Discipline: Semester:-3*** Subject:- SCITCHINICAL (No of Days/per SCITCHNICAL (No of Days/per Allotted:-03 No of Weeks:-18 Allotted:-03 No of Weeks:-18 Allotted:-03 No of Weeks:-18 1** Class Day Theory/ Practical Topics Overview of Geology, Branches of Geology, Importance of Geology for civil engineering genering introduction of Geology, Branches of Geology, Importance of Geology for civil engineering genering survivare and composition of earth. Definition of a rock: Classification based on their genesis (mode of origin), formation on Classification and engineering uses of igneous, sedimentary and metamorphic rocks. (Concepts only) Importance of soil as construction material in Civil engineering structures and as foundation hed for structures. (Concepts only) 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. Unit weight of soil mass – bulk unit weight, dry unit weight, unit weight of soil mass – bulk unit weight, and replacement method. 2**d Unit weight of soil mass – bulk unit weight, betermination of bulk unit weight and dry unit weight you permeability. Determination of Specific gravity by pyenometer. Consistency of soil, Autherberg limits of consistency: Liquid limit, plastic limit and shrinkage limit. Plasticity index. 2**d Particle size distribution test and plotting of curve, Determination of effective diameter of soil. 4**N 2**d Permeability and Seepage Definition of permeability. Permeability by constant head test. **Determination of coefficient of permeability by constant head test. **Determination of coefficient of permeability. Seepage through earthes structures. 3**d Determination of coefficient of permeability by constant head t	LESSON PLAN OF 3 RD SEMESTER(2025-26) CIVIL ENGINEERING		
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Class Day			
1st		Allotted :-03	No of Weeks:- 18
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7 th Modified proctor test as per IS code 1st Plotting of Compaction curve for determining: Optimum moisture content (OMC) 2 nd Maximum dry density (MDD), Zero air voids line.		2 nd	
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3 rd Factors affecting compaction,			Maximum dry density (MDD), Zero air voids line.
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8 th	1 st	Field methods of compaction – rolling, ramming and vibration.
	2 nd	Consoildation, Difference between compaction and consolidation.
	3 rd	Terzaghi's Model analogy of compression
9 th	1 st	Springs showing the process of consolidation,
	2 nd	Field implications
	3 rd	Concept of soil stabilization, necessity of soil stabilization
	1 st	Different methods of soil stabilization.
10 th	2 nd	California bearing ratio (CBR) test - Meaning and Utilization in Pavement Construction.
	3 rd	Necessity of site investigation and soil exploration :Types of exploration
	1 st	criteria for decidingthe location and number of test pits and bores
11 th	2 nd	Field identification of soil – dry
	3 rd	trength test, dilatancy test and toughness test.
	1 st	Shear failure of soil-General, local and punching shear,
12 th	2 nd	Concept of shear strength of soil.
	3 rd	Components of shearing resistance of soil – cohesion, internal friction.
	1 st	Mohr-Coulomb failure theory.
13 th	2 nd	Strength envelope, Strength equation for purely cohesive and cohesion less soils.
	3 rd	Direct shear test laboratory method.
	1 st	Triaxial shear test laboratory methods.
14 th	2 nd	Vane shear test laboratory methods.
	3 rd	Bearing Capacity of Soil and Foundation Bearing capacity and theory of earth pressure.
	1 st	Concept of bearing capacity, ultimate bearing capacity,
15 th	2 nd	safe bearing capacity and allowable bearing pressure.
	3 rd	Introduction to Terzaghi's analysis and assumptions,
16 th	1 st	Effect of water table on bearing capacity.
	2 nd	Field methods for determination of bearing capacity – Plate load
	3 rd	Standard Penetration Test. Test procedures as per IS:1888 & IS:2131.
a f	1 st	Definition of earth pressure,
17 th	2 nd	Active earth pressure for no surcharge condition,
	3 rd	Passive earth pressure for no surcharge condition,
18 th	1 st	coefficient of earth pressure, Rankine's theory
	2 nd	Assumptions made for non- cohesive Soils.
	3 rd	Type of foundations-shallow, deep foundation

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