CBCS Scheme

USN | | | | | | | | | | |

15ARC1.2

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

Time: 4 hrs. Max. Marks: 100

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

Module-1

1 a. Explain the building components with the help of sketches. **(10 Marks)**

b. Explain the following with sketches :
i) English Bond ii) Rat Trap Bond iii) Half Brick Bat iv) Queen Closer
v) Frog. **(10 Marks)**

OR

2 a. Explain following building material used in building construction :
i) Cement ii) Brick iii) Glass iv) Stone v) Sand. **(10 Marks)**

b. Show the conventions of the following material used in building construction :
i) Cement concrete in section ii) Wood in section iii) Stone wall in section
iv) Brick wall in section v) Steel in section. **(10 Marks)**

Module-2

3 Draw Plan , Elevation and Isometric view of 1½ brick thick Masonary wall (L – junction) with Flemish bond. Consider 2M length on each side, 10 course high, Scale = 1:10. **(20 Marks)**

OR

4 Explain the following with suitable scale drawing :
a. Segmental Arch.
b. Wooden Stair.
c. Wall Footing.
d. Brick Lintels. **(20 Marks)**

Module-3

5 Explain the manufacturing process of the following :
a. Solid concrete blocks.
b. Hollow clay blocks.
c. Glass blocks.
d. Fly ash blocks.
e. Stabilized mud blocks. **(20 Marks)**

OR

6 Explain the manufacturing process, properties and uses of the following :
a. Hollow concrete blocks.
b. Solid concrete blocks. **(20 Marks)**

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Module-4

7 Explain the following with 1:10 scale drawing. Assume suitable data :
   a. Load bearing wall / structure – brick.
   b. Step foundation. **(20 Marks)**

OR

8 a. Explain the types of wood and its usage in building construction. **(10 Marks)**
   b. Explain the following :
      i) Seasoning of cut timber ii) Defects in timber iii) Sawing process
      iv) Brick masonary foundation v) Stone foundation. **(10 Marks)**

Module-5

9 Draw to 1:10 scale. A wooden door of 1200mm wide and 2100mm height : Plan , Elevation, Section.
Consider the door is $\frac{1}{3}^{rd}$ glazed and $\frac{2}{3}^{rd}$ is paneled. Wall thickness = 300mm.
Details : Door Jamb – 1:5 scale.
Any 1 Joinery details – 1:5 scale. **(20 Marks)**

OR

10 Draw to 1:10 scale, A wooden casement window of 1200mm wide and 1800mm height. Sill = 750mm. Consider the wall thickness = 300mm
- Plan.
- Section.
- Elevation.

Details : Window's Jamb = 1:5 scale.
Any ONE joinery details = 1:5 scale. **(20 Marks)**

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