THE TEXTILE ASSOCIATION (INDIA)
GMTA Examination - 2018
Section – C, Paper – C4
Applied Statistics

Date 25.12.2018 Marks – 100 Time 10.00 AM 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 Write Short Notes on any five of the following
   a. Variables and Attributes and their effect in process control.
   b. Measures of Central Dispersion for process control.
   c. Coefficient of Variation and its impact on yarn quality.
   d. Properties of Normal Distribution.
   e. Sampling and use of Random Numbers.
   f. Analysis of Variance.
   g. Concept of Two Variables and their relation.
   h. Correlation Coefficient.

Q2
   b. What is the expected value of a Random Variable?

Q3
   a. What is Bayesian estimation? Explain with an example.
   b. What is Hypothesis concerning one and two variances? Explain with an example.

Q4
   a. How theory of Normal Distribution is used in preparing Quality Control Charts?
   b. How do you construct a Control Chart considering the variations in a process? Explain with an example.

Q5
   a. Explain the Weak Law of Large Numbers. Give an example.
   b. Explain the difference between Normal Distribution and Poisson Distribution.

Q6
   a. Explain the difference between a Frequency Distribution and a Pareto Diagram.
   b. How do you represent huge numerical data in a simple diagram?

Q7
   a. What is the difference between various types of Mean you come across while using statistical techniques for process control.
   b. Explain the effect of sample size on the reliability of the test results.

Q8
   a. How do you decide whether a lot is to be accepted or rejected when the test readings are within control but at the border line?
   b. What are the normal statistical tools used in a Cotton Spinning Mill?