

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV • EXAMINATION – SUMMER 2013****Subject Code: 140604****Date: 19-06-2013****Subject Name: Engineering Geology****Time: 10:30am – 01:00pm****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) Describe the decomposition of rocks, giving suitable examples. **07**
 (b) Define a mineral? Describe the Streak and Hardness properties of minerals. **07**
- Q.2** (a) Write notes on the following topics: **07**
 (i) Significance of Geology in civil engineering practices
 (ii) Components of a typical fault
 (b) Elaborate how can landslides be prevented? **07**
- OR**
- (b) What are earthquakes and tsunamis? Add a note on prediction of earthquakes. **07**
- Q.3** Write detailed notes on the following topics:
 (a) Factors and types of metamorphism **07**
 (b) Dykes and sills **07**
- OR**
- Q.3** (a) Describe the Rock Cycle in detail. **07**
 (b) What are sedimentary rocks? Narrate how are these formed? **07**
- Q.4** Write notes on the following topics:
 (a) Anticlines and synclines **07**
 (b) Artificial recharging of subsurface water **07**
- OR**
- Q.4** (a) Write a note on application of Remote Sensing and GIS in civil engineering. **07**
 (b) Narrate the significance of geological maps and sections. **07**
- Q.5** (a) Narrate the merits and demerits of a tunnel alignment passing through faulted rock formations. **07**
 (b) Write detailed notes on crystallographic axes and elements of symmetry. **07**
- OR**
- Q.5** (a) Classify the following rocks as per their origin: **07**
 (i) Gabbro (ii) Slate (iii) Granite (iv) Marble
 (v) Limestone (vi) Shale (vii) Schist
 (b) Describe the zonal distribution of ground water. **07**
