

GUJARAT TECHNOLOGICAL UNIVERSITY

BE-1 SEMESTER – OLD PAPER – W24 TO S25 – QUESTION BANK

Subject Name & Code:

Basic Civil Engineering- BE01000101

Unit 1: Introduction of Civil Engineering and Building Materials

Repeated Questions:

1. **Define civil engineering and enlist the branches of civil engineering.**
 - Appeared in: S25 (Q1a, 03 marks)
2. **Discuss the scope of civil engineering.**
 - Appeared in: W24 (Q1a, 03 marks)
3. **Discuss the classification of buildings based on structure.**
 - Appeared in: S25 (Q3a, 03 marks), W24 (Q1c, 07 marks)
4. **Enlist the various types of cement and discuss the properties with its uses.**
 - Appeared in: S25 (Q1c, 07 marks)
5. **What is FRP? Write uses and characteristics of FRP.**
 - Appeared in: W24 (Q2c, 07 marks)
6. **Discuss classification of bricks and what are the properties of a good brick?**
 - Appeared in: W24 (Q2c (OR), 07 marks)

Other Important Questions:

1. **Convert the following: (i) 10 m² to ____ ft² (ii) 5 km to ____ meter (iii) 1 Acre to ____ m² (iv) 2 cubic meter to ____ cu. Ft.**
 - Appeared in: S25 (Q1b, 04 marks)
2. **Enlist commonly used smart materials and explain any one.**
 - Appeared in: S25 (Q2a, 03 marks)
3. **Discuss various grades of concrete.**
 - Appeared in: W24 (Q1b, 04 marks)
4. **Convert the following RB into W.C.B: 1) N55°30'W 2) S29°00'W 3) S23°00'E**
 - Appeared in: W24 (Q2a, 03 marks)

Unit 2: Building Planning and Construction

Repeated Questions:

1. **What are the elementary principles of building planning? Describe them briefly.**
 - Appeared in: W24 (Q3c, 07 marks)
2. **Enlist principles of planning and describe any one in detail.**
 - Appeared in: S25 (Q2b, 04 marks)
3. **How would you select the materials for low-cost housing?**
 - Appeared in: W24 (Q3a (OR), 03 marks)
4. **Discuss aims and objectives of town planning.**
 - Appeared in: W24 (Q3a, 03 marks)

Other Important Questions:

1. **Differentiate between English bond and Flemish bond.**
 - Appeared in: W24 (Q3b, 04 marks)
2. **Explain site plan and key plan.**
 - Appeared in: W24 (Q3b (OR), 04 marks)
3. **Describe the various principles of zoning.**
 - Appeared in: W24 (Q3c (OR), 07 marks)
4. **Draw cross section through window for a single wall for a residential building from foundation bottom to parapet top showing spread footing foundation for 30 cm thick wall. Label the components and provide dimensions.**
 - Appeared in: S25 (Q2c, 07 marks)
5. **Draw the symbol of concrete, brick, wood, revolving door and Write the abbreviation of PL, FSI, RCC.**
 - Appeared in: S25 (Q2c (OR), 07 marks)
6. **List the types of foundations. Explain various shallow foundations with sketch.**
 - Appeared in: S25 (Q3b (OR), 04 marks)

Unit 3: Quality Parameters of Water and Wastewater and Sanitary Systems

Repeated Questions:

1. **What are the Indian standards for drinking water? / Write drinking water quality standards as per BIS.**
 - Appeared in: W24 (Q4a, 03 marks), S25 (Q3a (OR), 03 marks)

Other Important Questions:

