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14ARC1.2

First Semester B.Arch. Degree Examination, Dec.2015/Jan.2016
Materials and Methods in Building Construction – I

Time: 4 hrs.

Max. Marks: 100

- Note:** 1. Answer any FIVE questions, choosing ONE full question from each module.
 2. All questions must be answered on the drawing sheets only.

Module – 1

- 1 a. Show the drafting conventions used in drawings:
 - i) Earth work
 - ii) Wood in section
 - iii) Brick wall in elevation
 - iv) Plain cement concrete

(08 Marks)
- b. Explain with sketches:
 - i) Stretcher, header
 - ii) Queen closer
 - iii) Brick bats
 - iv) Bullnose Brick.

(12 Marks)
- 2 a. Explain the following :
 - i) Properties of good bricks
 - ii) Defects in bricks
 - iii) Classification of bricks
 - iv) Types of bricks

(10 Marks)
- b. Explain with sketches:
 - i) Arches
 - ii) Buttresses
 - iii) Coping
 - iv) Keng Closer

(10 Marks)

Module – 2

- 3 Draw to suitable scale the following of a 1½ thick brick wall in English Bond (L-Junction) assume the length of wall 2 mts a six courses high.
 - i) Odd course plan
 - ii) Even course plan
 - iii) Front elevation
 - iv) Isometric view.

(20 Marks)
- 4 Draw to suitable scale and explain :
 - i) Segmental arch
 - ii) Rubble masonry wall
 - iii) Lintel and Chajja
 - iv) Flemish Bond (Single)

(20 Marks)

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Module – 3

- 5 Explain the following :
i) Advantages of flyash bricks
ii) Uses of Glass blocks.
iii) Properties and uses of concrete blocks.
iv) Defects in stone. (10 Marks)
- 6 a. Explain with sketches aerated concrete block, advantages and disadvantages. (10 Marks)
b. Explain with sketches solid concrete blocks with their advantages and disadvantages. (10 Marks)

Module – 4

- 7 a. Draw to a scale of 1:10 a typical section of an external (230 thick) brick wall foundation in size stone masonry considering asymmetrical offsets above G.L. (10 Marks)
b. Draw to scale 1:10 a typical section of internal (230 thick) brick wall foundation in size stone masonry considering symmetrical offsets. (10 Marks)
- 8 Explain with sketches:
i) Defects in timber
ii) Types of joints in timber
iii) Seasoning and preservation of timber
iv) Brick masonry foundation. (20 Marks)

Module – 5

- 9 Draw to a suitable scale a teak wood single leaf paneled door of 1.2m wide and 2.1m high
i) Plan (04 Marks)
ii) Elevation (04 Marks)
iii) Section (04 Marks)
iv) Enlarged detail (2 Nos) (08 Marks)
- 10 Draw to suitable scale a corner glazed window of size 1.5m + 1.5m x 1.2 mts
i) Plan
ii) Elevation
iii) Detail of frame at the corner
iv) Detail at styles
v) Detail of frame at lintel. (20 Marks)

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