

GUJARAT TECHNOLOGICAL UNIVERSITY

DI -3 SEMESTER – OLD PAPER – W22 TO S25 – QUESTION BANK(English)

Subject Name & Code:

Construction Material & Technology- 4330603

Unit I: Introduction

Repeated Questions:

1. **List/Enlist different types of civil engineering structures.**
 - Appeared in: W24 (Q1a, 03 marks)
2. **Enlist different properties of building/construction materials.**
 - Appeared in: S25 (Q1a, 03 marks), W23 (Q1a, 03 marks)
3. **Explain factors to be considered in selection of appropriate construction materials.**
 - Appeared in: S25 (Q1b, 04 marks), W23-OR (Q2a, 03 marks)

Other Important Questions:

4. Define the terms: (1) Hardness (2) Soundness (3) Water absorption. (SUM24-Q1a, 03 marks)
5. Explain applications of Sand and Stone of building materials. (SUM24-Q1b, 03 marks)
6. Explain mechanical properties of building materials. (Any Four). (W24-Q2a, 03 marks)
7. Explain the importance of testing of construction materials. (W23-Q1b, 04 marks)
8. Define the terms: (1) Porosity (2) Specific weight (3) Water absorption. (W22-Q1a, 03 marks)
9. Explain applications of Cement, Sand and Stone of building materials. (W22-Q1b, 04 marks)

Unit II: Bricks, Rocks and Stone

Repeated Questions:

1. **Give classification of 'Rocks'.**
 - Appeared in: S25-OR (Q2a, 03 marks), SUM24 (Q1f, 03 marks), W23-OR (Q2c, 07 marks), W22 (Q2b, 04 marks)
2. **Compare Brick and Stone.**
 - Appeared in: S25-OR (Q2b, 04 marks), SUM23 (Q2a, 03 marks), W24 (Q1b, 04 marks), W22 (Q2c, 07 marks)
3. **Write/Draw flow diagram for brick manufacturing.**
 - Appeared in: S25 (Q2b, 04 marks), W23-OR (Q2b, 04 marks), W22-OR (Q2b, 04 marks)
4. **Write any three properties of good bricks. / Discuss the properties of good bricks.**
 - Appeared in: S25 (Q2a, 03 marks), SUM23 (Q2b, 04 marks)

Other Important Questions:

5. Write types of lime and their specific uses in Construction. (S25-Q1c, 07 marks)
6. Differentiate between 'Fat lime and Hydraulic lime'. (S25-Q2c, 07 marks)
7. Draw a figure for cross-section of wall for residential building. (SUM23-Q1a, 03 marks)
8. List out the types of Shallow foundation and Explain any two with sketch. (SUM23-Q1c, 07 marks)
9. Write a short note: (1) Pile Foundation (2) Cofferdam. (SUM23-OR-Q1c, 07 marks)
10. Explain Hoffman's Kiln with neat sketch. (SUM23-Q2c, 07 marks)
11. State requirement of good building stone. (SUM23-OR-Q2b, 04 marks)
12. Write short note on: Hoffman's kiln. (W24-Q1c, 07 marks)
13. Write short note on: Artificial stone. (W24-OR-Q1c, 07 marks)
14. State the different types of bricks. (W23-Q1c, 07 marks)
15. Compare clamp burning with kiln burning of bricks. (W23-OR-Q1c, 07 marks)
16. Define the terms: (1) Stretcher (2) Header (3) Frog. (W22-Q2a, 03 marks)
17. Define the terms: (1) Queen closer (2) King closer (3) Bat. (W22-OR-Q2a, 03 marks)
18. Discuss in detail: Geological Classification of rocks. (W22-OR-Q2c, 07 marks)

Unit III: Binding Materials and Concrete

Repeated Questions:

1. **Discuss factors affecting strength of concrete.**
 - Appeared in: S25-OR (Q1c, 07 marks), SUM24 (Q1d, 07 marks)
2. **Compare between 'Ordinary Portland cement and Rapid hardening Cement'.**
 - Appeared in: S25-OR (Q3c, 07 marks), SUM24 (Q1k, 07 marks)
3. **Explain properties of fresh concrete.**
 - Appeared in: S25-OR (Q3d, 07 marks), SUM23-OR (Q3c, 07 marks)
4. **List types of cement. Explain any three.**
 - Appeared in: SUM23-OR (Q3c, 07 marks), W24 (Q3b, 04 marks)

Other Important Questions:

