



CBCS SCHEME

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Fourth Semester B.E. Degree Examination, June/July 2024

Public Health Engineering

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain the need for protected water supply. (08 Marks)
- b. Explain in detail about the various types of water demands and list the factors affecting per capita demand. (12 Marks)

OR

- 2 a. Define design period of water supply and discuss the factors governing the design period. (10 Marks)
- b. Explain in detail about physic – chemical characteristics of water and write the types of water sampling techniques. (10 Marks)

Module-2

- 3 a. Draw the layout of water treatment plant and explain the functions of each unit. (10 Marks)
- b. Define sedimentation. Discuss the theory of sedimentation and also types of coagulants. (10 Marks)

OR

- 4 a. What is filtration? Explain the theory of filtration and filter materials. (10 Marks)
- b. Explain the slow sand, rapid gravity and pressure filters. (10 Marks)

Module-3

- 5 a. What is disinfection? Discuss the minor methods of disinfection with merits and demerits. (10 Marks)
- b. Explain in detail about the removal of permanent hardness in hard water lime-soda and Zeolite process. (10 Marks)

OR

- 6 Briefly discuss the sewage disposal methods and the sampling techniques of municipal waste water and its characteristics. (20 Marks)

Module-4

- 7 a. Draw the flow chart for municipal waste water. (10 Marks)
- b. Explain the importance of screens in the waste water treatment plants and also write the important steps to be followed while designing the grit chamber. (10 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 a. Discuss the types of settlings and settling tanks. (10 Marks)
b. With a neat sketch, explain the conventional activated sludge process. (10 Marks)

Module-5

- 9 a. Draw and explain the two types of oxidation ditches. (10 Marks)
b. Explain in detail the principle of stabilization ponds and add a note on advantages and disadvantages of stabilization ponds. (10 Marks)

OR

- 10 a. Draw and explain the flow chart for sludge treatment and its disposal. (10 Marks)
b. Discuss the sludge thickening and its common methods in detail. (10 Marks)
