

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- IV<sup>th</sup> SEMESTER-EXAMINATION – MAY/JUNE- 2012****Subject code: 143404****Date: 31/05/2012****Subject Name: Plastic Materials****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) Differentiate chain and step growth polymerization **07**  
(b) Explain the bulk polymerization process. **07**
- Q.2** (a) Write manufacturing process of LLDPE **07**  
(b) Describe the properties and applications of Polypropylene **07**
- OR**
- (b) Write the applications and properties of Polystyrene **07**
- Q.3** (a) Write properties and applications of ABS **07**  
(b) Describe the manufacturing process of Nylon-6, 6 **07**
- OR**
- Q.3** (a) Describe the properties and applications of PET. **07**  
(b) Write the chemical structure of polycarbonate and Polysulfones. **07**  
Mention the reactants required for the production of polycarbonate and polysulfones?
- Q.4** (a) Write the structure & general properties of the following polymer; **07**  
i) PTFE and ii) PEEK  
(b) Write a note on blends and alloys. **07**
- OR**
- Q.4** (a) Plastics are most suitable for a wide range of packaging applications. **07**  
Explain  
(b) Name and explain the uses of Polymers in medical applications? **07**
- Q.5** (a) Write manufacturing process of phenol formaldehyde polymer **07**  
(b) Write properties and applications of urea formaldehyde **07**
- OR**
- Q.5** (a) Write the importance of recycling of plastics? Write different types of **07**  
plastic recycling technique.  
(b) Name any four biodegradable polymer and their applications **07**

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