CBCS SCHEME

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18ARC2.2

Second Semester B.Arch. Degree Examination, June/July 2019
Materials and 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 bungalow has a drawing room 4.0 m × 7.5 of wall thickness 300 mm which is covered with collar beam roof wooden truss of roof covering Mangalore tiles. Draw to a suitable scale following:

a. Key plan **(04 Marks)**
b. Plan to enlarged scale **(06 Marks)**
c. Sectional elevation **(06 Marks)**
d. Details of half dove tail joint **(04 Marks)**

OR

2 a. Distinguish between king post and queen post roof truss. **(10 Marks)**
b. Explain with neat sketches different types of roof covering for a pitched roof which are generally used in India. **(10 Marks)**

Module-2

3 a. List out various types of cement and state various properties of cement. **(10 Marks)**
b. Explain the preparation, properties and uses of cement concrete. **(10 Marks)**

OR

4 a. State the various uses and properties of steel. **(10 Marks)**
b. Write short notes on following:
i) Ingredients of concrete **(03 Marks)**
ii) Admixtures **(04 Marks)**
iii) Water cement ratio **(03 Marks)**

Module-3

5 a. Explain with neat sketches constriction joint and expansion joint. **(10 Marks)**
b. Explain with neat sketches form work for a RCC square column 230 mm × 230 mm. Sketch the plan, elevation and isometric view of form work. **(10 Marks)**

OR

6 Draw to a suitable scale an RCC column of size 230 mm × 230 mm and RCC footing 1200 mm × 1200 mm × 600 mm and assuming necessary diameter of steel bars and spacing. Draw the following:

a. Plan **(07 Marks)**
b. Section **(07 Marks)**
c. Isometric view **(06 Marks)**

Module-4

7 A two stories building is to have dog legged RCC waist slab stair case from ground floor to first floor. The width of each flight is 1.2 m floor to floor height is 3.15 m. Draw the following details for a suitable scale.

a. Plan (04 Marks)
b. Sectional elevation (06 Marks)
c. Any two details (04 Marks)
d. Isometric view (06 Marks)

OR

8 Explain the following with neat sketch:

a. Precast stairs (05 Marks)
b. Timber stairs (05 Marks)
c. Anthropometry of stairs (05 Marks)
d. RCC stringer beam stairs (05 Marks)

Module-5

9 Explain with neat sketches:

a. Brick and stone stairs (05 Marks)
b. Concrete and wood stairs (05 Marks)
c. Steel and timber stairs (05 Marks)
d. Method of fixing balusters in stone steps (05 Marks)

OR

10 A steel fire escape stairs in an apartment block into fitted within a size of 4 m width and 7 m length, outside the building. Assuming the typical floor height to be 3.15 m. Draw to a suitable scales, following:

a. Plan (04 Marks)
b. Cross section (04 Marks)
c. Longitudinal section (06 Marks)
d. Two enlarged details (06 Marks)

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