THE TEXTILE ASSOCIATION (INDIA)
A.T.A. PART-III NEW 3 YEARS EXAMINATION -2014
PAPER - A 3.OD
KNITTING TECHNOLOGY
Date: 26.12.2014  Marks:100  Time: 10:00 am to 01:00 pm

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

Q. 1

a. Match the Pairs
   1  Latch Needle       a  Column of Loop
   2  Sinker             b  Two Guide Structure
   3  Guide Bars         c  Self Acting
   4  Full Tricot        d  Yarn Feeding
   5  Wale               e  Loop Holding
                        f  Weft Knit Structure

b. Fill in the Blanks
   1. 72 feeder interlock machines knits ____________ courses per revolution.
   2. Purpose of sinker in the knitting machine is to ___________ loops.
   3. Courses per inch is ___________ proportional to stitch length.
   4. Run in is, yarn consumption for ___________ knitting cycles.
   5. Warp knitting designing capacity depends on ___________.

c. Write true or false.
   1. Knitted fabric has got higher tearing strength than woven fabric.
   2. Tuck stitch makes the fabric thicker.
   3. Increase in the stitch length makes the fabric thicker.
   4. Shed net fabric is weft knitted structure.
   5. Mayer and cie is warp knit machine manufacturing company.

d. Write the answers of following in short.
   1. Write the formula of GSM calculations.
   2. Define the stitch length in weft knitting.
   3. Draw the thread diagram of 1 x 1 rib structure.
4. Draw the thread diagram of pillar stitch.
5. Enlist the specifications of flat bed knitting machine.

Q. 2.  
(a) Compare the various types of needles used on knitting machine.
(b) Draw & explain the figure of passage yarn through flat knitting machine.

Q. 3.  
(a) Draw the structure and write the characteristics features of interlock fabric.
(b) Draw the structure of full tricot and manufacturing process.

Q. 4.  
(a) Enlist the defects and causes of fabric defects in weft knit.
(b) Describe the suitability of flat knitted fabric.

Q. 5.  
(a) Draw the thread diagram of Knit, Tuck & Miss stitches.
(b) Describe the ornamentation possibilities in weft knit structure.

Q. 6.  
(a) Calculate the production in meters per day and grams per square meter of following interlock machine and fabric.
   1) Speed – 32 rpm  2) Feeders – 108  3) Courses per inch – 20
   4) Efficiency – 82%  5) Wales per inch – 24  6) Stitch length – 3 mm
   7) Yarn count – 34S
(b) Draw the structures – 1) Shark Skin  2) Loop Raised  3) In lay

Q. 7.  
(a) Explain the knitting cycle of Rib fabric manufacturing
(b) Describe the relative knitting (Rela knit) technology of weft knitting

Q. 8.  
(a) Compare the woven and knitted fabric manufacturing process.
(b) Write the essential elements & their functions of warp knitting machine.

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