THE TEXTILE ASSOCIATION (INDIA)
ATA Part III Examination 2019
Paper: A30A
Process Control in Yarn Manufacture

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 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 strength all the time.
   b. The imperfections increase as the count of yarn becomes finer.
   c. The spinnability increases as the micronaire value increases.
   d. Productivity increases with increase in speed of a ring frame.
   e. Polyester does not absorb any moisture, hence no need to control RH in spinning.

Q2 a. What are the objectives of Process Control in a Spinning Mill? 16
   b. How do you differentiate Process Control from Product Quality Testing?

Q3 a. Explain the method of working out yarn realization in a spinning mill. 16
   b. Suppose you need 10000 Kgs of 10s Carded Cotton yarn, how much cotton mixing you shall indent? Explain with the reasons and calculations.

Q4 a. What are the factors contributing for increasing Productivity Index in Spinning? Explain their role in brief. 16
   b. What method you prefer to work out running efficiency of a spinning section without actually weighing the production?

Q5 a. Explain the factors contributing for count variation in yarns. How will you control it? 16
   b. Explain the factors in speed frame influencing yarn breakages at spinning.

Q6 a. What do you mean by Tools Audit? What is its role in Process Control? 16
   b. What are the factors contributing for yarn imperfections in ring frames?
Q7  
  a. What are the Control Points and Check Points in Draw Frame?  
  b. Explain the method of conducting Machine Audit in Speed Frame.

Q8  
  a. How do you assess the performance of a Carding machine?  
  b. What parameters are to be checked in Combers?