KUMARAGURU
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Register Number: …….

B.TECH DEGREE EXAMINATIONS: MAY 2015

(Regulation 2013)

Fourth Semester

TEXTILE TECHNOLOGY

U13TXT403: Woven Fabric Manufacturing Technology

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

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Reserve yarn stored in a pirn to be used during pirn transfer is _____

   a) Ribbon b) band

   c) Bunch d) accumulator

2. Patterning occurs when the ratio of package (d) and drum (D) diameters is a…….

3. Which of the following is not a ingredient of sizing?

   a) CMC b) Teflon

   c) Lubricant d) Mutton tallow

4. Pre-wet sizing is also referred to as ……..

5. Which type of temple is preferred for weaving very delicate fabrics?

   a) Ring temple b) Rubber temple

   c) Pin temple d) Roller temple

6. The loom with pirn transfer mechanism mounted onto it is called……..

7. Which of the following is not a shuttle checking device?

   a) Raceboard b) Checkstrap

   c) Swell d) Hydraulic buffer

8. The production of a loom in m/shift running at 210 rpm at 90% efficiency and producing a fabric with 20 picks/cm is ……..

9. Bang-off is associated with _____

   a) Loose reed loom b) Fast reed loom

   c) Pit loom d) Circular loom

10. …….. checks the correct position of shuttle in shuttle box.

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

11. What are the objectives of cone winding?
12. List the various types of knots and splicing methods.
13. Enlist any four causes of sizing faults.
14. Distinguish between single and multiple package creels.
15. State the functions of temples in weaving.
16. Demonstrate the sequence of primary motions through a timing diagram.
17. Design the punching card for a jacquard for a 'floral design' (*may be assumed*).
18. Determine the power required for picking in a cotton loom of 110 cm reed space running at 216 rpm with a shuttle of mass 450 g and length 28 cm. The passage of shuttle occupies 135 degree.
19. Compare 1x4 and1x2 drop box motions.
20. Classify weft feelers.

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

21. Discuss with neat sketches the working of capacitance and optical type of electronic yarn clearers. (7 +7)

22. a) (i) Elaborate the constructional features of a multi-cylinder sizing machine and appraise the functions of various elements. (7)

    (ii) A full back beam produced on a direct warping system is 1.4 m wide and contains 420 ends of 33 tex yarn. The warp is wound onto a barrel of 27 cm diameter and its outside diameter is 75 cm. If the density is not to exceed 400 kg/m^3, calculate the length of the warp and its mass in kg. (7)

(OR)

    b) (i) Deduce the relationship between section height and section thickness in a sectional warping machine with necessary illustrations. (7)

    (ii) Define the terms: size concentration%, size take-up%, size add-on% (7)

23. a) Discuss the working principle of drawing-in and tyeing-in machine with neat diagrams. (7 +7)

(OR)

b) (i) Outline the functions of various parts in a loom with a schematic diagram. (7)

(ii) Write notes on: Heald wires, Reeds, Shuttles (7)

24. a) (i) Prove that the shed depth is proportional to reversing roller diameter in a negative tappet shedding motion. (7)

(ii) Explain the working of cone under pick mechanism with a neat diagram. Comment on the adjustment points to increase picking force. (7)

(OR)

b) (i) Explain the working of a climax dobby over a two pick cycle. (7)

(ii) Illustrate the working of various types of swell checking devices with sketch. (7)

25. a) Explain the working of seven wheel take-up motion with neat sketch. Calculate the loom dividend assuming 1.5% cloth contraction. (10 + 4)

(OR)

b) (i) Discuss the mechanism of fast reed warp protector motion with sketch. (7)

(ii) Discuss the working of centre weft fork motion with neat sketch. (7)

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