

# CBCS SCHEME

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17CV/CT35

## Third Semester B.E. Degree Examination, June/July 2019 Engineering Geology

Time: 3 hrs.

Max. Marks: 100

**Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. Write sketches wherever required.**

### Module-1

- 1 a. Explain major shells of the Earth interior with reference to its composition and density. (10 Marks)  
b. Explain important 'light dependent' physical properties of minerals with examples. (06 Marks)  
c. What are Rock forming and Ore forming minerals and give two examples each. (04 Marks)

OR

- 2 a. Briefly explain : i) SIAL and SIMA ii) Discontinuities in earth's interior. (06 Marks)  
b. Write a note on application of geology in civil engineering projects. (08 Marks)  
c. Describe important physical properties and engineering uses of following minerals :  
i) Gypsum ii) Bauxite. (06 Marks)

### Module-2

- 3 a. What are sedimentary rock? Explain its classification based on grain size of sediments giving example. (08 Marks)  
b. Explain broad classification of igneous rocks giving examples relevant to construction material. (06 Marks)  
c. Explain the properties and engineering uses of any one rock from each group :  
i) Elastic sedimentary Rock ii) Metamorphic Rocks. (06 Marks)

OR

- 4 a. Explain the formation of folds and joints and add a note on their importance in civil engineering. (06 Marks)  
b. Explain geological consideration of selection of dam site on inclined and faulted rocks. (08 Marks)  
c. Explain : i) Deformation of rocks ii) Rock Quality Designation (RQD). (06 Marks)

### Module-3

- 5 a. What is Weathering? Briefly explain mechanical weathering. (06 Marks)  
b. Write a note on Watershed management. (04 Marks)  
c. What is an Earthquake? Discuss causes, effects and mechanism. (10 Marks)

OR

- 6 a. Briefly explain geological work of running water and its importance in civil engineering. (08 Marks)  
b. Write a note on seismic resistant structures. (06 Marks)  
c. Explain i) Drainage pattern ii) Reservoir induced Seismocity. (06 Marks)

### Module-4

- 7 a. What is an Aquifer? With neat sketch, explain its types. (06 Marks)  
b. Explain Electrical resistivity method with resistivity curves for ground water exploration. (10 Marks)  
c. Write a note on Ground water pollution. (04 Marks)

OR

- 8 a. Explain Seismic method to understand subsurface geology. (06 Marks)  
b. Describe various method of artificial recharging of ground water. (10 Marks)  
c. Write a note on sea water intrusion and remedial measure. (04 Marks)

Module-5

- 9 a. What is Remote sensing? Write its principle and list important applications in civil engineering. (10 Marks)  
b. What are Toposheets and geological maps? Add a note on their uses in civil engineering. (06 Marks)  
c. What is disaster and explain its types. (04 Marks)

OR

- 10 a. What is Global positioning system? Explain its concept and application in civil engineering. (10 Marks)  
b. Explain : i) Impact of mining on environment ii) LANDSAT imageries. (10 Marks)

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