

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.
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Q. 1. Attempt any Five

20

- 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

16

- a. Differentiate between woven fabric and Knitted fabric.
- b. Describe passage of yarn through Tricot warp knitting machine

Q. 3

16

- a. Explain Different types of yarns used in knitting.
- b. Explain Knitting cycle of beard needle on Circular weft knit machine

Q. 4

16

- 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 **16**

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

Q. 6 **16**

- 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 **16**

- 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 **16**

- 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. – 32inch, Machine Gauge – 24, Efficiency – 85%, Course Density – 16 courses/cm, Wales Density – 14 wales/cm, Fabric weight – 125 gm/m^2
 - 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.
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