



B.TECH DEGREE EXAMINATIONS NOV/DEC2023

(Regulation 2018)

Second Semester

TEXTILE TECHNOLOGY

U18TXI2201: Textile Fibres

COURSE OUTCOMES

CO1: Discuss about the natural fibers.

CO2: Discuss about manufacturing process, properties & applications of regenerated fibers.

CO3: Explain about the manufacturing process, properties & applications of synthetic fibers

CO4: Summarize about specialty fibers and identification of fibers.

CO5: Outline about the post spinning operations.

Time: Three Hours

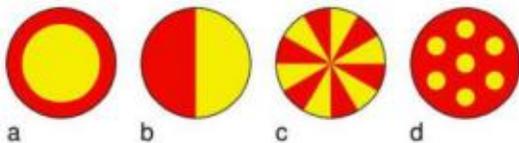
Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

(Answer not more than 40 words)

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|--|-----------------------|
| 1. Can all fibres be spun as textile yarns? Justify. | CO1 [K ₂] |
| 2. What are the advantages of crimp in wool fibre | CO1 [K ₁] |
| 3. Compare viscose rayon and lyocell manufacturing process. | CO2 [K ₂] |
| 4. Outline the properties of soyabean fibres. | CO2 [K ₂] |
| 5. Mention the fibres that will float on water and state the reason. | CO3 [K ₂] |
| 6. How to identify nylon6 and nylon 66 fibres? | CO3 [K ₁] |
| 7. Identify the bicomponent fibres | CO4 [K ₂] |



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| 8. The chemical structure of the para and meta aramid are same. But their properties differ. Justify. | CO4 [K ₂] |
| 9. Outline the importance of texturizing process | CO5 [K ₂] |
| 10. Summarize its importance of spin finish | CO5 [K ₂] |

Answer any FIVE Questions:-

PART B (5 x 16 = 80 Marks)

(Answer not more than 400 words)

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|-----|--|---|-----|-------------------|
| 11. | Analyze the properties of cotton fibre based on the morphology of cotton fibre.
Discuss the physical and chemical properties of cotton | | CO1 | [K ₄] |
| 12. | a) Explain in detail the melt spinning process with neat illustration | 8 | CO2 | [K ₂] |
| | b) Explain the chemical reactions during the rayon manufacturing process and the functions of the chemicals used in the coagulation bath for spinning viscose rayon. | 8 | CO2 | [K ₂] |
| 13. | a) Elaborate on the polymerization steps and manufacturing process of Polyester. | 8 | CO3 | [K ₆] |
| | b) Discuss briefly the properties and applications of the nylon 6, acrylic, and polypropylene fibres | 8 | CO3 | [K ₆] |
| 14. | Discuss in detail about the manufacturing process and properties of carbon fibres. | | CO4 | [K ₆] |
| 15. | a) Elaborate on the principle of Airjet twist texturing methods. | 8 | CO5 | [K ₆] |
| | b) Outline the importance of drawing process of synthetic fibres and highlight the structural change due to drawing. | 8 | CO5 | [K ₂] |
| 16. | Elaborate the morphology and properties of wool fibre with neat sketch. | | CO1 | [K ₄] |
