



B.TECH DEGREE EXAMINATIONS: MAY 2017

(Regulation 2015)

Fourth Semester

FASHION TECHNOLOGY

U15FTT402 Fabric Structure and Design

COURSE OUTCOMES

CO1: Illustrate the elements of woven fabric design. (K3)

CO2: Develop elementary fabric weave structures (K3)

CO3: Explain colour theory and modifications of colour (K3)

CO4: Develop creative weave designs using color and weave effects (K3)

CO5: Develop structures for complex woven fabric.(K3)

CO6: Explain the characteristics, properties and applications of woven fabric structures (K2)

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Match the following

CO2 [K₃]

List I - Weave Design		List II - Drafts	
A. Sateen		i. Straight draft	
B. Ordinary honeycomb		ii. Divided draft	
C. Terry		iii. Skip draft	
D. Matt rib		iv. Pointed draft	

- | | A | B | C | D |
|----|-----|----|-----|----|
| a) | ii | i | iii | iv |
| b) | iii | iv | ii | i |
| c) | ii | iv | iii | i |
| d) | iii | i | ii | iv |

2. The cloth has a warp of 100 cm wide, with 30 ends/per cm and the repeat of a weave has 6 ends and 6 picks. Calculate the number of repeats along the width of the fabric.

CO6 [K₄]

- | | |
|--------|--------|
| a) 500 | b) 200 |
| c) 300 | d) 600 |

3. Which of the following statements are true with respect to Bedford cord weave? CO5 [K₃]
1. Bedford cord produce longitudinal weft lines in the cloth.
 2. The cord weave is alternated by plain/twill weave in weft way.
 3. In Bedford cord, the cutting ends weave is plain and face end weave is cord/plain.
 4. Bedford cord constructed on pair of ends.
- a) 1,3 b) 1,4
c) 1,2 d) 2,3
4. Assertion (A): Lustre arises from the reflection of light by the irregularities within fibre of a textile material. CO3 [K₄]
Reason (R): The smooth, uniform surface, low twist and longer float lengths gives a very high lustre.
- a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A
c) A is true but R is false d) A is false but R is true
5. Assertion (A): Straight draft progress successfully from first to last heald frame. CO1 [K₄]
Reason (R): The Pegplan for straight draft is as same as the weave design
- a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A
c) A is true but R is false d) A is false but R is true
6. Assertion (A): Cloth has red and blue stripes, the red appears tinged with yellow. CO4 [K₄]
Reason (R): The colour appears to be tinged with the complementary hue of its neighbor.
- a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A
c) A is true but R is false d) A is false but R is true
7. Sequence the construction of warp backed fabric design CO5 [K₂]
1. Marking of face and back yarns
 2. Selection of face and back weaves
 3. Insertion of back weave on back yarns
 4. Insertion of face weave on face yarns
- a) 2-1-4-3 b) 2-4-3-1
c) 1-4-2-3 d) 1-3-2-4

8. The Terry towel fabric is a _____ CO5 [K₃]
- a) Warp pile structure with two series of warp and one series of weft yarn b) Weft pile structure with two series of warp and one series of weft yarn
- c) Weft pile structure with two series of warp and one series of weft yarn d) Weft pile structure with two series of weft and one series of warp yarn
9. Assertion (A): The firmness of the twill fabric depends on the intersection of yarns. CO2 [K₄]
Reason (R): The float of the yarns and cover of the fabric influence the firmness.
- a) Both A and R are Individually true and R is the correct explanation of A b) Both A and R are Individually true but R is not the correct explanation of A
- c) A is true but R is false d) A is false but R is true
10. Select the Suitable loom equipment to produce complex patterns on the fabric CO5 [K₂]
- a) Dobby b) Jacquard
- c) Tappet d) Drop box

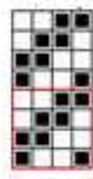
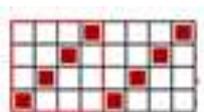
PART B (10 x 2 = 20 Marks)

(Answer not more than 40 words)

11. Compare and comment the following fabrics with respect to twill prominence. CO2 [K₄]
Fabric 1 : 108 ends/inch; 72 picks/inch and 3/1 twill
Fabric 2 : 72 ends/inch; 72 picks/inch and 2/2 twill
12. Draw the design for the given draft and Pegplan CO1 [K₃]

Draft

Pegplan



13. Design 8 end Mock leno with draft and Pegplan. CO2 [K₃]
14. Illustrate any one spot design with plain order. CO2 [K₃]
15. Differentiate doobby and Jacquard design. CO2.5 [K₂]
16. Relate fabric characteristics and appearance of colour. CO3.6 [K₄]
17. Enlighten the parameters to be considered in designing a colour and weave effect. CO4 [K₂]
18. Differentiate velvet and velveteen structure. CO5 [K₂]
19. State the factors that affect the density of the pile. CO6 [K₄]
20. Differentiate backed cloth and double cloth. CO5 [K₂]

Answer any FIVE Questions:-

PART C (5 x 14 = 70 Marks)

(Answer not more than 300 words)

Q.No. 21 is Compulsory

21. Design and develop suitable two weave design with draft and peg plan for towel fabric with properties expected in it. CO1,2, 5 [K₃]
22. Draw the design, draft and pegplan for the following. CO1,2 [K₃]
- i. Herring bone twill – base twill 4/4 (5)
- ii. 4/3 matt rib (4)
- iii. Huck a back – repeat size 8X8 (5)
23. i. Construct an extra warp figuring design in which the motif is of order 9x9 with two colours. The ground is plain and G:F – 1:1. Show the bindings on the design. (7) CO5 [K₃]
- ii. Discuss on Modifications of colours (7) CO3 [K₂]
24. Discuss the pile formation mechanism in terry with a sketch. Give its loom requirements and quality particulars of fabrics. (6) CO6 [K₂]
- Give the design, draft, pegplan and fabric cut cross sections for plain back velveteen. (8) CO5 [K₃]
- Pile weave – 4 end irregular sateen, repeat size – 8x12 and ratio of ground to pile pick is 1:4.
25. Construct the colour and weave effects for step line design with the repeat size 16x16. Identify a suitable weave to complete the same. CO4 [K₃]
26. With a neat sketch explain the method of constructing self stitched double cloth, stitching from face to back. CO5 [K₂]
27. Draw the design for the following. CO2 [K₃]
- i. Crepe weave – 3/1 twill over a 4 end sateen (4) ,5
- ii. Warp backed fabric - 3/1 twill (5)
- iii. Ordinary welt with repeat size of 6x10 and stitching ends float over 2 picks. (5)
