LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **STATISTICS**

SIXTH SEMESTER – **APRIL 2016**

ST 6608 – STATISTICAL QUALITY CONTROL

Date: 21-04-2016 Dept. No. Max. : 100 Marks

Time: 09:00-12:00

PART –A

Answer **ALL** the questions: (10x2=20 Marks)

1. Mention the objectives of quality control.
2. State the different factors of the quality of a product.
3. What are the uses of stem and leaf display and the Box Plot design?
4. List the properties of Histogram which represents a visual display of the data.
5. Write down the components of control charts.
6. What is meant by process capability analysis?
7. State the control limits for $\bar{x}$ and R chart.
8. Define double sampling plan.
9. Describe the procedure for calculating the CSP I plan.
10. Mention the principles of CUSUM chart.

PAR- B

Answer any **FIVE** questions: (5x8=40 Marks)

11. Write down the benefits of statistical quality control.
12. Explain qq plot.
13. Write short notes on single sampling plan.
14. State the applications of c chart.
15. Describe about multiple sampling plan.
16. Explain modified control limits.
17. Distinguish between chance causes and assignable cases.
18. A machine is set to deliver the packets of a given following weight. Ten samples of size five each were examined and the following results were obtained.

Sample number:	1	2	3	4	5	6	7	8	9	10
Mean:	43	49	37	44	45	37	51	46	43	47
Range:	5	6	5	7	7	4	8	6	4	6

Calculate the values for the central line and the control limits for the mean chart and range chart. Comment on the state of control.

PART - C

Answer any **TWO** questions: (2x20=40 Marks)

19. (a) Distinguish between producer's risk and Consumer's risk.

    (b) Explain the control chart for number of defectives.

20. Explain in detail about operating characteristic curve of sequential sampling plan.

21. Draw a suitable control chart for the following data pertaining to the number of coloured threads (considered as defects) in 15 pieces of cloth in a certain number of synthetic fibre and state your conclusions. 7,12,3,20,21,5,4,3,10,8,0,9,6,7, 20.

22. (a) Write down the advantages of TQM.

    (b) Describe about Stem and leaf plot.

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