

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026*****First Semester******Environmental Engineering*****PEVT2403 - PHYSICAL AND CHEMICAL TREATMENT SYSTEMS FOR WATER AND WASTEWATER*****Regulations - 2024******Duration: 3 Hrs.******Maximum: 100 Marks******PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)***

Q.No	Questions	BTL	CO	Marks
1.	Differentiate between point source and non-point source pollutants in wastewater.	L2	1	2
2.	State the significance of Physico-chemical treatment.	L1	1	2
3.	What is the purpose of coarse and fine screens in a treatment plant?	L1	2	2
4.	Distinguish between Ultrafiltration and Nanofiltration.	L2	2	2
5.	Outline the purpose of aeration in water treatment.	L2	3	2
6.	State the purpose of disinfection in water treatment.	L1	3	2
7.	What is meant by Demineralization in water treatment?	L1	4	2
8.	Classify the various types of sedimentation tank.	L2	4	2
9.	Why constant velocity is maintenance essential in grit chamber?	L1	5	2
10.	Differentiate between Sludge Thickening and Sludge Dewatering.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11. a	i Interpret the batch and continuous reactors with its advantages and limitations	L2	1	8
	ii Explain the selection criteria for reactors used in wastewater treatment.	L2	1	8
	Or			
b	Explain the characteristics of Waste water.	L2	1	16
12. a	Select appropriate physical treatment methods for wastewater treatment based on influent characteristics.	L3	2	16
	Or			
b	Choose the suitable advanced oxidation methods and apply its principle for treatment of wastewater.	L3	2	16

13.	a	Compare the working principle and design criteria of slow sand and rapid sand filtration.	L2	3	16
Or					
	b	Classify the various disinfection methods and justify their role in ensuring safe water treatment.	L2	3	16
14.	a	Develop hydraulic profile and PID for an industrial water treatment system.	L4	4	16
Or					
	b	Examine the performance of industrial water treatment plants with a case study.	L4	4	16
15.	a	Compare the various sludge treatment methods and justify their effectiveness in waste management.	L4	5	16
Or					
	b	Examine the design and application of flotation units and mixers in treating oily or greasy wastewater.	L4	5	16
