

GUJARAT TECHNOLOGICAL UNIVERSITY**PDDC - SEMESTER-I • EXAMINATION – SUMMER 2013****Subject Code: X10602****Date: 11-06-2013****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.
4. Each question carries equal marks (14 marks)

- Q.1** (a) Define geology and engineering geology. Elaborate the significance of study of geology in Civil Engineering. **07**
(b) Enlist the important physical properties of minerals. Describe the streak and hardness properties of minerals with suitable examples. **07**
- Q.2** (a) Describe the chemical weathering of rocks giving illustrations. **07**
(b) Giving any two uses, classify the following rocks as per their origin: **07**
(i) Basalt (ii) Granite (iii) Sandstone (iv) Marble
(v) Shale (vi) Limestone (vii) Slate
- Q.3** (a) Write detailed notes on factors and types of metamorphism. **07**
(b) Describe how igneous rocks are formed. **07**
- Q.4** (a) Narrate the merits and demerits of a tunnel alignment in folded sequence of rocks. **07**
(b) Write brief notes on the following topics: **07**
(i) Rock cycle
(ii) Site selection criteria for dams
- Q.5** (a) Describe the zones of ground water movement. **07**
(b) Write an explanatory note on water holding properties of rocks. **07**
- Q. 6** (a) Describe how the landslides are caused. **07**
(b) Write brief notes on the following topics: **07**
(i) Dip and strike of a bed
(ii) Components of a typical fault
- Q. 7** (a) Describe important engineering properties of a good building stone. **07**
(b) Write brief notes on the following topics: **07**
(i) Sills and dykes
(ii) Applications of remote sensing and GIS
