
Applied Engineering Geology

Time: 3 hrs. Max. Marks: 100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

1. a. What is geology? Briefly explain its important branches. (06 Marks)
   b. What is seismology? Explain with a neat sketch the different parts of internal structure of the earth. Add a note on seismic waves role in understanding the structure and composition of the earth. (14 Marks)

2. Explain in detail how the physical properties of minerals are helpful in their identification in the field. (20 Marks)

3. a. What are igneous rocks? Explain with sketches the concordant and discordant intrusive bodies. (14 Marks)
   b. What is texture? Explain with sketches equigranular and inequigranular textures. (06 Marks)

4. Explain the following:
   a. Epigene and hypogene geological agents
   b. Preventive measures of landslides
   c. Soil profile with a neat sketch.
   d. Importance of weathering of rocks (20 Marks)

PART – B

5. Explain the following with neat sketches:
   a. Horst and graben structure
   b. Compass clinometers and its use
   c. Denudational effects of anticlines and synclines
   d. Angular unconformity and disconformity (20 Marks)

6. What is a DAM? With what purpose it will be constructed? Explain in detail the geological investigations of a good dam site. (20 Marks)

7. a. Write a note on hydrological cycle. (05 Marks)
   b. What is an aquifer? Explain in detail the vertical distribution of ground water. (10 Marks)
   c. Write a note on artificial recharge of ground water in rainwater harvesting. (05 Marks)

8. a. Explain the application of remote sensing in civil engineering practices. (08 Marks)
   b. Discuss the impact of mining on geoenvironment. (06 Marks)
   c. Write a note on porosity and permeability of different rocks. (06 Marks)

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