Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-IV Examination June- 2010

Subject code:142602

Subject Name: Natural Rubber Science & Technology

Date: 18 / 06 /2010 **Time: 10.30 am – 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	Write about 'Skim Rubber'.	
	2	List the different types of Chemical Modification of Natural Rubber.	
	3	How Graft Copolymers can behave as a Thermoplastic Rubber?	
	4	Explain the First Law of Diffusion.	
	5	What do you mean by Partitioning agents? List the name of it.	
	6	Write the uses of Reclaim Rubber.	
	7	Define the term 'Transmissibility.	
Q.2	**(a)**	Discuss the different stages of Crystallization process.	**07**
	(b)	Write about Alternative Grafting Chemistry.	**07**
		OR	
	(b)	List the factors affecting Tensile Strength of Graft Copolymers. Explain any one in detail.	**07**
Q.3	**(a)**	Short note on Processing of Natural Rubber.	**07**
	(b)	Discuss different types of depolymerised rubber according to the degree of degradation.	**07**
		OR	
Q.3	**(a)**	How the Conventional forms of Natural Rubber are graded? Discuss the different conventional grades of Natural Rubber.	**07**
	(b)	Write in detail about the Applications of ENR.	**07**
Q.4	**(a)**	Discuss the diffusion of water in rubbers. Draw the schematic representation of model for water absorption.	**07**
	(b)	Write the advantages of Powdered Rubber.	**07**
		OR	
Q.4	**(a)**	Discuss the general features of Wax Blooming.	**07**
	(b)	Explain the processing of Powdered Rubber.	**07**
Q.5	**(a)**	Answer the following.	**10**
	1	Discuss the preparation of Liquid Telechelic Polymers.	
	2	Describe in detail about Reclaimantor process.	
	(b)	'Rubber is not normally used in tension in engineering application'. Give the reason for that.	**04**
		OR	
Q.5	**(a)**	Answer the following.	**10**
	1	Write about Liquid Polysulfide Polymers.	
	2	Write about advantages of Reclaiming.	
	(b)	Discuss the load deflection characteristics of bonded rubber components.	**04**

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