

**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, April/May 2023

**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>
<b><u>MODULE – 1</u></b>			
1.	a. Describe internal structure of earth with neat sketch.	10	(2 : 1 : 1.2.1)
	b. Discuss mineral hardness, luster, colour, streak and specific gravity.	10	(2 : 1 : 1.2.1)
<b>OR</b>			
2.	a. Define minerals. Write the description of following minerals. (i) Asbestos (ii) Calcite (iii) Hematite (iv) Galena.	12	(2 : 1 : 2.2.2)
	b. What is geology? Discuss the importance of geological concepts in civil engineering practice.	08	(2 : 1 : 2.2.2)
<b><u>MODULE – 2</u></b>			
3.	a. Define Igneous rocks? With neat sketch explain forms of igneous rocks.	10	(2 : 2 : 1.2.1)
	b. Write the descriptions of the rocks: granite, sandstone, marble & basalt	10	(2 : 2 : 2.2.2)
<b>OR</b>			
4.	a. Write a short note on Metamorphism.	06	(2 : 2 : 2.2.2)
	b. What is landform? With neat sketches explain fluvial landforms.	06	(2 : 2 : 1.2.1)
	c. Define weathering. Explain the types of weathering.	08	(2 : 2 : 1.2.1)
<b><u>MODULE – 3</u></b>			
5.	a. Explain dip and strike with neat sketch.	06	(2 : 3 : 1.2.1)
	b. Write the differences between faults and joints.	06	(2 : 3 : 1.2.1)
	c. Define Fold. With relevant sketches, Explain types of folds.	08	(2 : 3 : 2.2.2)
<b>OR</b>			
6.	a. What is joint and explain the types of joints.	06	(2 : 3 : 1.2.1)
	b. Explain recognition of fault in the field.	06	(2 : 3 : 1.2.1)
	c. Discuss briefly selection of site for dams.	08	(2 : 3 : 2.2.2)
<b><u>MODULE – 4</u></b>			
7.	a. Explain hydrological cycle and their processes.	10	(2 : 4 : 1.2.1)
	b. Discuss geological and geophysical investigation of ground water by electrical resistivity method.	10	(2 : 4 : 2.2.2)
<b>OR</b>			
8.	a. Define Aquifer. Explain types of aquifers with neat sketch.	08	(2 : 4 : 1.2.1)
	b. With neat sketch, explain zone of aeration and zone of saturation.	06	(2 : 4 : 1.2.1)
	c. Explain artificial recharge of ground water by various methods.	06	(2 : 4 : 1.2.1)

**MODULE – 5**

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| <b>9.</b> | <b>a.</b> Write the causes and effects of earthquakes.              | <b>08</b> | (2 :5 : 1.2.1) |
|           | <b>b.</b> Write a short note on Seismic Zones of India and Tsunami. | <b>12</b> | (3 :5 : 1.2.1) |

**OR**

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| <b>10.</b> | <b>a.</b> Write a short note on;<br>(i) GIS (ii) Remote sensing (iii) Landslides (iv) GPS<br>(v) Impact of mining on environment | <b>20</b> | (3 :5 : 2.2.2) |
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