

USN

--	--	--	--	--	--	--	--	--	--

15ARC2.2

Second Semester B.Arch. Degree (CBCS) Examination, Dec.2016/Jan.2017
Material and Methods in Building Construction – II

Time: 4 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing one full question from each module.
 2. Assume any missing data suitably.*

Module-1

- 1 Draw the suitable scale king post roof timber truss for a Porch of 3M × 6M. Following are the requirements:
- Key Plan (04 Marks)
 - Sectional elevation (06 Marks)
 - Any two important details. (10 Marks)
- 2
- Explain in brief but with sketches various basic forms of Pitched roofs. (10 Marks)
 - Explain with sketches the use of G.I. sheets for roofing. (05 Marks)
 - Explain steel truss and its elements with neat sketches. (05 Marks)

Module-2

- 3
- List various types of cement. State briefly the application of each type. (10 Marks)
 - What is water-cement ratio? (05 Marks)
 - What is RMC? Explain. (05 Marks)
- 4
- Explain the process of concrete production. (08 Marks)
 - What are the constituents of cement concrete? (03 Marks)
 - Explain grades of concrete. (04 Marks)
 - Explain concrete admixture. (05 Marks)

Module-3

- 5
- What do you understand by the term foundation? (02 Marks)
 - List out the different types of foundation and explain with sketches any two types of foundation. (10 Marks)
 - Differentiate between Expansion Joint & Construction joint. (08 Marks)
- 6 Draw to suitable scale an R.C.C. column of size 230mm × 230mm and R.C.C. footing of 1200 mm × 1200 mm. Assuming necessary diameter and spacing draw the following :
- Plan (06 Marks)
 - Section (06 Marks)
 - Isometric view. (08 Marks)

Module-4

- 7
- Explain with neat sketch the anthropometry of staircase. Also explain the requirements of good stair. (10 Marks)
 - What are the different types of stairs? Explain them with neat sketches. (06 Marks)
 - Explain briefly R.C.C. waist slab with neat sketch. (04 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.

- 8 Draw double stringer timber staircase in 1:10 scale labeling all the necessary parts. Following are the requirements:
- a. Plan (05 Marks)
 - b. Sectional Elevation (05 Marks)
 - c. Two important details in 1:5 scale. (10 Marks)

Module-5

- 9 Design a steel staircase for a building with floor height of 3000 mm. Draw following to suitable scale:
- a. Plan (06 Marks)
 - b. Sectional Elevation (06 Marks)
 - c. Two important enlarge details (04 Marks)
- 10 Explain with neat sketches:
- a. Brick stone stair (06 Marks)
 - b. Concrete and wood stair (06 Marks)
 - c. Steel and concrete (06 Marks)
 - d. What is composite stair (02 Marks)

* * * * *