Register Number:……..

KUMARAGURU
college of technology
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**B.TECH DEGREE EXAMINATIONS: MAY 2017**

(Regulation 2015)

Fourth Semester

**FASHION TECHNOLOGY**

U15FTT401**:** Weaving Technology

**COURSE OUTCOMES**

**CO1:** Acquire knowledge in the objectives and working principles of various machines used for yarn preparation for weaving

**CO2:** Describe the working principle of beam preparatory machines for weaving

**CO3:** Develop knowledge in the selection of sizing ingredients for different fibres

**CO4:** Discuss the objectives and working principles of various shuttle and shuttle less looms

**CO5:** Develop knowledge in selection suitable preparatory process for weaving

**CO6:** Acquire knowledge on the process and quality control in the preparatory process as well as in weaving.

**Time: Three Hours** **Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. Matching type item with multiple choice code CO4 [$K_2$]

| List I | List II |
|---|---|
| A. Water jet looms | i. Very high WIR and high reed width |
| B. Rapier looms | ii. Specially suited for weaving delicate yarns |
| C. Air jet looms | iii. Only hydrophobic yarns |
| D. Gripper looms | iv. Moderately high WIR and highest possible reed width |

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

2. Select the main objective of winding CO1 [$K_4$]

a) getting longer length of yarn b) to wind a yarn in a compact manner.

c) to wind the yarn over the predetermined package. d) get a dense package.

3. The size preparation is highly influenced by CO3 [$K_4$]

1.Cooking equipment

2.Storing

3.Size ingredients concentration

4.Size formulation

Which of these statements are correct?

a) 3,4 b) 1,4

c) 1,2 d) 2,3

4. In a beam warping, expanding comb is used for controlling the _____. CO2 [$K_4$]

a) width of the beam b) height of the beam

c) length of the beam d) dimension of the beam

5. Assertion (A): In weaving, shedding motion is used to separate the warp threads into two layers. CO4 [$K_2$]

Reason (R): It is required for the insertion of weft yarn

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. In a negative dobby, the function of the mechanism is to control the heald frame ____. CO4 [$K_2$]

a) in only one direction b) in two directions

c) to give reciprocating movement. d) to give linear movement.

7. Consider the operation in the weaving process CO1 [$K_2$]

1. Weaving 2. Sizing 3. Winding 4.Warping

Select the correct sequence of weaving operations

a) 2-3-4-1 b) 1-3-2-4

c) 3-4-2-1 d) 4-1-3-2

8. Dewas system is a CO4 [$K_2$]

a) Tip transfer b) Loop transfer

c) Tip and loop transfer d) Knot transfer

9. Assertion (A): On a conventional loom, increase in dimension and mass of shuttle would cause elevated energy consumption and reduction in weft insertion rate — CO6 [$K_2$]

Reason (R): It is mainly due to the increase in the width of the loom.

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. Identify the Loom Data Monitoring system function. — CO6 [$K_2$]

a) To increase the production
b) To reduce the wastage
c) To control the humidity
d) To collect data from every loom and display at centralized computer

**PART B (10 x 2 = 20 Marks)**

**(Answer not more than 40 words)**

11. Classify yarn clearers. — CO1 [$K_4$]
12. What is the purpose of stop motion in a winding machine? — CO1 [$K_4$]
13. State the objectives of sectional warping process. — CO2 [$K_2$]
14. Identify the importance of adding antiseptics with the size paste — CO3 [$K_3$]
15. List the auxiliary motions in a loom. — CO4 [$K_2$]
16. State the principle of double lift single cylinder jacquard. — CO4 [$K_2$]
17. Classify shuttle and shuttleless looms. — CO4 [$K_2$]
18. Write notes on techno economics of projectile and rapier loom. — CO4 [$K_4$]
19. Identify the quality control measures required in cone winding. — CO6 [$K_2$]
20. Indicate the features of computerised fabric inspection system. — CO6 [$K_2$]

**Answer any FIVE Questions:-**

**PART C (5 x 14 = 70 Marks)**

**(Answer not more than 300 words)**

**Q.No. 21 is Compulsory**

21. Illustrate a high speed cone winding machine and explain the functional parts of it. — CO1 [$K_2$]

22. List out the sizing materials used for different types of fibre and with a neat sketch; explain the components of sizing machine. — CO3 [$K_2$]

| | | | |
|---|---|---|---|
| 23. | Illustrate the functional parts and explain their function of a modern beam warping machine. | CO2 | [$K_2$] |
| 24. | Discuss the working principle of pirn changing mechanism used in semi automatic loom. | CO4 | [$K_2$] |
| 25. | Review the working principle of a climax dobby with a neat diagram and give its advantages. | CO4 | [$K_2$] |
| 26. | Illustrate the different stages of weft insertion in an air jet weaving machine with suitable sketches | CO4 | [$K_2$] |
| 27. | Explain in detail about the process and quality control measures required in pirn winding, cone winding and beam warping. | CO6 | [$K_3$] |

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