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14ARC2.2

Second Semester B. Arch Degree Examination, June/July 2015

Materials and Methods in Building Construction - II

Time: 4 hrs. Max. Marks:100

Note: ***1. Attempt 5 Full questions, Choosing ONE from each module.***
2. Use only Drawing sheets supplied for answering.
3. Assume suitable data if necessary.

MODULE I

1 A verandah 2.8 m wide and about 5 long is to be provided with Lean to wooden roof finished with clay tiles laid over it. Draw to suitable scales.

a) Key plan. **(03 Marks)**
b) Enlarged part plan. **(04 Marks)**
c) Section. **(05 Marks)**
d) Any two details. **(08 Marks)**

2 Explain with neat sketches.

a) King post trust **(04 Marks)**
b) Queen post trust. **(04 Marks)**
c) Collared roof. **(04 Marks)**
d) Coupled closed roof. **(04 Marks)**
e) Scissored roof. **(04 Marks)**

MODULE II

3 a. What are the ingredients of concrete? Kept in mind while ensuring quality? **(12 Marks)**
b. What are the Tests for cement and their significance? **(08 Marks)**

4 Write short notes on:

a) Water cement ratio. **(04 Marks)**
b) Cover for reinforcements. **(04 Marks)**
c) Types of cements and their uses. **(04 Marks)**
d) Admixtures. **(04 Marks)**
e) RMC. **(04 Marks)**

MODULE III

5 A column 200 × 200 has to be provided with an RCC footing 1500 × 1500 and 1350 deep. Assuming necessary diameters and spacing, Draw suitable scales –

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

6 Explain with neat sketches.

a) Combined Footing. **(04 Marks)**
b) Strip Footing. **(04 Marks)**
c) Raft Footing. **(04 Marks)**
d) Grillage foundation. **(04 Marks)**
e) Construction and Expansion joints. **(04 Marks)**

MODULE IV

7 A stairway in Timber is to be provided in a show room to reach a height of about 400. Assuming suitable design and data draw to suitable scales.

a) Plan. **(04 Marks)**
b) Cross section. **(04 Marks)**
c) Longitudinal section. **(04 Marks)**
d) Two enlarged details. **(08 Marks)**

8 Explain with neat sketches.

a) Types of stairs. **(05 Marks)**
b) RCC waist slab step – stairs. **(05 Marks)**
c) Folded type stairs in RCC. **(05 Marks)**
d) Pre cast RCC stairs. **(05 Marks)**

MODULE V

9 A steel fire escape stairs in an apartment block in to fitted within a size of 4m width and 7m length, outside the building. Assuming the typical floor height to be 3150 (or any other suitable dimension) draw to suitable scales.

a) Plan. **(04 Marks)**
b) Cross Section. **(04 Marks)**
c) Longitudinal Section. **(04 Marks)**
d) 2 enlarged details sketches. **(08 Marks)**

10 Explain with neat sketches

a) Steel and wood composite stain. **(06 Marks)**
b) Composite stair using steel and RCC. **(07 Marks)**
c) Spiral stairs. **(07 Marks)**

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