KUMARAGURU
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Register Number: ……

B.TECH DEGREE EXAMINATIONS: NOV/DEC 2014

(Regulation 2009)

Fifth Semester

FASHION TECHNOLOGY

FTY111 : Knitted Fabric Manufacture And Structure

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

Answer all the Questions:-
PART A (10 x 1 = 10 Marks)

1. Identify the knitting machine which is having alternative needle arrangements in the dial and cylinder beds for production of apparel wears.
   a) Interlock knitting
   b) Melange knitting
   c) Rib knitting
   d) Lace knitting
2. In _____ needles, the hook is closed by an external device, which, at a specific time during the stitch formation, comes in contact with it and makes it bend and close.
   a) Latch
   b) Compound
   c) Spring-beard
   d) Twin needles
3. Sinkers help in
   a) Only casting off the old loop on Raschel machine
   b) Casting off the old loop and holding down the new loop on Raschel machine
   c) Casting off the old loop and holding down the new loop on tricot machine
   d) Only holding down the new loop on tricot machine
4. Calculate the courses per inch of a knitted fabric which was produced with 24 gauge single jersey knitted machine, cam speed -350 revolution per min, feeder -2 numbers, take roller speed -35 inches per min and fabric shrinkage -10%.
   a) 26.4 CPI
   b) 28.4 CPI
   c) 25.2 CPI
   d) 30.2 CPI
5. Find out the tightness factor of the single jersey knitted fabric which has 0.45mm loop length and 30 Tex combed cotton yarn used for production.
   a) 12.17
   b) 13.71
   c) 14.21
   d) 15.12

6. Increase in under lap makes the fabric

a) Lighter
b) More stable
c) More extensible
d) Narrower

7. Yarn from back guide bar occupies

a) Core of fabric
b) Intermediate position between core and outermost layer
c) Outermost layer of fabric
d) Loop in core but under lap along the outermost layer

8. The process for making satin stitch is

a) The threads are knitted in crosswise manner
b) The threads are sewed sparsely side by side
c) The threads are sewed closely side by side
d) The threads are sewed in a curved manner

9. Suitable warp knitting machine for production of wide range of technical textiles is

a) Tricot with one flat needle bed
b) Tricot with two flat needle beds
c) Raschel with one circular needle bed
d) Raschel with flat needle bed

10. The gauge of the Raschel warp knitting machine is generally expressed in _____ .

a) Needles/cm
b) Needles/inch
c) Needles/m
d) Needles/ two inch

PART B (10 x 2 = 20 Marks)

11. Write the function of sinker and cam in weft knitting machine.
12. Differentiate between rib gating and interlock gating.
13. State the properties of milano rib fabric.
14. How will you classify weft knit structures? Justify.
15. Distinguish between Ponte-di-Roma and Ottaman rib structures.
16. State the application of rib jacquard fabrics.
17. Compare the merits and limitation of tricot warp knitting over raschel machine.
18. What is loop raised fabrics? How is it manufactured?
19. State any two applications of knitted fabrics in technical textiles.
20. What is seamless garment? State its end uses.

PART C (5 x 14 = 70 Marks)

21. a) (i) With a neat sketch explain the working operation of circular weft knitting machines and also state their technical specifications. (10)

(ii) Compare the machine design concepts of circular inter lock and purl knitting machine with necessary sketches. (4)

(OR)

b) (i) Discuss the knitting action of latch, beard and compound needles used in weft knitting machines with necessary sketches. (10)

(ii) Write the various types of cams used in weft knitting machines. (4)

22. a) (i) Classify weft knit structures based on symbolic and diagrammatic representation with neat sketches. (10)

(ii) Write the properties of accordion weft knit structure. (4)

(OR)

b) (i) Explain the production and stitch formation of double jersey knitted fabrics with necessary sketches and also state their applications. (10)

(ii) Compare the single jersey and double jersey knit structures. (4)

23. a) (i) Draw symbolic Notation for following structure, (10)

i) 1 X 1 Rib fabric ii) Single jersey iii) 2 X 2 Purl iv) 3 X 2 Rib

(ii) State the four characteristic features of Rib fabric. (4)

(OR)

b) (i) Describe constructional features of interlock machine and show cylinder and dial arrangement for interlock. (8)

(ii) Show the diagrammatic notation for Milano rib and fix its needle order and cam order for same structure. (6)

24. a) (i) With neat sketch explain the working operation of tricot warp knitting machine. (10)

(ii) Write the applications of any two raschel structures with justifications. (4)

(OR)

b) (i) Enlist the procedure for introducing the color patterns in warp knitting. (8)

(ii) Draw the diagrammatic notations for the following structure (6)

(a) Blind lap (b) Atlas stitch (c) Power nets

25. a) (i) Discuss in detail on latest developments in weft and warp knitting machines. (8)

(ii) Give an account on knit structure selection for technical textiles. (6)

(OR)

b) (i) Describe the importance of following elements in raschel machine. (8)

i) Sinker bar ii) Guide bar iii) Pattern drum iv) Pressure bar.

(ii) Draw and describe the knitting cycles of flat bed seamless knitting machine. (6)

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