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21ARC55

Fifth Semester B.Arch. Degree Examination, June/July 2026 Building Services – III

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define Megawatt and Negawatt. Explain why it is important to move from a Megawatt to Negawatt system. (15 Marks)
- b. Briefly explain the usage of Negawatt. (05 Marks)

OR

- 2 List and explain with sketches different types of mechanical ventilation system which could be proposed for buildings. (20 Marks)

Module-2

- 3 List and explain the difference between vapour compression refrigeration and vapour absorption refrigeration. (20 Marks)

OR

- 4 Detail out with a Schematic diagram for the basic components of water cooled central chilled water plant. (20 Marks)

Module-3

- 5 Explain the following terms with sketches wherever necessary
 - a) Quality of service of an Elevator System (03 Marks)
 - b) Quantity of services of an Elevator System (03 Marks)
 - c) Components of Traction Elevator (04 Marks)
 - d) Hydraulic Elevator (10 Marks)

OR

- 6 Explain with sketches the typical arrangement of Escalators as prescribed by National Building Code India 2016. (20 Marks)

Module-4

- 7 a. Explain the terms fire triangle. List and explain various classifications of buildings as per NBC of India 2016. (10 Marks)
- b. List the various types of fire extinguishers and uses. (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.

OR

8 Explain the following terms with sketches, wherever necessary.

- a) Refuge Area with respect to building (10 Marks)
- b) Pressurization of a fire escape staircase system (10 Marks)

Module-5

9 Briefly explain your proposal with a floor plan for fire detection and suppression system for a data centre/server room of an information technology company. (20 Marks)

OR

10 With reference to NBC 2016, write short notes of the following with reference to High Rise Building.

- a) Rules for fire protection (10 Marks)
- b) Fire Fighting requirements (10 Marks)

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