Seat No.: Enrolment No.	Seat No.:	Enrolment No.
-------------------------	-----------	---------------

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III • EXAMINATION – SUMMER • 2014

Sul	Subject Code: 132301 Date: 04-06-2014 Subject Name: Introduction to Plastic Material Science Time: 02.30 pm - 05.00 pm Total Marks: 70 Instructions:		
Tir			
		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Give the classification of Polymer and Explain it in detail. Compare: Thermoplastics with Thermosets.	07 07
Q.2	(a) (b)	Explain Bulk Polymerization Techniques in detail. Explain Addition and condensation Polymerization with example. OR	07 07
	(b)	Compare: Low molecular weight compound with High molecular weight (Polymeric) compound.	07
Q.3	(a) (b)	Explain Free radical Polymerization reaction in detail. Explain Gas phase Polymerization.	07 07
Q.3	(a) (b)	OR Explain about Tacticity with example. Explain Glassy state and Glass transition temperature (Tg) & Viscous Flow and Viscoelasticity.	07 07
Q.4	(a) (b)	Explain States of Aggregation for Polymeric compound. Explain Specific Volume V/S Temperature for Polymer. OR	07 07
Q.4	(a) (b)	Give difference between amorphous & crystalline polymers. Explain Polydispersity & Molecular weight distribution in polymers.	
Q.5	(a)	Explain the pattern of folding of chain occurs during crystallization. Explain the effect of crystallinity on properties of Polymer.	07
	(b)	Explain with suitable examples Hydrolysis and Acidolysis of polymers. OR	07
Q.5	(a) (b)	Explain cationic polymerization with suitable example. Explain about Initiator and Chain transfer agent in detail.	07 07
