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14ARC2.2

**Second Semester B.Arch. Degree Examination, June/July 2018**  
**Materials and Methods in Building Construction – II**

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting at least ONE questions from each module.**

**Module – 1**

- 1 Draw suitable sketches for the following :
- Use of Mangalore Tile for Timber Roof. (05 Marks)
  - Use of G.I sheets for steel Roof (05Marks)
  - Gutter Detail (05 Marks)
  - Ridge Detail. (05 Marks)

OR

- 2 Draw detailed drawing of king post truss roof with suitable scale.
- Detailed plan (05 Marks)
  - Sectional elevation (05 Marks)
  - Any two important details. (10 Marks)

**Module – 2**

- 3
- Elaborate the properties of cement. (08 Marks)
  - Explain in detail the two tests for cement. (12 Marks)

OR

- 4 Explain with neat sketches :
- Properties of concrete (05 Marks)
  - Materials used in R.C.C (ingredients) (05 Marks)
  - Proportioning (05 Marks)
  - Mixing of concrete. (05 Marks)

**Module – 3**

- 5 Describe in detail the following with suitable sketches :
- Formwork of reinforced cement concrete (05 Marks)
  - Curing of concrete (05 Marks)
  - Construction joints (05 Marks)
  - Expansion joints. (05 Marks)

OR

- 6 Draw detailed drawing of R.C.C foundations with suitable scale for a R.C.C column of (230 × 300)mm
- Two types of Isolated [Single and Stepped Footing] Footings.
    - Plan with Reinforcement
    - Sectional elevation. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.



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- b. Two types of combined footings  
i) Plan with reinforcement  
ii) Sectional elevation (10 Marks)

**Module – 4**

- 7 a. Explain with neat sketches the anthropometry of staircase. (10 Marks)  
b. With neat sketches explain the classification of staircases. (10 Marks)

**OR**

- 8 Draw detailed drawing of open well R.C.C waist slab. The width of staircase is 1200mm and floor to floor height is 3150mm. with suitable scale.  
a. Plan (07 Marks)  
b. Sectional elevation (08 Marks)  
c. Any two important details. (05 Marks)

**Module – 5**

- 9 Draw neat labeled sketches for the following types of composite staircases.  
a. Brick and Stone (05 Marks)  
b. Steel and Timber (05 Marks)  
c. Concrete and Wood (05 Marks)  
d. Steel and Glass. (05 Marks)

**OR**

- 10 Draw Detailed drawing of Dog legged steel single stringer staircase with suitable scale. Width of staircase is 1000mm and floor to floor height is 3150mm.  
a. Plan (07 Marks)  
b. Sectional Elevation (08 Marks)  
c. Two important details. (05 Marks)

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