

Duration: 3Hrs

Marks: 80

Instructions:

- (1) Question No.1 is compulsory and Answer 3 Questions remaining 5 Questions.
- (2) Assume suitable data wherever necessary
- (3) Diagram and sketches explanations are right to reserve full marks

1. Attempt Any Four

20

1 a. Explain the principle of interference.

1 b. Explain compromise between quality & cost.

1 c. Write a short note on Floating Carriage Microscope with suitable diagram.

1 d. Write a short note on GANT chart.

1 e. Differentiate between precision & accuracy.

2 a. Derive the expression for two wire method used in screw thread measurement. 10

2 b. Explain the various types gauges (any four). 10

3 a. Explain the following terms with respect to surface roughness parameters. 10

- i) Ra ii) Rz iii) Ry iv) RMS Value

3 b. Explain briefly OC curves with producer's risk & consumer's risk. 10

4 a. Explain all categories of quality cost. 10

4 b. Following data on the number of components were collected when the process was in

Control.

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- i. Calculate the control limits for \bar{X} & R charts.
- ii. Two new samples are obtained the following reading 575, 600, 610, 590 and 595, 605, 585, 598. Is the process still in control?

Sub Group	Sample			
	1	2	3	4
1	602	610	590	600
2	602	595	610	601
3	589	582	593	599
4	612	610	608	589
5	596	613	599	607

5 a. With the suitable diagram explain the electronics comparator with advantages & disadvantages.

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5 b. Explain construction, working & application of 3D co-ordinate measuring machine.

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6 a. Explain the various modern SQC tools.

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6 b. Explain single sampling & double sampling plans.

05

6 c. Write a short note on Tomlinson's surface roughness measuring machine with neat diagram.

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