

Enrollment No./Seat No.:

## GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Interior Design - SEMESTER - III EXAMINATION - WINTER 2025

Subject Code: 2X35108

Date: 19-11-2025

Subject Name: Structure-III

Time: 10:30 AM TO 12:30 PM

Total Marks: 50

### 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
<b>Q.1 (a)</b> Explain the fundamental differences between "reconstruction" and "renovation" as they apply to building projects.	07
<b>(b)</b> Write down the key consideration while renovating of load bearing structure and frame structure separately.	08
<b>Q.2 (a)</b> Define the term 'retrofitting' and list the different types of retrofitting off RCC structure.	07
<b>(b)</b> What is scaffolding? Explain with neat sketch the various components of scaffolding.	08
<b>OR</b>	
<b>(b)</b> What is shoring? Explain the types of shoring with neat sketch.	08
<b>Q.3 (a)</b> What is the primary goal of renovation? (a) Demolition of a building (c) Building a new structure (b) Restoring or improving a structure (d) change the use of building	03
<b>(b)</b> What is a common material used for creating shores? (a) Aluminium sheets (b) Bamboo sticks (c) Timber or steel (d) Plastic pipes	02
<b>OR</b>	
<b>(a)</b> Which of the following materials is most commonly reused in reconstruction projects? (a) Concrete (b) Wood (c) Glass (d) Asbestos	03
<b>(b)</b> Jacketing is usually done to increase: (a) Architectural beauty (b) Load-carrying capacity (c) Electrical resistance (d) Air flow	02
<b>Q.4 (a)</b> Which of the following is NOT a type of scaffold? (a) Suspended scaffold (b) Cantilever scaffold (c) Column scaffold (d) Double scaffold	03

- (b)** Which type of shoring is typically used to support walls that have bulged or tilted? **02**  
(a) Raking shores (b) Flying shores (c) Dead shores (d) Needle shores

**OR**

- (a)** What is the primary objective of Underpinning? **03**  
(a) To lay a new floor (b) To replace doors and windows (c) To strengthen the foundation of an existing building (d) To build a new roof

- (b)** What is the main objective of retrofitting in civil engineering? **02**  
(a) Increase aesthetic appeal (b) Improve structural performance (c) Reduce construction cost (d) Speed up construction

- Q.5 (a)** Explain the term “underpinning” and purpose of underpinning. **05**

- (b)** Explain cantilever scaffolding with neat sketch. **05**

**OR**

- (a)** Explain with neat sketch the method of jacketing for RCC column and beam. **05**

- (b)** Explain the types of cracks and state the cause behind the cracks in building. **05**

\*\*\*