

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE SEM-VI Regular Examination May 2011**

**Subject code: 162904**

**Subject Name: Technical Textiles-I**

**Date: 21/05/2011**

**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** (a) Define technical textiles and draw the technical textile material, processes and product chart. **07**
- (b) Name the specialty fibres that are utilized for production of technical textiles and write briefly on: **07**
- i. Glass fibre      ii. Carbon fibre
- Q.2** (a) Give the flow diagram of the production cycle of Nonwovens and write on the principle of carding machine used in Nonwoven industry. **07**
- (b) Write a short note on Filter fabrics. **07**
- OR**
- (b) Write a short note on Non apparel applications of Coated fabrics. **07**
- Q.3** (a) Explain the concept of Parallel laying and Cross laying. State which one is more advantageous and explain why. **07**
- (b) Write briefly on the following : **07**
- Air laying              b. Spun laying      c. Stitch bonding
- OR**
- Q.3** (a) Write a short note on Needle felting. **07**
- (b) Write a short note on Thermal bonding. **07**
- Q.4** (a) Name the different polymers that are utilized to coat the textile materials and write on Lamination technique. **07**
- (b) With neat sketches explain Knife coating method and discuss Knife geometry. **07**
- OR**
- Q.4** (a) Explain the concept of Calendaring with reference to Coated fabrics. **07**
- (b) Write on the following : **07**
- a. Non woven filters
- b. Pile fabric filters
- Q.5** (a) Write a short note on recent developments in the field of Medical textiles. **07**
- (b) Discuss the primary factors which influence the design or selection of filter media. **07**
- OR**
- Q.5** (a) Write briefly on the following : **07**
- a. Protective textiles
- b. Geotextiles
- c. Industrial textiles
- (b) Explain the production process of Nylon tyre cord fabric. **07**

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