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**First Semester B.Arch. Degree Examination, Dec.2014/Jan.2015**  
**Materials and Methods in Building Construction – I**

Time: 4 hrs.

Max. Marks: 100

**Note: 1. Answer any FIVE full questions,  
 choosing ONE from each of the modules.  
 2. All questions must be written on the drawing sheets only.**

**MODULE – 1**

- 1 a. Show the conventions used in the drawings to indicate:
  - i) Brick wall
  - ii) Stone wall
  - iii) Wood in elevation
  - iv) Wood cut in section
  - v) Plain cement concrete

(10 Marks)
- b. Explain with sketches:
  - i) Retaining wall
  - ii) Lintel and chajja
  - iii) Coping
  - iv) Corbelling
  - v) Pilaster.

(10 Marks)
- 2 a. Describe unburnt, burnt, table moulded and wire cut bricks, along with their advantages and disadvantages.
 

(12 Marks)
- b. Explain with sketches:
  - i) Header
  - ii) Stretcher
  - iii) Frog
  - iv) King closer.

(08 Marks)

**MODULE – 2**

- 3 Draw to suitable scale, the following of a brick wall corner ('L' junction) assuming about 3m on either side and six courses high:
  - i) Odd course plan
  - ii) Even course plan
  - iii) Front elevation
  - iv) Side elevation.

(20 Marks)
- 4 Draw to suitable scales and explain:
  - i) Semi circular arch
  - ii) Size stone masonry wall
  - iii) Rubble masonry and polygonal masonry walls
  - iv) Buttresses
  - v) Flemish bond.

(20 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 – 3**

- 5 a. Explain with sketches different possibilities of Hollow concrete blocks, along with their advantages and disadvantages. (10 Marks)
- b. Explain with sketches different variations of Hollow clay blocks, along with their advantages and disadvantages. (10 Marks)

Explain with sketches for walls:

- i) Stabilized mud blocks
- ii) Solid concrete blocks
- iii) Aerated concrete blocks
- iv) Glass blocks.

(20 Marks)

**MODULE – 4**

- 7 a. Draw to a scale of 1:10, a typical section of an internal (230 th brick) wall foundation in size stone masonry, considering symmetrical off sets of the courses. (10 Marks)
- b. Draw to a scale of 1:10 a typical section of an external (230 th brick) wall foundation in size stone masonry, considering asymmetrical off sets above G.L till plinth. (10 Marks)

8 Explain with sketches:

- i) Brick masonry foundations
- ii) Types of timber used in buildings
- iii) Filling and sawing process
- iv) Defects in timber
- v) Preservation and seasoning of raw and cut timber.

(20 Marks)

**MODULE – 5**

9 Draw to suitable scales, for a suitable door of 1.0m wide and 2.2m high, the following:

- i) Elevation
- ii) Enlarged detail of jamb
- iii) Enlarged detail of joinery
- iv) Section

(20 Marks)

10 Draw to suitable scales, for a suitable glazed window of 2.0m wide and 1.5m high, the following:

- i) Plan
- ii) Elevation
- iii) Two enlarged joinery details.

(20 Marks)

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