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18ARC82

Eighth Semester B.Arch. Degree Examination, July/August 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 modular construction and explain its features. Detail out its components with suitable sketches. (10 Marks)
- b. Elaborate on Mivan Aluminium formwork with suitable sketches. (10 Marks)

OR

- 2 Compare different types of materials used in formwork. Explain which type of formwork would be suitable for highrise buildings. Explain with neat sketches. (20 Marks)

Module-2

- 3 Explain the influence of the following in construction industry:
 - a. Big data (05 Marks)
 - b. Cloud collaboration (05 Marks)
 - c. Simulation (05 Marks)
 - d. 3D printing (05 Marks)

OR

- 4 Give a brief description of any four new advances in construction equipments. (20 Marks)

Module-3

- 5 a. What is the purpose of life cycle assessment of buildings? What are the aspects included in life cycle assessment? (10 Marks)
- b. What are some common repairs to buildings? (10 Marks)

OR

- 6 Discuss in detail any four methods of building crack repair techniques. (20 Marks)

Module-4

- 7 a. Differentiate between Green Building and Net Zero Energy buildings. (05 Marks)
- b. Explain in detail the considerations for materials in pre construction and post construction stages of green buildings. (15 Marks)

OR

- 8 a. What is the concept of Net Zero Energy buildings? What are the techniques through which Zero Energy for a building can be obtained? (10 Marks)
- b. Elaborate a case study of a LEED rated building with suitable sketches. (10 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.

Module-5

- 9 a. What are Smart Materials? List out any four smart materials. (05 Marks)
b. Explain in details with relevant sketches the working of any two smart materials as building components. (15 Marks)

OR

- 10 a. What is nano technology? Explain with the examples of any four materials in the building industry that are impacted by nano technology. (10 Marks)
b. Where do smart materials find application in the building industry? Name atleast two smart materials. (10 Marks)

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