Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER V • EXAMINATION – WINTER - 2012

Subject code: 152303 **Date: 17-01-2013**

Subject Name: Plastics Recycling & Waste Treatment

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.**

Q.1	**(a)**	Discuss in detail about the sources of PVC and its recycling.	**07**
	(b)	Explain about the recycling of mixed plastics waste	**07**
Q.2	**(a)**	Define Bio-degradable Plastics and Bio Plastics. List the applications of Bio-degradable Plastics.	**07**
	(b)	Give in detail about the various sources of Plastics waste generation.	**07**
		OR	
	(b)	What is medical waste? How are they generated? Give details of its disposal.	**07**
Q.3	**(a)**	With the help of line diagram discuss the separation of polymer through membrane. Give out line of its laboratory set up and a schematic diagram of it typical	**07**
	(b)	Name, define and discuss the 3 collection methods of plastics waste.	**07**
		OR	
Q.3	**(a)**	List and explain the important steps in PET recycling process.	**07**
	(b)	List the sources and sub sources of plastics waste for LDPE, HDPE, and PET, PS, PP and others.	**07**
Q.4	**(a)**	Give symbols, name of plastics & general item (product) as per American Society of Plastic Industry.	**07**
	(b)	With the help of a neat flow diagram explain the Medical (Bio hazardous) waste disposal system.	**07**
		OR	
Q.4	**(a)**	List out the different types of Pyrolysis Systems. Explain about the Fluidized Bed Pyrolysis Reactor with schematic diagram.	**07**
Q.4	**(b)**	Write a note on Life Cycle Assessment of Plastics waste in general.	**07**
Q.5	**(a)**	Explain the process of Rubber Tyre in detail. Give major usage of Reclaimed Rubber.	**07**
	(b)	Give details of Recycling of PU waste.	**07**
		OR	
Q.5	**(a)**	Discuss in detail about the effect of recycling of Plastics waste on environment.	**07**
	(b)	Explain the recycling process of Plastics Woven Sack Waste.	**07**

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