Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2732004 **Date:03/05/2016**

Subject Name: Rehabilitation and Retrofitting of Structures

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 push over analysis. Under what circumstances it will be benefitted?	**07**
	(b)	Explain the role of quality control in construction.	**07**
Q.2	**(a)**	Enlist the materials used for repair in construction. Explain its importance with specific uses.	**07**
	(b)	Explain jacketing. Describe various jacketing methods for rehabilitation of columns	**07**
		OR	
	(b)	Explain the procedure of repair, if the member of structure is under larger deflection.	**07**
Q.3	**(a)**	Explain the procedure of non destructive test for the connection in the steel.	**07**
	(b)	Explain the methodology to repair for earthquake deficient masonry structure.	**07**
		OR	
Q.3	**(a)**	Explain the procedure for the corrosion assessment in reinforcement in RCC element.	**07**
	(b)	Elaborate the design principal and working mechanism used in NDT evaluation.	**07**
Q.4	**(a)**	State the reasons of deterioration of reinforced concrete buildings. Explain preventive measures during concreting and during its usage.	**07**
	(b)	What is meant by carbonation of concrete? How it is determined in concrete? What are the limitations associated with it?	**07**
		OR	
Q.4	**(a)**	Write the significance of cracking of concrete. What are the major causes of cracking in concrete and how can it be prevented?	**07**
	(b)	Explain the factors affecting the durability of concrete.	**07**
Q.5	**(a)**	Explain the Alkali-Silica reaction.	**07**
	(b)	Elaborate on assessment of structural conditions in RCC structures.	**07**
		OR	
Q.5	**(a)**	Discuss the long term health monitoring techniques.	**07**
	(b)	What are the different means of corrosion of steel in reinforced concrete? Explain its mechanism with neat diagrams	**07**

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