## Code No.: 15146 S N/O

## VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD

Accredited by NAAC with A++ Grade

## B.E. (Civil Engg.) V-Semester Supplementary Examinations, June-2023 **Environmental Engineering**

Time: 3 hours

Max. Marks: 60

Note: Answer all questions from Part-A and any FIVE from Part-B

Part-A  $(10 \times 2 = 20 \text{ Marks})$ 

Q. No.	Stem of the question	M	L	CO	De
1.	Name different layout of water distribution system.	2	1	1	PC
2.	Define dry and wet weather flow.	2	1	1	1
3.	Compare Unit Process and Unit Operation in water treatment plant with example.	2	1	2	1
4.	List out few drinking water quality parameters with its potability limit.	2	1	2	1
5.	What are the techniques adopted for waste water sampling?	2	1	3	6
6.	Show with the help of flow chart various stages in sewage treatment plant.	2	2	3	6
7.	Define Self-purification of streams.	2	1	4	1
8.	Explain the working of Rotating Biological Contractor.	2	2	4	6
9.	Define Air Quality Index.	2	1	5	7
10.	Explain the working of Sludge Digesters in brief.	2	1	5	6
	Part-B $(5 \times 8 = 40 \text{ Marks})$				
11. a)	Examine the probable population after 1, 2 and 3 decades using arithmetic increase method.	5	4	1	2
	The census records of city show population as follows: present-90000, Before 1 decade-77100, Before 2 decades-50500, Before 3 decades-41000.				
b)	List out various sewer appurtenances. Explain anyone in detail.	3	4	1	6
2. a)	Make use of assumptions to compute the dimensions	5	3		2
b)	List out various forms of chlorination and explain in detail Breakpoint	3	4	2	7

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	Make use of suitable assumptions and design a suitable rectangular sedimentation tank for treating the sewage from a city provided with an assured public water supply system with max daily demand of 12 million liters per day. Assume suitable values of detention period and velocity of flow in the tank.	5	3	3	2
b)	Explain functions of Grit chamber in Sewage treatment plant.	3	2	3	1
14. a)	Develop Oxygen sag curve to explain various zones of pollution in rivers.	4	3	4	1
b)	Compare Activated sludge process and trickling filter.	4	4	4	6
15. a)	Explain primary and secondary air pollutants with suitable examples.	3	2	5	1
b)	Make use of suitable assumptions and design the dimensions of a septic tank for a small colony of 150 persons provided with an assured water supply from the municipal head works at a rate of 120 lpcd.	5	3	5	2
16. a)	Explain different types of water demand and what do you mean by Fire Demand.	4	2	1	1
b)	Distinguish between Slow sand filter with Rapid sand filter.	4	2	2	6
17.	Answer any two of the following:				
a)	of Screens and its uses in STP.	4	2	3	7
b	section and oxidation ditch.	4	2	4	6
c	1: 1 wests disposal techniques.	4	2	5	1
	DO: Pro	aramn	ne Out	come	

M : Marks; L: Bloom's Taxonomy Level; CO; Course Outcome; PO: Programme Outcome

	Blooms Taxonomy Level – 1	20%
1)	Blooms Taxonomy Level – 2	37.5%
11)	Blooms Taxonomy Level – 3 & 4	42.5%
11)	Blooms Taxonomy Dever	

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