

Basavarajeswari Group of Institutions
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 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>
<u>MODULE – 1</u>			
1.	a. Explain different branches of geology.	10	(2 :1: 1.2.1)
	b. With a neat labelled diagram, explain detailed internal structure and composition of the earth.	10	(3 :1: 1.2.1)
OR			
2.	a. Explain briefly the physical properties which are helpful to identify the minerals.	10	(2 :1: 2.2.2)
	b. Write the physical properties, composition and uses of following minerals. i. Quartz ii. Calcite iii. Orthoclase Feldspar iv. Asbestos	10	(2 :1: 2.2.2)
<u>MODULE – 2</u>			
3.	a. What are Igneous rocks? Describe different types of Igneous rocks.	08	(2 :2: 1.2.1)
	b. What is Metamorphism? Explain types of Metamorphism with neat sketch.	06	(3 :2: 1.2.1)
	c. With neat sketch, explain structures of sedimentary rocks.	06	(3 :2: 2.2.2)
OR			
4.	a. What is weathering? Explain types of weathering.	08	(2 :2: 1.2.1)
	b. What is soil? With a neat sketch describe soil profile.	06	(3 :2: 1.2.1)
	c. What is landform? With neat sketches explain Aeolian landforms.	06	(3 :2: 1.2.1)
<u>MODULE – 3</u>			
5.	a. Mention the engineering consideration of Fold, Fault, Joints and Unconformities.	08	(2 :3: 1.2.1)
	b. What are Tunnels? Explain important geological factors taken into account while tunnelling.	08	(2 :3: 1.2.1)
	c. Explain the importance of folds in civil engineering structures.	04	(2 :3: 1.2.1)
OR			
6.	a. With neat sketch, explain dip and strike.	06	(3 :3: 1.2.1)
	b. What is dam? Explain geological consideration in selecting a suitable site for construction of dam.	08	(3 :3: 1.2.1)
	c. What are Joints? With a neat labelled diagram explain types of Joints.	06	(3 :3: 1.2.1)

MODULE – 4

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| 7. | a. Briefly explain hydrological cycle. | 06 | (3 :4: 1.2.1) |
| | b. Define Aquifer. Explain types of aquifers with neat sketch. | 08 | (2 :4: 1.2.1) |
| | c. With neat sketch, explain zone of aeration and zone of saturation. | 06 | (3 :4: 1.2.1) |

OR

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| 8. | a. Explain in detail ground water exploration by electrical resistivity method. | 10 | (3 :4: 2.2.2) |
| | b. Explain artificial recharge of ground water by various methods. | 06 | (2 :4: 1.2.1) |
| | c. Explain sea water intrusion and its remedies. | 04 | (2 :4: 1.2.1) |

MODULE – 5

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| 9. | a. Write a short note on; | 20 | (2 :5: 1.2.1) |
| | i. Earthquake | | |
| | ii. Tsunami | | |
| | iii. Landslides | | |
| | iv. Cyclone | | |
| | v. Impact of mining on environment | | |

OR

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| 10. | a. Discuss the application of Remote sensing and GIS technique in civil engineering projects. | 12 | (2 :5: 3.2.1) |
| | b. Write a short note on; | 08 | (2 :5: 3.2.1) |
| | i. Topographic maps | | |
| | ii. Contour maps | | |

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