

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE(Minor) - SEMESTER– IV EXAMINATION – WINTER 2023

Subject Code:114AC01

Date:08-02-2024

Subject Name: Contemporary Materials for Construction

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.

- Q.1 (a) Explain the difference between smart and intelligent materials. 03
(b) Explain different types of intelligent materials. 04
(c) Write short notes on case studies showing the applications of smart and intelligent material. 07

- Q.2 (a) Give the difference between cementitious concrete and non-cementitious concrete. 03
(b) Give the characteristics of non-cementous concrete. 04
(c) Define Non-Cementous Concrete. Explain materials used in non-Cementous concrete. 07

OR

- (c) Explain special features of smart and intelligent materials.

- Q.3 (a) Explain waterproofing and list out the material used for waterproofing 03
(b) Write a short note on construction chemicals. 04
(c) Write a short note on concrete admixture. 07

OR

- Q.3 (a) Enlist the types of flooring and explain in brief. 03
(b) Explain the use of non-weathering materials in detail. 04
(c) Give types of Façade materials and their applications. 07

- Q.4 (a) Give the properties of aluminium. 03
(b) Explain different types of Steel in detail. 04
(c) Explain the manufacturing process of metals. 07

OR

- Q.4 (a) Give the advantages of aluminium. 03
(b) Explain the benefits and applications of alloy steel in advanced construction. 04
(c) Explain the types and applications of coating reinforcement. 07

- Q.5 (a) Enlist types of Fiber Reinforced Plastics. 03
(b) Explain applications of the FRP. 04
(c) Explain the manufacturing process of the FRP. 07

OR

- Q.5 (a) Enlist types of Plastics. 03
(b) Write a short note on Reinforced Polymers. 04
(c) Explain types of plastics in detail. 07