GUJARAT TECHNOLOGICAL UNIVERSITY

DI -1 SEMESTER – OLD PAPER – W24 TO S25 – QUESTION BANK(English)

Subject Name & Code:

Construction Material DI01006021

Unit 1: Overview of Construction Material

Repeated Questions:

1. **Explain the role of a civil engineer in the field of Irrigation engineering.**
    - Appeared in: W24 (Q1a, 03 marks)
2. **State the factors affecting the selection of construction materials and explain any one in detail.**
    - Appeared in: W24 (Q1b, 03 marks)
3. **Explain points to be considered while selecting the building materials.**
    - Appeared in: S25 (Q1a, 03 marks)
4. **Write a note on 'Artificial Construction Materials'.**
    - Appeared in: W24 (Q1c, 03 marks)
5. **Write a note on 'Recycle Construction Materials'.**
    - Appeared in: W24 (Q1d, 04 marks)

Other Important Questions:

1. **Broad classification of materials – Natural, Artificial, special, finishing, and recycled.**
    - (This is a direct topic from the syllabus and forms the basis for many questions.)

Unit 2: Natural Construction Materials

Repeated Questions:

1. **Write the requirement of 'Good Building Stones'.**
    - Appeared in: W24 (Q2c, 07 marks), S25 (Q1b, 03 marks)
2. **Define the term 'Slaking of lime'.**
    - Appeared in: W24 (Q2b, 07 marks)
3. **Write advantages of 'Kiln seasoning' of timber.**
    - Appeared in: W24 (Q2d, 03 marks)
4. **Explain in brief about 'Artificial Seasoning of timber'.**
    - Appeared in: W24 (Q3b, 04 marks)
5. **Explain 'Shake' natural defect of timber with neat sketches.**
    - Appeared in: W24 (Q3c, 07 marks)
6. **Compare properties of Bitumen and Asphalt.**
    - Appeared in: W24 (Q1e, 05 marks)

Other Important Questions:

1. **Explain "Calcination" and "Slaking" of lime with a chemical reaction.**
    - Appeared in: W24 (Q4c, 04 marks)
2. **Explain the properties of Lime.**
    - Appeared in: W24 (Q4c, 04 marks)
3. **State the types of tiles and give their uses.**
    - Appeared in: S25 (Q2c, 07 marks)
4. **Structure of timber, general properties, and uses of good timber.**
5. **Different methods of seasoning for preservation of timber.**
6. **Defects in timber.**
7. **Asphalt, bitumen, and tar used in construction, properties, and uses.**
8. **Properties of lime, its types, and uses.**
9. **Properties of sand and uses.**
10. **Classification of coarse aggregate according to size and its use.**

Unit 3: Artificial Construction Materials

Repeated Questions:

1. **Write a short note on 'Fly ash Bricks'.**
   - Appeared in: W24 (Q3d, 03 marks)
2. **Draw the flow chart for the manufacturing process of wet Cement.**
   - Appeared in: W24 (Q3b, 04 marks)
3. **Differentiate between 'Clamp Burning' and 'Kiln Burning' for bricks.**
   - Appeared in: W24 (Q3c, 07 marks)
4. **List out steps for the manufacturing process of bricks.**
   - Appeared in: W24 (Q3d, 03 marks)
5. **Draw a flow chart for the manufacturing process of bricks.**
   - Appeared in: S25 (Q3a, 03 marks)
6. **Draw a flow chart for the manufacturing process of cement by the dry method.**
   - Appeared in: S25 (Q3c, 04 marks)
7. **Explain different types of cement with their specific use.**
   - Appeared in: S25 (Q3e, 07 marks)
8. **Explain Veneers, particle board, and laminated board with their specific uses.**
   - Appeared in: S25 (Q4c, 04 marks)

Other Important Questions:

1. **List out field tests on Cement and explain any one in brief.**
   - Appeared in: W24 (Q4b, 04 marks), W24 (Q5c, 04 marks)
2. **Prepare a list of different types of "Steel". Also, write its properties and uses.**
   - Appeared in: W24 (Q4e, 07 marks)
3. **Give various uses of glass as construction materials.**
   - Appeared in: S25 (Q3f, 07 marks), S25 (Q4f, 07 marks)
4. **Give various uses of plastic material.**
   - Appeared in: S25 (Q4a, 03 marks)
5. **State the advantage of plywood and state its uses.**
   - Appeared in: S25 (Q4b, 03 marks)
6. **Draw any seven types of special bricks and write their specific uses.**
   - Appeared in: S25 (Q4c, 04 marks)
7. **Constituents of brick earth, Characteristics of a good brick.**
8. **Classification of burnt clay bricks and their suitability.**
9. **Manufacturing process of fly ash bricks and Aerated concrete blocks.**
10. **Flooring tiles – Types and its uses.**
11. **Pre-cast concrete blocks- hollow, solid, pavement blocks, and their uses.**
12. **Types of glass: soda lime glass, lead glass, and borosilicate glass and their uses.**
13. **Ferrous and non-ferrous metals and their uses.**

Unit 4: Special Construction Materials

Repeated Questions:

1. **Write a short note on 'Thermal insulating Materials'.**
   - Appeared in: W24 (Q4a, 03 marks), S25 (Q4a, 03 marks)
2. **Write a short note on 'Sound insulating Materials'.**
   - Appeared in: S25 (Q4d, 03 marks), S25 (Q5a, 03 marks)
3. **Explain different stages of post-construction treatment of Anti-termite.**
   - Appeared in: W24 (Q4e, 07 marks)
4. **Prepare a list of different types of "Fibre". Also, write its properties and special uses.**
   - Appeared in: W24 (Q4e, 07 marks)
5. **Write a short note on water-proofing materials with their example.**
   - Appeared in: S25 (Q4b, 03 marks)

Other Important Questions:

1. **List out characteristics of good soundproof materials.**
   - Appeared in: W24 (Q4a, 03 marks)
2. **Explain anti-termite treatment and write its uses.**
   - Appeared in: S25 (Q5b, 04 marks)
3. **Write a short note on fibers used in civil engineering construction.**
   - Appeared in: S25 (Q5a, 03 marks)
4. **Types of material and suitability in construction works for Water proofing, Termite proofing materials.**
5. **Fibers – Types –Jute, Glass, Plastic, Asbestos Fibers (only uses).**

Unit 5: Processed Construction Materials

Repeated Questions:

1. **Write uses of 'Fly ash'.**
   - Appeared in: W24 (Q5a, 03 marks)
2. **Write uses of 'Blast furnace slag'.**
   - Appeared in: W24 (Q5a, 03 marks)
3. **Write functions and Characteristics of 'Paints'.**
   - Appeared in: W24 (Q5e, 07 marks)
4. **Explain with a neat sketch of 'Geotextiles as reinforcement in road embankment'.**
   - Appeared in: W24 (Q5e, 07 marks)

Other Important Questions:

1. **Right use of 'Rice Husk.'**
   - Appeared in: W24 (Q5c, 04 marks)
2. **List out filed test on Cement and explain any one in brief.**
   - Appeared in: W24 (Q5c, 04 marks)
3. **Constituents and uses of POP (Plaster of Paris).**
4. **Paints- whitewash, cement paint, Distempers, Oil Paints and Varnishes with their uses.**
5. **Industrial waste materials- Fly ash, Blast furnace slag, Granite and marble polishing waste and their uses.**
6. **Agro waste materials - Rice husk, Bagasse, coir fibres and their uses.**
7. **Special processed construction materials; Geosynthetic, Ferro Crete, Artificial timber, artificial sand and their uses.**

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