

CBCS SCHEME



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Sixth Semester B.Arch. Degree Examination, June/July 2025 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 mechanical ventilation and describe the need for such a system in a building. Illustrate with examples. (10 Marks)
- b. Write short notes on – Ventilation Rate in a building and Psychometric chart. (10 Marks)

OR

- 2 a. What are the various types of ventilation systems that can be employed in the following parts of a Building – Kitchen, Toilets, Basement Parking areas, and normal functional spaces of the building. Explain with the help of neat sketches. (12 Marks)
- b. Briefly explain the Refrigeration Cycles used building Heating Ventilation and Air Conditioning. (08 Marks)

Module-2

- 3 a. What are the different types of air conditioning systems used in buildings? Explain each with sketches. (12 Marks)
- b. Explain the ventilation requirements of a clean room system and ways to achieve the requirements. (08 Marks)

OR

- 4 a. What is Air Conditioning? How are air ducts sized and routed through a floor plate to design an efficient air distribution system? (10 Marks)
- b. What are the ventilation requirements of server rooms in an IT Office building? How do we design to achieve these requirements? (10 Marks)

Module-3

- 5 Write short notes (with appropriate sketches) on :
 - a. Percentage Handling Capacity (05 Marks)
 - b. Traction Lift Mechanism (05 Marks)
 - c. Escalators, their uses and, their efficient arrangements in building. (10 Marks)

OR

- 6 Write short notes (with appropriate sketches) on
 - a. Elevator Shaft, Machine room, and Elevator Pit (05 Marks)
 - b. Logics behind possible location and arrangement of elevators (10 Marks)
 - c. Travelators and their uses in various building types (05 Marks)

Module-4

- 7 a. Briefly describe the characteristics of combustible and noncombustible materials. What are the various building types classifications according to National Building Code of India – 2016. (10Marks)
- b. Write short notes on travel distance, and fire tower (with fire escape staircase and fire lift) (10Marks)

OR

- 8 a. List and explain the causes of fire and related accidents in buildings. (10 Marks)
- b. Write short notes on pressurization system, fire compartmentation, and fire refuge area. (10 Marks)

Module-5

- 9 a. Explain the different stage of fire, and corresponding types of automatic fire detection systems. Describe their functioning. (14 Marks)
- b. What are the dry riser and wet riser active fire protection systems? (06 Marks)

OR

- 10 a. What are fire sprinklers? What are their different categorizations and how do they function? (10 Marks)
- b. What are the addition fire requirements for high – rise buildings, that are not seen for low rise buildings, as per National Building Code of India 2016. (10 Marks)

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