

Total No. of Questions : 8]

SEAT No. :

P-9185

[Total No. of Pages : 2

[6179]-314

S.E. (Robotics & Automation)

METROLOGY AND QUALITY ASSURANCE

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

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Figure to the right indicates full marks.*
- 2) *Neat Diagram must be drawn wherever necessary.*
- 3) *Assume Suitable data if necessary.*
- 4) *Use of Logarithmic Table, Slide rule is Electronic pocket calculator is allowed.*
- 5) *Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*

Q1) a) Explain concept of RMS and CLA value for surface roughness measurement. **[8]**

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

OR

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

b) Explain with neat sketch Profile Projector. **[9]**

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

b) Explain following SQC tools : **[9]**

i) X chart

ii) R chart

iii) P chart

OR

Q4) a) Write short note on : **[9]**

i) Single sampling plan

ii) Double sampling plan

iii) Multiple Sampling Plan

P.T.O.

- b) Explain : [9]
- i) Producer's Risk
 - ii) Consumer's Risk
 - iii) LTPD/RQL

- Q5)** a) Explain Deming's approach of Quality. [8]
b) Explain any three quality control tools with neat sketch. [9]

OR

- Q6)** a) With neat sketch explain Juran's Trilogy. [8]
b) Write a short note on Total Quality Management. [9]

- Q7)** a) Explain the Concept of Quality Management System. [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 function, methodology, and advantages of quality audit. [9]
