



B.E/B.TECH DEGREE EXAMINATIONS: NOV/DEC 2024

(Regulation 2018)

Seventh Semester

TEXTILE TECHNOLOGY

U18TXT7001: Technical Textiles

COURSE OUTCOMES

- CO1:** Describe the scope and classification of technical textiles.
CO2: Outline the fibres, yarns and fabric types used in technical textiles.
CO3: Classify the properties required for fabric constituent to use in Agro textiles, Geo textiles and filtration textiles.
CO4: Deduce role of textile materials in the medical textiles product development.
CO5: Outline the functions and various requirements of protective textiles, sports textiles and transportation textiles.

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

(Answer not more than 40 words)

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|---|-----|-------------------|
| 1. Relate the significance and scope of flexible textile materials in technical textiles. | CO1 | [K ₁] |
| 2. Outline the impact of technical textiles on national and international markets. | CO1 | [K ₂] |
| 3. List the basic properties of fibers required for Technical Textiles. | CO2 | [K ₁] |
| 4. What are the fundamental requirements of filtration fabrics? | CO3 | [K ₁] |
| 5. What is the purpose of geotextile in drainage systems? | CO3 | [K ₁] |
| 6. Classify medical textiles based on material and the area of applications. | CO4 | [K ₂] |
| 7. Which are the characteristics essential for manufacturing protective textiles? | CO4 | [K ₁] |
| 8. What is meant by high-altitude clothing? Write its applications. | CO5 | [K ₃] |
| 9. Name the items that are made from textiles for the transportation industry. | CO2 | [K ₁] |
| 10. While designing a sportswear narrate the factors to be considered. | CO5 | [K ₃] |

Answer any FIVE Questions:-

PART B (5 x 16 = 80 Marks)

(Answer not more than 400 words)

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|--|---|-----|-------------------|
| 11. a) Among natural and synthetic fibres, which fiber will be more suitable for technical textile product manufacturing? Why? | 6 | CO2 | [K ₃] |
|--|---|-----|-------------------|

	b)	Name the four fabric manufacturing systems available for manufacturing technical textile products. Explain in detail with suitable technical applications.	10	CO2	[K ₅]
12.	a)	Net and meshes are widely used in agro textiles. Classify the net types used for agro textiles and explain their scope and features with suitable examples.	8	CO3	[K ₄]
	b)	How filters are classified based on the filtering mechanism? Explain in detail relating to fibre and fabric used.	8	CO3	[K ₅]
13.	a)	Compare and contrast the use of natural, regenerated and synthetic fibres in geotextile.	6	CO3	[K ₄]
	b)	Explain the process and procedures carried out in biodegradable and non-biodegradable medical textiles.	10	CO4	[K ₅]
14.	a)	Why high-performance fibres are preferable for manufacturing protective textiles. Discuss in detail with suitable examples.	8	CO5	[K ₆]
	b)	Summarise the ideal features of fire-retardant fabric. Discuss the methods to achieve the same for firefighting suits.	8	CO5	[K ₆]
15.	a)	Draw the schematic diagram of a car and name the places where the textile material can be used. Identify and explain the significance of textile materials in car interiors.	8	CO3	[K ₃]
	b)	List the different types of sportswear. Explain each type with its raw material used and the special features of clothing.	8	CO5	[K ₅]
16.		Technical textiles are used for functional properties rather than their aesthetic value. Analyze the basic materials, processes and products that are commonly used for technical textiles manufacturing with suitable examples.	16	CO1	[K ₄]
