Sea	t No.:	Enrolment No	Enrolment No		
Sul	GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2016 Subject Code:2162605 Date:17 Subject Name: Thermoplastics Elastomers & Polymer Blends Time: 10:30 AM to 01:00 PM Total M				
	ruction		viains. /U		
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.			
Q. 1	Answ	er the following.	(14)		
	(i)	Define the term Melt Flow Index.			
	(ii)	What are the full name of PTMEG and 4-GT?			
	(iii)	"Footwear represents the single largest use of styrene block copolymers" justify the statement.			
	(iv)	Write the importance of hard segment & soft segment in Thermoplastic Elastomer & polymer blends.			
	(v)	Give any two differences between the EEA and EVA copolymers.			
	(vi)	Draw the chemical structure of Dimethyl Siloxane and Bisphenol A Carbonate type block polymers.			
	(vii)	Give the name of chain extenders useful in TPU Elastomer.			
Q. 2	(a)	Short note on: "Dry Blending Process".	(07)		
Q. 2	(b)	Write down the applications and features of Thermoplastic 1, 2-Polybutadiene Elastomer.	(07)		
		OR			
Q. 2	(b)	"Conventional Rubbers are replaced by TPE in automotive applications" justify this statement in detail.	(07)		
Q. 3	(a)	Explain the Extrusion processing conditions for Polyester Thermoplastic Elastomer.	(07)		
	(b)	Discuss the importance of compounding ingredients in SBS and SIS type TPE. Explain its effects on properties of TPE. OR	(07)		
Q. 3	(a)	Discuss the product applications of Hytrel/Arnitel thermoplastic polyester.	(07)		
	(b)	Define the term "Plastomer". Explain the structure and composition of plastomer with their processing methods.	(07)		
Q. 4	(a)	Short note on: "Somel Thermoplastic Elastomer (Polyolefin Thermoplastic Elastomer)".	(07)		
	(b)	List the polysiloxane based TPE. Explain any one in detail. OR	(07)		

(a) Explain the mechanical and electrical properties of Thermoplastic (07)

Q. 4

		Polyolefin elastomer.	
	(b)	Discuss on blends of natural rubber with polyethylene and polypropylene.	(07)
Q. 5	(a)	Write in detail about the application of Thermoplastics Elastomer as Adhesives.	(07)
	(b)	Answer the Following.	
	(i)	Discuss about the calendaring processing conditions for Thermoplastic Polyurethane Elastomer.	(04)
	(ii)	Describe the effect of moisture on Thermoplastic Polyurethane Elastomer. OR	(03)
Q. 5	(a)	'The largest application area for the Polyolefin Thermoplastic Elastomer is in the Automotive Market.' Justify in detail.	(07)
	(b)	List out the basic chemical reaction involved in synthesis of thermoplastic Polyurethane and explain any one in detail.	(07)
