

GUJARAT TECHNOLOGICAL UNIVERSITY**B.E. Sem-Vth Examination December 2010****Subject code: 152603****Subject Name: Textile & Metal Reinforcement of Elastomers****Date: 16 /12 /2010****Time: 03.00 pm - 05.30 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**
- a. Give the difference between Natural Silk & Artificial Silk.
 - b. List the main objectives of Wet Blast Phosphatig.(WBP)
 - c. Define the term (1) Filament (2) Thread.
 - d. List the applications of Rubber yarns.
 - e. Write the industrial application of Santoweb fibre.
 - f. Which are the key requirements of Industrial Textile Coatings in Construction Applications?
 - g. Excessive Softeners reduce the Rubber to Metal bond strength.' Justify the statement.
- Q.2** (a) What are Industrial Textiles? Write the applications & key requirements of Industrial Textile Coatings in Transportation Applications **07**
- (b) Discuss in detail about Isocynate Bonding. **07**
- OR**
- (b) Write the probable causes & their remedies for failure at the Rubber Cement interface. **07**
- Q.3** (a) List the important requirements of a Fibre. **07**
- (b) Explain the Bale breaking & Carding process for Cotton. **07**
- OR**
- Q.3** (a) Discuss the general Physical properties of Nylon & Polyester. **07**
- (b) Discuss the different methods of spinning a polymer. **07**
- Q.4** (a) Explain in detail about Single end cord treatment units. **06**
- (b) Explain in brief about Weft Knitting Process. **05**
- (c) Write about the processing of Fibre filled compounds. **03**
- OR**
- Q.4** (a) Discuss in detail about Environmental factors affecting Adhesion **06**
- (b) Explain in brief about Weft Knitting Process. **05**
- (c) Write about different types of Short fibres. **03**
- Q.5** (a) Short note on Fibre Bonding for Santoweb Short Fibres. **05**
- (b) Write about the three alternative procedures for Peel test involving light weight coatings on fabrics. **05**
- (c) List the Technical advantages & Technical Limitation for Short Kevlar Aramid Fibres. **04**
- OR**
- Q.5** (a) List the applications of Santoweb fibre in commercial Products. **05**
- (b) Discuss the Non-Standard methods of assessing results of Peel Test. **05**
- (c) Write about the three major direction of testing & Orientation of Short Kevlar Aramid Fibres. **04**