

Total No. of Questions : 8]

SEAT No. :

PE4340

[Total No. of Pages : 2

[6582]-114

S.E. (Robotics & Automation)

METROLOGY AND QUALITY ASSURANCE

(2019 Pattern) (Semester - IV) (211511)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Figures to the right indicate full marks.
- 3) Neat Diagram must be drawn wherever necessary.
- 4) Assume suitable data, if necessary.
- 5) Use of logarithmic Table, Slide rule or electronic pocket calculator is allowed.

Q1) a) Write short notes on Talysurf for surface roughness measurement with systematic diagram. [8]

b) Explain Tomlinson surface tester with neat sketch. [9]

OR

Q2) a) With neat sketch explain coordinate measuring machine (CMM) [8]

b) Sketch & describe gear tooth vernier caliper. [9]

Q3) a) Contrast between Quality Control & Quality Assurance. [9]

b) Explain \bar{x} -Chart, R-Chart & P-Chart. [9]

OR

Q4) a) The following table gives the number of defects in a casting used for making crank case of diesel engine, construct c-chart and comment on casting process. [9]

Casting No.	1	2	3	4	5	6	7	8	9	10
No. of defects (c)	15	11	25	10	12	20	15	10	17	13

b) Draw and explain OC curve. [9]

P.T.O.

- Q5) a)** With example explain the concept of Total Quality Management. [8]
b) Explain any three quality control tools with neat sketch. [9]

OR

- Q6) a)** With neat sketch explain Juran's Trilogy. [8]
b) With neat sketch explain the concept of quality function deployment. [9]

- Q7) a)** Explain function, methodology, and advantages of quality audit. [9]
b) State & Explain prerequisites for implementing ISO 9000 quality standards. [9]

OR

- Q8) a)** Explain in detail ISO 9000:2000 series standards. [9]
b) Explain the Concept of Quality Management System. [9]

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