

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER- VII EXAMINATION-SUMMER 2023****Subject Code: 3170616****Date: 26/06/2023****Subject Name: Retrofitting of structures****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Define (i) Repair (ii) Restoration (iii) Retrofitting	03
	(b) Give various classifications of repair materials.	04
	(c) Explain various types of maintenance.	07
Q.2	(a) Enlist various types of Non- Destructive tests.	03
	(b) Explain injection grouting for RCC buildings.	04
	(c) Explain Rebound Hammer test with neat sketch.	07
	OR	
	(c) List out various design errors which leads to the deterioration of concrete structure.	07
Q.3	(a) List out various physical and chemical deterioration.	03
	(b) Explain need of concrete cover in RCC structure. Give IS:456-2000 recommendations for nominal cover.	04
	(c) Explain alkali aggregate reaction and list out preventive measures.	07
	OR	
Q.3	(a) List out different causes of cracks in masonry structures.	03
	(b) How to carry out repairs of leakage from terrace?	04
	(c) Give various types of shoring and explain dead shores with sketch.	07
Q.4	(a) Explain Day to Day repair as per CPWD.	03
	(b) Explain fibre wrap technique.	04
	(c) Explain the durability of concrete in detail.	07
	OR	
Q.4	(a) Define the condition assessment and give main objectives of condition assessment.	03
	(b) Explain column jacketing with neat sketch.	04
	(c) Enlist various crack repair techniques and explain crack repair by stitching.	07
Q.5	(a) Enlist causes of distress in reinforced concrete structures.	03
	(b) Explain effect of sulphates attack on concrete element.	04
	(c) Explain the corrosion of reinforcement in RCC structure.	07
	OR	
Q.5	(a) Write short note on polymer Portland cement concrete.	03
	(b) Explain importance of quality control in concrete construction.	04
	(c) List out various corrosion mitigation techniques and explain any one of them.	07
