U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

June 2025 Semester End Main Examinations

Programme: B.E. **Semester: III**

Branch: Civil Engineering **Duration: 3 hrs.**

Course Code: 23CV3ESENG / 22CV3ESEGY **Max Marks: 100**

Course: Engineering Geology

Instructions:1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

				CO	*PO*	Marks
			UNIT - I			
1	a)	Discuss on the applications of Geology in Civil engineering practices.		CO1	PO 1	**8**
	b)	Explain briefly the rock forming minerals and ore minerals with examples.		CO1	PO1	**6**
	c)	Explain the physical properties of Biotite and Bauxite minerals.		CO1	PO1	**6**
			OR			
2	a)	Discuss on the internal structure of the earth and its composition with a neat sketch.		CO1	PO1	**8**
	b)	Explain the mineral physical properties Luster and Hardness by giving examples.		CO1	PO1	**6**
	c)	Explain the physical properties of Calcite and Galena.		CO1	PO1	**6**
			UNIT - II			
3	a)	Explain with neat sketches the forms of Igneous rocks.		CO2	PO1	**8**
	b)	Discuss briefly on the qualities of a good building stone.		CO2	PO1	**6**
	c)	Explain the engineering properties of Granite and Basalt.		CO2	PO1	**6**
			OR			
4	a)	Define Metamorphism and explain the types of metamorphism briefly.		CO2	PO1	**8**
	b)	Discuss on the primary structures of sedimentary rocks with neat sketches.		CO2	PO1	**6**
	c)	Explain the engineering properties of Sandstone and Marble.		CO2	PO1	**6**

			UNIT - III			
	5	a)	Discuss on the causes, impact and mitigation of landslides in detail.	CO3	PO1	**10**
		b)	Explain briefly the concept of Plate tectonics	CO3	PO1	**10**
			OR			
	6	a)	Discuss on the causes and impact of earthquakes. Add a note on earthquake resistant structures.	CO3	PO1	**10**
		b)	Explain the working principles of Seismograph with a neat sketch.	CO3	PO1	**10**
			UNIT - IV			
	7	a)	Discuss briefly on various types folds in rocks with neat sketches.	CO3	PO1	**8**
		b)	Explain dip and strike in rocks with a neat sketch.	CO3	PO1	**6**
		c)	At reservoir site a bed of sandstone is exposed on a horizontal ground and its width of outcrop is 360m. It dips 30^0 towards east, find out its true thickness and vertical thickness (scale: 1cm = 100m).	CO3	PO1	**6**
			OR			
	8	a)	Discuss briefly on the types of faults in rocks with neat sketches.	CO3	PO1	**8**
		b)	Explain with neat sketches Columnar joints in rocks	CO3	PO1	**6**
		c)	solve the following problem. The apparent dips were recorded in a sand stone quarry namely 1:5 due S 20^0 E and 1: 11 due N 60^0 E. Find the direction and amount of true dip. Scale 1 cm = 1 Unit	CO3	PO1	**6**
			UNIT - V			
	9	a)	Discuss on the electrical resistivity method in groundwater exploration briefly with a neat sketch.	CO4	PO2	**8**
		b)	Explain briefly about the applications of GPS in the civil engineering practices.	CO4	PO2	**6**
		c)	Discuss briefly on the toposheets and their importance in civil engineering.	CO4	PO3	**6**
			OR			
	10	a)	Discuss on the aquifer and its types with neat sketches.	CO4	PO2	**8**
		b)	Explain on the benefits and need for artificial recharge of groundwater.	CO4	PO2	**6**
		c)	Discuss briefly on the applications of compass clinometer or Bruton compass in Geological surveying.	CO4	PO3	**6**

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