

# CBCS SCHEME

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18ARC63

## Sixth Semester B.Arch. Degree Examination, July/August 2022 Building Services – III

Time: 3 hrs.

Max. Marks: 100

- Note: 1. Answer any FIVE full questions, choosing one full question from each module.  
2. Draw neat proportionate labeled sketches wherever necessary.*

### Module-1

- 1 Describe suitable mechanical ventilation systems with supporting sketches two types for each of the following:  
i) Office Building  
ii) Industrial workshop building. (20 Marks)

OR

- 2 Write notes on following:  
i) Psychrometry and advantages of charts  
ii) Vapour compression refrigeration cycle  
iii) Neat load calculations  
iv) Zoning in a building for efficient AC design. (20 Marks)

### Module-2

- 3 Discuss any one type of unitary AC system in detail. Substantiate with required architectural aspects while adopted in a building. (20 Marks)

OR

- 4 What does 'clean room' refer to? What are the salient aspects of designing clean room AC system? How does it differ from normal AC system? (20 Marks)

### Module-3

- 5 a. Describe a typical hydraulic elevator system with detailed and labeled sketch for a G + 2 building. (10 Marks)  
b. What are the architectural parameters to be considered while designing a lift lobby and a lift hoist way? (10 Marks)

OR

- 6 Explain the anatomy of an escalator. What are the various safety features embedded in an escalator system. (20 Marks)

### Module-4

- 7 Why and how are buildings classified in NBC? Discuss the various classifications and related five protection aspects. (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 Elaborate the following passive fire protection systems in a building:
- Fire escape staircase
  - Pressurization of building
  - Compartmentation
  - Signage.

(20 Marks)

**Module-5**

- 9 Propose any three types of Active Fire Suppression Fighting systems that can be adopted in a super market and discuss the salient features of each with respect to functioning, advantages and architectural requirements.

(20 Marks)

**OR**

- 10 A 20-storey mixed-use building is proposed in Bangalore in the CBD. What rules pertaining to fire protection should be applied in compliance with NBC and other local norms? Discuss and elaborate.

(20 Marks)

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