

**24383**

**B. Tech 6th Semester (Civil)  
Examination – May, 2018**

**ENGINEERING GEOLOGY**

**Paper : CE-312-F**

Time : Three Hours ]

[ Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

- Note :**
- (i) Question No. 1 is compulsory. Attempt *one* question from each Section.
  - (ii) All questions carry equal marks.
  - (iii) Assume missing data, if any, suitable.

**1. Explain the following :**

- (a) Weathering the surface of the earth
- (b) Artesian wells and springs
- (c) Rock forming minerals
- (d) Volcano and Earthquake
- (e) Retaining walls

- (f) Importance of soil profile
- (g) Specific yield
- (h) Petrology and structural geology
- (i) Cone of depression
- (j) Types of tunnels 20

### SECTION - A

- 2. (a) Name and Explain sub divisions of Engineering Geology ? Also explain the objectives of Geology. 10
- (b) Describe in brief the crust, the mantle and core of the earth. 10
- 3. (a) Explain the external and internal geological forces causing changes of the surface of the earth. 10
- (b) Explain the geological work of ice, water and wind in brief. 10

### SECTION - B

- 4. (a) Explain the mineral composition, Textures, structure and origin of sedimentary and metamorphic rocks. 10
- (b) What is the mineral and list the physical properties of the minerals with brief description ? 10

5. (a) Describe in detail about different types of folds and faults with sketches. 10
- (b) Explain in detail the importance of different geological structures in Civil Engineering projects. 10

### SECTION - C

6. (a) What do you mean by geological investigations ? Explain the remote sensing techniques for geological and hydrological survey and investigation. 10
- (b) What is aquifer ? Describe in detail the different types of aquifers. 10
7. Describe the following in brief : 20
- (a) Techniques of artificial ground water recharge.
- (b) Difference between perched water table and ground water table
- (c) Springs and artesian well.
- (d) Geological maps and interpretation of data



## SECTION - D

8. (a) Explain the suitability and stability of foundation sites and abutments. 10
- (b) What are the objectives of a dam ? Describe geological considerations in the selection of a dam site. 10
9. (a) Describe the improvement of foundation rocks. What are the precaution and treatment against faults, joints and ground water ? 10
- (b) Write down the internal and external causes of landslides. State the measures to control slides. 10
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