

Enrollment No: _____

Exam Seat No: _____

C. U. SHAH UNIVERSITY

Winter Examination-2022

Subject Name : Repair and Rehabilitation of Structures

Subject Code : 4TE07RRS1

Branch: B.Tech (Civil)

Semester: 7

Date: 23/11/2022

Time: 11:00 To 02:00

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) Define Repair	01
	b) Define Rehabilitation	01
	c) Define Retrofitting	01
	d) 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
	e) Define efflorescence.	01
	f) What is Rust Eliminators?	01
	g) As per IS 456 2000, Sulphate content of mixing and curing water should not exceed _____.	01
	h) The inherent ability of concrete to heal cracks within itself is termed as_.	01
	i) Thermal Conductivity with reference to concrete is defined as ____.	01
	j) Thermal Diffusivity with reference to concrete is defined as ____.	01
	k) Coefficient of Thermal Expansion with reference to concrete is ____.	01
	l) What is the need of Cover in RCC Structures.	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 and Explain causes of distress in concrete structures	05
	b) Enlist and Explain factors affecting permeability of concrete.	05
	c) Discuss Temperature effect on concrete.	04
Q-3	Attempt all questions	(14)
	a) Differentiate: Porosity Vs. Permeability	04
	b) Discuss the thermal properties of concrete in brief.	04
	c) How repairing of small crack carried out structures?	06



Q-4	Attempt all questions	(14)
a)	Explain various types of cracks.	04
b)	Discuss Ferro cement in brief.	04
c)	What is Engineered demolition techniques.	06
Q-5	Attempt all questions	(14)
a)	Enlist different types of shores and explain use of dead shore with sketch.	06
b)	Explain Fiber Reinforced Concrete in detail.	06
c)	How can we improve durability of concrete against corrosion?	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 complete process of concrete guniting. In which condition guniting is preferred over jacketing?	06
b)	Differentiate: Abrasion Vs. Erosion	04
c)	Discuss Epoxy as a repair material	04
Q-8	Attempt all questions	(14)
a)	Explain injection grouting for RCC buildings.	04
b)	Explain the principles of structural demolition	06
c)	Differentiate: Strengthening Vs. Retrofitting	04

