THE TEXTILE ASSOCIATION (INDIA)
ATA Part III Examination 2020
Paper: A3.OA1
Process Control in Yarn Manufacture

Marks – 100

Date26.12. 2020   **Time 10.00AM to 1.00 PM**

Instructions:
1. Answer any six questions out of which **Question No 1** is compulsory.
2. Answer each next main question on a new page.
3. Figure to the right indicate full marks.
4. Illustrate your answers with sketches and flow chart wherever necessary.
5. Use of non- programmable electronic pocket calculator is permitted.
6. Mobile and any other communication devices are not allowed in examination hall.
7. Assume suitable data wherever necessary.

Q1   State true or false, justify your answers by giving reasons.   20
   a. Increasing twist in a cotton yarn increases the snarling tendency.
   b. The imperfections increase as the staple length reduces.
   c. The spinnability increases as the staple length increases in polyester fibre.
   d. Productivity increases with increase in speed of a winding machine.
   e. Viscose absorbs more moisture; hence it is needed to keep the area dry while spinning.

Q2   a. Explain the difference between Process Control and Quality Control.   16
   b. What are the basic elements of Process Control?

Q3   a. Define yarn realization and its effect on yarn cost.   16
   b. Suppose you need 20000 Kgs of 60s Combed Cotton yarn, how much cotton mixing you shall indent? Explain with the reasons and calculations.

Q4   a. What factors contribute for increasing productivity in a spinning unit?   16
      Explain their role in brief.
   b. How do you work out HOK of a spinning unit? Explain with an example.

Q5   a. Explain the factors contributing for hairiness in yarns. How will you   16
      control it?
   b. Explain the factors in carding influencing yarn properties.

Q6   a. What is Machine Audit? What is its role in Process Control?   16
   b. Prepare a format for machine audit in Comber.

Q7   a. Explain Control Points and Check Points in Process Control?   16

b. What are the Control Points and Check Points in a Speed Frame?

Q8 a. How do you assess the performance of a Ring frame? 16
   b. What parameters are to be checked in a finisher draw frames to ensure its smooth working and good performance?

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