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15ARC1.2

First Semester B.Arch. Degree Examination, June/July 2019 Materials and Methods in Building Construction – I

Time: 4 hrs.

Max. Marks: 100

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

Module-1

- 1
 - a. Explain the various building components with the help of neat sketches. (10 Marks)
 - b. Show the conventions used in the drawings to indicate;
 - (i) Brick wall
 - (ii) Stone wall
 - (iii) RCC
 - (iv) PCC

(10 Marks)

OR

- 2
 - a. Write the manufacturing process of bricks and their properties. (10 Marks)
 - b. Explain with sketches:
 - (i) Queen closer
 - (ii) Header
 - (iii) Stretcher
 - (iv) Frog

(10 Marks)

Module-2

- 3
 - a. Draw in 1:10 scale the following of flemish bond which is 2 brick thick wall and 6 courses high with 1 m on each side. (06 Marks)
 - b. Odd and even course (06 Marks)
 - c. Front and side elevation (06 Marks)
 - d. Isometric view. (08 Marks)

OR

- 4
 - a. Explain the following with sketches : (05 Marks)
 - b. Brick Lintels (05 Marks)
 - c. Stone Lintels (05 Marks)
 - d. Rubble masonry (uncaused random) (05 Marks)
 - e. Segmental arch (05 Marks)

Module-3

- 5
 - a. Explain the manufacturing process of stabilized mud blocks. (10 Marks)
 - b. Write the advantages of mud blocks. (10 Marks)

OR

- 6
 - a. Explain advantages and disadvantages of Hollow and Solid concrete blocks: (10 Marks)
 - b. Explain advantages and disadvantages of fly ash and glass blocks. (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.

Module-4

- 7 a. Draw a simple footing of an internal wall (230 thick brick) of a load bearing structure upto plinth level in 1:10 scale. (10 Marks)
b. Draw a asymmetrical effects footing of an external wall (230 thick brick) in stone masonry upto plinth level, in 1:10 scale. (10 Marks)

OR

- 8 What are the natural defects in timber and explain how to preserve it. (20 Marks)

Module-5

- 9 Draw to a scale of 1:10 Battened and ledged door of 1.0m wide and 2.2m high the following:
(i) Plan (ii) Elevation (iii) Section (20 Marks)

OR

- 10 Draw to scale 1:10 a glazed window 2.0m wide and 1.5m high the following :
(i) Plan (ii) Elevation (iii) Section. (20 Marks)

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