Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2724002 **Date: 25/05/2016**

Subject Name: Rubber Blends

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	(a)	Short note on: ñMiscible Rubber Blendsò.	(07)
	(b)	How can be achieving high damping properties for rubber products?	(07)
Q. 2	(a)	Describe the basic problems and solutions for NR/NBR cure system.	(07)
Q. 2	(b)	Describe in detail about blending methods for NR/NBR blends with NR/PMMA graft copolymers.	(07)
		OR	
Q. 2	(b)	Describe the Cross-linking density distribution in the blends of NR/NBR with NR/PMMA graft copolymers.	(07)
Q. 3	(a)	Discuss the Compounding of NR/NBR blends for food contact applications.	(07)
	(b)	Define the term ñDynamic vulcanisationò. Discuss the dynamic curing systems for NR/EPM blends.	(07)
		OR	
Q. 3	(a)	Answer the following.	
	(i)	Justify the role of MG30 rubber as a compatibalizer in NR/NBR blends.	(04)
	(ii)	Write about the importance of NR/EPM Blends.	(03)
	(b)	Short note on: ñSandwich mix Cycleò.	(07)
Q. 4	(a)	Explain in detail about the effect of Polychloroprene content on crosslink distribution & physical properties.	(07)
	(b)	Short note on: ñCure system of NR/ENR-25 Blendsò.	(07)
		OR	
Q. 4		List the analytical methods for rubber blend characterization. Explain any two in detail.	(14)
Q. 5	(a)	Explain in detail about the EPDM modification effects on crosslink density.	(07)
	(b)	Discuss in detail about Carboxylated NBR with PVC blends.	(07)
		OR	
Q. 5	(a)	Describe the compounding of NR/EPDM blends for light coloured application.	(07)
	(b)	Discuss in detail about Carboxylated elastomers with Polyamides blends.	(07)

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