

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV • EXAMINATION – SUMMER 2013****Subject Code: 143404****Date: 17-06-2013****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) What is polymer? Give the difference between amorphous and crystalline polymer. **07**  
(b) What is the difference between thermoplastic and thermoset with example? **07**
- Q.2** (a) Write down the preparation, structural properties and applications of polypropylene. **07**  
(b) Write down the preparation, structural properties and applications of PVC. **07**
- OR**
- (b) Write down the structure, manufacturing methods, properties and application of polystyrene. **07**
- Q.3** (a) Write down the properties and application of ABS and polycarbonate. **07**  
(b) Write down the manufacturing methods, properties and application of PET and PBT. **07**
- OR**
- Q.3** (a) Mention the general properties and application of PVF and PTFE. **07**  
(b) Write down the manufacturing methods, properties and application of poly acetal. **07**
- Q.4** (a) List out the polymerization techniques? Explain any two polymerization techniques. **07**  
(b) Write down the properties and application of polyimide and polyamide. **07**
- OR**
- Q.4** (a) Write down the properties and application of urea formaldehyde and phenol formaldehyde. **07**  
(b) Mention the manufacturing method, properties of silicones and polyurethane. **07**
- Q.5** (a) What is recycling? Mention the recycling codes for plastic? What are the types of recycling? **07**  
(b) Explain briefly notes on: a) Bio-degradable polymer b) Water soluble polymer **07**
- OR**
- Q.5** (a) Explain the application of plastics in agriculture and packaging fields. **07**  
(b) Explain the application of plastics in medical and sports fields. **07**

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