Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER–II EXAMINATION – SUMMER 2015

Subject Code: 2723308 **Date: 03/06/2015**

Subject Name: Rehabilitation and Retrofitting of Buildings

Time: 02:30 PM to 05:00 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 corrosion assessment of Steel reinforcement.	**07**
	(b)	Explain the effect of weathering and efflorescence on RCC structures.	**07**
Q.2	**(a)**	Elaborate on survey procedure and assessment of structural conditions in masonry structures.	**07**
	(b)	Explain briefly the Structural & Non-structural cracks in buildings. Support your description with examples for each type.	**07**
		OR	
	(b)	State the classification of the defects in the stone and brick masonry. Explain each defect in detail.	**07**
Q.3	**(a)**	Elaborate on ñNon destructive testing of connections in steelò.	**07**
	(b)	Explain the following terms in context of the corrosion of steel in concrete. (i) Electrochemical Process (ii) Passivity of steel (iii) Electrical Resistivity of Concrete (iv) Expansion of concrete & Cracking	**07**
		OR	
Q.3	**(a)**	Explain in detail Rebar locator and SASW method.	**07**
	(b)	Explain the need of non destructive testing for concrete. Enlist all the testing with their uses.	**07**
Q.4	**(a)**	Explain the push over analysis.	**07**
	(b)	Explain the role of quality control in construction as preventive measure against deterioration.	**07**
		OR	
Q.4	**(a)**	Explain the strengthening procedure of earthquake damaged building.	**07**
	(b)	Enlist the materials used for repair with their specific uses.	**07**
Q.5	**(a)**	Differentiate in detail óActive Repair and Passive Repair with the application.ô	**07**
	(b)	Explain various schemes of retrofitting RCC beam for different types of structural deficiency	**07**
		OR	
Q.5	**(a)**	Discuss various schemes of retrofitting RCC column for different types of structural deficiency	**07**
	(b)	Explain on building performance levels and Attributes for better performance of the structures.	**07**

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