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## Third Semester B.Arch. Degree Examination, June/July 2019 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 and dimension wherever necessary.*

### Module-1

- 1 A hall measuring 9m × 6m having 230 mm thick wall all around, has to be provided with RCC roof, which is divided equally into 3 bays (on 9 m side), suggest and draw
- Key plan with justification of your suggestion
  - Enlarged part plan.
  - Enlarged cross-section of the bay
  - Part Isometric view. (20 Marks)

OR

- 2 A room having dimension 5m × 7m having 230mm thick wall all around a cantilever balcony of 1.5 m all along the shorter side, the roof and balcony has to be provided of RCC slab. Draw
- Key plan (03 Marks)
  - Enlarged plan showing reinforcements (06 Marks)
  - Cross section of cantilever slab (06 Marks)
  - Part Isometric view. (05 Marks)

### Module-2

- 3
- Explain with sketches the nature of stress developed in a vault and suggest 3 advantages and disadvantages of vault as roofing system. (05 Marks)
  - Draw plan, section and suitable details of a RCC barrel vault roofing for a warehouse measuring 15m × 12m.
    - Plan with reinforcement
    - Section
    - Details (15 Marks)

OR

- 4
- Explain with neat sketches:
    - Form work for column
    - Form work for Beam and roof slab. (10 Marks)
  - Draw plan and section of a hemispherical masonry dome having diameter 8m (Use stone or concrete block 200 × 200 × 400 as masonry)
    - Plan showing block arrangement
    - Section (10 Marks)

### Module-3

- 5
- Explain with neat sketches, the laying process of
    - Wooden flooring
    - Marble flooring (10 Marks)
  - Design a terrazzo flooring for a drawing room measuring 4m × 5m, draw plan and detailed section showing the laying technique. (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.