

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Autonomous Institute under Visvesvaraya Technological University, Belagavi)

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Course Code

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Third Semester B.E. Degree Examinations, March/April 2024

ENGINEERING GEOLOGY

Duration: 3 hrs

Max. Marks: 100

Note: 1. Answer any FIVE full questions choosing ONE full Question from each Module.
2. Missing data, if any, may be suitably assumed

<u>Q.No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO:PI)</u>
<u>Module-1</u>			
1.	a. Describe internal structure of earth with neat sketch.	10	(2 :1 : 1.2.1)
	b. Write a short note on seismic zones of India.	10	(2 :1 : 1.2.1)
(OR)			
2.	a. What is an earthquake? Explain the causes of an earthquake.	10	(2 :1 : 1.2.1)
	b. What are the types and causes of volcanic eruptions?	10	(2 :1 : 1.2.1)
<u>Module-2</u>			
3.	a. Define minerals. Explain the classification of minerals with example.	08	(2 :2 : 1.2.1)
	b. Write the physical properties of following minerals. (i) Asbestos (ii) Calcite (iii) Hematite (iv) Galena	12	(2 :2 : 1.2.1)
(OR)			
4.	a. Define Igneous rocks. With neat sketch, explain forms of igneous rocks.	10	(2 :2 : 1.2.1)
	b. Write the descriptions of the following rocks: (i) Granite (ii) Sandstone (iii) Marble (iv) Basalt	10	(2 :2 : 1.2.1)
<u>Module-3</u>			
5.	a. Define weathering. Explain the types of weathering.	10	(2 :3 : 1.2.1)
	b. Explain the different soil minerals with neat sketch.	10	(2 :3 : 1.2.1)
(OR)			
6.	a. With neat sketch explain the different structures of soil.	08	(2 :3 : 1.2.1)
	b. Explain the soil profile with neat labelled diagram.	08	(2 :3 : 1.2.1)
	c. Write the differences between black cotton soil and lateritic soil.	04	(2 :3 : 1.2.1)
<u>Module-4</u>			
7.	a. Explain dip and strike with neat sketch.	06	(2 :4 : 1.2.1)
	b. Define fold. With relevant sketches, explain types of folds.	08	(2 :4 : 1.2.1)

Note: (RBTL - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI- Performance Indicator)

- c. A bed of limestone dips 30° eastwards having its true thickness of 200 m. Determine its vertical thickness and width of outcrop. **06 (2 :4 : 1.2.1)**

(OR)

8. a. Define fault. With relevant sketches, explain types of faults. **10 (2 :4 : 1.2.1)**
b. Discuss briefly selection of site for dams. **06 (2 :4 : 1.2.1)**
c. Write the differences between faults and joints. **04 (1 :4 : 1.2.1)**

Module-5

9. a. With neat sketch, explain hydrological cycle and their process. **10 (2 :5 : 1.2.1)**
b. Discuss geological and geophysical investigation of ground water by electrical resistivity method. **10 (2 :5 : 1.2.1)**

(OR)

- 10 a. Define Aquifer. Explain types of aquifers with neat sketch. **08 (2 :5 : 1.2.1)**
b. Explain artificial recharge of ground water by various methods. **06 (2 :5 : 1.2.1)**
c. Discuss the application of GIS in civil engineering projects. **06 (2 :5 : 1.2.1)**

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