Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2017

•	Cod		/05/2017
•	0:30	me: Technical Textile-I O AM to 01:00 PM Total M	Iarks: 70
1. 2.	Att Ma	empt all questions. ke suitable assumptions wherever necessary. ures to the right indicate full marks.	MARKS
Q.1		Short Questions	14
•	1	Write the definition of Technical textiles.	
	2	Name the natural fibres used in manufacturing Technical textiles.	
	3	State the advantages of Polyamide fibre making it suitable for manufacturing Technical textiles.	
	4	State the special application of PPS and PEEK.	
	5	Name any UHMWPE fibres and state its special feature.	
	6	Name the synthetic polymers considered suitable for Civil and agricultural engineering.	
	7	State the special feature of Flash spinning.	
	8	What is a latent solvent with reference to the Solvent bonding process?	
	9	Air laid fabrics are randomly laid fabrics. True or False.	
	10	Which of the following characteristics is directly related to the pore diameter of a nonwoven material? a) Fibre diameter b) Fibre packing density c) Number of layers	
	11	Which machine is modified for the purpose of Stitch bonding commonly?	
	12	What is Hydroentanglement?	
	13	Give the definition of Composite materials.	
	14	The coatings used in technical textiles are polymers? Thermoplastic or Thermosetting.	
Q.2	(a)	State the various applications of Technical textiles.	03
	(b)	Explain briefly the technical fabric structure – Woven fabric and Knitted fabric.	04
	(c)	Write a short note on Textile-reinforced composite materials. OR	07
	(c)	Explain the wet processing carried out of Technical textiles.	07
Q.3	(a)	What are Nonwovens?	03
	(b)	Write on the principle of Carding and Stripping at Roller top carding machine.	04
	(c)	Discuss the fibre preparation processes carried out in the Nonwoven manufacturing industry.	07

OR

Q.3 (a) Give the sequence of operation followed in manufacturing of

(b) Define and explain briefly the following terms: Intensity of Carding

Nonwoven fabric.

and Delay factor.

03

04

	(c)	Compare the Parallel laying and Cross laying process with neat	07
		sketches, its advantages and disadvantages and its application.	
Q.4	(a)	State the advantages of Coating.	03
	(b)	Discuss the objective of Hypalon as a Coating material.	04
	(c)	Compare the Thermal bonding and Chemical bonding process.	07
		OR	
Q.4	(a)	Name the Coating materials used in technical textiles.	03
	(b)	Write on the different types of knife profiles possible in Knife coating method.	04
	(c)	Explain the Needle punching process in detail with neat sketches.	07
Q.5	(a)	State the effects which may be achieved by Calendering.	03
	(b)	How is transfer coating carried out?	04
	(c)	Explain the finishing processes possible for Technical textiles.	07
		OR	
Q.5	(a)	Write on the essentials of Heat setting finishing.	03
_	(b)	Compare Coating and Lamination.	04
	(c)	Discuss briefly the mechanical behavior of Woven fabric-reinforced composites.	07
