

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023

Subject Code:3173619**Date:08-12-2023****Subject Name: Polymer Blends and Composties****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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Define (a) Miscible polymer blend (b) Compatibilization	03
	(b) Explain major classes of Compatibilizers.	04
	(c) Give the classification of polymer blends.	07
Q.2	(a) Write down the Fundamentals of polymer mixing.	03
	(b) Write down the difference between polymer blends and alloys.	04
	(c) Mention different methods of blending. Write in brief about any one method.	07
OR		
	(c) Write a short note on PVC/ABS blends.	07
Q.3	(a) What do you mean by interaction parameter?	03
	(b) Write down the benefits and problem associated with blending process.	04
	(c) Explain polymer miscibility by using Phase diagram.	07
OR		
Q.3	(a) What do you mean by Commercial Polymer Blends?	03
	(b) Write a short note on PVC/SAN blends.	04
	(c) Write in brief about dispersed phase morphology.	07
Q.4	(a) What are the Functions of constituent phases?	03
	(b) What are the factors affecting properties of polymer blends?	04
	(c) Write a short note on Characterization of polymer blends.	07
OR		
Q.4	(a) Write down the application of miscible blends.	03
	(b) Give the classification of composite.	04
	(c) Mention the advantages and limitations of polymer matrix composites over MMC and CMC.	07
Q.5	(a) What are the properties of PC/ABS blend?	03
	(b) Explain the theory of toughening.	04
	(c) Explain in detail about Thermoplastic elastomers (TPEs).	07
OR		
Q.5	(a) What are the raw materials required for composite preparation?	03
	(b) Write down the applications of composites and nanocomposites?	04
	(c) Explain in detail about toughening of Thermosets.	07
