

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.

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|-----|-----|--|----|
| 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 |
