Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2132602 **Date: 05/06/2017**

Subject Name: Rubber 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	Mention the chemical name of Natural Rubber.	
	2	List the applications of Lignin as a Natural polymer.	
	3	What is Tapping?	
	4	Which chemicals are used in production of Chloroprene monomer?	
	5	What do you mean by Polymer degradation?	
	6	Write any two advantages of Orientation on Polymer properties.	
	7	List the various types of Rubber tree.	
	8	List the basic characteristics of Butadiene monomer.	
	9	Write the function of stabilizers in polymer compounding.	
	10	What is polymer sorbent?	
	11	Write any one important characteristic of Chlorine element.	
	12	Give the importance of Shellac as a Natural polymer.	
	13	List the basic types of Nucleic Acid.	
	14	What is polymer crystallinity?	
Q.2	(a)	Why Tapping is carried out at early morning? Give reason.	(03)
	(b)	Draw the diagram for structure of Seed of Hevea Brasiliensis tree with labeling.	(04)
	(c)	Short note on Bud Grafting process.	(07)
		OR	
	(c)	Draw the schematic diagram showing mature Trunk of Hevea Brasiliensis tree and explain the function of all important regions.	(07)
Q.3	(a)	Define the term: Copolymer. Write about the types of copolymers.	(03)
	(b)	Explain the term: “Glass Transition Temperature” and write its importance.	(04)
	(c)	List the methods for manufacturing of Styrene monomer and explain any one with reaction mechanism.	(07)
		OR	
Q.3	(a)	Mention various factors which affect on Crystallinity of Polymers.	(03)
	(b)	Write about any two factors which affects on Glass Transition Temperature of Polymer.	(04)
	(c)	Short note on Phillips process.	(07)
Q.4	(a)	Explain the mechanism of Polymer Sorption.	(03)
	(b)	Give comparison between Phenolic resins and Amino resins.	(04)
	(c)	Mention the importance of Protein as a Natural polymer and Give its Basic classification.	(07)
		OR	

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Q.4	(a)	List the methods for formation of Porous structure in Polymers.	(03)

	(b)	Write about the production of Phenolic resins.	(04)
	(c)	What do you mean by Regenerated Cellulose? Explain its manufacturing process and properties.	(07)
Q.5	(a)	Give the importance of Fluorine element on Polymer chemistry.	(03)
	(b)	Explain about “Cold Stretching” method for polymer Orientation.	(04)
	(c)	Mention the basic mechanism of Polymer degradation and explain it with schematic representation.	(07)

OR

Q.5	(a)	Write about any two impurities remain in polymer composition.	(03)
	(b)	Explain about Uniaxial Orientation.	(04)
	(c)	Discuss in detail about Thermal Degradation of Polymers.	(07)

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