

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023

Subject Code:3172608

Date:19-12-2023

Subject Name:Rubber Adhesion and Adhesion Science

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) Give the difference between the Adhesion and Cohesion.	03
	(b) List the advantages and disadvantages of solvent based adhesive.	04
	(c) Which factors are important to select the adhesives? Explain in detail.	07
Q.2	(a) Draw the schematic represents of types of stresses in adhesive Joints.	03
	(b) How the viscosity is important for adhesives? Explain it.	04
	(c) Describe the compounding for Neoprene latex based adhesives in detail.	07
	OR	
	(c) Describe the Resins function in Rubber based adhesives.	07
Q.3	(a) Which basic Natural Rubber types are recognized internationally by appearance and description only?	03
	(b) Write the importance of reinforcing agents in Natural rubber adhesive.	04
	(c) Give the classification of SBR latexes. Explain any one in detail.	07
	OR	
Q.3	(a) “SBR rubber adhesive is poor in tack” justify the statement. Why?	03
	(b) Give any one SBR based adhesive formulation with its applications.	04
	(c) Describe in detail about vulcanizing Natural Rubber based adhesive.	07
Q.4	(a) Name the any one 3-component Solvent mixture for Nitrile rubber adhesives.	03
	(b) Write the advantages of Vinsol ester gum resin in Nitrile rubber adhesives.	04
	(c) Explain the properties of Cynoacrylate adhesive bonds.	07
	OR	
Q.4	(a) Give the advantages of Cynoacrylate adhesive.	03
	(b) How is a thermoplastic rubber formulation developed to match adhesive applications requirements?	04
	(c) Discuss in detail about compounding of Nitrile (NBR) rubber adhesive.	07

- OR**

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