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18ARC22

Second Semester B.Arch. Degree Examination, Feb./Mar.2022
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   Draw to a suitable scale of a LBAN to roof truss over a verandah measuring 2.40 metre wide and 7.32 metre long with 0.60 metre plinth height. The timber roof truss is to be supported by Brick square piers of size $1\frac{1}{2} \times 1\frac{1}{2}$ thick, and covered by Mangalore tiles:

(i)	Key plan	(04 Marks)
(ii)	Plan to Enlarged scale	(06 Marks)
(iii)	Sectional elevation	(06 Marks)
(iv)	Eaves detail	(04 Marks)

OR

2   a. Compare steel roof trusses and timber roof trusses with a neat sketch.   (10 Marks)
     b. Describe with a neat sketch various types of steel roof trusses. And explain any one of them method of construction.   (10 Marks)

Module-2

3   a. Describe in detail ingradients reinforced cement concrete. And also explain the properties of RCC.   (10 Marks)
     b. Describe the various types of cement. And enlist the uses of cement.   (10 Marks)

OR

4   Write short note on following:

(i)	Grades of concrete	
(ii)	Admixtures	
(iii)	Uses of Cast Iron	
(iv)	Laboratory test of cement	(20 Marks)

Module-3

5   a. Explain with neat sketches timber form work for RCC beam and RCC floor slab.   (10 Marks)
     b. Curing and Concrete.   (05 Marks)
     c. Grillage foundation   (05 Marks)

OR

6   Draw two a suitable scale RCC column of size 230 mm×381 mm and RCC footing is 1200×1200 mm. Assuming necessary diameter of steel bars and spacing. Draw the following:
     a. Plans showing reinforcement detail.   (06 Marks)
     b. Section   (06 Marks)
     c. Isometric view.   (08 Marks)

Module-4

7 Write a note on following:
a. RCC Waist Slab stair. (05 Marks)
b. Types of stairs. (05 Marks)
c. Precaste stairs. (05 Marks)
d. Timber stairs. (05 Marks)

OR

8 Draw a suitable scale Dog Legged RCC stairs for a building in which the vertical distance between floors is 3.6 meters. The stair hall measures 2.50 m × 5.0 m. Draw the following:
a. Plan of stair. (05 Marks)
b. Sectional elevation. (10 Marks)
c. Any two details. (05 Marks)

Module-5

9 a. Explain with a neat sketches, technical terms used in stairs. (10 Marks)
b. Write the requirements of good stairs and dimension of steps. (10 Marks)

OR

10 A steel fire escape stairs in an apartment block into fitted within a size of 4 m width and length 7 m outside the building. Assuming typical floor height to be 3.15 m. Draw to a suitable scale following:
a. Plan of stairs. (05 Marks)
b. Longitudinal (10 Marks)
c. Two enlarged detail. (05 Marks)

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