Seat No./Enrollment No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ARCHITECTURE – SEMESTER 6 – EXAMINATION – SUMMER 2026

Subject Code: 2X65004 **Date: 02/05/2026**

Subject Name: Structure - V

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.**

Q.1	**(a)**	What are foundation . Explain the types of foundation in detail?	**07**
	(b)	What is retaining wall and draw a neat diagram showing all components in detail?	**08**
Q.2	**(a)**	What are Earthquake forces and explain the causes of earthquake?	**07**
	(b)	Write down the factors affecting the selection of foundation?	**08**
		OR	
	(b)	Write down the difference between Shallow foundation and Deep foundation?	**08**
Q.3	**(a)**	Explain 1) strength 2)stiffness 3) ductility?	**03**
	(b)	Which code is used for ductile detailing?	**02**

A. IS 456
B. IS 875
C. IS 13920
D. IS 1905

OR

Q.3	**(a)**	Justify the statement “Strong column – weak beam”?	**03**
	(b)	Which is the key factor for selection of foundation?	**02**

A. Aesthetics only
B. Soil and its factor
C. Wind loads
D. Dimension of foundation

Q.4	**(a)**	Define wind load in detail?	**03**
	(b)	Earthquake mainly occur due to?	**02**

A. Rainfall
B. Wind pressure
C. Load transferred by superstructure of building
D. Movements of tectnoic plates

OR

Q.4	**(a)**	What is soil liquefaction?	**03**

(b) Ductile of structure of structure helps in? **02**

A. Increasing dead load
B. Absorbing earthquake energy
C. Reducing foundation size
D. Increasing stiffness only

Q.5 **(a)** What are the four virtues of earthquake resistant building? **05**

(b) Explain ductile detailing of column as per IS 13920-2006? **05**

OR

Q.5 **(a)** Enlist the type of loads and write down the load combination consider as per IS1893? **05**

(b) What is the use of main longitudinal bar and stirrups in beam? **05**

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