

Enrollment No: _____

Exam Seat No: _____

C. U. SHAH UNIVERSITY

Winter Examination-2021

Subject Name : Repair and Rehabilitation of Structures

Subject Code : 4TE07RRS1

Branch: B.Tech (Civil)

Semester: 7

Date: 15/12/2021

Time: 02:30 To 05:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1	Attempt the following questions:	(14)
	a) What is Rust Eliminators?	01
	b) Give importance of Cover in RCC Structures	01
	c) As per IS 456 2000, Sulphate content of mixing and curing water should not exceed _____.	01
	d) The inherent ability of concrete to heal cracks within itself is termed as _____.	01
	e) Define efflorescence.	01
	f) Define Repair	01
	g) Define Rehabilitation	01
	h) Define Retrofitting	01
	i) Define Thermal Conductivity with reference to concrete.	01
	j) Define Thermal Diffusivity with reference to concrete	01
	k) Define Coefficient of Thermal Expansion with reference to concrete.	01
	l) Maximum total acid soluble chloride content expressed as kg/m ³ of concrete as per IS 456 2000 for RC or plain concrete containing embedded metal is _____.	01
	m) Give the full form of AAR.	01
	n) Give the chemical reaction that takes place during rusting of steel bars.	01

Attempt any four questions from Q-2 to Q-8

Q-2	Attempt all questions	(14)
	a) Enlist different types of shores and explain use of dead shore with sketch.	05
	b) Explain Fiber Reinforced Concrete in detail.	05
	c) Discuss the thermal properties of concrete in brief.	04
Q-3	Attempt all questions	(14)
	a) Differentiate: Strengthening Vs. Retrofitting	04
	b) Explain various types of cracks.	04
	c) Enlist and explain causes of distress in concrete structures	06



Q-4	Attempt all questions	(14)
a)	Explain injection grouting for RCC buildings.	04
b)	Discuss Epoxy as a repair material	04
c)	Explain complete process of concrete guniting. In which condition guniting is preferred over jacketing?	06
Q-5	Attempt all questions	(14)
a)	How repairing of small crack carried out structures?	06
b)	What is Engineered demolition technique?	06
c)	How can we improve durability of concrete in sea water?	02
Q-6	Attempt all questions	(14)
a)	What is condition assessment? What are objectives of same & also explain in detail the various stages of the same.	07
b)	How corrosion occurs in RCC Structures. Discuss various corrosion mitigation techniques	07
Q-7	Attempt all questions	(14)
a)	Explain the principles of structural demolition	06
b)	Differentiate: Porosity Vs. Permeability	04
c)	Discuss Ferro cement in brief.	04
Q-8	Attempt all questions	(14)
a)	Differentiate: Abrasion Vs. Erosion	04
b)	Enlist and explain factors affecting permeability of concrete.	06
c)	Discuss temperature effect on concrete.	04

