

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV(OLD) • EXAMINATION – WINTER 2016

Subject Code:140604

Date:25/11/2016

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) Define geology. Give the significance of study of geological science in civil engineering practices. 07  
(b) What are minerals? How minerals are identified in the field? Add note on cleavage of a mineral. 07
- Q.2 (a) What are geological agents? Describe in detail the mechanical weathering of rocks. 07  
(b) Write short note on: (1) Tunnel through folded rocks (2) Porosity and Permeability of rocks. 07
- OR
- (b) Define lava and magma. Describe the way of formation of igneous rocks. Write subgroups of igneous rocks based on its occurrence. 07
- Q.3 (a) What are rocks? How can they be broadly grouped? Discuss the importance of rocks in Civil Engineering. 07  
(b) Describe the rock cycle. 07
- OR
- Q.3 (a) State the different applications of remote sensing and GIS in civil engineering. 07  
(b) What are sedimentary rocks? How are these rocks formed? 07
- Q.4 (a) What is an earthquake? How it is caused? Discuss the effects of earthquakes with such examples from India. 07  
(b) Explain dip and strike, normal and reverse faults with neat sketches. 07
- OR
- Q.4 (a) What are folds? Explain various terminology of a typical fold with neat sketches. 07  
(b) Describe the factors and kinds of metamorphism. 07
- Q.5 (a) Enlist and explain briefly the geological criteria for site selection of dam. 07  
(b) Describe various sources of ground water. 07
- OR
- Q.5 (a) State the objectives of geological investigations. 07  
(b) What is a dam? List their types. Critically explain the geological problems encountered during the construction of dams. 07

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