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## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION - WINTER • 2014

Subject Code: 152603 Date: 03-12-2014 **Subject Name: Textile & Metal Reinforcement of Elastomers** Time: 10.30 am - 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. **Answer the following (14) Q.1** List the different Coating process for Industrial Textiles used in Rubber (i) Industry. Which are the Causes for occurring of bubbles during Liquid Silicone (ii) Rubber Coating? Write the Classification for failure in Rubber used for bonding with metal. (iii) "Excessive Softneres reduce the rubber to metal bond strength." Justify the (iv) statement. **(v)** What do you mean by Composites? List the applications of Rubber – Textile composite products with their advantages. State the difference between Fibre & Filament. (vi) List the name of processes in which Bonding Process is subdivided. (vii) **Q.2** Write the difference between Stenter type & Tyre-Cord Heat Setting (07) (a) Machinery. Answer the following. **(b)** State the difference between Industrial Textile Coatings & Fashion Textile (i) (04)Coatings. (ii) Write the advantages of Silicone Coatings. (03)OR **(b)** List the Industrial Textile Coating Applications in different field. (07)**Q.3** Discuss in detail about the Properties of Synthetic Fibres. (07)(a) **(b)** Describe the Carding process for manufacturing of Cotton. (07)OR **Q.3** List the properties of Cuprammonium Rayon & Viscose Rayon. (a) (07)Write the General Characteristics & Physical Properties of Aramid. **(b)** (07)----P.T.O----

Q.4	(a)	Discuss in detail about the Properties of Fibre filled rubber compound.	(07)
2	<b>(b)</b>	Describe about Air Texturing method of texturing yarns for industrial applications.	(07)
		OR	
Q.4	(a)	Write in detail about Santoweb Short Fibre used in Rubber Industry.	(07)
	<b>(b)</b>	Explian the different alternative twisting systems used for twisting the cord which is used in Tyre Product.	(07)
`	(a)	Explain the Stress Warp Fabric Structures used for reinforcement of Belt.	(07)
	<b>(b)</b>	Which are the mechanical & chemical treatment given to the metal like Brass & Copper ,Low Carbon Steel and Titanium used for rubber to metal bonded products.	(07)
		OR	
Q.5	(a)	List the different methods for Non Woven Fabrics. Write about any two in detail.	(07)
	<b>(b)</b>	Short note on "Selection of Materials" for strong and environmental resistant bonds.	(07)

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