

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV(OLD) – EXAMINATION – SUMMER 2019****Subject Code:140604****Date:28/05/2019****Subject Name: Engineering Geology****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What is geology? Describe the application of geology in civil engineering. **07**  
(b) Define the terms: weathering, erosion and denudation. Briefly describe the mechanical weathering. **07**

- Q.2** (a) What do you mean by weathering of rocks? Describe the chemical weathering of rocks. **07**  
(b) What is an earthquake? Describe the types of earthquake waves and concept of plate tectonics. **07**

**OR**

- (b) What is an aquifer? Explain various types of aquifers with sketch. **07**
- Q.3** (a) What is metamorphism? Explain different type of metamorphisms with suitable examples. **07**  
(b) Explain geological properties of building stones and describe granite as a building stone. **07**

**OR**

- Q.3** (a) How minerals are identified in the field? Add note on hardness of a mineral. **07**  
(b) Write a note on crystallographic axes. **07**
- Q.4** (a) Define fold. Explain terminology of fold with neat sketch. **07**  
(b) Give classification of faults based on apparent movement. **07**

**OR**

- Q.4** (a) What are joints? Give their types and engineering geological significance. **07**  
(b) What does landslide mean? Discuss the remedial measures for the prevention of land slides. **07**
- Q.5** (a) With a sketch, describe zonal distribution of groundwater. **07**  
(b) Discuss on the need and importance of artificial recharging of ground water. **07**

**OR**

- Q.5** (a) Enlist and explain briefly the geological criteria for site selection of Dam. **07**  
(b) State the different applications of remote sensing and GIS in civil engineering. **07**

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