

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2023****Subject Code:3163514****Date:13-12-2023****Subject Name: Solid Waste Management - I****Time:02:30 PM TO 05:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Write brief about Indian scenario related to SWM.	03
	(b) Define the following terms:	04
	1. Leachate	
	2. Combustible waste	
	3. Non-hazardous waste	
	4. Buffer zone	
	(c) Elaborate the salient features of municipal solid waste management rules, 2016.	07
Q.2	(a) What are the principles of 4R's?	03
	(b) Discuss physical and chemical characteristics of solid waste in detail.	04
	(c) Explain the duties of waste generator.	07
	OR	
	(c) Classify solid waste in detail.	07
Q.3	(a) Give brief about onsite processing.	03
	(b) How container storage location and public health and aesthetics can affect the onsite storage of solid waste?	04
	(c) Discuss various means of transport for solid waste.	07
	OR	
Q.3	(a) Explain material recovery and recycling of solid waste.	03
	(b) Discuss the Vermi-composting method in detail.	04
	(c) Explain refused derived fuel in detail.	07
Q.4	(a) Explain the need and design requirements of transfer station.	03
	(b) What are the different disposal options use for plastic waste?	04
	(c) Explain the landfill closure and post-closure care in detail.	07
	OR	
Q.4	(a) Explain the principle of magnetic separator in brief.	03
	(b) Describe the Indoor method of composting in brief	04
	(c) Write a note on incineration.	07
Q.5	(a) Recommend solid waste management system for smart city.	03
	(b) Explain brief about pyrolysis.	04
	(c) Discuss the salient features of Municipal Solid Waste Management Rules, 2016.	07
	OR	
Q.5	(a) Explain the necessity of landfill gas management	03
	(b) What do you mean by sustainable waste management practices?	04
	(c) Discuss the salient features of Construction & Demolition Waste Management Rules, 2016.	07
