

Total No. of Questions : 8]

SEAT No. :

PD-4156

[Total No. of Pages : 2

[6402]-117

S.E. (Robotics & Automation)

METROLOGY & 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 and Q.7 or Q.8.
- 2) Figures to the right indicate full marks.
- 3) Assume suitable data, if necessary.
- 4) Neat Diagram must be drawn wherever necessary.
- 5) Use of Logarithmic Table, Slide rule is Electronic pocket calculator is allowed.

Q1) a) Sketch & describe gear tooth vernier caliper. [8]

b) Explain with neat sketch Floating Carriage Micrometer. [9]

OR

Q2) a) Derive an expression for measuring of effective diameter using Two Wire Method. [8]

b) Explain the Base Tangent Method & Derive an expression for the value of base tangent length. [9]

Q3) a) Draw & Explain OC curve. [9]

b) Explain with suitable example Process capability & Natural Tolerance. [9]

OR

Q4) a) Differentiate between Random (Chance) Causes & Assignable (Special) Causes. [9]

b) What is Statistical Quality Control? State its Objectives & Advantages. [9]

Q5) a) Write a short note on Q.F.D. [8]

b) Write a short note on Total Quality Management. [9]

OR

P.T.O.

Q6) a) With neat sketch explain Juran's Trilogy. **[8]**

b) Explain any three new quality control tools with neat sketch. **[9]**

Q7) a) Explain history & evolution of ISO 9000 series. **[9]**

b) Explain function, methodology, and advantages of quality audit. **[9]**

OR

Q8) a) Explain the Concept of ISO 14000. **[9]**

b) State & Explain prerequisites for implementing ISO 9000 quality standards. **[9]**

