

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering - SEMESTER - 1/2 EXAMINATION - WINTER 2025

Subject Code: BE01000101/BE01R00101

Date: 30-12-2025

Subject Name: Basic Civil Engineering

Time: 02:30 PM TO 05:00 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) List different types of building materials used in construction and state their applications.	03
(b) Explain the properties of cement and aggregates as building materials.	04
(c) Discuss classification of buildings based on structure.	07
Q.2 (a) Differentiate between English bond and Flemish bond.	03
(b) Enlist and explain any two principles of planning of buildings.	04
(c) Explain the concepts of low-cost housing and building automation with examples.	07
OR	
(c) Describe the various principles of zoning.	07
Q.3 (a) List the quality characteristics of drinking water.	03
(b) Differentiate between domestic wastewater and drinking water standards.	04
(c) Explain the methods of wastewater disposal and give a brief note on solid waste management.	07
OR	
(a) Differentiate between W.C.B and Q.B system.	03
(b) What is FRP? Write its uses.	04
(c) Explain different water conservation techniques applicable to urban areas.	07
Q.4 (a) Write applications of surveying.	03
(b) Explain the instruments used for linear measurements with neat sketches.	04

- (c) The following are bearings of a closed traverse ABCDA. Calculate interior angles and correct them if necessary.

07

LINE	F.B	B.B
AB	45°00'	225°00'
BC	123°30'	303°30'
CD	181°00'	1°00'
DA	289°00'	109°00'

OR

- (a) Write the applications of Contour map.

03

- (b) Write short notes on: Local attraction

04

- (c) The following sequential readings were taken on a sloping ground. The first reading was taken on a B.M. of 50.00 m. Calculate R.L. of each point and apply arithmetical check. 0.450, 0.560, 0.785, 1.200, 2.500, 3.460, 0.320, 0.656, 0.985, 1.300.

07

- Q.5 (a) List the features of a smart city.

03

- (b) Explain the applications of drone survey.

04

- (c) What are the three segments of GPS? Describe them briefly.

07

OR

- (a) Discuss aims and objectives of town planning.

03

- (b) Explain the concept of green building with its advantages.

04

- (c) Write a case study on water conservation projects such as Sardar Sarovar Dam, Kalpsar Project, or Riverfront Development.

07
