Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV EXAMINATION – SUMMER 2016

Subject Code:140604 Date:08/06/2016

Subject Name:Engineering Geology

Time:10:30 AM to 01:00 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)**	Write objectives of Engineering Geology. Write note on scope of Engineering geology in the field of Civil Engineering.	**07**
	(b)	Enlist various property of Mineral to identify them. Explain any 3 of them.	**07**
Q.2	**(a)**	Write short notes on : i. Sediment transportation by river ii. Structures in Igneous rocks	**07**
	(b)	Define earthquake. Explain magnitude and intensity of an earthquake.	**07**
		OR	
	(b)	Write note on seismic waves and their characteristics.	**07**
Q.3	**(a)**	How joints differ from faults? Describe development of sheet joints and columnar joints in rock mass.	**07**
	(b)	How folds and faults are recognized in the field?	**07**
		OR	
Q.3	**(a)**	Explain favorable and unfavorable ground water conditions for reservoir construction.	**07**
	(b)	Write a note on geological investigation carried out for the tunnel structures.	**07**
Q.4	**(a)**	How does geology influence the design of tunnel? Comment on suitability of tunnel structures in hard and soft rock formations.	**07**
	(b)	How geological maps and geological profile are essential in site selection of civil engineering projects?	**07**
		OR	
Q.4	**(a)**	How geological knowledge may be helpful in highway construction? Add your note for geological consideration in railways.	**07**
	(b)	Describe suitability of dam structures on deformed rock mass with neat sketches.	**07**
Q.5	**(a)**	Write short notes on types of metamorphism and the agencies involved in it.	**07**
	(b)	How the sedimentary rocks are formed? Describe texture of the sedimentary rocks.	**07**
		OR	
Q.5	**(a)**	How igneous rocks are formed in the field. Write their engineering significance.	**07**
	(b)	Write note on wind erosion. Add your note with desert encroachment and challenges for civil engineers.	**07**

****