

Seat No.: _____

Enrolment No. _____

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.

Q.1 Answer the following (14)

- (i) List the different Coating process for Industrial Textiles used in Rubber Industry.
- (ii) Which are the Causes for occurring of bubbles during Liquid Silicone Rubber Coating?
- (iii) Write the Classification for failure in Rubber used for bonding with metal.
- (iv) “Excessive Softeners reduce the rubber to metal bond strength.” Justify the statement.
- (v) What do you mean by Composites? List the applications of Rubber – Textile composite products with their advantages.
- (vi) State the difference between Fibre & Filament.
- (vii) List the name of processes in which Bonding Process is subdivided.

Q.2 (a) Write the difference between Stenter type & Tyre-Cord Heat Setting Machinery. (07)

- (b) Answer the following.**
- (i) State the difference between Industrial Textile Coatings & Fashion Textile Coatings. **(04)**
 - (ii) Write the advantages of Silicone Coatings. **(03)**

OR

- (b) List the Industrial Textile Coating Applications in different field. (07)**

Q.3 (a) Discuss in detail about the Properties of Synthetic Fibres. (07)

- (b) Describe the Carding process for manufacturing of Cotton. (07)**

OR

Q.3 (a) List the properties of Cuprammonium Rayon & Viscose Rayon. (07)

- (b) Write the General Characteristics & Physical Properties of Aramid. (07)**

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- Q.4 (a)** Discuss in detail about the Properties of Fibre filled rubber compound. (07)
- (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)** Explain the different alternative twisting systems used for twisting the cord which is used in Tyre Product. (07)
- Q.5 (a)** Explain the Stress Warp Fabric Structures used for reinforcement of Belt. (07)
- (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)** Short note on “ Selection of Materials” for strong and environmental resistant bonds. (07)
