



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

(Regulation 2018)

Fifth Semester

**TEXTILE TECHNOLOGY**

U18TXT5004: Knitting Technology

**COURSE OUTCOMES**

**CO1:** Describe the concept of knitting.

**CO2:** Summarize the working Principle of plain, rib and interlock knitting machine.

**CO3:** Examine the Weft knitted structures.

**CO4:** Describe the fundamentals and working of warp knitting machine.

**CO5:** Examine the basic warp knitted structures.

**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. Identify the functions of a sinker in knitting.  | CO1 | [K <sub>2</sub> ] |
| 2. Compare and contrast warp and weft knitted fabrics in terms of structure and properties. | CO1 | [K <sub>2</sub> ] |
| 3. List and explain the key elements of a flat knitting machine.                            | CO2 | [K <sub>2</sub> ] |
| 4. Illustrate and describe the needle gating system used in a rib knitting machine.         | CO2 | [K <sub>3</sub> ] |
| 5. Define and calculate the tightness factor in knitting.                                   | CO3 | [K <sub>2</sub> ] |
| 6. Create a design for a check effect pattern in knitted fabrics.                           | CO3 | [K <sub>2</sub> ] |
| 7. Differentiate between the terms overlap and underlap in warp knitting with examples.     | CO4 | [K <sub>3</sub> ] |
| 8. Explain the concept of "rack" in warp knitting and its significance.                     | CO4 | [K <sub>2</sub> ] |
| 9. Design and present the structure of a lock knit pattern                                  | CO5 | [K <sub>2</sub> ] |
| 10. Evaluate and discuss four applications of knit structures in technical textiles.        | CO5 | [K <sub>2</sub> ] |

**Answer any FIVE Questions:-**

**PART B (5 x 16 = 80 Marks)**

**(Answer not more than 400 words)**

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|--|---|-----|-------------------|
| 11. a) Explain one complete cycle of spring beard needle with neat sketch. | 8 | CO1 | [K <sub>2</sub> ] |
| b) Summarize the yarn quality requirements for weft knitting.              | 8 | CO1 | [K <sub>4</sub> ] |

12.	a)	Describe the working principle of plain knitting machine.	8	CO2	[K <sub>3</sub> ]
	b)	Explain the cam arrangement in plain knitting machine.	8	CO2	[K <sub>3</sub> ]
13.		Describe and analyze the working of an electronic Jacquard system in creating designs.	16	CO2	[K <sub>4</sub> ]
14.		Examine and evaluate various knitting fabric defects, their causes, and remedies to control them.	16	CO3	[K <sub>5</sub> ]
15.		Compare and contrast the working principles of Raschel and Tricot warp knitting machines.	16	CO4	[K <sub>4</sub> ]
16.		Explain and discuss the working principle of seamless knitting.	16	CO5	[K <sub>4</sub> ]

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