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## Seventh Semester B.Arch. Degree Examination, Jan./Feb. 2023 Materials & Methods in Building Construction VII

Time: 4 hrs.

Max. Marks: 100

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

### Module-1

- 1 Design a bedroom wardrobe with an inbuilt dressing unit of size 2.4m×3.0m high and 0.6 m deep with the following drawings:
- a. Draw a plan, elevation and section to a scale of (1 : 20) (15 Marks)
  - b. Draw the detail of the drawer with the channels to a scale of (1 : 5) (05 Marks)

**OR**

- 2 Explain the material properties briefly with sketches :
- a. MDF and Particle board. (10 Marks)
  - b. Black board and laminate. (10 Marks)

### Module-2

- 3 Design a wooden partition wall of size 2.1m×2.1m for an office space. The partition wall should have a door incorporated in it.
- a. Draw plan, elevation and section to a scale of (1 : 20) (15 Marks)
  - b. Draw the joinery detail of the junction of the door to the wall panel. (05 Marks)

**OR**

- 4 Design a work station to seat 2 people with book shelves and file cabinets.
- a. Draw plans at 2 levels to a scale of (1 : 20). (10 Marks)
  - b. Draw the elevation. (05 Marks)
  - c. Detail of the cabinet to a scale of (1 : 10) (05 Marks)

### Module-3

- 5 Design a false ceiling for a passage of size 6.0m×2.7m showing the following details:
- a. Reflected ceiling plan to a scale of (1 : 20) (05 Marks)
  - b. Cross section to a scale of (1 : 10) (10 Marks)
  - c. Any one detail to a scale of (1 : 5) (05 Marks)

**OR**

- 6
- a. What are the advantages and disadvantages of prestressed concrete? (10 Marks)
  - b. Define Post Tensioned concrete. Explain the principle behind Post Tensioned concrete. (10 Marks)

### Module-4

- 7
- a. Explain with neat sketches, different types of raft foundations. (10 Marks)
  - b. Write short notes on precast piles and mechanically stabilized earth walls. (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.

OR

- 8 a. Describe classification of piles based on materials. Draw neat sketches. (10 Marks)  
b. Write short notes on different types of raft foundations. (10 Marks)

Module-5

- 9 a. What are the advantages of prefabrication system in the construction industry? (10 Marks)  
b. Explain the relevance of 3D printing as an advanced method of building construction. (10 Marks)

OR

- 10 Design a room of size  $3.3\text{m} \times 3.3\text{m}$  using bamboo.  
Draw the following details:  
a. Section through the room scale (1 : 20). (10 Marks)  
b. Roof details, scale (1 : 10). (05 Marks)  
c. Wall panel detail to a scale of (1 : 10) (05 Marks)

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