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18ARC82

Eighth Semester B.Arch. Degree Examination, Jan./Feb. 2023 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. Explain any five types of innovative concretes used in the construction industry. (10 Marks)
b. Explain the construction methods of underground buildings. (10 Marks)

OR

- 2 a. Enumerate four types of enclosure systems that are also used as structural support for multi-storied buildings. (10 Marks)
b. Describe any five types of formworks used for construction of high-rise buildings. (10 Marks)

Module-2

- 3 a. How is big data used in construction? (10 Marks)
b. Describe three instances where robotics are used in the construction industry. (10 Marks)

OR

- 4 a. Describe any four construction equipment used in heavy construction works. (10 Marks)
b. How is 3D printing of buildings done? (10 Marks)

Module-3

- 5 a. What are common repairs done for cracks in buildings? Enumerate any four. (10 Marks)
b. Explain structural retrofitting of RCC framed buildings. (10 Marks)

OR

- 6 a. Explain LCA and LCCA. (10 Marks)
b. Explain any five causes of damages to buildings. (10 Marks)

Module-4

- 7 a. Explain important criteria behind Green Building Rating System for new buildings in Indian building context using either GRIHA or IGBC. (10 Marks)
b. Explain any four passive design strategies for Green Building Design. (10 Marks)

OR

- 8 a. What are the benefits of Green Buildings in today's context? (10 Marks)
b. What is Net Zero Energy Building? Explain how this can be achieved in buildings using active strategies? (10 Marks)

Module-5

- 9 What is nano technology? What are some nano materials used in construction? (20 Marks)

OR

- 10 What are smart materials? Explain their use in construction with five examples. (20 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.