5. Give types of lime and their specific uses in Construction. (S25-Q1c, 07 marks)
6. Differentiate between 'Fat lime and Hydraulic lime'. (S25-Q2c, 07 marks)
7. Discuss in detail: Compressive strength test for cement with neat sketch. (S25-OR-Q2c, 07 marks)
8. Describe slaking of Hydraulic Lime. (SUM24-Q1c, 03 marks)
9. Discuss specific uses of 'Marble and Kota'. (SUM24-Q1g, 04 marks)
10. Discuss in detail: Tensile strength test with neat sketch. (SUM24-Q1h, 07 marks)
11. Write a Short note: Fat lime. (SUM23-Q3a, 03 marks)
12. List various test on cement and explain Soundness test for cement. (SUM23-Q3c, 07 marks)
13. Write the advantages of pozzolana. (SUM23-OR-Q3a, 03 marks)
14. Explain in brief Impact test of aggregate. (SUM23-OR-Q3b, 04 marks)
15. Define: Calcination of lime, Slaking of lime, Setting of lime, Hydraulicity of lime. (W24-Q2b, 04 marks)
16. Explain compressive strength test of cement. (W24-Q2c, 07 marks)
17. Discuss the various methods of curing of concrete. (W24-OR-Q2c, 07 marks)
18. Explain slaking and setting of lime. (W23-Q2c, 07 marks)
19. Explain hydraulicity. How can you improve the hydraulicity of a lime? (W23-OR-Q2c, 07 marks)
20. Draw the figure of vicat apparatus. (W23-Q3c, 07 marks)

21. Choose different types of cement recommended with their specific use based on construction situation. (W22-Q1c, 07 marks)
22. Discuss with sketch : Consistency Test for Cement. (W22-OR-Q1c, 07 marks)
23. Compare between 'Lime and Cement'. (W22-Q3c, 07 marks)
24. Explain in detail : characteristics of good aggregates. (W22-OR-Q3c, 07 marks)

Unit IV: Timber And Miscellaneous material

Repeated Questions:

1. **Write applications/uses of timber.**
 - Appeared in: S25 (Q5a, 03 marks), W23 (Q3a, 03 marks)
2. **Write defects in timber.**
 - Appeared in: S25-OR (Q5a, 03 marks), SUM23 (Q4a, 03 marks), W24 (Q3c, 07 marks)
3. **Explain Thermosetting plastic and thermo plastic.**
 - Appeared in: SUM23 (Q4b, 04 marks), W24 (Q3a, 03 marks)

Other Important Questions:

4. Give classification of stone masonry. (S25-OR-Q5c, 07 marks)
5. Write advantages of timber. (SUM24-Q5a, 03 marks)
6. Write disadvantages of timber. (SUM24-OR-Q5a, 03 marks)
7. Compare the asphalt and bitumen and write their uses. (SUM24-Q5d, 07 marks)
8. Write a note on defects of timber. (SUM23-Q4a, 03 marks)
9. Difference between Asphalt and Bitumen. (SUM23-OR-Q4a, 03 marks)
10. Give various uses of glass as building materials. (SUM23-OR-Q4b, 04 marks)
11. What is the uses of plastics in buildings? (W24-Q3a, 03 marks)
12. With neat sketch describe defects in timber. (W24-Q3c, 07 marks)
13. State characteristics of good paint. (W24-OR-Q3a, 03 marks)
14. Classify the aggregates based on shape. (W24-OR-Q3b, 04 marks)
15. Draw different types of steel sections available in market with its uses. (W24-OR-Q3c, 07 marks)
16. Explain the importance of plastic. (W23-Q3b, 04 marks)
17. Explain the methods of preparing veneer wood. (W23-OR-Q3a, 03 marks)
18. Classify different types of paints. (W23-OR-Q3b, 04 marks)
19. Write short note on :Varnish. (W22-Q5a, 03 marks)
20. State Characteristics of good paint. (W22-OR-Q5a, 03 marks)

Unit V: Sub structure

Repeated Questions:

1. **Compare between 'Shallow Foundation and Deep Foundation'.**
 - Appeared in: S25 (Q5b, 04 marks), W22-OR (Q5b, 04 marks)
2. **Explain causes of failure of foundation and remedial measures.**
 - Appeared in: W24-OR (Q4c, 07 marks), W23-OR (Q4b, 04 marks)

Other Important Questions:

3. Explain anti-termite treatment. (S25-Q5c, 07 marks)
4. Discuss components of buildings with sketch. (S25-OR-Q5b, 04 marks)
5. List out the types of Shallow foundation and Explain any two with sketch. (SUM23-Q1c, 07 marks)
6. Write a short note: (1) Pile Foundation (2) Cofferdam. (SUM23-OR-Q1c, 07 marks)
7. Compare 'Solid concrete blocks and Hollow concrete blocks'. (SUM24-OR-Q5d, 07 marks)
8. Discuss combined footing with sketch. (SUM24-OR-Q5b, 04 marks)
9. State objectives of foundation. (W23-Q4a, 03 marks)
10. Explain different types of shallow foundation. (W23-OR-Q4a, 03 marks)
11. Explain in detail reasons of foundation failure. (W23-OR-Q4b, 04 marks)
12. Define the following terms: (i) Stretcher, (ii) Queen closer and (iii) Frog. (W23-Q5a, 03 marks)
13. Define the following terms: (i) Header, (ii) King closer and (iii) Quoin. (W23-OR-Q5a, 03 marks)
14. Give classification of different types of stone masonry and explain any one. (W23-OR-Q5b, 04 marks)
15. Draw neat sketch of 'Spread footing'. (W22-Q5b, 04 marks)
16. Explain with neat sketch: P-trap, S-trap and Q-trap. (W22-Q5c, 07 marks)
17. Explain in detail: Anti termite measures. (W22-OR-Q5c, 07 marks)

