Seat No.: Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III • EXAMINATION - WINTER • 2014

Su	bject	Code: 132301 Date: 01-01-2015	
Ti		Name: Introduction to Plastic Material Science 22.30 pm - 05.00 pm Total Marks: 70 ons:	
	1. 2. 3.	Make suitable assumptions wherever necessary.	
Q.1	(a) (b)	Explain about Bulk polymerization in detail. Explain classification of polymer in detail.	07 07
Q.2	(a)	Define initiators and inhibitors. Explain role of initiators and inhibitors in polymerization in detail. Explain condensation polymerization with example.	07 07
	(b)	OR	U
	(b)	Explain hydrolysis reaction and hydrogenation reactions in details.	07
Q.3	(a) (b)	List the basic steps in free radical polymerization .Explain them in detail. Discuss ring opening polymerization.	07 07
Q.3	(a) (b)	OR Compare: Thermoplastic with Thermoset Compare: Suspension Polymerization with Emulsion Polymerization.	07 07
Q.4	(a) (b)	Explain about functionality of Monomer and its effect on Polymer structure. Explain about Gas – Phase polymerization. OR	07 07
Q.4	(a) (b)	Explain: Polydispersity and Molecular Weight Distribution in Polymers. Explain about Addition Polymerization with example.	07 07
Q.5	(a)	Define Glass Transition Temperature. Explain about Viscous Flow and Visco elasticity.	07
	(b)	Explain (1) Hydrolysis (2) Aminolysis OR	07
Q.5	(a) (b)	Explain about Amorphous polymer in detail. Define Molecular Weight of Polymer. Explain Number Average Molecular Weight Concept.	07 07
