



CBCS SCHEME

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15ARC82

Eighth Semester B.Arch. Degree Examination, Feb./Mar. 2022 Materials and Methods in Building Construction - VIII

Time: 4 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define pre-fabrication. What is the need for pre-fabrication in the construction industry? (10 Marks)
b. What is modular construction? Which are the areas in the construction industry where modular construction is being used? Give an example to explain the same. (10 Marks)

OR

- 2 a. What are the different types of form work technologies being used for high rise buildings? (10 Marks)
b. Discuss any one type of form work being used in the construction industry in detail. Illustrate with sketches. (10 Marks)

Module-2

- 3 a. What is simulation? Explain the process of simulation study with an example. (10 Marks)
b. What is big data in the construction industry? Explain how big data is being used in the construction industry. (10 Marks)

OR

- 4 a. Explain how 3D printing is being used in the construction industry. (10 Marks)
b. List the advantages and disadvantages of 3D printing. (10 Marks)

Module-3

- 5 What is life cycle concept of buildings and materials? Elaborate how life cycle analysis of materials helps in monitoring the environmental impact of a building. (20 Marks)

OR

- 6 List a few common damages seen in the life cycle of any building. Explain in detail the measures used to restore it to its operational condition. (20 Marks)

Module-4

- 7 a. Explain the green building concept and its relevance in today's context. (10 Marks)
b. Discuss with an example the green building rating system in the Indian context. (10 Marks)

OR

- 8 a. What is the net zero energy concept in a building? (10 Marks)
b. Discuss in detail a few techniques through which a net zero energy building can be achieved. (10 Marks)

Module-5

- 9 a. What are smart materials? (05 Marks)
b. What are their properties and their application in the construction industry? Explain with any two examples. (15 Marks)

OR

- 10 a. What are nano materials? (05 Marks)
b. Explain with any 2 materials how nanotechnology is being used in the building industry. (15 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.