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Fourth Semester B. Arch. Degree Examination, Feb./Mar. 2022 Building Services - I

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Draw a neat sketch wherever necessary.

Module-1

- 1 a. What are the different types of water sources? Explain with neat sketches. (10 Marks)
b. Define the terms :
i) Aeration
ii) Sedimentation
iii) Coagulation
iv) Flocculation (10 Marks)

OR

- 2 a. Briefly explain the different types of water supply and different types of layout pattern with neat sketches. (10 Marks)
b. What is per – capita demand of water? (06 Marks)
c. Give the per capita demand of water for :
i) Residence
ii) Hotel [4Star and above]
iii) Airport
iv) Hospital [> 100 Bed capacity] (04 Marks)

Module-2

- 3 a. Write a brief note on different systems of sewerage. (12 Marks)
b. Draw a schematic layout of Drainage explaining all its components. (08 Marks)

OR

- 4 a. What is Rain water harvesting and what are the advantages of Rain water harvesting? (10 Marks)
b. What is meant by Active Rainwater harvesting and passive Rainwater Harvesting? (10 Marks)

Module-3

- 5 a. What is a trap? Explain the main function of trap listing the requirements for Good trap. (10 Marks)
b. Distinguish different types of trap available according to their shapes. (10 Marks)

OR

- 6 a. Mention the different systems adopted in plumbing of drainage in a building. (02 Marks)
b. Draw a single line Drainage plan for 1 BHK Residence with the site boundary. (18 Marks)

Module-4

- 7 a. Draw neat sketches of the following sanitary fixtures with dimensions
i) European type western closet (10 Marks)
ii) Flushing cisterns (10 Marks)
- b. Mention different Wellness products used in bathroom. Explain one with neat sketches. (10 Marks)

OR

- 8 a. What is Solid Waste? Explain the different types of solid waste. What is the need of solid waste management? (10 Marks)
- b. Mention different methods of Heat treatment of solid waste and Bio treatment of solid waste. Explain one method in detail. (10 Marks)

Module-5

- 9 a. What is meant by Active Fire protection and Passive Fire protection? (05 Marks)
- b. Draw a FIRE EXIT STAIRCASE mentioning the standard of
i) Rise.
ii) Read
iii) Landing
iv) Railing
v) Balustrade
vi) Headroom (15 Marks)

OR

- 10 Write short notes on : (20 Marks)
- i) Solar Water Heating Systems
ii) Medical Gases Supply
