THE TEXTILE ASSOCIATION (INDIA)
A.T.A.(REVISED) PART-III EXAMINATION – 2012
PAPER – A 3.OD1
KNITTING TECHNOLOGY
MARKS : 100

Date: 24.12.2012
Time: 10 am to 1 pm

Instructions:
1. Attempt six questions out of which Q.1 is compulsory
2. Answer each next main question on new page
3. Figure to the right indicate full marks
4. Illustrate your answer with sketches and flow chart wherever necessary
5. Use of non programmable electronic pocket calculator permissible.
6. Mobile and any other communication devices are not allowed in exam hall.
7. Assume suitable data wherever necessary.

Q.1.

a. Match the pairs:
   1. Single jersey fabric  a. for hide colour
   3. Tuck stitch fabric  c. irreversible appearance
   4. Miss stitch  d. reversible appearance
   5. Warp knitted fabric  e. pin holes in the fabrics

b. Fill in the blank
   1. Row of loops in knitted fabric is called --------------
   2. 96 feeder single jersey machines knits -------- courses per revolution
   3. Single pique structure is knitted with combination of -------- and -------- stitch
   4. In warp knitting guide bars are used for ---------------- needles.
   5. During circular knitting input yarn tension is ranging between ------------- gm

c. Write true or false
   1. Woven fabrics are more stable than warp knitted fabrics.
   2. Positive feeders are used to reduce the input yarn tension during knitting.
   3. Basically sinkers are used to hold the fabric during knitting.
   4. For knitting rib fabric two sets of needles are required.
   5. Normally warp knitting machine runs with speed of 35 cycles per min.

d. Write the answers of following
   1. Define Machine gauge.
   2. Reason for needle line and holes in weft knitted fabric.
   3. Define rack in warp knitting.
   5. Function of flat bed in flat knitting machine.

Q.2.

a. Describe with figure the latch needle knitting cycle for weft knitting.

b. Draw and explain the figure of passage yarn through circular knitting machine.

Q.3.

a. Explain with figure the essential elements of flat knitting machine.

b. Draw the structure and write the characteristics features of rib fabric

Q.4.

a. Describe the knitting cycle of tricot fabric manufacturing.

b. Compare the characteristics features of warp and weft knitted fabrics.
Q.5.  
   a. Draw the structures of (i) Atlas (ii) shark skin (iii) satin
   b. A warp knitting machine running with 1000 rpm, 20 courses per cm, 50 denier yarn, 82% efficiency, calculate the production in metres per hour.

Q.6.  
   a. Draw the structure of i) Lapique ii) cardigan ii) Plain interlock
   b. Write the concept of jacquard weft knitting

Q.7.  
   a. Write a note on defects in weft knitted fabrics.
   b. Write a note on types and manufacturing concept of socks knitting

Q.8.  
   a. Explain the knitting cycle of interlock fabric manufacturing.
   b. Calculate grams per square meter, grams per meter and width of single jersey fabric having 32 Wales per inch, 2250 total Wales, 34 courses per inch, 2.75 mm stitch length, 34 Ne cotton yarn

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