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

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E. **Semester: III**
Branch: CIVIL ENGINEERING **Duration: 3 hrs.**
Course Code: 19CV3ESGEO **Max Marks: 100**
Course: Engineering Geology **Date: 20.09.2023**

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

UNIT - I

1	a)	What is Geology? With neat diagram discuss the internal structure of the Earth.	**06**
	b)	Explain i) Hardness and ii) Fracture in minerals	**08**
	c)	Describe the physical properties, chemical composition and uses of the following minerals. i) Barite ii) Gypsum iii) Calcite	**06**

UNIT – II

2	a)	Distinguish between the following: Granite to Gneiss, Lime stone to Marble, Monomineralic to Multimineralic Rocks	**06**
	b)	Illustrate the primary structures in Sedimentary rocks.	**07**
	c)	Define metamorphism. Describe the different agents of metamorphism.	**07**

OR

3	a)	Explain the forms of Igneous rocks with a neat sketch.	**08**
	b)	What is the process of sedimentation? Classify the sedimentary rocks based on the origin of the sediments.	**06**
	c)	Describe the index properties of the following rocks. i) Granite ii) Sandstone iii) Marble.	**06**

UNIT - III

4	a)	What is a dam? Discuss briefly the geological consideration in selecting the suitable site for the construction of a dam.	**08**
	b)	Analyze the feasibility of tunnelling operation through folded and faulted strata.	**06**
	c)	Explain the engineering properties of good building stones.	**06**

OR

5	a)	What is a land slide? Illustrate the causes, effects and remedial measures to control landslides.	**06**
	b)	What is weathering? Explain the physical and chemical weathering.	**06**
	c)	Characterize the causes and effects of earthquakes.	**08**

UNIT - IV

6	a)	Illustrate the phenomenon of faulting with a neat sketch. How do you recognize faulting in the field?	**07**
	b)	What are folds? Classify any five types of folds.	**06**
	c)	Define joints. Explain its types and add a note on engineering consideration dealing with jointed rocks.	**07**

UNIT - V

7	a)	Explain the techniques for identification of ground water potential zones and add a note on VES method for sub-surface investigation.	**08**
	b)	What is an aquifer? Explain the different types of aquifers and add a note on its importance in various civil engineering projects.	**06**
	c)	A sand stone formation dipping at 30° east in to a sloping ground 10° west. The width of its out crop is 160 m. Find the true and vertical thickness of the sand stone formation. (Scale: 1 cm = 40 m)	**06**

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