

BALASORE SCHOOL OF ENGINEERING, BALASORE

LESSON PLAN/SEMESTER:- 3RD

SUBJECT:- GEOTECHNICAL ENGG.

NAME OF THE FACULTY :- S.L.Rout

Branch-civil engg

section:-A & B

SL. No.	CH. NO.	Month	DATE	NAME OF THE CHAPTER/OBJECTIVES	NO. OF PERIOD AVAIL. AS PER SYLLABUS	NO. OF PERIODS AVAILABLE AS PER PLAN	
1	CH-1	sep	15/09/22	Introduction 1.1 Soil and Soil Engineering 1.2 Scope of Soil Mechanics	02	02	
2			16/09	1.3 Origin and formation of soil			
3	CH-2	sep	19/09	Preliminary Definitions and Relationship 2.1 Soil as a three Phase system.	06	07	
4			20/09	2.2 Water Content, Density, Specific gravity,			
5			21/09	Voids ratio, Porosity, Percentage of air voids, air content,			
6			22/09	degree of saturation, density Index, Bulk/Saturated/dry/submerged density			
7			23/09	Interrelationship of various soil parameters			
8			26/09	PROBLEM			
9			27/09	PROBLEM			
10	CH-3	sep	28/09	Index Properties of Soil 3.1 Water Content	04	08	
11			29/09	3.2 Specific Gravity			
12			30/09	3.3 Particle size distribution: Sieve analysis, wet mechanical analysis,			
13			oct	10/10			particle size distribution curve and its uses
14				11/10			3.4 Consistency of Soils,
15				12/10			Atterberg's Limits, Plasticity Index, Consistency Index, Liquidity Index
16	13/10	PROBLEM					
17	14/10	PROBLEM					
18	CH-4	oct	17/10	Classification of Soil 4.1 General	06	04	
19			18/10	4.2 I.S. Classification Plasticity chart			
20			19/10	PROBLEM...			
21			20/10	PROBLEM			
22	CH-5	oct	21/10	Permeability and Seepage 5.1 Concept of Permeability, Darcy's Law	07	07	
23			25/10	Co-efficient of Permeability,			
24			26/10	5.2 Factors affecting Permeability.			

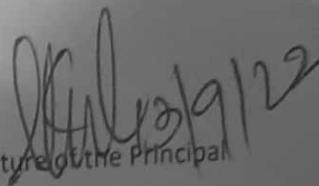
25			27/10	5.3 Constant head permeability and falling head permeability Test.				
26			28/10	5.4 Seepage pressure, effective stress, phenomenon of quick sand				
27			31/10	PROBLEM.....				
28		nov	01/11	PROBLEM.....	08	06		
29	CH-6		02/11	Compaction and Consolidation 6.1 Compaction: Compaction, Light and heavy compaction Test, Optimum Moisture Content of Soil,				
30			03/11	Maximum dry density, Zero air void line, Factors affecting Compaction,				
31			04/11	Field compaction methods and their suitability				
32			07/11	6.2 Consolidation: Consolidation, distinction between compaction and consolidation				
33			09/11	Terzaghi's model analogy of compression				
34			10/11	springs showing the process of consolidation – field implications				
35	CH-7		11/11	Shear Strength 7.1 Concept of shear strength,			06	07
36			21/11	Mohr- Coulomb failure theory,				
37			22/11	Cohesion, Angle of internal friction,				
38			23/11	strength envelope for different type of soil,				
39			24/11	Measurement of shear strength;- Direct shear test				
40			25/11	Triaxial shear test,				
41			28/11	unconfined compression test and vane-shear				
42	CH-8		29/11	Earth Pressure on Retaining Structures 8.1 Active earth pressure, Passive earth pressure, Earth pressure at rest	07	03		
43			30/11	8.2 Use of Rankine's formula for the following cases (cohesion-less soil only)				
44		dec	01/12	(i) Backfill with no surcharge, (ii) backfill with uniform surcharge	14	11		
45	CH-9		02/12	Foundation Engineering 9.1 Functions of foundations,				
46			05/12	shallow and deep foundation, different type of shallow and deep foundations with sketches.				
47			06/12	Types of failure (General shear, Local shear & punching shear)				
48			07/12	9.2 Bearing capacity of soil, bearing capacity of soils using Terzaghi's formulae				
49			08/12	& IS Code formulae for strip, Circular and				
50			09/12	square footings,				
51			12/12	Effect water table on bearing capacity of soil				
52			13/12	9.3 Plate load test and standard penetration test				
53			14/12	Cont....				
54			15/12	Cont...				
55			16/12	Revision				

Brief Summary of the Plan

SL NO	MONTH	UNITS/CHAPTER TO BE COVERED	% OF COVERAGE
1	sep	Ch-1,CH-2,CH-3.....	15%
2	oct	CH-3..... ,CH-4,CH-5	35%
3	nov	CH-6,CH-7,CH-8....	30%
4	dec	CH-8.....,CH-9	20%


Signature of the Faculty

Date


Signature of the Principal

Date