Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026

Second Semester

Environmental Engineering

PEVE2401 - SOLID AND HAZARDOUS WASTE MANAGEMENT

Regulations - 2024

Duration : 3 Hrs ***Maximum : 100 Marks***

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

Q.No	Questions	BLT	CO	Marks
1.	Write the salient feature of bio medical waste.	L2	1	2
2.	Mention the importance of integrated Solid Waste Management ISWM.	L2	1	2
3.	State criteria for evaluation of options for source reduction	L2	2	2
4.	Define TCLP tests	L1	2	2
5.	Justify the need for transfer station in a collection system of solid waste management.	L2	3	2
6.	How do you evaluate the efficiency of separation devices?	L2	3	2
7.	Differentiate between incineration and pyrolysis.	L2	4	2
8.	List few latest methods in bio medical waste processing technologies.	L1	4	2
9.	Explain the Engineered landfill concept	L2	5	2
10.	Illustrate about the dumpsite rehabilitation.	L2	5	2

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

Q.No			Questions	BLT	CO	Marks
11.	a	i	In an Engineering point of you, classify the different types and sources of solid wastes.	L3	1	8
		ii	Indicate the latest Indian legislations on management and handling of solid wastes	L3	1	8
			Or			
	b		As a project manager in a construction industry in India , how do you plan to handle the construction and demolition waste generated .	L3	1	16
12.	a	i	Explain physical, biological and chemical characteristic of MSW.	L2	2	8
		ii	Explain in detail about onsite storage of wastes.	L2	2	8
			Or			
	b		A community with a population of 30,000 people generates waste with the following composition and characteristics at the rate of 1.2kg/capita/day. Determine the volume, moisture content and density of the waste generated by the community in a day.	L2	2	16

Component	% of weight	Moisture content%	Densitykg/m^3
Food waste	30	70	300
Paper	13	6	85
Cardboard	6	5	50
Plastics	7	2	65
Textiles	3	10	65
Yard waste	18	60	110
Glass	8	2	195
Tin cans	6	3	320
Aluminum cans	2	2	160
Inert and others	7	8	480

13.	a	Enlist the various methods of collection of municipal solid waste and explain them.	L2	3	16
		Or			
	b	Discuss the various material recovery technologies and Solidification process of Hazardous wastes in detail.	L2	3	16
14.	a	Explain the term composting. Give the different types of composting in use and describe with the aid of sketches their working.	L2	4	16
		Or			
	b	Explain the current status of waste processing technologies in India.	L2	4	16
15.	a	Estimate the landfill area required to dispose the MSW generated in the city from 2014 to 2035, if the average waste disposal rate throughout the period will be 0.5kg/ per capita/ day and the depth of landfill space is restricted to 25m with the density of compacted waste as 850kg/m3. Draw the typical cross section of the liner system of this landfill.	L3	5	16
		Or			
	b	With a help of neat sketches, discuss about the generation of principle landfill gases that occur in the sequential phases.	L3	5	16

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