

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E /B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025

Sixth Semester

Chemical Engineering

CH3019 - Solid 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.	List the components of Integrated Solid Waste Management.	L1	1	2
2.	Name any four sources of municipal solid waste?	L1	1	2
3.	Define source reduction in waste management.	L1	2	2
4.	Name any two case studies related to waste management in India.	L1	2	2
5.	Outline the waste transfer stations and their purpose.	L2	3	2
6.	Explain the importance of optimizing collection routes in waste management.	L2	3	2
7.	What is biomethanation in waste processing?	L1	4	2
8.	Define resource recovery in solid waste management.	L1	4	2
9.	Summarize the methods of leachate treatment?	L2	5	2
10.	What are the elements of dumpsite rehabilitation?	L2	5	2

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

Q.No	Questions	BLT	CO	Marks
11.	a Discuss the public health and environmental impacts of improper solid waste disposal.	L2	1	16
	Or			
	b Describe the role of the public and NGO's in effective solid waste management.	L2	1	16
12.	a Define source reduction in waste management. Analyze different strategies used to minimize waste at the source and discuss their effectiveness in Indian urban and rural contexts.	L3	2	16
	Or			
	b Compare and contrast two successful waste management initiatives	L3	2	16

in India. Highlight their strategies, challenges, and impacts on waste reduction and recycling.

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| 13. | a | Explain the different methods used for residential and commercial waste collection. Discuss the role of manpower, collection vehicles, and collection routes in an efficient waste management system. | L2 | 3 | 16 |
| | | Or | | | |
| | b | What are the major challenges in waste collection and transfer in India? Suggest innovative strategies to improve efficiency and sustainability in waste collection systems. | L2 | 3 | 16 |
| 14. | a | Explain the objectives of waste processing and discuss different physical processing techniques used in solid waste management. | L2 | 4 | 16 |
| | | Or | | | |
| | b | Describe case studies on waste processing in India. What are the key takeaways for improving waste management practices in urban and rural areas? | L2 | 4 | 16 |
| 15. | a | Draw a neat sketch of sanitary landfill and explain various components of sanitary landfill. | L3 | 5 | 16 |
| | | Or | | | |
| | b | Describe the process of leachate formation in landfills and explain its key characteristics. Illustrate various leachate treatment methods used for effective management. | L3 | 5 | 16 |