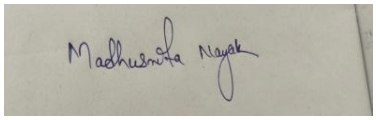
PNS SCHOOL OF ENGINEERING & TECHNOLOGY

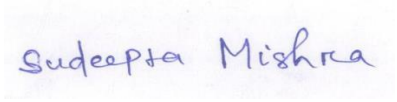
LESSION PLAN

BRANCH-CIVIL	SEMESTER-3RD	NAME OF THE FACULTY-ER.MADHUSMITA NAYAK
SUBJECT-GEOTECHNICAL ENGIINEERING	NO OF DAYS PER WEEK -6 CLASS ALLOTTED-60	SEMESTER FROM-01/08/2023 TO 30/11/2023
WEEK	**CLASS DAY**	**THEORY TOPIC**
AUGUST-1ST	2ND	**Introduction** Soil and Soil Engineering
	3RD	Scope of Soil Mechanics Origin and formation of soil
	4TH	**Preliminary Definitions and Relationship**
	5TH	Soil as a three Phase system
2ND	1ST	Water Content, Density, Specific gravity
	2ND	Voids ratio, Porosity, Percentage of air voids, air content, degree of saturation,
	3RD	density Index, Bulk/Saturated/dry/submerged density
	4TH	Interrelationship of various soil parameters
	5TH	Index Properties of Soil,Water Content Specific Gravity
3RD	1ST	Particle size distribution: Sieve analysis, wet mechanical analysis, particle size distribution curve and its uses
	3RD	Consistency of Soils, Atterberg's Limits, Plasticity Index, Consistency Index, Liquidity Index
	4TH	Classification of Soil 4.1 Genera
	5TH	I.S. Classification, Plasticity chart
4TH	1ST	Permeability and Seepage Concept of Permeability
	2ND	Darcy's Law, Co-efficient of Permeability, 5.2 Factors affecting Permeability
	3RD	Constant head permeability and falling head permeability Test.
	4TH	Seepage pressure, effective stress, phenomenon of quick sand
	5TH	Compaction and Consolidation 6.1 Compaction: Compaction, Light and heavy compaction Test
SEPTEMBER-1ST	5TH	Optimum Moisture Content of Soil, Maximum dry density

2ND	1ST	Zero air void line, Factors affecting Compaction, Field compaction methods and their suitability
	4TH	ITS CONITINING
	5TH	ITS CONTINUING AND END
		Consolidation: Consolidation, distinction between compaction and consolidation
3RD	1ST	Terzaghi's model analogy of compression/ springs showing the process of consolidation – field implications
	2ND	**Shear Strength** Concept of shear strength, Mohr- Coulomb failure theory
	3RD	Cohesion, Angle of internal friction, strength envelope for different type of soil,
	4TH	Measurement of shear strength;- Direct shear test, triaxial shear test, unconfined compression test and vane-shear test
	5TH	ITS CONTINUING AND END
4TH	1ST	**Earth Pressure on Retaining Structures** Active earth pressure
5TH	1ST	Passive earth pressure, Earth pressure at rest
	2ND	Use of Rankine's formula for the following cases (cohesion-less soil only)
	3RD	(i) Backfill with no surcharge, (ii) backfill with uniform surcharge
	4TH	**Foundation Engineering**
OCTOBER-1ST	3RD	Functions of foundations, shallow and deep foundation
	4TH	different type of shallow and deep foundations with sketches.
2ND	1ST	Types of failure (General shear, Local shear & punching shear), Problem
	2ND	ITS CONITINING
	3RD	IT CONTINUE AND END
	4TH	Bearing capacity of soil
	5TH	bearing capacity of soils using Terzaghi's formulae
3RD	1ST	IS Code formulae for strip
	2ND	Circular and square footings
	3RD	IT CONTINUE AND END
5TH	1ST	springs showing the process of consolidation – field implications
	2ND	Effect water table on bearing capacity of soil
NOVEMBER-1ST	3RD	Plate load test and standard penetration test
	4TH	PROVLEMS SOLVING
	5TH	TO CONTINUE AND END
	1ST	Field compaction methods and their suitability

2ND	2ND	Light and heavy compaction Test
	3RD	Consistency of Soils,
	4TH	Functions of foundations, shallow and deep foundation, different type of shallow and deep foundations with sketches
	5TH	Effect water table on bearing capacity of soi
3RD	2ND	Plate load test and standard penetration test
	3RD	TO CONTINUE AND END
	4TH	IMPORTANT QUESTIONS AND ANSWER DISSCUSSION
	5TH	IMPORTANT QUESTIONS AND ANSWER DISSCUSSION
4TH	1ST	REVESION
	2ND	REVESION
	3RD	REVESION
	4TH	REVESION
	5TH	REVESION
5TH	2ND	REVESION
	3RD	REVESION
	4TH	REVESION





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