Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

M.E DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Second Semester

Environmental Engineering

EV4001 - Solid and Hazardous Waste Management

Regulations - 2021

Duration : 3 Hrs *Maximum : 100 Marks*

*PART – A(ANSWER ALL QUESTIONS) (Marks 10*2=20)*

Q.No	*Questions*	*BLT*	*CO*	*Marks*
1.	What are the primary sources of solid waste?	RE	1	2
2.	Classify the need for solid waste management	UN	1	2
3.	Compare reuse and recycle.	UN	2	2
4.	Define e-waste and give suitable examples.	RE	2	2
5.	Outline the compaction of solid waste.	UN	3	2
6.	Recall stabilization of hazardous wastes?	RE	3	2
7.	List the characteristics of biomedical waste.	RE	4	2
8.	How does worm composting (vermicomposting) differ from traditional composting?	RE	4	2
9.	Outline the benefits of geo-synthetic clay liners (GCLs) in landfills	UN	5	2
10.	What are the advantages of landfill bioreactors?	RE	5	2

*PART – B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)*

Q.No		*Questions*	*BLT*	*CO*	*Marks*
11.	a	Construct salient features of latest Indian legislations on management and handling of solid wastes, hazardous wastes, biomedical wastes, electronic wastes.	AP	1	13
		Or			
	b	Build seven elements and seven step approach to integrated solid waste management planning.	AP	1	13
12.	a	Develop physical composition, chemical and biological properties.	AP	2	13
		Or			
	b	Make use of source reduction, segregation and onsite storage of wastes.	AP	2	13
13.	a i	Explain the types of waste collection systems based on their mode of operation with a neat sketch.	UN	3	8
	ii	Summarize the responsibilities of industries towards reduction of E-waste.	UN	3	5
		Or			

	b i	Outline the collection and transport of MSW.	UN	3	8
	ii	Interpret the segregations of wastes.	UN	3	5
14.	a	Build the overall scheme for waste processing technologies.	AP	4	13
		Or			
	b	Construct the treatment of biomedical wastes with neat flow chart.	AP	4	13
15.	a	Analyze the advantages and disadvantages of in-situ vermicomposting versus ex-situ vermicomposting in landfills.	AN	5	13
		Or			
	b	Analyze the key design components of a sanitary landfill, including liner systems, leachate collection, and gas management.	AN	5	13

*PART – C (Marks 1*15 = 15)*

Q.No		*Questions*	*BLT*	*CO*	*Marks*
16.	a	Explain the principles and design of material recovery facilities.	AP	3	15
		Or			
	b	Examine the hauled container and stationery container collection systems.	AP	3	15