Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III(New) EXAMINATION - SUMMER 2016

Subject Code:2132602		de:2132602 Date:02/0	6/2016
Subject	t Na	me:Rubber Technology	
Time:1	0:30	O AM to 01:00 PM Total Ma	rks: 70
Instructi	ons:		
1		tempt all questions.	
		ake suitable assumptions wherever necessary.	
	. Fig	gures to the right indicate full marks.	(1.4)
Q.1		Answer the following:	(14)
	1	Write the chemical name of Natural Rubber.	
	2	Name the process for production of Styrene monomer.	
	3	Write the importance of Coal as a natural polymer.	
	4	What do you mean by Polymer degradation?	
	5	List any two Impurities present in Polymers.	
	6	Name the chemical used in synthesis of Amino resins.	
	7	Write the applications of Lignin.	
	8	What do you mean by Sorbent?	
	9	Give the effect of Orientation on mechanical properties of Polymer.	
	10	Write the any one importance of the Glass Transition Temperature of polymer?	
	11	Name the reagents used for synthesis reaction for Chloroprene monomer.	
	12	List the name of any two types of trees from which Natural latex can be obtained?	
	13	Write the function of Antioxidants.	
	14	Write the characteristics of Latex vessels.	
Q.2	(a)	Write the characteristics and applications of Shellac.	(03)
	(b)	Give the major classification of Protein as a Natural polymer.	(04)
	(c)	List the process for production of Butadiene monomer. Explain	(07)
	(C)	any one with reaction mechanism.	(07)
		OR	
	(c)	Short note on Ammoxidation process.	(07)
Q.3	(a)	What do you mean by Thermosetting Resins? Write its	(03)
Q.S	(a)	advantages.	` ,
	(b)	Write the important stages involved in synthesis of Phenolic resins.	(04)
	(c)	List the methods for Polymer Orientation and explain about any	(07)
		two.	
		OR	
Q.3	(a)	Write the applications of Phenolics.	(03)
-	(b)	Give comparison between Amino resins and Phenolic Resins.	(04)
	(c)	Explain the mechanism of Polymer Orientation and write about	(07)
	(•)	the basic types of Orientation.	(31)
.		P.T.O	(0.5)
Q.4	(a)	How the presences of Bulky groups in Polymers affect Polymer Crystallinity?	(03)

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	(b)	Draw the schematic diagram showing Glass Transition	(04)
		Temperature (Tg) and explain it.	
	(c)	Discuss in detail about Mechanical degradation of polymer.	(07)
		OR	
Q.4	(a)	Explain the effect of Polarity on Glass Transition Temperature (Tg) of Polymers.	(03)
	(b)	Explain the effect of chain geometry on Polymer Crystallinity.	(04)
	(c)	List the basic mechanism of Polymer degradation. Explain about any one with schematic diagram.	(07)
Q.5	(a)	How Porous structure of Polymers can be obtained by using Solvent?	(03)
	(b)	Give difference between Sorption and Adsorption.	(04)
	(c)	Discuss the importance of Carbon element in Polymer chemistry.	(07)
		OR	
Q.5	(a)	How the Porosity can be introduced in polymers by using Porophores.	(03)
	(b)	What do you mean by Porosity? List the parameters for estimation of Porosity of a Sorbent.	(04)
	(c)	Explain the characteristics and importance of any two Halogen elements in polymer chemistry.	(07)
