



Third Semester B.E. Degree Examination, Dec.2024/Jan.2025
Engineering Geology

18CV36

Max. Marks: 100

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

Module-1

- 1 a. Identify the branches of geology and choose at least any five branches with brief note. (10 Marks)
 b. Apply the applications of geology in civil engineering practices. (10 Marks)

OR

- 2 a. Define mineral and organize their properties. Identify the quartz group of minerals and their physical properties. (10 Marks)
 b. What is an ore? Make use of the physical properties of the Fe, Cr, Al and Cu ore minerals with examples. (10 Marks)

Module-2

- 3 a. What is Rock? Explain the formation and classification of different group of rocks with examples. (10 Marks)
 b. Classify the following rocks and write their physical properties with engineering uses:
 i) Granite ii) Basalt iii) Sand stone iv) Gneiss v) Marble. (10 Marks)

OR

- 4 a. What is landform? Add a note on landform and their classification. (10 Marks)
 b. Describe in detail the physical, chemical and biological weathering of rocks. Add a note on weathering products and its role in civil engineering. (10 Marks)

Module-3

- 5 a. What is Fold? Select the parts of different types of folds with neat sketches and utilize the importance of folds in site selection of dams, reservoir and tunnels. (10 Marks)
 b. Write a note on Rock Quality determination (RQD) and Rock Structure Rating (RSR). (10 Marks)

OR

- 6 a. What is Coastline? Explain their engineering consideration. (08 Marks)
 b. Define Fault. Explain the parts and classification of different types of faults with their neat sketches. Add a note on importance of faults in site selection of dams, reservoirs and tunnels. (12 Marks)

Module-4

- 7 a. With a neat labeled diagram, explain the vertical distribution of ground water in brief. (04 Marks)
 b. Add a note on the following water quality aspects:
 i) SAR ii) RSC iii) TH (06 Marks)
 c. What is an aquifer? How are they formed? Explain the different types of aquifers with neat sketches and aquifer parameters. (10 Marks)

OR

- 8 a. What are the methods of ground water exploration? Explain in brief. (04 Marks)
 b. What is meant by artificial recharge structure of ground water? Describe in detail the various techniques and design of artificial recharge structures with suitable neat sketches. (10 Marks)
 c. Explain the sea water intrusion into fresh water zone. Give suggestive remedial measures for control of sea water intrusions in coastal aquifer. (06 Marks)

Module-5

- 9 a. Define earthquake. How it is caused? Explain the types of seismic waves and their effects. (10 Marks)
 b. What are landslides? How are they caused? Discuss the effects of landslides. Explain the various types of landslides with neat sketches and add a note on their control. (10 Marks)

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- 10 a. What is topographic map? Write a brief note on features and uses of topographic map in civil engineering projects. (06 Marks)
 b. Explain in brief the following:
 i) Geographical information system
 ii) Global positioning system
 iii) LandSat imagery
 iv) Aerial photography. (08 Marks)
 c. Write a note on the impact of mining and quarrying. Explain in brief the impact on reservoirs. (06 Marks)
