Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2721607 **Date: 27/05/2016**

Subject Name: Polymer Materials & Testing

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)	Discuss in general about Polybutadiene Rubber with their formula.	(07)
	(b)	Describe in detail about Silicone Rubber with their formula, grades, uses and properties.	(07)
Q.2	(a)	Write the properties and common household uses for Polypropylene, Polystyrene, Acrylic Plastics and Polycarbonates.	(07)
	(b)	What do you mean by Plastics? State the difference between HDPE & LDPE.	(07)
		OR	
	(b)	Write in detail about Epoxy Resins.	(07)
Q.3	(a)	List the important requirements of a Fibre.	(07)
	(b)	Write the different types of Rayon. Discuss about anyone type of rayon in detail.	(07)
		OR	
Q.3	(a)	Explain in detail about the different methods for Spinning a Polymer.	(09)
	(b)	List the steps for the preparation of artificial fibres.	(05)
Q.4	(a)	Justify the difference between Quality control & Quality assurance.	(07)
	(b)	Explain the influence of storage, its period & condition on the properties of polymer product.	(07)
		OR	
Q.4	(a)	Justify the importance of Quality Control in Polymer Industry.	(07)
	(b)	What do you mean by Non-destructive Testing? Write its importance & application area. List the different method used as Non-destructive Test methods.	(07)
Q.5	(a)	Write the importance of Tensile Strength properties for vulcanized rubber. Discuss the procedure, calculation & principles of the test.	(07)
	(b)	Define the Term óCompression Set at Constant Strainô. Write in detail about its apparatus, duration and procedure for measuring.	(07)
		OR	
Q.5	(a)	Describe in detail about Measurement of Cut Growth of Rubber by the use of Ross Flexing Machine.	(07)
	(b)	Write the importance of abrasion test for polymer products. Also discuss about the abrasive cloth & procedure & test methods carried out for the abrasion test.	(07)

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