

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE(MINOR)- SEMESTER-I&II EXAMINATION – SUMMER 2025

Subject Code:114AC01

Date:03-06-2025

Subject Name: Contemporary Materials for Construction

Time:10:30 AM TO 01:00 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.

- Q.1** (a) Explain the difference between smart and intelligent materials. 03  
(b) Enlist various types of plastics. 04  
(c) Discuss various types of smart and intelligent materials in detail. 07

- Q.2** (a) Give the difference between Cementous concrete and Non-Cementous Concrete. 03  
(b) Discuss characteristics of Non-Cementous concrete. 04  
(c) What are the special features of smart and intelligent materials? Explain in detail. 07

**OR**

What are the materials used in the formation of non Cementous concrete and explain each in detail.

- Q.3** (a) Write a short note on Construction Chemicals. 03  
(b) Explain the applications of the modern steel over the conventional steel in the construction industry. 04  
(c) Explain case studies showing the applications of smart and intelligent materials. 07

**OR**

- Q.3** (a) What is flooring? Give the purpose of flooring. List out types of flooring. 03  
(b) What is water proofing and also explain the process of water proofing in detail. 04  
(c) Discuss the manufacturing process of the FRP. 07

- Q.4** (a) List out types of metals and explain any two in detail. 03  
(b) Explain the use of plastic in the modern construction industry. 04  
(c) Give the detail applications of the FRP. 07

**OR**

- Q.4** (a) Explain the applications of the non-weathering materials. 03  
(b) Explain Facade materials in detail. 04  
(c) Explain Concrete admixtures in detail. 07

- Q.5** (a) Give the advntages of aluminium compare to other metals. 03  
(b) Justify the statement: “Advanced construction industry required the sustainable and modern environment friendly materials.” 04  
(c) Write a short note on the manufacturing process of the metals. 07

**OR**

- Q.5** (a) Give the common civil engineering applications of FRP. 03  
(b) Write a short note on polymers. 04  
(c) List out various types of the steels and also explain the types and applications of the coating reinforcement. 07

\*\*\*\*\*