

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

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