Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-IV Remedial Examination Nov/ Dec. 2010

Subject code: 140604 **Subject Name: Engineering Geology**

Date: 09 / 12 / 2010 **Time: 03.00 pm – 05.30 pm**

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)**	Define a mineral. Describe the Hardness and Streak properties of minerals giving examples.	**07**
	(b)	What do you mean by weathering of rocks? Describe the chemical weathering of rocks.	**07**
Q.2	**(a)**	Write brief notes on the following topics: (i) Scope of engineering geology in civil engineering. (ii) Applications of Remote Sensing techniques.	**07**
	(b)	Critically discuss various geological criteria to be considered in selection of a dam site.	**07**
		OR	
	(b)	Define a tunnel. Discuss the suitability of a tunnel alignment in folded sequence of rock formations.	**07**
Q.3	**(a)**	What are sedimentary rocks? How are they formed?	**07**
	(b)	Describe various structures observed in igneous rocks.	**07**
		OR	
Q.3	**(a)**	Write a note on agents and kinds of metamorphism.	**07**
	(b)	Narrate the properties of a good building stone.	**07**
Q.4	**(a)**	Write notes on the following topics: (i) Usefulness of geological maps and sections. (ii) Elements of Symmetry.	**07**
	(b)	Implications of faults on civil engineering structures.	**07**
		OR	
Q.4	**(a)**	What are folds? Drawing a labeled diagram, narrate the various components of a typical fold.	**07**
	(b)	Define an earthquake. Can earthquakes be predicted?	**07**
Q.5	**(a)**	With a sketch, describe zonal distribution of groundwater.	**07**
	(b)	Write short notes on the following topics: (i) Control of landslides. (ii) Artificial recharging of groundwater.	**07**
		OR	
Q.5	**(a)**	Write short notes on the following topics: (i) Dip and strike of a bed. (ii) Geological investigation for civil engg. projects.	**07**
	(b)	Write an account on groundwater hazards observed in the construction of civil engineering projects.	**07**

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