength of soil.	White board & marker
15	27/10/2025 TO 01/11/2025	Components of shearing resistance of soil – cohesion, • internal friction. Mohr-Coulomb failure theory, Strength envelope, strength equation for purely cohesive and cohesion less soils. Direct shear, triaxial and vane shear test laboratory methods.	White board & marker & smart board
16	03/11/2025 TO 08/11/2025	6. Bearing Capacity of Soil and Foundation: Bearing capacity and theory of earth pressure. Concept of • bearing capacity, ultimate bearing capacity, safe bearing capacity and allowable bearing pressure. Introduction to Terzaghi's analysis and assumptions, effect of water table on bearing capacity.	White board & marker
17	10/11/2025 TO 15/11/2025	Definition of earth pressure, Active and Passive earth pressure for no surcharge condition, coefficient of earth pressure, Rankine's theory and assumptions made for non-cohesive Soils. Type of foundations-shallow, deep foundation λ 8	White board & marker


 Signature of HOD


 Signature of faculty