Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-V • EXAMINATION – WINTER 2013

Sub	ject	Code: 152303 Date: 04-12-2013	
Sub	ject	Name: Plastics Recycling and Waste Treatment	
Tim	e: 10	0.30 am - 01.00 pm Total Marks: 70	
Instr	uction		
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	About the Plastics waste, give details of its Source reduction, Product Recovery and its Recycle	07
	(b)	Discuss in details about the Plastics Waste Processing Techniques. Write about its collection, storage and transport mechanism.	07
Q.2	(a)	Name the Polymers that can be reused. How are they different from the Polymers that cannot be reused	07
	(b)	Explain the processes used in Recycling of Polypropylene. OR	07
	(b)	Explain in detail about biodegradable plastics.	07
Q.3	(a)	What is an Incinerator? Explain the uses of Incinerators in the field of Plastic Recycling Process.	07
	(b)	Name the Polymers that are used for Food Packaging. Suggest the disposable ways of its waste.	07
		OR	
Q.3	(a)	Write a short note on (i) Life Cycle Analysis of Plastics Waste and (ii) Plastics Waste as Fillers.	07
	(b)	Explain the Secondary Recycling of Plastics waste by Co-Extrusion and Co-Injection Moulding.	07
Q.4	(a) (b)	Discuss in detail about the effects of recycling of plastics waste on Environment. Explain the recycling process of Plastics Woven Sack Waste.	07 07
Q.4	(a)	OR Enlist the identification symbol of different plastics with their properties and	07
Q.4	(b)	applications. List out the various methods used to separate different plastics. Explain in detail about Float and Sink Method.	07
Q.5	(a)	List out the different types of Pyrolysis systems. Explain about Fluidized bed Pyrolysis Reactor with schematic diagram.	07
	(b)	Discuss the various problems associated with the Incineration of pure plastics waste.	07
		OR	
Q.5	(a)	Write short notes on (i) Contaminants, (ii) Compatibilizers (iii) Agglomeration and (iv) Quaternary recycling of plastics waste.	07
	(b)	Define the terms- Plastic Recycling, Commingled Plastics, Purge, Reclaimed materials Virgin Plastics Recyclate Plastics	07
