Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VIII (NEW) - EXAMINATION – SUMMER 2018

Subject Code: 2182302 **Date: 04/05/2018**

Subject Name: Polymer Alloys and Blends

Time: 10:30 AM to 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.**

			MARKS
Q.1	**(a)**	Define a) Polymer alloy b) Polymer blend c) Engineering plastics	**03**
	(b)	What are the reasons for blending.	**04**
	(c)	List the steps in designing a polymer blend.	**07**
Q.2	**(a)**	What are Thermoplastic Elastomer? List its types.	**03**
	(b)	Explain briefly about PVC/ABS blends.	**04**
	(c)	List the methods of blending. Explain mechanical mixing in detail.	**07**
		OR	
	(c)	Write a short note on polymer blends used in cable industries.	**07**
Q.3	**(a)**	What is a compatibilizer? Explain the compatibilization mechanism using specific interactive group.	**03**
	(b)	List the advantages and disadvantages of Thermoplastic Elastomer.	**04**
	(c)	Write a short note on blends of PC.	**07**
		OR	
Q.3	**(a)**	Discuss about Noryl Blends.	**03**
	(b)	Explain polymer-polymer miscibility by thermodynamic approach.	**04**
	(c)	Discuss briefly about how blend components are selected.	**07**
Q.4	**(a)**	List the applications of Thermoplastic Elastomer.	**03**
	(b)	Explain the solution mixing technique for preparing polymer blends.	**04**
	(c)	Explain the Differential Scanning Calorimetry technique to characterize a blend.	**07**
		OR	
Q.4	**(a)**	What is reactive compatibilization? What are the advantages of Reactive compatibilization?	**03**
	(b)	Explain briefly about Twin screw extruders and its advantages in polymer mixing.	**04**
	(c)	Explain the Thermo Gravimetric Analysis to characterize a blend.	**07**
Q.5	**(a)**	Discuss briefly about properties and applications of PVC/NBR blends.	**03**
	(b)	Write a short note on Inter Penetrating Networks	**04**
	(c)	Explain the construction and working of Two roll mill.	**07**

OR

Q.5	**(a)**	Discuss about ABS copolymer.	**03**
	(b)	Write a short note on Scanning Electron Microscope (SEM).	**04**
	(c)	Explain the construction and working of a Banburry mixture.	**07**

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