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**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)

**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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