Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER III (NEW) – EXAMINATION – WINTER-2016

Subject Code: 2732004 **Date:25/10/2016**

Subject Name: Rehabilitation and Retrofitting of Structures

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 technique for the strengthening of earthquake damaged column.	**07**
	(b)	Justify the role of quality control in construction.	**07**
Q.2	**(a)**	Elaborate the preventive measures of maintenance of buildings.	**07**
	(b)	State the methods of repairs of concrete structures with necessary figures.	**07**
		OR	
	(b)	Enlist various schemes of retrofitting RCC slab for different types of structural deficiency with their specific application.	**07**
Q.3	**(a)**	Under which circumstances rebound hammer test is used. Explain its procedure.	**07**
	(b)	Explain the procedure of corrosion assessment of reinforcement in RCC structures.	**07**
		OR	
Q.3	**(a)**	Is there any non destructive test or machine used for the check of durability? Explain the principle used behind it.	**07**
	(b)	Explain the procedure of corrosion assessment of reinforcement in steel structures.	**07**
Q.4	**(a)**	Elaborate the health monitoring techniques with its limitations.	**07**
	(b)	Explain rapid visual screening method.	**07**
		OR	
Q.4	**(a)**	List the materials which can be used as laminate for an existing reinforced concrete beam. What are the preliminary requirements of laminate attachment?	**07**
	(b)	Differentiate between retrofitting and rehabilitation of structure.	**07**
Q.5	**(a)**	Elaborate the causes of distress in concrete structures.	**07**
	(b)	Explain Alkali-silica reaction.	**07**
		OR	
Q.5	**(a)**	What are the reasons for efflorescence? What are the factors affecting on it? State remedies.	**07**
	(b)	Explain the term durability of concrete. Also discuss the major causes of inadequate durability.	**07**

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