Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S6 (R,S) / S4 (PT) (R,S) Examination May 2024 (2019 Scheme)

Course Code: CET304

Course Name: ENVIRONMENTAL ENGINEERING

Max. Marks: 100 Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks. Marks

1	Explain the factors affecting wet weather flow.	(3)
2	Analyse the use of Logistic curve method in population forecasting?	(3)
3	Explain any three factors affecting site selection of water treatment plant.	(3)
4	What is discrete and flocculent settling?	(3)
5	What are the methods for water disinfection?	(3)
6	Briefly explain the pipe network analysis.	(3)
7	Explain the difference between grit chamber and detritus tank.	(3)
8	What are the factors affecting the performance of the activated sludge process?	(3)
9	What are the operational problems with UASB?	(3)
10	What are the advantages of natural waste water treatment?	(3)

PART B

Answer one full question from each module, each carries 14 marks.

Module I

11	a)	List any four major factors affecting the rate of demand of water and explain the concept of fluctuations in water demand.	(8)
	b)	With a neat sketch explain any water intake structure.	(6)

OR

12	a)	With the help of neat sketch, explain different types of pumps used for water conveyance.	(10)
	b)	Define population equivalent and design period	(4)

Module II

13	a)	Design a plain rectangular sedimentation tank for water supply scheme having capacity to treat water=12 MLD. Assume the data which is required.	(10)

b) What are the different types of screens used in water treatment? (4)

OR

14 a) Analyse the use of coagulants. Enumerate the different coagulants used. (5)

b) What are the goals of various conventional water treatment methods in ensuring safe and clean water? (9)

Module III

15 a) Enlist and analyse the different layout of distribution networks with their merits and demerits. (6)

b) Compare slow sand filter and rapid sand filter with neat sketch. (8)

OR

16 Design a rapid gravity filter for a town having a total filtered water requirement of 5 million litres of water per day. Assume suitable data. (14)

Module IV

17 a) Explain the working of Activated sludge waste water treatment plant with a neat sketch. (10)

b) Discuss aerobic and anaerobic treatment in waste water. (4)

OR

18 a) Explain the working of Trickling filter plant with a neat sketch. Also mention the advantages and disadvantages. (10)

b) Explain the advantages of equalization tank in sewage treatment plant. (4)

Module V

19 Design a septic tank for a small colony of 200 persons provided with a water supply of 200 litres per person per day. Assume the data required. (14)

OR

20 a) Analyse the methods adopted for sludge treatment process. (6)

b) Explain the working of oxidation ponds with a neat sketch. Also mention the advantages and disadvantages. (8)

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