

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**
