

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-IV • EXAMINATION – SUMMER • 2014**

**Subject Code: 143404****Date: 25-06-2014****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) Define monomer and explain bulk polymerization. **07**  
(b) Explain Emulsion polymerization along with diagram. **07**
- Q.2** (a) Differentiate solution and suspension polymerization. **07**  
(b) Enlist commodity plastics and give preparation, properties and application of polypropylene. **07**
- OR**
- (b) Write down the structure, manufacturing method and application of polystyrene. **07**
- Q.3** (a) What are engineering plastics? Give complete detail for PEEK. **07**  
(b) Write a note on liquid crystal polymer. **07**
- OR**
- Q.3** (a) Give example for Conductive polymers and explain any one in detail. **07**  
(b) Mention structure, properties and application of polyamides. **07**
- Q.4** (a) Write down the properties and applications of PET and Polycarbonate. **07**  
(b) What are water soluble polymers and give preparation of any one water soluble polymer. **07**
- OR**
- Q.4** (a) Give recycling code for thermoplastic and explain types of recycling. **07**  
(b) Explain the application of plastics in sports, medical and aerospace. **07**
- Q.5** (a) Write a note on Phenol Formaldehyde resin. **07**  
(b) Give structure properties and application of Epoxy resin. **07**
- OR**
- Q.5** (a) Give preparation of polyester resin and its uses. **07**  
(b) Give uses of UF, MF and silicon resins. **07**

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