

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER –IV • EXAMINATION – SUMMER-2015

Subject Code: 3345501**Date: 01/05/2015****Subject Name: I.C. & Q.A.****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Each question carry equal marks (14 marks)

- Q.1 (a) Write definitions of following static Characteristics of measuring instrument:- 07
1. Accuracy
 2. Precision
 3. Repatetivity
 4. Reproducibility
 5. Stability
 6. Resolution
 7. Sensitivity
- (b) Make dimension of 61.3235 mm by using M 112 sleep gauge set. 07
- Q.2 (a) Explain vernier height gauge with neat sketch. 07
- (b) Explain construction, working principle and least count of micrometer screw with neat sketch. 07
- OR
- (b) Explain advantage, application of dial indicator. Explain precaution to be taken in use of dial indicator. 07
- Q.3 (a) Explain Auto collimator with neat sketch. 07
- (b) Prepare an angle of $32^{\circ}50'54''$ by using standard angle gauge set. 07
- OR
- Q.3 (a) Explain different indirect measuring methods of surface roughness. 07
- (b) Explain Tomlimson surface roughness meter with neat sketch. 07
- Q.4 (a) State Application of following Transducer:- 07
1. Resistance Transducer
 2. Inductance Transducer
 3. Capacitance Transducer
 4. Piezo Electric Transducer
- (b) Explain following temperature measuring instrument with sketch:- 07
1. Bimetallic Thermometer
 2. Resistance Thermometer
- OR
- Q. 4 (a) Explain following pressure measuring instrument with neat sketch:- 07
1. Diaphragm type pressure Gauge
 2. Bourdon Tube Pressure Gauge

- (b) Explain different flow measuring instrument with neat sketch:- 07
1. Nutating Disc Meter
 2. Flow Rate Meter
 3. Venturi Meter
- Q.5 (a) Draw Block diagram of Automatic control system and label its elements. 07
- (b) Explain need of calibration of measuring instrumentation. 07
- OR
- Q.5 (a) Compare Centralize and Decentralize inspection system. 07
- (b) Define term quality control. Explain objective of quality control. 07
