CBCS SCHEME

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

18ARC22

Second Semester B.Arch. Degree Examination, Jan./Feb.2021
Materials & Methods in Building Construction – II

Time: 4 hrs. Max. Marks: 100

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

Module-1

1 A Verandah 3.0 × 6.0 M needs to be provided with a Lean-to roof. The same has to be roofed with Mangalore tiles. Draw the following to suitable scale:

a. Key plan. **(04 Marks)**
b. Enlarged part plan. **(06 Marks)**
c. Sketch any two details. **(06 Marks)**
d. Detailed section. **(04 Marks)**

OR

2 a. Draw the sectional elevation of steel tubular truss and explain the various parts. **(10 Marks)**
b. Sketch details of AC sheet fixing detail at Purlin. **(05 Marks)**
c. Sketch typical detail at ridge. **(05 Marks)**

Module-2

3 Explain the followings:

a. Acid resisting cement. **(05 Marks)**
b. White cement. **(05 Marks)**
c. Mixing of concrete. **(05 Marks)**
d. Water cement ratio. **(05 Marks)**

OR

4 a. List any five types of major construction works and indicate concrete proportion and minimum size of aggregate required for each. **(12 Marks)**
b. Write a brief note on slum test. **(08 Marks)**

Module-3

5 A column 230 × 230 mm has to be provided with a RCC isolated footing of size 1500 × 1500 mm. Draw detailed drawing in suitable scale for the following :

a. Plan with reinforcement detail. **(06 Marks)**
b. Section. **(06 Marks)**
c. Isometric view. **(08 Marks)**

OR

6 Write short notes on : (with neat sketches)

a. Timber Grillage – plan and section. **(10 Marks)**
b. Steel Grillage – Plan and section. **(10 Marks)**

Module-4

7 A stairway in Timber is to be provided in a show room to reach a height of about 4.0 m. Assuming suitable design and data, draw to suitable scale:

a. Plan. (04 Marks)
b. Cross section. (04 Marks)
c. Longitudinal section. (04 Marks)
d. Any two enlarged Joinery details. (08 Marks)

OR

8 A metal stringer staircase with open riser is to be designed for a floor height of 3.15 M. Width of stair is 1.0 M. Draw the followings to suitable scale :

a. Plan. (05 Marks)
b. Elevation. (05 Marks)
c. Any 2 details. (10 Marks)

Module-5

9 Explain with neat sketches:

a. Steel spiral staircase – Plan
– Elevation. (10 Marks)
b. Composite staircase using steel and RCC – Plan.
– Elevation. (10 Marks)

OR

10 A steel fire escape stairs in an Apartment block is to be fitted within a size of 4.0 m width and 7.0 m length, outside the building. Assuming the typical floor height to be 3150 mm (or any other suitable dimension). Draw the followings to suitable scale –

a. Plan. (04 Marks)
b. Cross section. (04 Marks)
c. Longitudinal section. (04 Marks)
d. 2 Enlarged details (sketches). (08 Marks)

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