	Seat No.: Enrolment No		
		GUJARAT TECHNOLOGICAL UNIVERSITY	
	BE - SEMESTER-V • EXAMINATION – SUMMER • 2014		
	Subject Code: 152303 Date: 19-06-2014 Subject Name: Plastics Recycling and Waste Treatment Time: 10.30 am - 01.00 pm Total Marks: 70		
	Instru	ictions:	
		1. Attempt all questions.	
		<ol> <li>2. Make suitable assumptions wherever necessary.</li> <li>Figures to the right indicate full marks.</li> </ol>	
		3. Figures to the right indicate run marks.	
Q.1	(a)	Discuss in detail about the sources of PVC and its recycling.	07
	<b>(b)</b>	Explain about the recycling of mixed plastics waste	<b>07</b>
<b>Q.2</b>	(a)	What is medical waste? How are they generated? Give details of its disposal.	07
	<b>(b)</b>	Give in detail about the various sources of Plastics waste generation.	07
	<b>(b)</b>	<b>OR</b> Define Bio-degradable Plastics and Bio Plastics. List the applications of Bio-	07
	(D)	degradable Plastics.	07
		degradate i lasties.	
Q.3	(a)	Define the terms-Virgin grade, Recycle, Reclaim, Reuse, Mechanical Recycling,	07
	` ,	Feed stock Recycling, Energy Recovery	
	<b>(b)</b>	Give a list of Commonly used (a)Thermoplastics and (b)Thermo set materials,	07
		their application and Life Time Range	
0.3	( )	OR	05
Q.3		List and explain the important steps in PET recycling process.  List the sources and sub sources of plastics waste for LDPE, HDPE, and PET, PS,	07 07
	<b>(b)</b>	PP and others.	U/
		11 and others.	
Q.4	(a)	With the help of a table of Miscibility Guide for the various polymers, explain in	07
	. ,	detail about the need of shorting of plastics	
	<b>(b)</b>	Explain the (a) Primary Recycling and (b) Secondary Recycling as part of	07
		Reprocessing of Thermoplastics	
0.4	(.)	OR	07
<b>Q.4</b>	(a)	List out the different types of Pyrolysis Systems. Explain about the Fluidized Bed Pyrolysis Reactor with schematic diagram.	07
	<b>(b)</b>	Write a note on Life Cycle Assessment of Plastics waste in general.	07
	( <b>D</b> )	write a note on Line Cycle Assessment of Flastics waste in general.	U1
Q.5	(a)	Explain the process of Rubber Tyre in detail. Give major usage of Reclaimed	07
	` '	Rubber.	
	<b>(b)</b>	Give details of Recycling of PU waste.	<b>07</b>
_		OR	
Q.5	(a)	Discuss in detail about the effect of recycling of Plastics waste on environment.	07
	<b>(b)</b>	Explain the recycling process of Plastics Woven Sack Waste.	<b>07</b>

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