

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI EXAMINATION – SUMMER 2025

Subject Code: 3160515

Date:26-05-2025

Subject Name: Solid waste Management

Time: 10:30 AM TO 01:00 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) List different sources of Solid Waste.	03
(b) Explain the functional elements of municipal solid.	04
(c) Describe the physical and chemical properties of municipal solid waste.	07
Q.2 (a) Define(i)Rubbish(ii)Garbage(iii)Ash	03
(b) Explain hierarchy of Solid waste management.	04
(c) Discuss plastic waste disposal and its necessary equipment.	07
OR	
(c) Describe and Differentiate Hauled container system and Stationery container system with schematic diagram	07
Q.3 (a) Enlist the types of Landfills.	03
(b) State various leachate treatment methods.	04
(c) Describe with sketch the well system for recovery of gases in landfills	07
OR	
Q.3 (a) Explain Segregation	03
(b) Write a note on Incineration & Pyrolysis.	04
(c) Give an overview of municipal solid waste management Plan in Urban area.	07
Q.4 (a) List the factors to be considered for efficient collection system.	03
(b) Discuss the waste minimization techniques at source.	04
(c) Discuss various collection methods of solid waste management system.	07
OR	
Q.4 (a) List various points to be considered while choosing the collection route of vehicle to pick up solid waste.	03
(b) Enlist the factors to be considered in determining the size of collection and transportation vehicles	04
(c) Discuss the risk assessment associated with solid waste management system	07
Q.5 (a) Enlist guidelines on Extended Producer Responsibility	03
(b) Explain in brief landfill closure and remediation	04
(c) Discuss Laws for solid waste management	07
OR	
Q.5 (a) List the parameters affecting the compost process	03
(b) Explain Area and Trench methods of land filling	04
(c) Describe the techniques of Energy recovery from solid waste.	07

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2024****Subject Code: 3160515****Date:20-05-2024****Subject Name: Solid waste Management****Time: 10:30 AM TO 01:00 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) List characteristics of hazardous waste.	03
	(b) Define hazardous waste. List different sources of hazardous waste.	04
	(c) Describe the physical and chemical properties of municipal solid waste.	07
Q.2	(a) Classify the different sources of municipal solid waste.	03
	(b) Describe hierarchy of Solid waste management.	04
	(c) Explain categories of Biomedical waste.	07
OR		
	(c) Explain sources of E-waste and problems associated with its disposal.	07
Q.3	(a) Enlist the types of Landfills.	03
	(b) Explain the methods of onsite storage and handling of solid waste.	04
	(c) Describe composition of leachate, its effects on environment and ways to control it.	07
OR		
Q.3	(a) List the ill effects of open dumping of solid waste.	03
	(b) Explain the factors considered for landfill site selection.	04
	(c) Describe methods to manage plastic waste.	07
Q.4	(a) List the solid waste materials which can be recycled.	03
	(b) Describe factors affecting the collection system of solid waste.	04
	(c) Describe and Differentiate Hauled container system and Stationery container system with schematic diagram.	07
OR		
Q.4	(a) List various points to be considered while choosing the collection route of vehicle to pick up solid waste.	03
	(b) Explain methods of disposal of solid waste.	04
	(c) Describe the techniques of Energy recovery from solid waste.	07
Q.5	(a) List the parameters affecting the compost process	03
	(b) Explain Trench method of land filling.	04
	(c) Discuss Laws for solid waste management	07

OR

- Q.5** (a) Enlist guidelines for Extended Producer Responsibility **03**
(b) Explain volume reduction at source for disposal of solid waste. **04**
(c) Explain recycle, reuse and reduce of solid waste as per the standard practice. **07**

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3160515****Date:10-07-2023****Subject Name:Solid waste Management****Time:10:30 AM TO 01:00 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) Classify solid waste.	03
	(b) List factors affecting generation of solid wastes.	04
	(c) Describe Health impacts of Solid waste Management.	07
Q.2	(a) Define(i)Rubbish(ii)Garbage(iii)Ash	03
	(b) Differentiate Reuse and Recycle. Give Examples of each.	04
	(c) Explain Biomedical Waste management.	07
OR		
	(c) Explain sources of E-waste and ways to handle it.	07
Q.3	(a) List composition of Municipal solid waste.	03
	(b) Explain post closure care for landfill.	04
	(c) Describe with sketch the well system for recovery of gases in landfills.	07
OR		
Q.3	(a) List steps in sequence for processing of solid waste.	03
	(b) Explain the factors considered for landfill site selection.	04
	(c) Describe plastic waste generation and its management.	07
Q.4	(a) Enlist properties of Hazardous waste.	03
	(b) Describe factors affecting the collection system of solid waste.	04
	(c) Explain Haul container system with sketch.	07
OR		
Q.4	(a) Enlist objectives of transfer stations.	03
	(b) Describe incineration and pyrolysis.	04
	(c) Explain the transfer and transport of Hazardous waste.	07
Q.5	(a) Enlist methods of energy generation from solid waste.	03
	(b) Explain Area and Trench methods of land filling.	04
	(c) Discuss Laws for solid waste management	07
OR		
Q.5	(a) Enlist guidelines on Extended Producer Responsibility	03
	(b) Explain volume reduction at source for disposal of solid waste.	04
	(c) Discuss the risk assessment with solid waste management.	07

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2022

Subject Code:3160515

Date:06/06/2022

Subject Name:Solid waste Management

Time:10:30 AM TO 01:00 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.

- Q.1** (a) List different sources of Solid Waste. **03**
(b) Discuss in brief sampling and characteristics of waste. **04**
(c) Discuss the need for solid waste management and its Functional elements. **07**
- Q.2** (a) List different types of solid waste. **03**
(b) Explain hierarchy of Solid waste management. **04**
(c) Explain in brief about the E-waste-generation and its management. **07**
- OR**
- (c) Explain in brief about Biomedical waste-generation and its management. **07**
- Q.3** (a) Enlist the criteria for landfills-site selection. **03**
(b) Write a note on incineration. **04**
(c) Describe in brief municipal solid waste in Indian conditions. **07**
- OR**
- Q.3** (a) Enlist the types of Landfills. **03**
(b) State various leachate treatment methods. **04**
(c) Discuss plastic waste disposal and its necessary equipment. **07**
- Q.4** (a) List the factors to be considered for efficient collection system **03**
(b) Summarize the factors affecting the collection system of solid waste **04**
(c) Discuss various collection methods of solid waste management system. **07**
- OR**
- Q.4** (a) List 3 basic types of transfer operations **03**
(b) Enlist the factors to be considered in determining the size of collection and transportation vehicles. **04**
(c) Discuss the transportation systems in solid waste management system. **07**
- Q.5** (a) Explain EPR in brief **03**
(b) Discuss the waste minimization techniques at source. **04**
(c) Discuss the risk assessment associated with solid waste management system.. **07**
- OR**
- Q.5** (a) Enlist EIA methods. **03**
(b) Explain in brief landfill closure and remediation **04**
(c) Discuss Laws for solid waste management. **07**
