THE TEXTILE ASSOCIATION (INDIA)
ATA Part III, Examination 2018
Paper A30A
Process Control in Yarn Manufacture

Date 24 Dec 2018          Marks – 100          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 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. Yarn realization is the percent of yarn produced from given cotton.
   b. HOK increases as the count of yarn becomes finer.
   c. The count variation increases thick and thin places in a yarn.
   d. Productivity is the production achieved in 8 hours in a factory.
   e. Key variables in carding are the cylinder speed and licker in speed.

Q2  a. What is the significance of Key Variables in a Process?  16
    b. What are the variables in a comber contributing for noil variations?

Q3  a. Explain with reason which is better; increasing comber noil by 1% or increasing flat strips by 1% to reduce neps in yarn.
    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. Define Machine Productivity Index in Spinning. What are its uses?  16
    b. What is 40s Converted Production in spinning?

Q5  a. Explain the factors contributing for twist variation in yarns. How will you control it?  16
    b. Explain the factors in draw frame influencing count variation of yarns.

Q6  a. What do you mean by Quality Audit? What is its role in Statistical Process Control?  16
    b. What are the factors contributing for yarn imperfections in speed frames?

Q7  a. What are the control points and check points in cotton mixing?  16
    b. Explain the method of conducting Machine Audit in blow room.

Q8  a. How do you assess the performance of a cone winding machine?  16
    b. What parameters are to be checked in winding for filament yarns?