

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

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) What is medical waste? How are they generated? Give details of its disposal. **07**
(b) Give in detail about the various sources of Plastics waste generation. **07**
- OR**
- (b) Define Bio-degradable Plastics and Bio Plastics. List the applications of Bio-degradable Plastics. **07**
- Q.3** (a) Define the terms-Virgin grade, Recycle, Reclaim, Reuse, Mechanical Recycling, Feed stock Recycling, Energy Recovery **07**
(b) Give a list of Commonly used (a)Thermoplastics and (b)Thermo set materials, their application and Life Time Range **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) With the help of a table of Miscibility Guide for the various polymers, explain in detail about the need of shorting of plastics **07**
(b) Explain the (a) Primary Recycling and (b) Secondary Recycling as part of Reprocessing of Thermoplastics **07**
- OR**
- Q.4** (a) List out the different types of Pyrolysis Systems. Explain about the Fluidized Bed Pyrolysis Reactor with schematic diagram. **07**
(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**
