

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – IV • EXAMINATION – WINTER 2012

Subject code: 140604**Date: 01/01/2013****Subject Name: Engineering Geology****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) What are minerals? How minerals are identified in the field? Add note on cleavage of a mineral. **07**
- (b) What is meant by weathering? Describe in details the process and types of rock weathering. **07**
- Q.2** (a) Define geology. Enlist branches of geology. Discuss in brief the scope of geology. **07**
- (b) Define crystal? Explain the three types of symmetries commonly present in crystals. **07**
- OR**
- (b) What is an earthquake? How it is caused? Discuss the effects of earthquakes with such examples from India. **07**
- Q.3** (a) Write detail notes on river meandering and sand dunes. **07**
- (b) Write short notes on : (i) Dip and Strike (ii) Rock cycle **07**
- OR**
- Q.3** (a) What are rocks? How can they be broadly grouped? Discuss the importance of rocks in Civil Engineering. **07**
- (b) Write short notes on : (i) Columnar joints (ii) Syncline and Anticline. **07**
- Q.4** (a) What are the sedimentary rocks? How are they formed? Describe in details the classification of sedimentary rocks. **07**
- (b) What are faults? Explain terminology of faults with neat sketches. **07**
- OR**
- Q.4** (a) Write short notes on : (i) Limbs and Axial plane of fold.(ii) Recumbent fold. **07**
- (b) Write short notes on : (i) Sources of Groundwater **07**
- (ii) Causes of landslides.
- Q.5** (a) What is dam? List the types of dams? Discuss the role of geologist in site selection of dams. **07**
- (b) Write short notes on: (i) Tunnel through folded rocks (ii) Porosity and Permeability of rocks. **07**
- OR**
- Q.5** (a) What is meant by remote sensing and geographical positioning system? **04**
- (b) Hardness and Fracture as physical properties of mineral. **06**
- (c) Factors of metamorphism. **04**
