

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V EXAMINATION – SUMMER 2025****Subject Code:3152312****Date:13-05-2025****Subject Name:Adhesives and Sealants in Plastics****Time:02:30 PM TO 05:00 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 sealant with its example	03
	(b) Explain hot melt adhesive.	04
	(c) Explain resin based adhesive with its suitable uses.	07
Q.2	(a) How to improve compatibility of adhesive to adherent?	03
	(b) Enlist the necessity of surface treatment for the adherent	04
	(c) Explain about phenolic resin adhesive and acrylic adhesive	07
	OR	
	(c) What type of adhesive used for joining of metal with plastic and accordingly what type of surface treatment has been carried out for both different substrates?	07
Q.3	(a) Enlist the application of adhesion .	03
	(b) What is adhesive handling? Write down any one adhesive preparation method.	04
	(c) Write short notes on isocyanate based adhesive and Polyvinyl acetate emulsions for adhesives.	07
	OR	
Q.3	(a) Name Adhesives used for wood bonding and packaging	03
	(b) Discuss applications for cyanoacrylate adhesives	04
	(c) Discuss in detail about Silicone based adhesives and sealants	07
Q.4	(a) Write use of SBR in construction industry	03
	(b) Define anaerobic adhesives with example	04
	(c) Write short notes on anaerobic adhesives and amino resin adhesive	07
	OR	
Q.4	(a) Write three example of wood adhesives	03
	(b) Write about adhesives used in electronic industry	04
	(c) Discuss about maximizing Joint Efficiency.	07
Q.5	(a) List applications of Adhesives for building construction	03
	(b) Explain Solvent Bonding of plastics. Give application methods for solvent bonding	04
	(c) Discuss various plastics used as High performance sealants	07
	OR	
Q.5	(a) Give role of polyvinyl alcohol used for adhesives	03
	(b) Give advantages and limitations of Polyurethane adhesives.	04
	(c) Discuss test methods for evaluating Pressure Sensitive Adhesives (PSA) products.	07
