Seat No.: _____ Enrolment No._____

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: (i) Basalt (ii) Granite (iii) Sandstone (iv) Marble (v) Shale (vi) Limestone (vii) Slate	**07**
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: (i) Rock cycle (ii) Site selection criteria for dams	**07**
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: (i) Dip and strike of a bed (ii) Components of a typical fault	**07**
Q. 7	(a)	Describe important engineering properties of a good building stone.	**07**
	(b)	Write brief notes on the following topics: (i) Sills and dykes (ii) Applications of remote sensing and GIS	**07**

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