

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER- V EXAMINATION-SUMMER 2023****Subject Code: 3152303****Date: 27/06/2023****Subject Name: Plastic Recycling & Waste Management****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) Enlist Types of Plastics Recycling.	03
(b) Define the term Biodegradable Polymer.Explain them briefly.	04
(c) Explain Recycle-Reuse-Reduce Phenomenon For Plastics Waste.	07
Q.2 (a) How Thermosetting polymers are reused?	03
(b) Describe Float/Sink (Density) Process for Separation Of Mixed Plastic Waste.	04
(c) With a neat flow diagram explain Cryogenic Grinding for Plastics Waste.	07
OR	
(c) Write short note on various Plastics Identification Codes with their applications.	07
Q.3 (a) Which machinery are used in plastics recycling?	03
(b) Explain Primary & secondary Recycling of Plastics Waste.	04
(c) Describe Recycling of Plastics Waste by Co-extrusion and Co-injection molding.	07
OR	
Q.3 (a) What is E-waste? What is the benefit of recycling of E-Waste ?	03
(b) Define Medical Plastic Waste. How it harmful to human being?	04
(c) List and explain important steps in PET Recycling Process.	07
Q.4 (a) Which are benefits of Plastics Recycling?	03
(b) Give details on Recycling steps of Plastic Film and Sacks.	04
(c) Explain about Granulators Used In Primary Recycling Of Plastics.	07
OR	
Q.4 (a) Write short notes on Agglomeration.	03
(b) Explain the recycling of HDPE containers with a flow diagram.	04
(c) How Plastic waste is used in Road construction? Discuss	07
Q.5 (a) What is Tertiary Recycling?	03
(b) Discuss various sources of Plastics Waste.	04
(c) What is Landfill? Explain the Sanitary Land filling in brief.	07

OR

- Q.5** (a) What is Single-Use Plastic? How it is harmful for environment ? **03**
(b) Define Secondary Recycling. Enlist techniques to separate Plastics Waste. **04**
(c) Describe Electrostatic Separation Technique For Mix Plastics Waste. **07**
