

R16

Code No: 136BT

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, July - 2023

ENVIRONMENTAL ENGINEERING

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) What is the significance of water quality monitoring and testing? [2]
- b) What are the factors affecting per capita demand? [3]
- c) Define Coagulation. [2]
- d) What are the applications of Multimedia filters? [3]
- e) What is equivalent pipe method? [2]
- f) What are the advantages of Water carriage system? [3]
- g) Define COD. [2]
- h) What are the functions of one pipe system of plumbing? [3]
- i) What is Soak pit? [2]
- j) What are the functions of Grit Chamber? [3]

PART – B

(50 Marks)

- 2.a) Discuss the Arithmetical Increase method and its significance.
 - b) List any four major factors affecting the rate of demand of water and explain the concept of fluctuations in water demand. [5+5]
- OR**
3. With the help of neat sketches, explain in detail the Infiltration gallery and Infiltration well. [10]
- 4.a) Distinguish between slow sand and rapid gravity filters.
 - b) What are the design criteria for clarifiers? [5+5]
- OR**
5. Explain in detail the principles and design factors of sedimentation. [10]
- 6.a) What is a circular and radial system in Distribution Networks? Give a schematic diagram.
 - b) What is the application of check valves? [8+2]
- OR**
- 7.a) Explain Hardy-Cross method of analysis of complex pipe networks.
 - b) Differentiate Pressurized and Separate Sewers. [7+3]

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- 8.a) Describe the functions of V-notch method and Float Method.
- b) Discuss the applications of sewage farming.

[7+3]

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- 9. Describe in detail the selection of materials of sewers and its advantages.

[10]

- 10.a) Explain in detail the working mechanism of skimming tank.
- b) Discuss in detail the types of screens used in waste water treatment.

[5+5]

OR

- 11.a) Explain in detail the construction and design of Oxidation Ponds.
- b) What are the factors affecting the sludge digestion?

[8+2]

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