Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – WINTER 2013

Subject Code: 162904 **Date: 06-12-2013**

Subject Name: Technical Textiles-I

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	**(a)**	Discuss briefly the essential requirements of a good filter fabric.	**07**
	(b)	Define nonwoven fabric. Explain the method of production of melt blown nonwoven fabric with the help of neat diagram.	**07**
Q.2	**(a)**	What are Agrotextiles ? State the advantages of using Agrotextiles.	**07**
	(b)	What are Geo textiles? State the major functions of Geotextiles and list out various applications of geotextiles.	**07**
		OR	
	(b)	Compare properties of Woven, Nonwoven and knitted filter fabrics briefly.	**07**
Q.3	**(a)**	Compare wet laid web with dry laid web. With the help of neat diagram, explain random laid web formation process in detail.	**07**
	(b)	Compare stitch bonding process with needle punching process. With the help of neat diagram, explain needle punching process in detail.	**07**
		OR	
Q.3	**(a)**	State the advantages and disadvantages of adhesive bonding process as compared to other bonding process. Also explain the adhesive bonding process in detail with the help of neat diagram.	**07**
	(b)	With the help of neat diagrams, explain the principles of working of thermal and print bonding process in detail.	**07**
Q.4	**(a)**	Discuss the application of PVC as a coating material.	**07**
	(b)	With the help of neat sketch, explain the hot melt coating in detail.	**07**
		OR	
Q.4	**(a)**	Discuss the application of rubber as a coating material.	**07**
	(b)	With the help of neat sketches, describe Knife coating in detail.	**07**
Q.5	**(a)**	Discuss briefly about Medical Textiles and its various application.	**07**
	(b)	Discuss briefly about : i. Glass fiber ii. Aramid Fiber	**07**
		OR	
Q.5	**(a)**	State the advantages of foam bonding over other process. Explain the foam bonding process in detail with the help of neat diagram.	**07**
	(b)	Discuss briefly about : i. Carbon Fiber ii. Metal Fiber	**07**

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