Reg. No.												

Question Paper Code	12491

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023

Third Semester

Civil Engineering

20CEPC305 - ENGINEERING GEOLOGY

(Regulations 2020)

Duration: 3 Hours Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks, K-Level, CO
1.	What is meant by exfoliation?	*2,K1,CO1*
2.	Define the terms i) Focus ii) Epicenter	*2,K1,CO1*
3.	List the physical properties, chemical composition of mica.	*2,K1,CO2*
4.	Differentiate between Color and streak of minerals.	*2,K2,CO2*
5	Define porosity and permeability in a sedimentary rock.	*2,K1,CO3*
6.	Write briefly about attrition test.	*2,K1,CO3*
7.	Write short notes on the Attitude of beds.	*2,K1,CO4*
8.	What are the classifications of joints?	*2,K1,CO4*
9.	Define the terms hanging wall and foot wall.	*2,K1,CO5*
10.	What are the different geological structures associated with convergent plate regimes?	*2,K1,CO5*

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11.	a)	Describe in detail how earthquakes are caused. Add a note on the earthquake prone belts/Seismic zones in India.	*13,K2,CO1*
		OR	
	b)	Write elaborately on the physical and chemical weathering of rocks. What is the significance of weathering in civil engineering?	*13,K2,CO1*
12.	a)	Explain the physical properties of minerals (Specific gravity, Luster, Cleavage, Hardness, Fracture & Crystalline characteristics).	*13,K2,CO2*
		OR	
	b)	Give a detailed account of the chemical composition, physical properties, origin, structure, engineering behavior and uses of the clay minerals.	*13,K2,CO2*

13. a) Describe the composition, properties, occurrence and uses of *13,K2,CO3*
a. Calcite and its varieties
b. Hornblende and its varieties
c. Quartz and Feldspar family.

OR

b) Explain the mineral composition, texture, origin, engineering properties and uses of Quartzite and Schist. *13,K2,CO3*

14. a) Explain briefly about classifications of faults with suitable sketches. *13,K2,CO4*

OR

b) Illustrate with neat sketches on folds, classification of folds, folding process and their Civil engineering significance. *13,K2,CO4*

15. a) Explain how geophysical methods (electrical resistivity methods [Wenner Configuration] and seismic method) help in know about sub-surface feature during civil engineering investigations. *13,K2,CO5*

OR

b) Give a detailed account of the various geological structures and their role in selection of sites for engineering projects. *13,K2,CO5*

PART - C (1 × 15 = 15 Marks)

16. a) What are the various geological factors to be considered for the construction of road cuttings and construction of buildings? Explain in detail with examples. *15,K2,CO6*

OR

b) Write a detailed note on the foundation evaluation techniques and influence of geological conditions on foundation and design of Dams. *15,K2,CO6*