



B. TECH DEGREE EXAMINATIONS: DEC 2022

(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. Define technical textiles. Provide two examples of technical textiles. | CO 1 | [K ₁] |
| 2. What is braiding in textiles? Mention two applications of braided textiles. | CO 1 | [K ₁] |
| 3. Name the type of loom commonly employed in producing agro-textiles. Why is that loom preferred? | CO 2 | [K ₁] |
| 4. Enlist two objectives of filtration with suitable examples. | CO 2 | [K ₂] |
| 5. Provide four functions of geotextiles. | CO 3 | [K ₁] |
| 6. Classify medical textiles with examples | CO 3 | [K ₂] |
| 7. Define the physical hazards with sources against which protection needs to be provided. | CO 4 | [K ₁] |
| 8. State the function of camouflage, concealment and deception techniques. | CO 4 | [K ₂] |
| 9. Four types of belts are widely employed in machinery. Name them. | CO 5 | [K ₁] |
| 10. List essential characteristics of sportswear. | CO 5 | [K ₁] |

Answer any FIVE Questions: -

PART B (5 x 16 = 80 Marks)

(Answer not more than 400 words)

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|--|---|------|-------------------|
| 11. a) Provide the classification of technical textiles and briefly write about any two classes. | 8 | CO 1 | [K ₂] |
| b) Why is non-woven material cheaper to produce than other fabric types? Distinguish between needle-punched and spun-laced non-wovens. | 8 | CO 1 | [K ₃] |

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|-----|----|--|---|------|-------------------|
| 12. | a) | List and describe any four essential properties of agro-textiles | 8 | CO 2 | [K ₃] |
| | b) | Discuss the selection criteria for industrial waste water filter fabrics | 8 | CO 2 | [K ₃] |
| 13. | a) | Justify the use of natural fibres such as ramie and jute in geotextiles employed to prevent soil erosion. | 8 | CO 3 | [K ₃] |
| | b) | What are surgical sutures? Discuss about their essential properties, types and constituent materials. | 8 | CO 3 | [K ₃] |
| 14. | | Bring out the difference between water proof, water resistant and water vapor permeable materials. Indicate the applications for these products. | | CO 4 | [K ₃] |
| 15. | a) | Write short note on Any two key requirement of fabrics used in airbags and any two fibres used in aircraft | 8 | CO 5 | [K ₄] |
| | b) | Elucidate about four applications of technical textiles in cricket | 8 | CO 5 | [K ₄] |
| 16. | a) | Discuss four primary performance requirements for protective firefighting clothing. | 8 | CO 4 | [K ₃] |
| | b) | Compare the construction of soft and hard body armor for ballistic protection | 8 | CO 4 | [K ₃] |
