



B.E/B.TECH DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2018)

Fourth Semester

TEXTILE TECHNOLOGY

U18TXT4001: Yarn Manufacturing Technology II

COURSE OUTCOMES

- CO1:** Explain the basic principles of different spinning system.
CO2: Compare the basic principle of different spinning system.
CO3: Plan the outline spinning system based on end use applications.
CO4: Calculate the production as well as draft of all the spinning systems.
CO5: Modern development in all spinning system.

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. List the type of flutes used in bottom roller in ring spinning system. | CO1 | [K ₁] |
| 2. State the spindle speed in rpm and delivery rate in meters per minute of modern ringframe. | CO5 | [K ₃] |
| 3. Mention the principle of compact spinning system. | CO2 | [K ₂] |
| 4. Compare compact spun yarn with ring spun yarn with respect to any two yarn quality. | CO2 | [K ₁] |
| 5. What is back doubling in rotor spinning? | CO4 | [K ₃] |
| 6. State the importance of navel in rotor spinning system. | CO3 | [K ₁] |
| 7. Which type of friction spinning system used for the production of multi component yarns? | CO5 | [K ₄] |
| 8. Draw the structure of core spun yarns. | CO3 | [K ₂] |
| 9. State the merits of Two for one twister. | CO4 | [K ₂] |
| 10. Which type of yarn is produced in Bob tex spinning systems? | CO1 | [K ₂] |

Answer any FIVE Questions:-

PART B (5 x 16 = 80 Marks)

(Answer not more than 400 words)

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| 11. a) Calculate the total draft, count of the yarn in Ne, production of the ringframe in grams per spindle per 8 hours with following data: Break draft =1.3, Main draft = 15, Hank of the roving = 1.4 Ne, Spindle speed in rpm =18000, Twist Multiplier =4, Machine efficiency = 97 %, Number of spindle per machine =1008. | 8 | CO4 | [K ₃] |
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| | b) | Describe the formation of staple spun yarn in ringframe with sketch. | 8 | CO1 | [K ₁] |
| 12. | a) | Elaborate the modern developments in ring spinning systems. | 8 | CO5 | [K ₃] |
| | b) | Describe the working principle of any one compact spinning systems with sketch. | 8 | CO5 | [K ₃] |
| 13. | a) | Analyze the advantages and limitations of rotor spinning systems. | 8 | CO4 | [K ₂] |
| | b) | Explain the role of opening roller in rotor spinning systems with sketch. | 8 | CO1 | [K ₁] |
| 14. | a) | State and explain the classifications of friction spinning systems. | 8 | CO2 | [K ₂] |
| | b) | Elaborate the twist insertion principle of airvortex spinning systems with sketch. | 8 | CO2 | [K ₃] |
| 15. | a) | Explain the principle of formation of air jet spun yarns with suitable diagram. | 8 | CO3 | [K ₂] |
| | b) | List and explain the structure ,properties and applications of any four fancy yarns. | 8 | CO3 | [K ₂] |
| 16. | a) | Describe the working principle of SIRO spinning systems with sketch. | 8 | CO1 | [K ₂] |
| | b) | Describe the working principle of self twist spinning systems with sketch. | 8 | CO1 | [K ₂] |
