

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3152303****Date:01/02/2021****Subject Name:Plastic Recycling & Waste Management****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Define and explain in short about (i) Post consumer plastics waste(ii) Thermoplastics andThermoset plastics (iii)Scrape plastic.	3
	(b) Discuss the flow of plastic waste .	4
	(c) Explain the generation of industrial plastic waste and concept of 4R.	7
Q.2	(a) Write the recycling codes for various plastics .	3
	(b) Explain Separation of plastics from Plastic-coated fabric.	4
	(c) Explain the various serration techniques in detail.	7
Q.3	(a) Define the primary recycling.	3
	(b) Write short notes on Granulators.	4
	(c) Explain the Cryogenic Grinding, and reprocessing low Bulk density plastic waste with plunger and screw type of stuffer	7
Q.4	(a) Define the secondary recycling.	3
	(b) Write short notes on Equipment Required for secondary recycling.	4
	(c) Explain Secondary Recycling by Co-extrusion and Co-injection Molding.	7
Q.5	(a) Define the Tertiary Recycling.	3
	(b) Write short notes on Chemical decomposition of plastics waste.	4
	(c) Explain the Pyrolysis of plastic waste with suitable diagram and reactions.	7
Q.6	(a) Define the Incineration.	3
	(b) Write short notes on medical plastic waste.	4
	(c) Explain the Incineration of plastics waste and Problems associated with incineration of plastic waste	7
Q.7	(a) Explain in short the disposal of waste plastics without the recovery of value.	3
	(b) Draw the diagram of Mitsubishi Reverzer?	4
	(c) Explain the Recycling of medical waste in detail.	7
Q.8	(a) Explain the Recycling of Medical Plastic Waste ?	3
	(b) Explain the recycling of PET .	4
	(c) Explain the Environmental Implications of Recycling & Polymer Degradation.	7