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18ARC42

Fourth Semester B.Arch. Degree Examination, June/July 2023

## Materials and Methods in Building Construction – IV

Time: 4 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Explain in detail different types of flat slab. (10 Marks)
- b. Explain with sketches difference between flat slab and conventional slab beam system. (10 Marks)

OR

- 2 Draw following details of a flat slab with drop panel of span 20 m × 16 m.
  - a. Plan (08 Marks)
  - b. Section (06 Marks)
  - c. Any two detail (06 Marks)Assume suitable scale

### Module-2

- 3 Design a Mangalore Tile Filler slab for a residence. Draw following details.
  - a. Plan (10 Marks)
  - b. Section (06 Marks)
  - c. Detail (any 1) (04 Marks)Assume suitable scale.

OR

- 4 a. Explain with sketches RCC Waffle slab. (10 Marks)
- b. Explain with sketches RCC Filler slab. (10 Marks)

### Module-3

- 5 Explain the different types of steel sections used in the construction with its uses and properties. (20 Marks)

OR

- 6 Sketch the following junction details of structural steel sections.
  - a. Column to beam junction (10 Marks)
  - b. Beam to beam junction (10 Marks)

### Module-4

- 7 Draw steel window of size 1m × 1.35 m showing following details.
  - a. Plan (06 Marks)
  - b. Elevation (06 Marks)
  - c. Section (06 Marks)
  - d. Any one detail (02 Marks)Assume suitable scale.

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 Explain the following with neat sketches.
- a. Collapsible gate (10 Marks)
  - b. Rolling shutters (10 Marks)

**Module-5**

- 9 Draw aluminium sliding window of size 1m × 1.35m showing following details.
- a. Plan (06 Marks)
  - b. Elevation (06 Marks)
  - c. Section (06 Marks)
  - d. Any one detail. (02 Marks)

OR

- 10 Draw plan, elevation, section with joinery detail of aluminium partition of size 6m × 3m (height). (20 Marks)

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