MEHRAN UNIUVERSITY OF ENGINEERING AND TECHNOLOGY

FRM-001/00QSP-004

TENTATIVE TEACHING PLAN **Dec.01.2001**

DEPARTMENT/INSTITUTE/DIRECTORATE: CIVIL ENGINEERING

Name of Teacher: **Engr. Ali Raza Lashari** Year: 3rd Semester: 6th

Subject: **Soil Mechanics** Course Code: CE326 Batch: 21CE-D

Semester Starting Date: 15-07-2024 Semester Suspension Date: 06-11-2024

Course Learning Outcomes (CLOs):

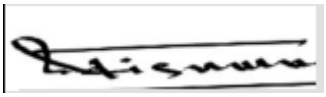
Upon successful completion of the course, the student will be able to:

CLO No.	Description	Taxonomy level	Associated PLO
1	DETERMINE index properties of soils and to Practice classification of soils.	C3	4
2	ANALYZE the range of soil related problems especially those involving flow of water through soils and consolidation settlement of soils.	C4	4

Sr#	Description of Topic	CLO's	No. of Lectures Required
1.	Soil as a construction material and necessity for studying soils	**1**	**1**
2.	Soil mechanics problems, soil and rock formation and Types of soils.	**1**	**1**
3.	Three phase Diagram. Mass volume relationships.	**1**	**2**
4.	Physical properties of soil: Water content, voids ratio, porosity, degree of saturation,	**1**	**2**
5.	Specific gravity, density, air content and percentage air voids.	**1**	**2**
6.	Functional relationships- Related problems.	**1**	**2**
7.	Determination of water content and specific gravity in the laboratory.	**1**	**2**
8.	Soil consistency, plasticity, states and limits of consistency and plasticity index.	**1**	**2**
9.	Determination of Atterberg's limits. Related problems.	**1**	**2**
10.	Particle size distribution and Sieve analysis.	**1**	**2**
11.	Stroke's law and hydrometer analysis.	**1**	**2**
12.	Soil classification systems.	**1**	**2**
13.	Problems related to Soil classification.	**1**	**1**
14.	Modes of occurrence of water in soils. Capillary water.	**2**	**1**
15.	Stresses in a soil mass-Effective stress and pore water pressures.	**2**	**3**
16.	Effective stresses in a saturated soil with seepages- Related problems.	**2**	**4**
17.	Darcy's law, factor affecting permeability.	**2**	**1**
18.	Laboratory and field determination of coefficient of permeability.	**2**	**2**
19.	Problems related to field permeability.	**2**	**2**
20.	Seepage pressure- Hydraulic gradient and flow net theory.	**2**	**1**
21.	Quick Sand condition and Liquefaction.	**2**	**1**
22.	Mechanics of consolidation, Term used in consolidation.	**2**	**2**
23.	Theory of one-dimensional consolidation, assumptions and validity.	**2**	**2**
24.	Consolidation test, graphical representation of data and determination of test results.	**2**	**2**
25.	Normally and over Consolidated clay. Over consolidation ratio.	**2**	**2**
26.	Related problems on Consolidation.	**2**	**2**
	Total Lectures		**48**

Signature of Teacher:  **Dated: 15-07-2024.**

Remarks of DMRC: APPROVED

Signature of Chairman:  **Dated: 18-09-2024**