Seat No.:	Enrolment No.
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## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER- IV(NEW) EXAMINATION - SUMMER 2015** 

Subject Code:2143602 Date:01/0 Subject Name: Rubber Chemistry and Natural Polymers(Department			
Ele	ective	· · · · · · · · · · · · · · · · · · ·	<b>70</b>
	tructio	ons: Attempt all questions. Make suitable assumptions wherever necessary.	
Q.1	(a)	Write chemical structures of following: Isoprene, Choloroprene, NBR, Buna-S, Natural Rubber, Neoprene, EPDM	07
	<b>(b)</b>	Write one function of each: accelerator, activator, curing agent, antioxidant, extender oils, fillers, pigments.	07
Q.2	(a) (b)	Write in detail preparation, properties and uses of Epoxy resins. What is vulcanization? Explain with the help of compounding and mastication steps.	07 07
		OR	
	<b>(b)</b>	Write short notes on any two a) Styrene b) Butadiene c) cellulose d) unsaturated polyester resins	07
Q.3	(a) (b)	Write a detailed note on natural material based polymers.  Detailed note on polyamides and polylactic acid.  OR	07 07
Q.3	(a) (b)	Draw a flow chart for manufacturing of IIR and also state its applications.  Write a note on Nitrile rubber and describe the synthesis of acrylonitrile also.	07 07
Q.4	(a) (b)	Write a detailed note on Natural Rubber stating its drawbacks and applications. Explain E and S-SBR. Write its manufacture process in detail.	07 07
Q.4	(a)	<b>OR</b> What is the chemical name of Neoprene? Write a note on Neoprene including synthesis of its monomer.	07
	<b>(b)</b>	Write a note on production, properties and applications of EPDM.	07
Q.5	(a) (b)	Write in detail about comparision of sulphur and peroxide vulcanization. Explain in details about lignin and alkyd resins.	07 07
Q.5	(a)	<b>OR</b> What is Chitosan? Write reactions for the preparation of chitosan from chitin and its application.	07
	<b>(b)</b>	Write notes on any two: Proteins, Natural Rubber Collection & preservation, Synthetic Polyisoprene, starch	07

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