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 Osmometery.	**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**

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