



SCAN ME



SCHOOL OF MECHANICAL ENGINEERING

CONTINUOUS ASSESSMENT TEST – I - WINTER SEMESTER 2019-2020

Programme Name & Branch:

Course Name Code: MEE1015

Course Name: Total Quality Management and Reliability

Faculty Name(s): Prof Srinivasan Narayanan & Prof. S. Senthil Kumaran

Class Number(s): VL2019205002630/VL2019205002576

mins Maximum Marks: 50

Exam Duration: 90

General instruction(s): Answer all questions

Sl.No.	Question	Course Outcome (CO)
1.	Imagine that you are CEO of small and medium scale industries and you have been asked to implement a TQM philosophy for your business. How do you start? (10 marks)	1
2.	How to achieve a motivated workforce?(5 marks)	1
3.	Which method/techniques do you apply that prevents a product from failure? Explain with a suitable example in detail (10 marks)	2
4.	The length of the metal component is measured in mm at particular interval. The subgroup and samples sizes are 25 and 4 respectively.	3

Sub group	X ₁	X ₂	X ₃	X ₄
1	6.35	6.4	6.32	6.37
2	6.46	6.37	6.36	6.41
3	6.34	6.4	6.34	6.36
4	6.69	6.64	6.68	6.59
5	6.38	6.34	6.44	6.4
6	6.42	6.41	6.43	6.34
7	6.44	6.41	6.41	6.46
8	6.33	6.41	6.38	6.36
9	6.48	6.44	6.47	6.45
10	6.47	6.43	6.36	6.42
11	6.38	6.41	6.39	6.38
12	6.37	6.37	6.41	6.37
13	6.4	6.38	6.47	6.35
14	6.38	6.39	6.45	6.42
15	6.5	6.42	6.43	6.45
16	6.33	6.35	6.29	6.39
17	6.41	6.4	6.29	6.34
18	6.38	6.44	6.28	6.58
19	6.35	6.41	6.37	6.38
20	6.56	6.55	6.45	6.48
21	6.38	6.4	6.45	6.37
22	6.39	6.42	6.35	6.4
23	6.42	6.39	6.39	6.36
24	6.43	6.36	6.35	6.38
25	6.39	6.38	6.43	6.44

		A_2	D_4	D_3		
		0.729	2.282	0		

Calculate the following

(i) mean and range charts with its values

(ii) state whether the process is under statistical control or not

(25 marks)