

B.Tech III Year I Semester (R13) Regular Examinations December 2015

**ENGINEERING GEOLOGY**

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**

(Compulsory Question)

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- 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.

**OR**

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