



QP CODE: 26019267



26019267

Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, MARCH 2026

Fourth Semester

M Sc OPERATIONS RESEARCH AND COMPUTER APPLICATIONS

ELECTIVE - CE840401 - QUALITY CONTROL AND ASSURANCE

2019 Admission Onwards

4B11087A

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Define total quality management.
2. State any four dimension of quality.
3. What is meant by control charts for variables?
4. How to compute mean chart?
5. Define the terms a) Absolute Design and b) Comparitive experiment .
6. How to construct fractional factorial?
7. Define six sigma.
8. What are the role of data access issues in six sigma?
9. Define the term standard.
10. What is meant by ISO?

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. What is meant by specification limit?
12. The normal diameter of a shaft was considered to be 3.8cm with a standard deviation of 0.05cm. If the sample size is 10, determine the control limits





13. The number of defects inspected in rational subgroups of size 5 and for a sample of size 10 are as follows

Sample No	Number of defects				
1	2	1	0	1	2
2	1	1	0	0	1
3	2	2	2	1	0
4	1	0	0	0	1
5	3	1	2	1	1
6	3	1	2	0	2
7	1	1	0	0	1
8	2	2	1	1	2
9	2	1	1	0	1
10	3	2	3	1	0

Set up a u chart and give your comments.

14. Explain 2^3 design.
15. Explain the implementation of acceptance sampling plan.
16. What are the major process components?
17. State some uses of process map.
18. What are the elements of ISO 9000 quality management system?

(6×2=12 weightage)

Part C (Essay Type Questions)

Answer any **two** questions.

Weight 5 each.

19. What are the different objectives of Statistical Quality Control?
20. Discuss about control chart for attributes.
21. a) Discuss about c chart
b) The number of mistakes made by an accounts clerk is given below

Week No:	1	2	3	4	5	6	7	8	9	10	11	12
	13	14	15	16	17	18	19	20				
No. of mistakes:	1	0	2	0	1	0	1	0	1	2	3	3
	1	0	0	7	1	0	1	0				

Establish a suitable control chart and state how it should be used in failure in order to control the mistakes of the clerk.

- a) How to draw an OC curve?
- b) Suppose the Noise King Muffler shop is using rectified for its single sampling plan.
22. Calculate the average outgoing quality limit for a plan with $n=110$, $c=3$ and $N=1,000$. Calculate AOQL.

(2×5=10 weightage)

