Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V EXAMINATION - WINTER 2015

Subject Code: 152303

Subje	ct Na	me: Plastics Recycling and Waste Treatment	
		30am to 1:00pm Total Marks: 70	
Instruc			
		ttempt all questions.	
		Take suitable assumptions wherever necessary. igures to the right indicate full marks.	
	J. I	igures to the right indicate fun marks.	
Q.1	(a)	Define and explain in short about the followings. 1-Industrial Plastics waste, 2-Post consumer plastics waste, 3-Nuisance plastics waste, 4-Scrape Plastics, 5-Primary recycling, 6-Secondary recycling, 7-Tertiary recycling, 8-Quaternary recycling 9-Reuse, 10-Waste plastics, 11-Thermoplastics, 12-Thermoset plastics	07
	(b)	Discuss various Size reduction methods. List the methods and describe	07
		various equipments with neat diagram	
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.	07
	()	OR	
	(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	07
	<i>a</i> >	Recycling Process.	ο.
	(b)	Name the Polymers that are used for Food Packaging. Suggest the disposable ways of its waste.	07
0.3	(a)	OR Write a short note on (i) Life Cycle Analysis of Plastics Waste and	07
Q.3	(a)	(ii) Plastics Waste as Fillers.	U
	(b)		07
Q.4	(a)	Discuss in detail about the effects of recycling of plastics waste on	07
۷٠٠	(4)	Environment.	07
	(b)	Explain the recycling process of Plastics Woven Sack Waste.	07
	. ,	OR	
Q.4	(a)	Discuss the various problems associated with the Incineration of pure plastics	07
		waste.	
Q.4	(b)	List out the different types of Pyrolysis systems. Explain about Fluidized bed Pyrolysis Reactor with schematic diagram.	07

Date:08/12/2015

- Q.5 (a) List out the various methods used to separate different plastics. Explain in 07 detail about Float and Sink Method.
 - (b) Enlist the identification symbol of different plastics with their properties and of applications.

OR

- Q.5 (a) Write short notes on (i) Contaminants, (ii) Compatibilizers (iii) 07 Agglomeration and (iv) Quaternary recycling of plastics waste.
 - (b) Define the terms- Plastic Recycling, Commingled Plastics, Purge, Reclaimed materials, Virgin Plastics, Recyclate Plastics.