

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2023****Subject Code:3162904****Date:06-07-2023****Subject Name:Technical Textiles****Time:10:30 AM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Define technical textile and classify it.	03
	(b) Discuss present market scenario of technical textiles.	04
	(c) Explain, in detail, any two leno weaving applications in technical textiles with the help of neat diagrams.	07
Q.2	(a) Give classification of nonwoven fabrics.	03
	(b) Discuss about the nonwoven fabric forming techniques.	04
	(c) Explain, in detail, the principle of working of needle punched nonwoven fabric formation technique with the help of neat diagram. Also, state the parameters controlling the quality of needle punched fabric.	07
	OR	
	(c) Explain, in detail, technical fibres and yarns used in technical textiles.	07
Q.3	(a) Discuss some of the widely used fibres in medical textiles.	03
	(b) What is the advantage of treating fibres with copper ? With the help of neat diagrams, explain the applications of copper treated fibres.	04
	(c) Compare spunbond with spunlace nonwoven fabric. With the help of neat diagram, explain the principle of working of spunbond nonwoven fabric formation technique.	07
	OR	
Q.3	(a) Classify medical textiles based on areas of applications.	03
	(b) Discuss physical and environmental requirements of military textiles.	04
	(c) Write short notes on – Fire proof jacket and Bullet proof jacket.	07
Q.4	(a) State the functions and applications of Clothtech and Hometech.	03
	(b) Explain some of the raw materials used for sport textiles along with various applications.	04
	(c) Discuss, in detail, some of the applications of composites in technical textiles.	07
	OR	
Q.4	(a) State the functions and applications of Agrotech and Buildtech.	03
	(b) State and explain different applications for environmental protection.	04
	(c) Compare coating with lamination process. With the help of neat diagrams, explain different types of coating processes.	07
Q.5	(a) State the functions and applications of Geotech and Mobiltech.	03
	(b) Discuss about favourable properties of woven fabrics against nonwoven fabrics in different technical textile applications.	04
	(c) Write short notes on – Carbon filament yarn and HDPE filament yarn	07

OR

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| Q.5 | (a) | State the functions and applications of Indutech and Packtech. | 03 |
| | (b) | Discuss some of the flame retardant finishes available in the market. | 04 |
| | (c) | Explain, in detail, applications of nanotechnology in technical textiles. | 07 |
