Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2723308 **Date: 02/06/2016**

Subject Name: Rehabilitation and Retrofitting of Buildings

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)**	Explain the carbonation effect on concrete.	**07**
	(b)	Explain the push over analysis.	**07**
Q.2	**(a)**	Explain the durability of concrete. Write the factors affecting on the durability.	**07**
	(b)	Explain the technique for the strengthening of earthquake damaged beam.	**07**
		OR	
	(b)	Explain the survey procedure and assessment of structural conditions in masonry structures	**07**
Q.3	**(a)**	Explain the following terms in context of the corrosion of steel in concrete. Electrochemical Process, Passivity of steel, Electrical Resistivity of Concrete and Expansion of concrete & Cracking	**07**
	(b)	State and explain the need of non-destructive testing for concrete. Enlist all the testing with their uses.	**07**
		OR	
Q.3	**(a)**	Elaborate on Rebar locator and SASW method.	**07**
	(b)	Enlist the materials used for repair with their specific uses.	**07**
Q.4	**(a)**	Explain on the defects and deterioration observed in steel structures.	**07**
	(b)	Explain the procedure of controlling the sulphate attack.	**07**
		OR	
Q.4	**(a)**	Explain on building performance levels and attributes for better performance of the structures.	**07**
	(b)	Explain various schemes of retrofitting RCC slab for different types of structural deficiency.	**07**
Q.5	**(a)**	Explain on ñAlkali ï Silica reactionò on concrete.	**07**
	(b)	Explain the use of FRP as a retrofitting a column. Explain the procedure for its application. State it disadvantages.	**07**
		OR	
Q.5	**(a)**	Why efflorescence takes place? What are the factors affecting on it? State remedies.	**07**
	(b)	Differentiate in detail óActive Repair and Passive Repair with the application.	**07**

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