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## Seventh Semester B.Arch. Degree Examination, Dec.2019/Jan.2020 Materials and Methods of 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 Draw and detail out a wardrobe for a bedroom. Given that external dimensions of wardrobe: 2100 height × 2400 width × 600 depth. (Assume suitable scale)  
Use plywood with appropriate finish
- |  |              |            |
|--|--------------|------------|
|  | a. Plan      | (05 Marks) |
|  | b. Section   | (05 Marks) |
|  | c. Elevation | (05 Marks) |
|  | d. detail    | (05 Marks) |

**OR**

- 2 a. Draw a showcase of width 1500mm × height 1200mm × depth 200mm (Assume suitable scale).  
Use material ferrocement or stone with appropriate sizes and techniques
- |  |              |            |
|--|--------------|------------|
|  | i) Elevation | (04 Marks) |
|  | ii) Section  | (04 Marks) |
|  | iii) Plan.   | (04 Marks) |
- b. Write short notes on:
- |  |                    |            |
|--|--------------------|------------|
|  | i) MDF             | (04 Marks) |
|  | ii) Particle board | (04 Marks) |

### Module-2

- 3 a. With proportioned sketches, explain the fabrication of a drawer for a modular kitchen, with dimensions. (08 Marks)
- b. Write short notes on the use of PVC in interiors. (08 Marks)
- c. Write short notes on the use of glass blocks. (04 Marks)

**OR**

- 4 For an office space of plan 3.5m × 4.5m × ht 3.5m, draw a plywood partition with appropriate framework.
- |  |              |            |
|--|--------------|------------|
|  | a. Plan      | (05 Marks) |
|  | b. Section   | (05 Marks) |
|  | c. Elevation | (05 Marks) |
|  | d. Detail    | (05 Marks) |

### Module-3

- 5 Draw the reflected ceiling plan for a false ceiling of grid tiles for a conference room of 3.50m × 5m and ht 3.25m.  
Provide for lighting and ducting
- |  |                                  |            |
|--|----------------------------------|------------|
|  | a. (Assume scale) Reflected Plan | (10 Marks) |
|  | b. (Assume scale) Section        | (05 Marks) |
|  | c. (1:5) Detail                  | (05 Marks) |

OR

- 6 Describe in detail the principles and application of pre-tensioning and post tensioning with sketches. (Write dimensions)
- a. Pre Tensioning (10 Marks)
- b. Post Tensioning (10 Marks)

Module-4

- 7 a. With proportioned and dimensioned sketches describe the construction features of a typical Mat foundation (with dimensions)
- i) Sketch (08 Marks)
- ii) Description and Principles (04 Marks)
- b. Mention two advantages and two disadvantages of Mat foundation over pedestal foundation (08 Marks)

OR

- 8 a. Sketch and explain the principles of friction piles and bearing piles. (08 Marks)
- b. Briefly mention the process of inserting piles into the ground. (08 Marks)
- c. With a sketch, show the parts of a pile-including connection to superstructure upto bottom strata (Explain above all with dimensions). (04 Marks)

Module-5

- 9 a. Discuss the various truss configurations that can be made with bamboo. Support your answer with neat sketches. (10 Marks)
- b. What is the pre-fabrication? Explain those with neat sketches. (10 Marks)

OR

- 10 a. Discuss the advantages and disadvantages of pre fabrication over conventional methods. (10 Marks)
- b. Provide details and overview of bamboo roof construction or bamboos wall panel construction (with dimension). (10 Marks)

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