## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-VII(NEW) • EXAMINATION - WINTER 2016** 

Subject Code:2172605

Subj	ect Na	ame:Rubber Adhesion & Adhesion Science(Department Elec	etive - II)
Time	e:10.3	0 AM to 1.00 PM Total Ma	arks: 70
Instru	ctions:		
		ttempt all questions.	
		lake suitable assumptions wherever necessary.	
	3. F	igures to the right indicate full marks.	
Q. 1	Answer the following.		
	(i).	Define the term: (i) Cohesive, (ii) Primer.	(14)
	(ii).	Write the three component solvent mixtures for preparing	
	(11)•	Nitrile rubber adhesive.	
	(iii).	What do you mean by mastics?	
	(iv).	Draw the schematic represents of types of stresses in adhesive	
	(-1)	joints.	
	(v).	List the name of resin which is used in Butyl and	
	( )	Polyisobutylene adhesive.	
	(vi).	List the methods to increase the tack in SBR adhesive?	
	(vii).	Give the advantages of resin to incorporated in Neoprene latex	
		by solvent emulsion techniques.	
Q. 2	(a)	List out the important factors for selection of adhesives. Explain	<b>(07)</b>
	( )	all in detail.	,
Q. 2	<b>(b)</b>	Explain the function of Resins in rubber based adhesives.	<b>(07)</b>
<u>۷</u> ۰-	(2)	OR	(07)
	<b>(b)</b>	List the types of Rubber based adhesives. Give the difference	<b>(07)</b>
	(6)	between Solvent adhesive and Latex adhesive.	(07)
Q. 3	(a)	How the viscosity is important for adhesives? Write about the	(07)
Q. 3	(a)	method to control the viscosity for Neoprene based adhesives.	(07)
	<b>(b)</b>		(07)
	<b>(b)</b>	Describe in detail about non-vulcanizing NR Latex based	<b>(07)</b>
		adhesive with suitable application. OR	
0.1	( )	021	(05)
Q. 3	<b>(a)</b>	Discuss in detail about properties and testing of Neoprene	<b>(07)</b>
		rubber adhesives.	
	<b>(b)</b>	Write a short note on: "Reclaimed rubber adhesive".	<b>(07)</b>
Q. 4	<b>(a)</b>	Explain the preparation of polyurethane adhesive without	<b>(07)</b>
		addition of Isocyanate.	
	<b>(b)</b>	How the different grades of Polymers & Solvents can be selected	<b>(07)</b>
		to prepare the Nitrile rubber adhesive. Explain it.	
		P.T.O	

Date:29/11/2016

Q. 4	(a)	List out the method/types of polyurethane and isocyanate based adhesive systems. Explain any two in detail with suitable examples and their uses.	(07)
	<b>(b)</b>	Write a short note on: "Nitrile Rubber Latex Adhesive".	(07)
Q. 5	(a)	Write the importance of silane coupling agents in rubber adhesive. Discuss about the effect of silane on Thermoset resins.	(07)
	<b>(b)</b>	Discuss in detail about mixing and processing techniques for Butyl rubber Adhesive.  OR	(07)
0.5	(0)		(07)
Q. 5	(a)	Describe in detail about types of SBR which are used for adhesives purpose.	(07)
	<b>(b)</b>	Describe the applications of Cynoacrylate adhesives.	(07)

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