Seat No.:	Enrolment No.
scai iv	Lindinent 110.

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER - IV • EXAMINATION - WINTER 2012

Subject Name: Institute Elective-1 (Introduction to Rubbers & Rubbery Materials)

Date: 31/12/2012

Subject code: 142604

Ti	me: 02	2.30 pm - 05.00 pm Total Marks: 70	
In	struc	tions:	
	1. 2. 3. 4.	Attempt any five questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. Assume suitable data wherever necessary.	
Q. 1	(a) (i) (ii) (iii) (iv) (v) (vi) (vii)	Answer the following. Write the importance of mastication in Mixing. What do mean by Hysteresis loss (H)? Give the difference between Thermoplastics & Thermosetting Polymers. Wax blooming is preferable or not? Why? Explain the term 'Friction Ratio'. How the Zinc oxide & Stearic acid works as an Activator? Write the function of Peptisers.	(14)
Q. 2 Q. 2	(a) (b)	Discuss the importance of accelerators in rubber compounding with examples. Discuss the Construction and Working of Mixing Mill. OR	(07) (07)
	(b)	Short note on Factice.	(07)
Q. 3	(a) (b)	Discuss the Sulphur Vulcanization with its mechanism. Discuss in detail about the Non-Sulfur Vulcanizing system for Olefin Rubbers	(07) (07)
Q. 3	(a) (b)	OR Write the difference between Organic & Inorganic Polymers List the factors affect the Crystallinity of Polymers.	(07) (07)
Q. 4	(a) (b)	Write the Synthesis reaction for Butyl Rubber (IIR). Explain about Curing System of Butyl Rubber in detail. What do you mean by Tapping? Write in detail about processing of NR latex after tapping.	(07)
Q. 4	(a) (b)	OR Write the Synthesis reaction for Chloroprene rubber. Write about its vulcanizate properties and applications. Write in details about Properties of Natural Rubber.	(07) (07)
Q.5	(a) (b)	List the molecular factors controlling glass transition temperature (Tg) of rubber and explain it in detail. Discuss the different ways of distinguishing the effectiveness of preservative for	(06)
Q.5	(a) (b)	Latex. OR Write in details about solution properties of Rubber. Short note on 'Reclaimed Rubber'.	(06) (08)
