

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION – WINTER • 2014

Subject Code: 153610

Date: 08-12-2014

Subject Name: Polymeric 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) Write in detail about mechanism of living polymerization and its application. **07**
(b) Write short note on synthesis of epoxy resin, raw material used and its application. **07**
- Q.2** (a) Write a detailed note on the Production, preservation, application and drawbacks of Natural Rubber. **07**
(b) Differentiate between Addition and Condensation Polymerization. And give five end use sectors for polymeric material with examples. **07**
- OR**
- (b) Explain structure confirmation of Natural Rubber by Ozonolysis **07**
- Q.3** (a) Write short note Polymer degradation. **07**
(b) Describe in detail about various polymerization techniques and their advantages and disadvantages. **07**
- OR**
- Q.3** (a) Explain thermosetting resins and show synthesis of any two. **07**
(b) Write a detailed note on the classification of polymers. **07**
- Q.4** (a) Write a short note on different types of Molecular weights and show derivation of any two. **07**
(b) Write in detail about Production, Properties and applications of NBR or SBR **07**
- OR**
- Q.4** (a) How can glass transition temperature be determined using DSC? **07**
(b) Write in detail about production, properties of IIR. **07**
- Q.5** (a) Explain the methods of evaluating Molecular weight using Vapour Pressure and Membrane Osmometry. **07**
(b) Write in detail about production, properties and applications of EPDM. **07**
- OR**
- Q.5** (a) How are various physical and chemical properties of a polymer related to its glass transition temperature? **07**
(b) Write a short note on ionic polymerization. **07**
