

ENGINEERING GEOLOGY

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) How do we say that structural geological knowledge is essential for tunnel constructions?
 - (b) Differentiate between fracture and cleavage of minerals.
 - (c) The sedimentary rocks are also used as stone masonry in civil engineering constructions. Is it correct? Justify your answer.
 - (d) Draw a neat diagram to show the hanging wall and footwall of a reverse faults.
 - (e) The perched water table is always occurred in zone of saturation. Is this statement true? Justify.
 - (f) How many seismic zones are shown in India's seismic zoning map? List them.
 - (g) What are the uses of geophysical exploration?
 - (h) Write a note on neutron logging.
 - (i) How do you locate a site for dam, based on topography of earth surface?
 - (j) What do you understand by reservoir capacity and reservoir life?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 How may the weathering of granitic rock in the foundation of a concrete dam create construction problems?

OR

- 3 Describe briefly the following minerals' physical properties:
- (a) Feldspar
 - (b) Quartz.

UNIT – II

- 4 In what way the granite, limestone and marble are used on the basis of their civil engineering applications? Add their mechanical properties.

OR

- 5 Why are folds less harmful than faults? Justify your answer based on the civil engineering point of view?

UNIT – III

- 6 How do you locate an earthquake epicentre based on the data from seismograph stations?

OR

- 7 List out the causes of landslides and give remedial measures for slope and drainage problems.

UNIT – IV

- 8 What are the active methods are employed to determine the sub surface aquifer investigation? Explain any one method with suitable data.

OR

- 9 Give a note on 'improvement of competence of sites by grouting'. Add various type of grouting.

UNIT – V

- 10 Describe in details the different stages of investigation that are required to be taken up for building a dam.

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OR

- 11 What is pressure tunnel? Enumerate different types of tunnel and their functions.
