

Semester: 4 th Subject:		Engineering Geology (PC/CE/9-T)	
Week	Lec. Day	Topics	Remarks
1 st	1.	Introduction: Definition, object, scope and sub division of geology, geology around us. of the earth.	
	2.	Importance of Geology in Civil Engineering projects.	
	3.	Physical Geology: The external and internal geological forces causing changes,	
2 nd	4.	weathering and erosion of the surface of the Earth.	
	5.	Geological work of ice, water and winds.	
	6.	Soil profile and its importance.	
3 rd	7.	Earthquakes and volcanoes	
	8.	Mineralogy and Petrology: Definition of mineral and rocks. Classification of important rock forming minerals	
	9.	simple description based on physical properties of minerals.	
4 th	10.	Rocks of earth surface, classification of rocks.	
	11.	Mineral composition, Textures, structure and origin of Igneous,	
	12.	Sedimentary and Metamorphic rocks.	
5 th	13.	Aims and principles of stratigraphy. Standard geological/stratigraphical time scale with its sub division	
	14.	short description based on engineering uses of formation of India	
	15.	Structural Geology: Forms and structures of rocks.	
6 th	16.	Bedding plane and outcrops.	
	17.	Dip and Strike	
	18.	Elementary ideas about folds	
7 th		MINOR TEST I	
8 th	19.	Elementary ideas about faults	
	20.	Elementary ideas about joints	
	21.	Elementary ideas about unconformitys	
9 th	22.	recognition on outcrops	
	23.	Importance of geological structures in Civil Engineering projects	
	24.	Importance of geological structures in Civil Engineering projects reservoirs, tunnels, highways, bridges etc.	
10 th	25.	Landslides and Hill-slope stability.	
	26.	Applied Geology: Hydrogeology	
	27.	water table, springs and Artesian well	
11 th	28.	aquifers,	
	29.	ground water in engineering projects	
	30.	Artificial recharge of ground water	
12 th	31.	Elementary ideas of geological investigations	
	32.	Remote sensing techniques for geological and hydrological survey and investigation	
	33.	Uses of geological maps and interpretation of data, geological reports	
13 th	34.	Suitability and stability of foundation sites: Geological condition and their influence on the selection, location	
	35.	Suitability and stability of abutments: Geological condition and their influence on the selection, location, type and design of dams	
	36.	Geological condition and their influence on the selection, location, type and design of dams	
14 th		MINOR TEST II	
15 th	37.	Improvement of foundation rocks: Precaution and treatment against faults, joints and and water,	
	38.	retaining walls and other precautions.	
	39.	Geology and environment of earth	