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15ARC2.2

Second Semester B.Arch. Degree Examination, June/July 2019
Materials in Methods in Building Construction – II

Time: 3 hrs.

Max. Marks: 100

Note: 1. *Answer FIVE full questions, choosing one full question from each module.*
2. *Provide neat sketches and construction notes where necessary.*

Module-1

1   A Queen post roof truss is required for a span of 12.0 m, using roof covering of tiles. Enumerate the following with appropriate cross sectional sizes of all members, type of joints used and construction notes.
    a. Partial Elevation to scale 1 : 25. **(10 Marks)**
    b. Joints at Ridge and bearing 1 : 10. **(10 Marks)**

OR

2   A steel roof truss with M.S. Angles is proposed for a building of span 7.5 m, with aluminium roofing. Provide the following details:
    a. Partial elevation of truss to scale 1 :25. **(10 Marks)**
    b. Details at Ridge and bearing to scale 1 : 2. **(10 Marks)**

Module-2

3   a. Enumerate any five types of cements with their properties and uses. **(10 Marks)**
    b. What are the methods of proportioning concrete mixes? **(10 Marks)**

OR

4   a. Explain any five types of quality tests of concrete. **(10 Marks)**
    b. What are various types of joints in concrete? Enumerate with sketches. **(10 Marks)**

Module-3

5   a. In what type of situations would you use combined footings? **(10 Marks)**
    b. Enumerate any two types of concrete combined footings with reinforcement details.
    (10 Marks)

OR

6   Explain any five types of chemical admixtures used in concrete. **(20 Marks)**

Module-4

7   A straight flight wooden staircase is planned for a height of 2.4 m and 750 mm width. Provide the following with construction details and notes:
    (i) Plan and section to scale 1 : 10. **(20 Marks)**

OR

8   A folded plate RCC staircase is required for a height of 3.0 m and 900 mm width:
    a. Design and draw plan and section to scale 1 : 10. **(10 Marks)**
    b. Any relevant detail to scale 1 : 5. **(10 Marks)**

Module-5

9 Design and draw the following for a spiral staircase to reach a height of 2.1 m and radius of 700 mm:

a. Plan and elevation to scale 1 : 10. (14 Marks)

b. Fixing detail of step to port to scale 1 : 2. (06 Marks)

OR

10 Design and draw with neat sketches and provide notes for the following:

a. Concrete and wood.

b. Steel and glass.

c. Steel and timber.

d. Brick and stone. (20 Marks)

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