

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**



**M.Sc. DEGREE EXAMINATION – STATISTICS**

**THIRD SEMESTER – APRIL 2023**

**PST 3503 – STATISTICAL QUALITY CONTROL**

Date: 06-05-2023

Dept. No.

Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

**SECTION – A**

**(10×2=20)**

**Answer ALL the Questions.**

1. What is chance cause in SQC?
2. Draw the V- mask diagram.
3. What Average Run Length?
4. Define process capability.
5. What is a sampling inspection plan?
6. Define Lot Tolerance Percent Defective.
7. What are the different classifications of acceptance sampling plans?
8. Define consumer's risk.
9. Define six sigma.
10. Define DMAIC.

**SECTION – B**

**Answer any FIVE of the following questions.**

**(5 x 8 = 40)**

11. What do you understand by control charts for fraction defectives? Explain its construction. Give the theoretical distribution on which the control charts are based.
12. Explain in detail the basic techniques of Statistical Quality Control.
13. How is the process control is being assured using moving average control charts?
14. Explain any one of the multivariate control charts.
15. Discuss the difference between single and double sampling plans.
16. Explain acceptance sampling plan and discuss its advantage and disadvantages.
17. Explain the fundamental assumptions of six sigma.
18. Narrate the five phases of six sigma in detail.

**SECTION - C**

**Answer any TWO of the following questions.**

**(2 x 20 = 40)**

19. What are the advantages and limitations of Statistical Quality Control.
20. Write a detailed note on tabular CUSUM control charts.
21. Explain the different methods of estimating the natural tolerance of a process.
22. Elucidate implementing rectifying sampling plan for attributes. Also, define AOQ for rectifying sampling plan and its curve.

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