



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

(Regulation 2018)

Fourth Semester

**TEXTILE TECHNOLOGY**

U18TXI4203: Woven Fabric Structure and Design

**COURSE OUTCOMES**

- CO1:** Design various weave structures.  
**CO2:** Draw corded structures.  
**CO3:** Illustrate colour and weave effects.  
**CO4:** Draw and analyses the double cloth structures.  
**CO5:** Draw pile 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. Calculate the cloth cover factor if the warp count is 36 Ne, EPI is 60, weft count is 25 Ne and PPI is 45. | CO1 | [K <sub>2</sub> ] |
| 2. List out any two essential properties required for toweling fabric.  | CO1 | [K <sub>2</sub> ] |
| 3. Classify welt and pique structures.  | CO2 | [K <sub>2</sub> ] |
| 4. What is spot figuring?   | CO2 | [K <sub>2</sub> ] |
| 5. Classify colours based on pigment theory.  | CO3 | [K <sub>2</sub> ] |
| 6. List out any four methods of producing colour and weave effect using woven structure and design.           | CO3 | [K <sub>2</sub> ] |
| 7. Illustrate the formation of double cloth using suitable interlacement diagram.                             | CO4 | [K <sub>2</sub> ] |
| 8. List out any two reasons for introducing wadding end or pick in double cloth structure.                    | CO4 | [K <sub>2</sub> ] |
| 9. Enlist the factors governing the pile density and pile height in weft pile structure.                      | CO5 | [K <sub>2</sub> ] |
| 10. Classify warp pile structure.   | CO5 | [K <sub>2</sub> ] |

**Answer any FIVE Questions: -**  
**PART B (5 x 16 = 80 Marks)**  
**(Answer not more than 400 words)**

11. Illustrate with design, draft, and peg plan for a herring bone twill by considering the parent twill as 3/3 twill. CO1 [K<sub>4</sub>]
12. Construct a plain bedford cord using pair of pick principle if the cutting end to face end ratio is 1:4. Draw the design, draft, peg plan and cross section also. CO2 [K<sub>5</sub>]
13. Draw the design, draft and peg plan of a warp backed fabric if the face weave is 3/1 twill, Back weave is 2/2 twill and the face end to back end ratio is 1:1 CO3 [K<sub>4</sub>]
14. Illustrate the design of the double cloth using the following details. CO4 [K<sub>5</sub>]

Particulars	Details
Type of double cloth	Warp wadded double cloth
Face weave	2/2 twill
Back weave	3/1 twill
Face end: Wadding end: Back end ratio	1:1;1
Face pick : Back Pick ratio	1;1

15. Illustrate with the design, uncut cross section and cut cross section of the weft plush velveteen fabric if the ground pick to pile pick ratio is 1:3 and the pile weave is 1/2 twill derivative constructed 2 at a time (weft way marking) CO5 [K<sub>5</sub>]
16. Illustrate with design, draft, and peg plan for a huck a back weave repeating on 8 ends and 8 picks. CO1 [K<sub>4</sub>]

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