

# CBCS SCHEME

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18ARC43

**Fourth Semester B.Arch. Degree Examination, June/July 2023**

## **Building Services – I**

Time: 3 hrs.

Max. Marks:100

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

### Module-1

- 1 a. Explain water carriage and water conservancy system. Compare the two systems. (08 Marks)  
b. Population of a town was obtained from the census data. Forecast the future population in the year 2020 by :
- Arithmetical increase method
  - Geometrical increase method
  - Incremental increase method.

Year	Population
1970	8,000
1980	12,000
1990	17,000
2000	22,500

(12 Marks)

OR

- 2 a. Mention and describe various forms of sources for water supply schemes. (05 Marks)  
b. Discuss various stages involved in water treatment process. Support the answer with neat sketches. (15 Marks)

### Module-2

- 3 a. Briefly compare separate and combined sewerage conveyance systems. (10 Marks)  
b. Briefly explain the function of insertion chamber and manhole. (10 Marks)

OR

- 4 Explain the term storm water management. Discuss various storm water management method used for roof top collection ground water recharging reuse within the project site. (20 Marks)

### Module-3

- 5 Write short notes on :
- Two – pipe system
  - One – pipe system
  - P – trap
  - Bottle trap.
- (20 Marks)

OR

- 6 a. Explain with sketch globe valve, floor trap. (10 Marks)  
b. Explain single stack and single pipe partially stack system. Mention the suitability of each system. (10 Marks)

### Module-4

- 7 Explain with a neat sketch water closets, flushing listern, bath tub and flush valve. (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 Explain the collection, segregation, treatment and disposal of garbage. Explain organic waste convertor and vermicomposting. (20 Marks)

Module-5

- 9 Write short notes on :

- i) Smoke detectors
- ii) Fire alarms
- iii) Fire hydrants
- iv) Wet riser system.

(20 Marks)

OR

- 10 a. Explain with a neat sketch working of solar water heater. (10 Marks)

- b. With a neat sketch briefly explain working of central vacuum waste collection system. (10 Marks)

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