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## 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)

**OR**

**8** Elaborate the following passive fire protection systems in a building:

- a. Fire escape staircase
- b. Pressurization of building
- c. Compartmentation
- d. 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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