THE TEXTILE ASSOCIATION (INDIA)
ATA PART III EXAMINATION 2019
PAPER – A3. OD1
KNITTING TECHNOLOGY

Date: 26.12.2020  Marks: 100  Time: 10.00 am to 1.00 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 indicates 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 hall
7. Assume suitable data wherever necessary.

Q. 1. Attempt any Five  

a. State the properties of Rib structure 

b. Explain basic principle weft knit jacquard 

c. Describe the anatomy of pattern comb type selection device. 

d. Calculate the run-in ration and draw the lapping movements of:  
   FGB: 1-0 /3 – 4//  
   BGB: 0-1/1-0//  

e. Explain and draw the anatomy of socks 

f. What is Atlas structure? Explain it with lapping diagram

Q. 2  


b. Describe passage of yarn through Tricot warp knitting machine

Q. 3  

a. Explain Different types of yarns used in knitting.  

b. Explain Knitting cycle of beard needle on Circular weft knit machine

Q. 4  

a. Explain single cylinder socks knitting machine.  

b. Explain knitting cam with the help of diagram and explain characteristics of rising and lowering cam.
Q. 5

a. Explain loop transfer stitches and cable stitches.
b. Compare compound needle with bearded needle.

Q. 6

a. Explain with the help of diagram knitting cycle of latch needle and also explain why it is called self-acting needle.
b. Explain effect of Tuck and Miss stitches of fabric properties.

Q. 7

a. Construct a Jacquard design for Horizontal stripe backing.
b. Describe the working of microprocessor-controlled type selection device are circular weft knitting machine

Q. 8

a. Calculate the production in kg/shift of single jersey circular knitting machine from the following data,
   Cylinder Speed – 30 rpm, No. of Feeders – 96, Cylinder Dia. – 32 inch, Machine Gauge – 24, Efficiency – 85%, Course Density – 16 courses/cm, Wales Density – 14 wales/cm, Fabric weight – 125 gm/m²
b) In circular weft knitting machine, machine speed – 130 rpm, no. of feed – 20, produced fabric course/cm – 26, wales/cm – 24, calculate the production per 8hr and fabric density.