

CBCS SCHEME

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18CV36

Third Semester B.E. Degree Examination, Dec.2023/Jan.2024 Engineering Geology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the role of engineering geology in the field of civil engineering projects. (08 Marks)
- b. Describe the parts of the interior of the earth with neat sketches. (10 Marks)
- c. Differentiate between rock and mineral. (02 Marks)

OR

- 2 a. Explain the following physical properties with suitable example.
i) Habit ii) Hardness iii) Diaphaneity. (09 Marks)
- b. Write the physical properties of the following minerals and mention the engineering use of the minerals i) Quartz ii) Magnetite iii) Chromite. (09 Marks)
- c. Explain the following: i) Rock forming minerals ii) Ore forming minerals. (02 Marks)

Module-2

- 3 a. Classify the Igneous rocks based on mode of origin and mineral composition. (08 Marks)
- b. Add a note on engineering use of the following rocks
i) Granite ii) Basalt iii) Sandstone iv) Gneiss. (12 Marks)

OR

- 4 a. Briefly explain the classification of soil profile with neat sketches. (08 Marks)
- b. Describe the drainage patterns with neat sketches. (06 Marks)
- c. Explain the characteristics of rocks as materials for construction. (06 Marks)

Module-3

- 5 a. Explain the different types of unconformity with neat sketches and mention the engineering considerations. (10 Marks)
- b. What are joints? Classify the different types of joints with neat sketches and add note on engineering considerations. (10 Marks)

OR

- 6 a. Describe the parts of the dam with neat sketches and their preventive measures to be taken for the selection of dam sites. (10 Marks)
- b. Briefly explain the Rock Quality Determination (RQD) and Rock Structural Rating (RSR). (04 Marks)
- c. Explain the following with neat sketches.
i) DIP ii) Strike iii) Outcrop. (06 Marks)

Module-4

- 7 a. Describe the vertical distribution of ground water with neat sketches. (07 Marks)
- b. With neat sketches describe confined and unconfined aquifers. (09 Marks)
- c. Explain the hydrological cycle with neat sketches. (04 Marks)

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OR

- 8 a. Explain the ground water explanation using Electrical resistivity method. (10 Marks)
b. Describe the following :
i) Artificial recharge of ground water (05 Marks)
ii) Floods and its controls. (05 Marks)

Module-5

- 9 a. What is earthquake? Describe the types, causes and effects of earth quake. (10 Marks)
b. Briefly explain the remedial measures for earthquake, Tsunami and Landslides. (10 Marks)

OR

- 10 Describe the following :
i) Applications of Remote sensing in civil engineering projects
ii) Uses of geographic information system
iii) Topographic maps
iv) GPS Global Positioning System). (20 Marks)
