R22 Regulation *Subject code:4P5AF*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech V Semester Supplementary Examinations, April 2026

SOLID AND HAZARDOUS WASTE MANAGEMENT

(CE)

Maximum Marks: 60 Date:24.04.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	BTL
1.a)	Define municipal solid waste	1M	1	BL1
b)	List the elements of solid waste management.	1M	1	BL1
c)	Mention the sources of solid waste management.	1M	2	BL2
d)	What are the consequences of improper municipal solid waste disposal	1M	2	BL1
e)	Why is hazardous waste management important?	1M	3	BL1
f)	How would you safely store hazardous waste in a laboratory?	1M	3	BL3
g)	Identify two categories of biomedical waste.	1M	4	BL3
h)	Why is incineration commonly used for biomedical waste treatment?	1M	4	BL5
i)	How can households segregate e-waste from regular waste?	1M	5	BL3
j)	Suggest a simple public awareness idea to promote e-waste recycling	1M	5	BL6

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
2	a) Explain the importance of solid waste management in urban development. b) Summarize the municipal and solid waste rules.	5M 5M	1 1	BL2 BL2
	OR			
3	a) Simplify the procedure for public health and economic aspect of storage. b) Examine the public awareness on site storage methods.	5M 5M	1 1	BL4 BL4
4	a) Explain the significance of proper municipal solid waste management for public health and environmental protection. b) Illustrate the process of composting organic municipal solid waste and explain its benefits.	5M 5M	2 2	BL2 BL3
	OR			
5	a) Distinguish between landfills and sanitary landfills. b) Conclusions of site selection and design operation of municipal solid waste.	5M 5M	2 2	BL4 BL4

6	a) Explain characteristics of hazardous waste. b) Inference of Labelling and handling of hazardous wastes.	5M 5M	3 3	BL2 BL4
	OR			
7	a) Importance of hazardous wastes minimization. b) What is the importance of TCLP tests.	5M 5M	3 3	BL5 BL1
8	a) List out the major sources of biomedical waste in healthcare facilities. b) Explain the importance of biomedical waste management in preventing disease transmission.	5M 5M	4 4	BL1 BL2
	OR			
9	a) Analyze the risks posed by improper biomedical waste management to hospital staff and the community. b) Theme of low level and high-level radioactive wastes.	5M 5M	4 4	BL4 BL4
10	a) Define electronic waste (e-waste) and list the common types of e-waste generated in urban areas. b) How would you develop an e-waste collection and recycling program in a metropolitan city.	5M 5M	5 5	BL1 Bl3
	OR			
11	a) Explain the environmental impact of plastic waste, especially on marine ecosystems. b) Compare mechanical recycling and chemical recycling of plastics in terms of efficiency and environmental impact.	5M 5M	5 5	BL1 BL4