

**ENGINEERING GEOLOGY**

1. (a) Discuss a general view of the internal structure of the Earth with a suitable diagram as revealed by the seismological evidences. (7)
- (b) What do you understand by Plate Tectonics ? Discuss its salient features and different types of plate margins. (7)

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2. What do you understand by weathering process ? Describe geological work done by River in nature with respect to erosion, transportation and deposition along with their features. (14)
3. What is a mineral ? Describe various physical properties of minerals which help in their identification. (13)

OR

4. What are Igneous rocks ? How are they formed in nature ? Explain with the help of neat sketches, the various forms of Igneous rocks. (13)
5. (a) In a proposed tunnel route a shale bed is dipping at 1 in 4 along S 40°W and 1 in 5 along N 50°W. Find the amount and direction of its true dip. Scale 1 unit = 1cm. (7)
- (b) A shale bed in a road cutting is found to be dipping at 30° East with a ground slope of 10° West. Its outcrop is 160 m wide. Determine the true thickness and vertical thickness of shale bed. Scale 1 cm = 40 m. (7)

OR

6. What are folds ? Describe the different types of folds giving suitable sketches for each. Give the importance of fold in civil engineering projects. (14)
7. Define earthquake and tsunami. Give a detailed account of origin of the earthquakes and earthquake zones of India. (13)

OR

8. What do you understand by landslide ? Discuss the internal and external causes of landslides. Give a brief account of measures commonly adopted to control the slides. (13)
9. What is Hydrological cycle ? Describe the various zones of groundwater that occur below the earth's surface. Add a note on unconfined and confined aquifers. (13)

OR

10. What do you understand by sub-surface investigation ? Describe the Electrical resistivity and seismic methods for geological investigation of an area. (13)
11. What is Rock Quality Designation ? Discuss the rock quality designation technique of rock classification with a suitable sketch. Add a note on characteristics of a good building stone. (13)

OR

12. Describe the influences of geological conditions met during construction of the dams on bedded rocks. (13)