Seat No.:	
No	

Enrolment

GUJARAT TECHNOLOGICAL UNIVERSITY P.D.D.C - SEMESTER- VIII • EXAMINATION – SUMMER 2015

	•	Code: X80605 Date:13/05/201 Name: Repairs and Rehabilitation of Structures	5
Ti	me:1():30 am - 01:00 pm Total Marks: 7	70
Ins		Attempt all questions. Make suitable assumptions wherever necessary.	
Q.1	(a)	List out various Non Destructive Test (NDT) used to determine strength of	07
	(b)	existing structure. Explain any one of them. Explain the Significance of quality control. What are the recommendations given in I.S.456-2000 to produce good quality concrete.	07
Q.2	(a) (b)	Explain concrete repairing by grouting. Explain Temperature effect on concrete.	07 07
	(b)	OR What do you understand by sulphate attack on concrete? Discuss the factors responsible for it. How does it affect RCC elements?	07
Q.3	(a)	Define durability of concrete and explain the major causes of inadequate durability.	07
	(b)	What are the main objectives of condition assessment of structure ? OR	07
Q.3	(a)	 Write a short note on (any three) : 1. Polymer concrete 2. Cathodic protection 3. Rust eliminator and corrosion inhibitor 4. Gunite and shotcrete 	14
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)	Describe various methods of demolition of framed reinforced concrete structure What are its basic principles? OR	07
Q.4	(a)	What method will you adopt for curing of concrete in area of water shortage? How does a surface active agent increase workability?	07
	(b)	What are the different means of chloride ingress in concrete? How does it affect the concrete properties?	
Q.5	(a) (b)	Explain shoring and underpinning technique for foundation rehabilitation. List the materials which can be used as laminate for an existing reinforced concrete beam. What are the preliminary requirements of laminate attachment? OR	07 07
Q.5	(a) (b)	Enlist common design and construction errors. Write steps to assess damage in an earthquake damaged RCC framed structure involving visual inspection to physical testing.	07 07