1. **What are the effects of solid waste?**
 - Appeared in: W24 (Q4b, 04 marks)
2. **Discuss various pipes used in the house drainage plumbing system.**
 - Appeared in: W24 (Q4c, 07 marks)
3. **Write advantages and disadvantages of BRTS.**
 - Appeared in: W24 (Q4a (OR), 03 marks)
4. **Draw a typical plan for drainage of a small house.**
 - Appeared in: W24 (Q4b (OR), 04 marks)
5. **Describe pillars of smart city.**
 - Appeared in: W24 (Q4c (OR), 07 marks)
6. **Differentiate between BOD and COD.**
 - Appeared in: S25 (Q3b, 04 marks)
7. **Enlist various building services and objectives of building services.**
 - Appeared in: S25 (Q3c, 07 marks)
8. **Define solid waste management. Give objectives and activities of solid waste management.**
 - Appeared in: S25 (Q3c (OR), 07 marks)

Unit 4: Introduction to Surveying and Levelling

Repeated Questions:

1. **Differentiate between plane surveying and geodetic surveying.**
 - Appeared in: W24 (Q2b, 04 marks)
2. **Write applications of surveying.**
 - Appeared in: W24 (Q5a, 03 marks)
3. **Describe briefly the application and uses of GPS. / Describe various uses of GPS technology.**
 - Appeared in: W24 (Q5c (OR), 07 marks), S25 (Q5b, 04 marks)

Other Important Questions:

1. **What do you understand by indirect ranging? Describe in detail with neat sketch.**
 - Appeared in: W24 (Q5b, 04 marks)
2. **The following are bearings of a closed traverse ABCDA. Find out interior angles and correct them if necessary.**
 - Appeared in: W24 (Q5c, 07 marks)
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LINE	FB	B.B
AB	55°30'	235°00'
BC	113°00'	293°30'
CD	190°00'	10°00'
DA	-	-

3. **Discuss characteristics of contours with suitable sketches.**
 - Appeared in: W24 (Q5a (OR), 03 marks)
4. **Explain temporary adjustments of level.**
 - Appeared in: W24 (Q5b (OR), 04 marks)
5. **Give difference between Surveyors and prismatic compass.**
 - Appeared in: S25 (Q4a, 03 marks)
6. **Draw the conventional symbols for Survey station, Temple, Lake, and Double railway line.**

- Appeared in: S25 (Q4b, 04 marks)

7. Determine the value of included angles in the closed traverse ABCD in clockwise direction for the given below bearings. Apply necessary check also.

- Appeared in: S25 (Q4c, 07 marks)
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LINE	Fore Bearing
AB	40°
BC	70°
CD	210°
DA	280°

8. Differentiate between W.C.B and Q.B system.

- Appeared in: S25 (Q4a (OR), 03 marks)

9. Enlist the various instruments used in chain survey with sketch.

- Appeared in: S25 (Q4b (OR), 04 marks)

10. The following consecutive readings were taken with a level and a 4-meter levelling staff on a continuously sloping ground: 0.570, 1.235, 1.750, 2.220, 2.665, 3.410, 1.005, 1.835, 2.165, 3.550, 0.825, 0.965, 1.730 and 2.320. The reduced level of the first point was 100 mt. Calculate reduced level of all stations using the rise and fall method and apply check.

- Appeared in: S25 (Q4c (OR), 07 marks)

11. What is Total station? State its field applications.

- Appeared in: S25 (Q5a, 03 marks)

Unit 5: Advances in Civil Engineering

Repeated Questions:

1. **Write short note on BRTS and Metro.**
 - Appeared in: S25 (Q5c, 07 marks)
2. **Describe pillars of smart city.**
 - Appeared in: W24 (Q4c (OR), 07 marks)

Other Important Questions:

1. **Write advantages and disadvantages of BRTS.**
 - Appeared in: W24 (Q4a (OR), 03 marks)
2. **Describe important features of green building.**
 - Appeared in: S25 (Q5a (OR), 03 marks)
3. **Write a short note on rain water harvesting systems.**
 - Appeared in: S25 (Q5b (OR), 04 marks)
4. **Give objectives of riverfront development project and Sardar sarovar project.**
 - Appeared in: S25 (Q5c (OR), 07 marks)
