B.Sc. DEGREE EXAMINATION,APRIL 2020
III Year VI Semester
Statistical Quality Control and Reliability

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Define Shewhart control charts for fraction defectives.
2. State the concepts of 6σ.
3. What are the main advantages of R - chart?
4. Define c-chart for attributes.
5. Define producer's risk.
6. State the concepts of AQL.
7. What do you understand by variable sampling plans?
8. State the main objectives of Sequential Probability Ratio Test.
9. Give the concept of reliability.
10. What is the main role of Bath tub curve in reliability?
11. Define 3σ limits.
12. What do you understand by ATI single sampling plan?

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Discuss the applications of Quality control.
14. Explain the construction and interpretation of $\overline{X}$ chart.
15. Delineate the concepts of LTPD.
16. State and explain OC function of a sequential probability ratio test.
17. Discuss about failure time distribution.
18. Explain the Causes of Quality variation.
19. Obtain AOQ curve for double sampling plans.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Develop the control limits for mean and range.
21. Elucidate the main tools for statistical quality control.
22. Delineate operating characteristic curve of a sampling plan.
23. What do you understand by expected sample size of a sequential sampling plan and how to determine it?
24. Describe the role of Exponential and Weibull distributions in reliability.