Seat No.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER V • EXAMINATION – WINTER - 2012

Subject code: 152603 Date: 17-01-2013 **Subject Name: Textile & Metal Reinforcement of Elastomers** Time: 02:30 pm to 05:00 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 List the important requirement of a Fibre. (04)Write the different steps for preparation of Artificial Fibres. (03)Explain in detail about different methods of Spinning. (07)(c) **Q.2** Answer the following (a) What are the Industrial Textiles? Write its application & its key requirements (i) (05)for Sports & Leisure field. (ii) List the different types of Coating methods for Industrial Textiles. (02)**(b)** Write the applications & properties of Aramid fibre. (07)Discuss the manufacturing process of Rayon by Viscose method. (07)**(b)** Q.3 Write about Elastomeric Fibres. (03)(a) Describe about the Bonding through Chemical Forces. (05)**(b)** Give the Classification of Textile Fibres. (c) (06)OR Q.3 Write about the basic categories & their sub categories of bond failure. (05)(a) **(b)** Short note on Fibre Morphology. (09)List the different methods used for the production of Non-Woven fabrics. (07)**Q.4** (a) Write about any two in detail. Discuss about the Compounding of Short Fibre materials. **(b)** (07)**Q.4** Write about Fabric Designation System. (07)(a) List the Technical advantages, limitation & barriers for Kevlar Aramid Short (07)**(b)** Fibres. **Q.5** (a) Discuss in detail about the effects of rubber compounding ingredients on (07)adhesion. Explain the standard test procedure for Peel strength. (07)**(b)** OR **Q.5** (a) Short note on "Environmental Factors Affecting Adhesion." (07)(07)Explain about the Peel Test involving Light Weight Coatings on Fabrics. **(b)** \*\*\*\*\*\*