Unit VI: Building items, Building construction & machinery

Repeated Questions:

1. **Write Importance of Machineries in Construction.**
 - Appeared in: S25-OR (Q4b, 04 marks), W22-OR (Q4b, 04 marks)
2. **Discuss in detail: Characteristics of good formwork.**
 - Appeared in: S25-OR (Q4d, 07 marks), SUM23 (Q5a, 03 marks), W24-OR (Q4b, 04 marks)
3. **Explain components of Scaffolding.**
 - Appeared in: SUM23-OR (Q5b, 04 marks), W24 (Q5c, 07 marks)

Other Important Questions:

4. Discuss the types of grouting. (S25-Q4c, 07 marks)
5. Discuss components of buildings with sketch. (S25-OR-Q5b, 04 marks)
6. Explain repair of plaster. (SUM24-Q1j, 04 marks)
7. What is Pointing? Draw figure of Flush Pointing. (W22-Q4b, 04 marks)
8. State types of scaffolding and discuss in detail any one type with neat sketch. (W22-Q4c, 07 marks)
9. Discuss in detail: Factors affecting Selection of Construction Machinery. (W22-OR-Q4c, 07 marks)
10. Explain requirements of good plaster. (W24-Q4a, 03 marks)
11. Explain shotcrete or guniting in detail. (W24-Q4b, 04 marks)
12. Explain construction procedure of under reamed pile. (W24-Q4c, 07 marks)
13. List out ill effects of dampness in buildings. (W24-OR-Q4a, 03 marks)
14. Explain requirements of good formwork. (W24-OR-Q4b, 04 marks)
15. Explain members used in timbering. (W23-Q4b, 04 marks)
16. Draw and explain different types of pointing. (W23-Q4c, 07 marks)
17. Draw and explain house drainage plan. (W23-OR-Q4c, 07 marks)
18. Explain construction procedure for brick masonry. (W23-Q5b, 04 marks)
19. Give classification of different types of stone masonry and explain any one. (W23-OR-Q5b, 04 marks)
20. Define following terms . (1) Stretcher course. (2) King closer. (3) Queen closer. (4) Header (5) Frog. (6) Lintel. (7) Bat. (SUM23-OR-Q4c, 07 marks)

Unit VII: Building maintenance & Safety measures

Repeated Questions:

1. **List out safety equipment's required at construction site.**
 - Appeared in: S25-OR (Q4a, 03 marks), W22 (Q3b, 04 marks)
2. **Explain defects in buildings.**
 - Appeared in: S25 (Q3b, 04 marks), W24-OR (Q5b, 04 marks)
3. **Explain safety measures for demolition of building.**
 - Appeared in: SUM23 (Q5b, 04 marks), W24 (Q5b, 04 marks)
4. **Write purposes / necessity of building maintenance.**
 - Appeared in: S25 (Q3a, 03 marks), W24 (Q5a, 03 marks), W22 (Q4a, 03 marks)

Other Important Questions:

5. Write necessity of safety in construction. (S25-Q3a, 03 marks)
6. List out safety measure for excavation work. (S25-OR-Q3a, 03 marks)
7. Explain types of maintenance work. (S25-OR-Q3b, 04 marks)
8. Write short note on 'maintenance report'. (S25-Q4a, 03 marks)
9. List out safety measure for masonry work. (SUM24-Q3a, 03 marks)
10. Write direct and indirect damages due to accident. (SUM24-Q1i, 03 marks)
11. Write tools used in Plastering. Explain defects in plaster. (SUM23-Q5c, 07 marks)
12. Draw a neat sketch of raking shores. (SUM23-OR-Q5a, 03 marks)
13. Write causes of accidents in construction and List out the safety equipment in construction. (SUM23-OR-Q5c, 07 marks)
14. Prepare a list of causes of accidents in construction. (W24-OR-Q5a, 03 marks)
15. With neat sketch explain pointing. (W24-OR-Q5c, 07 marks)
16. State causes of accidents in construction. (W23-Q5c, 03 marks)
17. State causes of failure of structures. (W23-OR-Q5c, 04 marks)
18. List out tests used after laying pipeline and explain any three. (W22-OR-Q3b, 04 marks)
19. Write short note on 'Preventive maintenance works'. (W22-OR-Q4a, 03 marks)
