

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, September 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. What is geology? Discuss the importance of geological concepts in civil engineering practice.	08	(2 : 1 : 1.2.1)
	b. Explain the types and effects of an earthquake.	12	(2 : 1 : 1.2.1)
(OR)			
2.	a. What is a landslide? Explain the causes of landslides.	10	(2 : 1 : 1.2.1)
	b. Explain the causes of Tsunami and effects of Cyclones.	10	(2 : 1 : 1.2.1)
<u>Module-2</u>			
3.	a. Discuss Mineral Hardness, Luster, Colour, Streak and Specific Gravity.	10	(2 : 2 : 1.2.1)
	b. Write the physical properties of following minerals. (i) Rock crystal (ii) Orthoclase (iii) Biotite mica (iv) Hematite	10	(2 : 2 : 1.2.1)
(OR)			
4.	a. What are Sedimentary rocks? With neat sketch explain structures of sedimentary rocks.	10	(2 : 2 : 1.2.1)
	b. Write the descriptions of the following rocks: (i) Dunite (ii) Limestone (iii) Slate (iv) Vesicular Basalt	10	(2 : 2 : 1.2.1)
<u>Module-3</u>			
5.	a. What is soil? With a neat sketch soil profile.	10	(2 : 3 : 1.2.1)
	b. Define weathering. Explain the types of weathering.	10	(2 : 3 : 1.2.1)
(OR)			
6.	a. Explain the different soil minerals with neat sketch.	10	(2 : 3 : 1.2.1)
	b. Explain the classification of soil by grain size.	10	(2 : 3 : 1.2.1)
<u>Module-4</u>			
7.	a. Mention the engineering consideration of Fold, Fault and Unconformities.	06	(2 : 4 : 1.2.1)

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

- b. Explain the importance of folds in civil engineering structures. **06** (2 :4 : 1.2.1)
- c. What are Tunnels? Explain important geological factors taken into account while tunnelling. **08** (2 :4 : 1.2.1)

(OR)

- 8. a. With neat sketch, explain dip and strike. **06** (2 :4 : 1.2.1)
- b. What are joints? With a neat labelled diagram, explain types of joints. **06** (2 :4 : 1.2.1)
- c. What is dam? Explain geological consideration in selecting a suitable site for construction of dam. **08** (2 :4 : 1.2.1)

Module-5

- 9. a. Define Aquifer. Explain types of aquifers with neat sketch. **08** (2 :5 : 1.2.1)
- b. Briefly explain hydrological cycle. **06** (2 :5 : 1.2.1)
- c. Explain artificial recharge of ground water by various methods. **06** (2 :5 : 1.2.1)

(OR)

- 10 a. What are the factors affecting the coefficient of permeability. **06** (2 :5 : 1.2.1)
- b. Discuss the application of GPS in civil engineering projects. **07** (2 :5 : 1.2.1)
- c. Explain in detail ground water exploration by seismic refraction method. **07** (2 :5 : 1.2.1)

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