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18ARC82

## Eighth Semester B.Arch. Degree Examination, June/July 2025 Materials & 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. Explain any two ways in which plastic can be used innovatively in the construction industry. (10 Marks)
- b. Mention some of the environmental concerns on building construction. (10 Marks)

OR

- 2 a. Explain the types of underwater construction techniques. How are Caissons different from Cofferdams? (10 Marks)
- b. Write a short note on the different type of formwork systems. (10 Marks)

### Module-2

- 3 a. Explain the importance of Big data in construction. (10 Marks)
- b. Explain briefly any four innovations used in construction equipments. (10 Marks)

OR

- 4 a. How has 3D printing impacted the construction industry? Explain any one method in 3D printing. (10 Marks)
- b. How does BIM benefit the construction industry? (10 Marks)

### Module-3

- 5 Write short notes on :
  - (i) Lifecycle of a building.
  - (ii) Any five types of damages to buildings. (20 Marks)

OR

- 6 With the help of a case study, explain how a building has been retrofitted. What were the criteria to retrofit that building? (20 Marks)

### Module-4

- 7 a. Explain the need for green buildings. (05 Marks)
- b. Elaborate on the salient features that are considered in the design of green buildings. (15 Marks)

OR

- 8 Explain the methods of harvesting and conserving energy to achieve a net zero building with the help of a case study. (20 Marks)

### Module-5

- 9 a. What are smart materials? What properties do they possess? (05 Marks)
- b. Enlist any three smart materials and elaborate on their applications. (15 Marks)

OR

- 10 Explain any four Nano materials and their applications in the building industry. (20 Marks)

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