

CBCS SCHEME

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18ARC22

Second Semester B.Arch. Degree Examination, Dec.2023/Jan.2024 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. Distinguish between king post and queen post 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)

OR

- 2 Explain the following with neat sketches:
a. Different types of steel truss roofs.
b. Collared roofs
c. Queen post roof
d. Lean to roof. (20 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:
i) Ingredients of concrete
ii) Admixtures. (10 Marks)

Module-3

- 5 a. What do you understand by the term "Formwork"? (10 Marks)
b. Sketch the formwork for RCC beam. (10 Marks)

OR

- 6 Explain the following with neat sketches:
a. Grillage foundation
b. Raft foundation. (20 Marks)

Module-4

- 7 A room with 2m width has to be designed for a staircase. The staircase has to be designed in RCC waist staircase to an appropriate scale. Draft and label all the components in plan and section and show reinforcement details. (20 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.

OR

8 Write short notes on:

- a. Anthropometry of stairs.
- b. Types of stairs.

(10 Marks)

(10 Marks)

Module-5

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

- a. Plan
- b. Cross section
- c. Two enlarged details.

(05 Marks)

(10 Marks)

(05 Marks)

OR

10 Explain with neat sketches:

- a. Method of fixing balusters in stone steps.
- b. Steel and timber stairs.

(10 Marks)

(10 Marks)
