



# CBCS SCHEME

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18CV36

**Third Semester B.E. Degree Examination, Jan./Feb. 2023**

## **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. Enumerate the importance of Geology in civil engineering practices. (10 Marks)  
b. Describe the internal structure of the earth based on the seismological evidences. (10 Marks)

**OR**

- 2 a. What is a mineral? Describe briefly the habits possessed by the minerals. (10 Marks)  
b. Write chemical composition, physical properties and uses of any four of the following minerals :  
i) Agate ii) Orthoclase iii) Calcife iv) Gypsum. (10 Marks)

### Module-2

- 3 a. What are Igneous rocks? Describe the mode of occurrence of igneous rocks. (08 Marks)  
b. Write the classification of sedimentary rocks based on sediments size. (06 Marks)  
c. Define metamorphism. Briefly describe types of metamorphism. (06 Marks)

**OR**

- 4 a. What is Weathering? Write its types and their effects on civil engineering projects. (08 Marks)  
b. Explain briefly the land forms developed by wind. (08 Marks)  
c. Write a note on rock as construction material. (04 Marks)

### Module-3

- 5 a. What is an out crop? Add a note on Dip and strike. (06 Marks)  
b. What are Faults? How do you recognize faults in the field? Explain Horst and graben. (08 Marks)  
c. What are joints? Write their importance in civil engineering field. (06 Marks)

**OR**

- 6 a. Define Rock quality determination and rock structure rating. (06 Marks)  
b. What geological considerations are to be borne in mind in case of :  
i) Dam site on horizontal and inclined strata  
ii) Tunnel in folded strata. (10 Marks)  
c. Discuss briefly coastal lines and their engineering considerations. (04 Marks)

### Module-4

- 7 a. Write a brief note on hydrological cycle. (05 Marks)  
b. What is an Aquifer? With a neat sketches explain confined and unconfined aquifers. (10 Marks)  
c. Discuss sea water intrusion in coastal areas and remedies. (05 Marks)

**OR**

- 8 a. Explain the electrical resistivity method for exploration of ground water. (10 Marks)  
b. Analyse various methods involved in artificial recharge of ground water. (10 Marks)

**Module-5**

- 9 a. What is an earthquake? Explain its causes, effects and engineering problem related to earthquakes. (08 Marks)
- b. What are landslides? Explain types and remedial measures. (08 Marks)
- c. Write briefly causes and effects of Tsunami. (04 Marks)

**OR**

- 10 a. Discuss the applications of remote sensing in civil engineering projects. (08 Marks)
- b. What is GPS? Explain its concept and uses in resources mapping. (08 Marks)
- c. Discuss Landsat imagery and its use. (04 Marks)

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