Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

Date: 03-06-2013

Subject code: 1724904

Su	bjeci	t Name: Maintenance and Rehabilitation of Structures	
Tiı	me: 1	10.30 am – 01.00 pm Total Marks: 70	
Ins	stru	ctions:	
		 Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 	
		4.	
Q.1	(a)	Explain the Maintenance, Repair, Retrofitting, Rehabilitation and Restoration in construction industry.	07
	(b)	What is deterioration of structure? Enlist and explain various causes of deterioration of structure	07
Q.2	(a)	Enlist principles of rehabilitation and focus on areas of rehabilitation work	07
	(b)	Define special concrete .Enlist various uses and application of special concrete OR	07
	(b)	Explain Quality assurance for concrete construction?	07
Q.3	(a) (b)	Describe the term significance of Cathodic protection for construction. Explain about the assessment of damaging to concrete structure	07 07
		OR	
Q.3	(a)	Write shortnote on (1) Dry mix shortcrete (2) Wet mix shortcrete	07
	(b)	Enlist various reasons of failures of corrosion-protection systems for bonded post-tensioned concrete structures	07
Q.4	(a)	Describe special mortar, Epoxy resin with reference to repair and rehabilitation	07
	(b)	Explain the strengthening of walls by prestressing using external binding concept	07
		OR	
Q.4	(a)	Explain in brief about the following repair rehabilitation strategies (a) Stress reduction (b) Base isolation (c) Enhancing shear strength	07
	(b)	Suggest the techniques to restore original strength for (1) Small cracks in existing masonry (2) Large cracks and crushed concrete	07
Q.5	(a)	Discuss about Chloride attack and Sulphate attack on concrete structure	07
	(b)	Explain the various properties epoxy material .How the epoxy material can be applied for rehabilitation work.	07
0.5		OR	^=
Q.5	(a)	Draw the free hand sketches of: (a) Column Strengthening Concrete Jacket (b) Stitching Method of Repairing Wall/Slab Cracks	07
	(b)	Enlist and explain the desirable properties of repair material.	07
