

CBCS SCHEME

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15ENG4.3

Fourth Semester B.Arch. Degree Examination, June/July 2019 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 the sketches wherever required.*

Module-1

- 1 a. What are the factors that would affect the rate of demand for water? (08 Marks)
b. Population of a town was obtained from the census data. Forecast the future population in the year 2020 by (i) Arithmetical increase method (ii) Geometrical increase method (iii) Incremental increase method. (12 Marks)

Year	Population
1970	35000
1980	42000
1990	58000
2000	72000

OR

- 2 a. With help of neat flow diagram indicate various treatment limits provided to treat "RAW WATER" coming from a river and indicate the significance of each. (10 Marks)
b. What are the Drinking Water Standards for the following parameters?
(i) Turbidity (ii) Hardness (iii) Iron (iv) Chlorides (v) Nitrates (05 Marks)
c. What are hydropneumatic systems? Where are they used? (05 Marks)

Module-2

- 3 a. Name the different Joints commonly used in Pipes. (03 Marks)
b. What are the various units associated with "PRIMARY TREATMENT" of sewage. Briefly highlight the significance of each. (08 Marks)
c. With the help of neat sketch explain the working of septic tank. (09 Marks)

OR

- 4 a. What are methods adopted to determine the quantity of storm water. (06 Marks)
b. With help of neat sketch explain "RAINWATER HARVESTING". (09 Marks)
c. Explain briefly method adopted to drain out waste/storm water from basements and Podium in project. (05 Marks)

Module-3

- 5 a. What are requirements of good trap? (05 Marks)
b. With the help of neat sketch explain any three of following :
(i) Floor trap (ii) Gully trap (iii) Manhole (iv) Air relief value (v) Non return value (15 Marks)

OR

- 6 A line diagram of 3 bedrooms unit is shown in Fig.Q6. Show the position of various sanitary fixtures, their dimension, internal and external sanitary layout for the same. Also show the connection to mainline running on the street. (20 Marks)

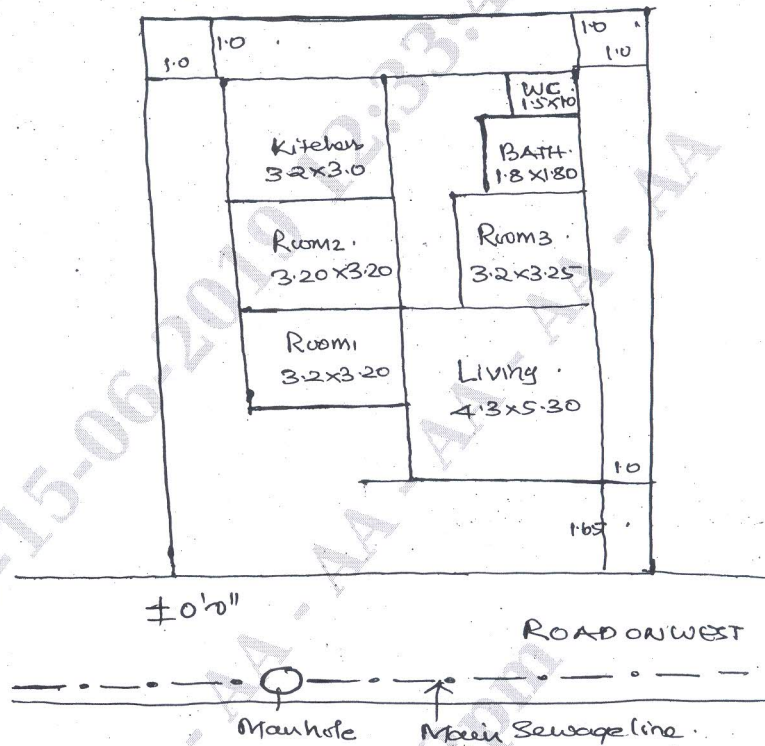


Fig.Q6

[All dimensions in mts. Walls are 300 mm thick.
Dimensions are inner to inner dimensions.]

Module-4

- 7 a. What are the principles followed in House drainage. (05 Marks)
b. With help of neat sketch explain one pipe and two pipe system. (12 Marks)
c. Write the sketch of wash basin. (03 Marks)

OR

- 8 a. Explain how the municipal organic waste is collected, transported to treatment. (08 Marks)
b. What is "Disposal of Refuse by Incineration"? (06 Marks)
c. Explain briefly Bangalore method of composting of refuse. (06 Marks)

Module-5

- 9 a. What are causes for fire outbreak in buildings? (05 Marks)
b. With help of neat sketch explain working of fire hydrant. (07 Marks)
c. What are fire alarm systems? Where are provided in the building? (04 Marks)
d. What are sprinkles and where are provided? (04 Marks)

OR

- 10 a. With neat sketch explain working of Solar Water Heater. (10 Marks)
b. With neat sketch briefly explain working of central LPG system. (10 Marks)
