Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V EXAMINATION - WINTER 2015

Subject Code: 152302 Subject Name: Physics of Plastics Time: 10:30am to 1:00pm Total Marks Instructions:			Date:17/12/2015	
		70		
	2. Ma	tempt all questions. ake suitable assumptions wherever necessary. gures to the right indicate full marks.		
Q.1	(a)	Differentiate between low molecular weight compounds and polymers	07	
	(b)	Discuss Factors Affecting Crystallinity	07	
Q.2	(a) (b)	Discuss Maxwell's model Discuss Boltzmann's superposition Principle OR	07 07	
	(b)	Discuss Flory Huggins Theory	07	
Q.3	(a)	What is GEL PERMEATION CHROMATOGRAPHY? Discuss in detail	07	
	(b)	 Discuss Theta Temperature Discuss Radius of Gyration 	07	
0.2	(a)	OR Discuss Process of Polymer Dissolution in detail	07	
Q.3	(a) (b)	Discuss Process of Polymer Dissolution in detail. Discuss Gradient Elution Technique	07 07	
Q.4	(a) (b)	Differentiate between amorphous and Crystalline Polymers 1. Discuss about Intrinsic Viscosity. 2. What is Random Walk probability? OR	07 07	
Q.4	(a)	Define: Chain length; Contour length; Nematic phase; Rayliegh Ratio; Crystallisability; Mesogens; Isomerism	07	
Q.4	(b)	Discuss Structural and Stereo Isomerism.	07	
Q.5	(a) (b)	Discuss Gaussian distribution What is Avogadro's number? If a PE molecule has 3000 nos.of monomers, each with a molar mass of 28 g/mol, calculate the weight of each molecule?	07 07	
0.5	(a)	OR Exploin the effects of chemical structure on To	07	
Q.5	(a) (b)	Explain the effects of chemical structure on Tg Discuss Mark Houwink equation and its significance	07 07	
