

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME Semester –III Examination Dec. - 2011**

**Subject code: 733003**

**Date: 08/12/2011**

**Subject Name: Introduction to Polymer Science and Technology**

**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) Explain classification of polymer with appropriate example. **07**  
(b) Enlist various measuring techniques of molecular weight of polymer. **07**
- Q.2** (a) Define following terms. **07**  
Polydispersity, Organic Polymer, Mark Houwink Equation  
(b) Discuss various types of polymers based on micro structures. **07**  
**OR**  
(b) Explain geometrical structure of polymers. **07**
- Q.3** (a) Discuss mechanism of co-ordination polymerization. **07**  
(b) Explain kinetics of step polymerization process. **07**  
**OR**
- Q.3** (a) Write a short note on free radical polymerization. **07**  
(b) Explain ionic polymerization with example. **07**
- Q.4** (a) Explain bulk polymerization technique of polymerization process. **07**  
(b) Write a short note on suspension polymerization process. **07**  
**OR**
- Q.4** (a) Discuss emulsion polymerization. **07**  
(b) Explain polymerization technique of Poly Butadiene Rubber. **07**
- Q.5** (a) Explain thermal degradation polymer. **07**  
(b) Discuss types of degradation based on kinetics. **07**  
**OR**
- Q.5** (a) Explain injection moulding process. **07**  
(b) Write a short note on extruder. **07**

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