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## Third Semester B.Arch. Degree Examination, Jan./Feb. 2021 Materials and Methods in Building Construction – III

Time: 4 hrs.

Max. Marks: 100

**Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. Assume scale wherever necessary.**

### Module-1

- 1 a. What are oneway RCC slab and two way RCC slab? Explain with sketches. (05 Marks)
- b. A 2.5m × 6m long garage has load Bearing wall on 3 sides and a rolling shutter on 2.5m side. Design the RCC Roof slab, Draw plan with Section along with Reinforcement detail of slab (1:25 scale) details (1:5 scale) (15 Marks)

**OR**

- 2 Design a sloping roof for a residence located in heavy rainfall area measuring 4.5m × 6m. Draw the plan, section (1:25 scale) with reinforcement detail of Roof. Detail to be drawn in (1:5 Scale) Consider thickness of slab as 150mm. (20 Marks)

### Module-2

- 3 a. Explain with sketches, different types of Domes. (05 Marks)
- b. Design a vault Roof for a multipurpose hall measuring 4m × 10m. Draw the following to explain your design : (15 Marks)
  - i) Plan with reinforcement detail RCC Vault (1:25)
  - ii) Section with reinforcement detail of RCC Vault (1:25)
  - iii) Details of Vault (1:5)

**OR**

- 4 A meditation hall 10m × 10m is to be covered using RCC dome. Detail and design to a scale of (1:50) the following : (10 Marks)
  - a) Plan showing different component with reinforcement details (10 Marks)
  - b) Section to show the profile of Reinforcement detail. (10 Marks)

### Module-3

- 5 a. Write short notes on : i) Ceramic flooring ii) Marble and Granite slabs. (08 Marks)
- b. Design a Wooden Flooring for a office space measuring 3m × 3m. Draw plan (1:25 scale) and detail section (1:5 scale). (12 Marks)

**OR**

- 6 a. Draw Granite cobble stone paver pattern for a pathway 3m wide and 15m length. Draw plan, section, and details of Edge condition. (14 Marks)
- b. What are the common paver patio problems? Explain. (06 Marks)

### Module-4

- 7 a. What are the usual defects found in painting work? (10 Marks)
- b. Enumerate the characteristics of a Good Paint. (10 Marks)

**OR**

- 8 a. Explain the Types of Varnishes and its uses. (10 Marks)
- b. Write short notes on Distemper Paints. (10 Marks)

### Module-5

- 9 With respect to its constituents and application process, distinguish
  - a) Internal Plastering
  - b) External Plastering. (20 Marks)

**OR**

- 10 What are the alternate roofing materials to RCC? Explain any 2 with sketches. (20 Marks)

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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.

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