

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2014

Subject code: 1722408

Date: 23-06-2014

Subject Name: Plastics Waste Management and Recycling

Time: 02:30 pm - 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) Define the terms- plastic recycling, commingled plastics, purge, reclaimed materials, virgin plastics, recyclate plastics. **07**
- (b) List out the various methods used to separate different plastics. Explain in detail about float and sink method. **07**
- Q.2** (a) Explain the recycling process of woven sack plastics waste. **07**
- (b) Explain in detail about separation of resin and fiber from FRP waste. **07**
- OR**
- (b) Discuss the various problems associated with the Incineration of pure plastics waste. **07**
- Q.3** (a) List out the various recycling techniques. Discuss in detail about the primary recycling method. **07**
- (b) Write a short note on tertiary recycling of plastic waste. **07**
- OR**
- Q.3** (a) Discuss in detail about the land-filling of plastic waste. **07**
- (b) Discuss the recycling of PET using hydrolysis and Methanolysis processes. **07**
- Q.4** (a) Write a short note on life cycle analysis of plastics waste. **07**
- (b) Discuss in detail about the effects of recycling of plastics waste on environment. **07**
- OR**
- Q.4** (a) How we can separate plastics from plastics waste using solvent extraction and solvent separation method? **07**
- (b) List out the different types of incinerators use for the incineration of plastic waste and discuss about the batch incinerator. **07**
- Q.5** (a) Write a short note on quaternary recycling technique. **07**
- (b) Write short note on agglomeration of plastics. **07**
- OR**
- Q.5** (a) Discuss about separation technologies of waste plastics. **07**
- (b) Explain in detail about the chemical recycling of plastics waste. **07**
