

Code No: 153AV

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech II Year I Semester Examinations, March - 2021

ENGINEERING GEOLOGY

(Civil Engineering)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) Describe briefly the various branches of geology and their importance.
- b) What is weathering? Explain in detail the disintegration, decomposition and biological weathering with examples. [7+8]
- 2.a) Write about failures of major civil engineering structures due to geological drawbacks.
- b) Describe how rock weathering affects major civil engineering structures. [7+8]
- 3.a) Compare the physical properties, chemical composition, mode of formation and uses of the following minerals. i) Quartz and Calcite. ii) Augite and Hornblende.
- b) Define a rock. Give an account of geological classification of rocks. Add a note on the distinguishing megascopic features of different groups of rocks. Give two examples of rocks for each group. [8+7]
- 4.a) Write short notes: i) Fracture and cleavage in minerals. ii) Role of streak in mineral identification.
- b) What are the metamorphic rocks? How are they formed? Briefly describe the structures of metamorphic rocks. [8+7]
- 5.a) What is a Fold and explain in detail the classification of folds with neat sketches?
- b) Describe common types of soils, their origin and occurrence in India. [8+7]
- 6.a) What is an unconformity? How it occurs? What are the different types of unconformities?
- b) Explain in detail the electrical resistivity method for locating ground water. [8+7]
- 7.a) Define: i) shield areas ii) seismic belts iii) Seismic waves and iv) Richter scale.
- b) Write about Principles of geophysical study by Radio metric methods and geothermal method. [8+7]
- 8.a) Describe in detail the various geological considerations in the selection of a dam site.
- b) Explain in detail different purposes and effects of tunneling. [8+7]

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