

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

Autonomous Institute Affiliated to VTU

## April 2024 Semester End Main Examinations

**Programme: B.E.**

**Branch: Civil Engineering**

**Course Code: 19CV3ESGEO**

**Course: Engineering Geology**

**Semester: III**

**Duration: 3 hrs.**

**Max Marks: 100**

**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) Discuss on the internal structure of earth with a neat sketch	<b>06</b>
	b) Explain cleavage and hardness in minerals.	<b>08</b>
	c) Describe the Physical properties, chemical composition and uses of the following minerals: i) BAUXITE    ii) GYPSUM    iii) ORTHOCLASE	<b>06</b>

### UNIT - II

2	a) Discuss on the primary structures of sedimentary rocks with neat sketches.	<b>06</b>
	b) Explain the forms of igneous rocks with neat sketches.	<b>08</b>
	c) Define metamorphism and explain its types.	<b>06</b>

### OR

3	a) Discuss on the classification of sedimentary rocks based on their grain size.	<b>06</b>
	b) Explain the textures and structures of igneous rocks.	<b>08</b>
	c) Explain the index properties of the following rocks. i) DUNITE    ii) SHALE    iii) MARBLE	<b>06</b>

### UNIT - III

4	a) Explain the qualities of a good building stone.	<b>06</b>
	b) Analyze the feasibility of tunneling operation through folded and faulted rocks.	<b>08</b>
	c) Discuss on the causes and control measures of landslides.	<b>06</b>

### OR

5	a) Discuss on the geological features to be considered for the selection of a dam site.	<b>06</b>
	b) Explain the causes and effects of earthquakes.	<b>08</b>
	c) Explain the types of weathering briefly.	<b>06</b>

**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.

#### **UNIT - IV**

6	a) Explain with a neat sketches Horst and Graben faults.	<b>06</b>
	b) Explain the importance of joints in civil engineering practices.	<b>06</b>
	c) At a tunnel site a bed of quartzite dips $38^0$ along N $60^0$ W and $30^0$ along S $25^0$ W. Determine its true dip amount and direction and strike direction.	<b>08</b>

#### **UNIT - V**

7	a) Define an aquifer and explain its types briefly.	<b>06</b>
	b) Describe in detail Artificial recharging and its benefits	<b>06</b>
	c) Discuss on Electrical Resistivity Method in Groundwater Exploration	<b>08</b>

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B.M.S.C.E. - ODD SEM 2023-24