

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY
2025****Sixth Semester****Mechanical Engineering****CME366 - Equipment for Pollution Control****Regulations - 2021****Duration : 3 Hrs****Maximum : 100 Marks****PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

Q.No	Questions	BLT	CO	Marks
1.	Write down the characteristics of hazardous waste?	L2	1	2
2.	What are the sources of solid waste?	L1	1	2
3.	Define flocculation in the context of wastewater treatment.	L1	2	2
4.	What is the difference between centrifugal and reciprocating pumps?	L1	2	2
5.	What is the primary mechanism of pollutant removal in a wet scrubber?	L2	3	2
6.	State the advantage of electrostatic precipitators.	L1	3	2
7.	What is the primary purpose of a centrifuge in solid waste processing?	L1	4	2
8.	What is the use of trommel screens in waste processing?	L1	4	2
9.	Define grab sampling and composite sampling.	L1	5	2
10.	List any two parameters analyzed in ambient air quality monitoring.	L1	5	2

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

Q.No	Questions	BLT	CO	Marks
11.	a What are the main features of the Water Act (1974), Air Act (1981), and the Environment Protection Act (1986)? How do they help in controlling pollution in India?	L2	1	16
	Or			
	b What is Environmental Impact Assessment (EIA) and why is it important? Describe the key steps in the EIA process.	L2	1	16
12.	a Explain the construction and working principles of flash mixers, flocculators, and clarifiers.	L2	2	16
	Or			
	b Discuss the layout, components, and process flow observed during a field visit to a wastewater treatment plant.	L2	2	16
13.	a Discuss the construction, working, and application of air strippers. What types of pollutants can be treated using air stripping?	L2	3	16

Or

	b i	Explain the working principles of electrostatic precipitator.	L2	3	8
	ii	Compare and contrast bag filters and biofilter in terms of their construction, working principle, and application in air pollution control.	L2	3	8
14.	a	Explain the operational principles and design criteria of centrifuge, vacuum filter, and filter press used in dewatering processes.	L2	4	16
		Or			
	b	Compare incineration and pyrolysis as thermal treatment methods for solid waste. Discuss their advantages, disadvantages, and by-products.	L2	4	16
15.	a	Describe the equipment used for sample preservation. How do incubators and cold storage systems contribute to accurate analysis?	L3	5	16
		Or			
	b	Demonstrate the working principles and applications of ambient air and flue gas sampling and monitoring equipment. Compare the two types based on pollutants monitored and operating conditions.	L3	5	16