

LESSON PLAN-2023(W)

Discipline:civil engineering				Name of The Teaching Faculty: C.M.Swarupa Nanda	
Subject:Geotechnical Engineering(TH2)				Semester From Date:1.8.2023 To Date 30.11.2023	
SEMESTER-3rd				No. Of Weeks:18	4P/WEEK
No. of Days/week class allotted:04 period per week(Monday ,Tuesday, Wednesday & Thursday- 1 Period each)					TOTAL PERIOD-60
MONTH	WEEK	DATE	DAYS/P ERIOD	SYLLABUS TO BE COVERED	NOS. OF PERIODS AVAILABLE
				1: INTRODUCTION (2P)	
A u g u s t	1st	1.8.2023	Tues	1.1- Soil and Soil Engineering. 1.2- Scope of Soil Mechanics.	1
		2.8.2023	Wed	1.3 Origin and formation of soil	1
				2: PRELIMINARY DEFINITIONS AND RELATIONSHIP (6P)	
		3.8.2023	Thurs	2.1 Soil as a three Phase system.	1
	2nd	7.8.2023	Mon	2.2 Water Content, Density, Specific gravity, Voids ratio, Porosity, Percentage of air voids, air content,	1
		8.8.2023	Tues	Degree of saturation, density Index, Bulk/Saturated/dry/submerged density, Interrelationship of various soil parameters	1
		9.8.2023	Wed	Numerical problems	1
		10.8.2023	Thurs	Numerical problems	1
		14.8.2023	Mon	Numerical problems	1
	3rd			3. INDEX PROPERTIES OF SOIL (4P)	
		16.8.2023	Wed	3.1- Water Content	1
		17.8.2023	Thurs	3.2- Specific Gravity	1
	4th	21.8.2023	Mon	3.3- Particle size distribution, Sieve analysis, wet mechanical analysis, particle size distribution curve and its uses	1
		22.8.2023	Tues	3.4 – Consistency of Soils, Atterberg's Limits, Plasticity Index, Consistency Index, Liquidity Index	1
				4. CLASSIFICATION OF SOIL. (6P)	
		23.8.2023	Wed	4.1- General. Classification	1
		24.8.2023	Thurs	4.1- General. Classification	1
	5th	28.8.2023	Mon	4.2 I.S. Classification,	1
		29.8 .2023	Tues	4.2 I.S. Classification	1
		31.8 .2023	Thurs	Plasticity chart	1
		4.9.2023	Mon	Plasticity chart	1

S e p t e m b e r	2nd			5 .PERMEABILITY AND SEEPAGE (7P)	
		5.9.2023	Tues	5.1- Concept of Permeability, Darcy's Law, Co-efficient of Permeability,	1
		7.9.2023	Thurs	5.1- Concept of Permeability, Darcy's Law, Co-efficient of Permeability,	1
	3rd	11.9.2023	Mon	5.2- Factors affecting Permeability.	1
		12.9.2023	Tues	5.3- Constant head permeability	1
		13.9.2023	Wed	5.3-falling head permeability Test.	1
		14.9.2023	Thurs	5.4- Seepage pressure, Phenomenon of quick sand	1
	4th	18.9.2023	Mon	5.4- Seepage pressure, Phenomenon of quick sand	1
				6 .COMPACTION AND CONSOLIDATION(8P)	
		21.9.2023	Thurs	6.1- Compaction, Light and heavy compaction Test,	1
	5th	25.9.2023	Mon	Optimum Moisture Content of Soil, Maximum dry density, Zero air void line	1
		26.9.2023	Tues	Factors affecting Compaction, Field compaction methods and their suitability	1
		27.9.2023	Wed	numericals	1
		28.9.2023	Thurs	6.2- Consolidation, distinction between compaction and consolidation.	1
O c t o b e r	1st	3.10.2023	Tues	6.2- Consolidation, distinction between compaction and consolidation.	1
		4.10.2023	Wed	Terzaghi's model analogy of compression/ springs showing the process of consolidation	1
		5.10.2023	Thurs	Terzaghi's model analogy of compression/ springs showing the process of consolidation	1
	2nd	9.10.2023	Mon	6.5- Terzaghi's model analogy of compression/ springs showing the process of consolidation – field implications	1
				7 SHEAR STRENGTH (6P)	
		10.10.2023	Tues	7.1- Concept of shear strength	1
		11.10.2023	Wed	, Mohr- Coulomb failure theory, Cohesion,	1
		12.10.2023	Thurs	Angle of internal friction, strength envelope for different type of soil,	1
	3rd	16.10.2023	Mon	7.2- Measurement of shear strength;- Direct shear test,	1
		17.10.2023	Tues	Triaxial shear test,	1
		18.10.2023	Wed	Unconfined compression test and vane-shear test	1
				8 EARTH PRESSURE ON RETAINING STRUCTURES. (7P)	
		19.10.2023	Thurs	8.1- Active earth pressure,	1

	5th	30.10.2023	Mon	Passive earth pressure, Earth pressure at rest.	1
		31.10.2023	Tues	8.2- Use of Rankine's formula for the following cases (cohesion-less soil only)	1
N o v e m b e r	1st	1.11.2023	Wed	NUMERICAL PROBLEMS	1
		2.11.2023	Thurs	NUMERICAL PROBLEMS	1
	2nd	6.11.2023	Mon	(i) Backfill with no surcharge, (ii) backfill with uniform surcharge	1
		7.11.2023	Tues	NUMERICAL PROBLEMS	1
				9 FOUNDATION ENGINEERING.(14)	
		8.11.2023	Wed	9.1- Functions of foundations, shallow and deep foundation,	1
		9.11.2023	Thurs	Different type of shallow foundations with sketches.	1
	3rd	13.11.2023	Mon	Different type of deep foundations with sketches.	1
		14.11.2023	Tues	Types of failure (General shear, Local shear & punching shear)	1
		15.11.2023	Wed	9.2- Bearing capacity of soil,	1
		16.11.2023	Thurs	Bearing capacity of soils using Terzaghi's formulae	1
	4th	20.11.2023	Mon	IS Code formulae for strip, Circular and square footings.	1
		21.11.2023	Tues	Effect water table on bearing capacity of soil	1
		22.11.2023	Wed	9.3 Plate load test	1
		23.11.2023	Thurs	9.3 Plate load test and	1
	5th	28.11.2023	Tues	standard penetration test	1
		29.11.2023	Wed	standard penetration test	1
		30.11.2023	Thurs	DOUBT CLEARING CLASS	1
				DOUBT CLEARING CLASS	1