

CBCS Scheme

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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 : (10 Marks)
i) English Bond ii) Rat Trap Bond iii) Half Brick Bat iv) Queen Closer
v) Frog.

OR

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

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 : (20 Marks)
a. Segmental Arch.
b. Wooden Stair.
c. Wall Footing.
d. Brick Lintels.

Module-3

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

OR

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

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 Explain the following with 1:10 scale drawing. Assume suitable data :
- Load bearing wall / structure – brick.
 - Step foundation.

(20 Marks)

OR

- 8 a. Explain the types of wood and its usage in building construction.
- b. Explain the following :
- Seasoning of cut timber
 - Defects in timber
 - Sawing process
 - Brick masonry foundation
 - Stone foundation.

(10 Marks)

(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)
