Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV(New) EXAMINATION – SUMMER 2016

Subject Code:2142605 **Date:26/05/2016**

Subject Name:Latex Technology

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.**

Q.1		Answer the following:	(14)
	1	List the factors which affect the yield of Natural Rubber latex.	
	2	Write the principal phases of Natural latex.	
	3	What do you mean by Destabilization in latex?	
	4	How colloidal sulfur is obtained?	
	5	Write the function of Turbo-stirrer for latex industry.	
	6	Give the limitation of Slush moulding process.	
	7	Define the term: Electrophoresis.	
	8	Give the name of any two early tapping systems.	
	9	How the presences of Magnesium Ions affect latex properties?	
	10	Write the basic classification of Antioxidants used for latex.	
	11	Give the flexing rate and time for Flex Resistance measurement of foam rubber products.	
	12	What do you mean by latex-fruit syndrome?	
	13	Write any one difference between Latex casting and Latex Dipping.	
	14	How Solutions are different from Dispersions?	
Q.2	(a)	Draw the schematic diagram showing Ammoniation of Natural Rubber latex.	(03)
	(b)	Explain the yield simulation technique for improvement of Natural latex yield.	(04)
	(c)	How concentration of NR latex can be carried out by Evaporation method? Explain the process and write its disadvantages also.	(07)
		OR	
	(c)	Draw the diagram showing Principle of Electrodecantation method and explain it in detail.	(07)
Q.3	(a)	Write about the working mechanism of Mechanical Stability Tester(MST).	(03)
	(b)	Explain the mechanism of gelation for natural latex by using acid.	(04)
	(c)	Write about different types of Accelerators used for latex compounding and their basic characteristics.	(07)

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OR

Q.3	(a)	Name the equipment used for foam generation in latex by mechanical method and write about its machine geometry.	(03)

	(b)	Write about Delayed action gelling system.	(04)
	(c)	List the Inorganic fillers for latex compounding and explain the function of any two.	(07)
Q.4	(a)	Which alternatives can be select to prevent Natural latex allergy.	(03)
	(b)	List the precautionary steps to minimize latex allergy.	(04)
	(c)	Mention the basic principle of Colloid mill. Explain about Premier colloid mill with schematic diagram.	(07)

OR

Q.4	(a)	Give the brief overview on Natural latex allergy.	(03)
	(b)	List the basic types of latex allergy and write their characteristics.	(04)
	(c)	Discuss about the important variables which affect the efficiency of Ball mill in detail.	(07)
Q.5	(a)	Define the term: “Dry Rubber Content (DRC)”. Write the formula to measure %DRC.	(03)
	(b)	Name the equipment used to measure the viscosity of latex and explain the procedure.	(04)
	(c)	Explain the procedure for latex slush moulding using plaster mould.	(07)

OR

Q.5	(a)	What do you mean by “Zinc Stability Time (ZST)”? Write its practical significance in latex processing.	(03)
	(b)	How sludge is formed in Latex? Explain the procedure for determination of sludge content in latex.	(04)
	(c)	Name the process by which meteorological balloons are manufactured and explain the process in detail.	(07)

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