

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**DIPLOMA ENGINEERING - SEMESTER-IV • EXAMINATION – WINTER - 2016**

**Subject Code: 3345501****Date: 17- 11-2016****Subject Name: I.C. & Q.A.****Time: 02:30 PM TO 05:00 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) Explain following terms briefly. 07
1. Standard
  2. Line Standard
  3. End Standard
  4. Wave Length Standard
  5. Primary Standard
  6. Secondary Standard
  7. Specification
- (b) Make dimension of 46.4225 mm by using M 112 slip gauge set. 07
- Q.2 (a) Explain vernier height gauge with neat sketch. 07
- (b) Explain construction, working principle and mechanism of dial indicator with neat sketch. 07
- OR
- (b) Define the term “Squareness”. List different methods for checking squareness. 07  
 Explain following methods with neat sketch.
1. Dial indicator method
  2. Autocollimator method
- Q.3 (a) Explain following application of Sine Bar with neat sketch 07
1. Finding unknown Angle
  2. Finding unknown Angle of Heavy Job
  3. Using of Sine Center
  4. Using of Sine Table
- (b) Prepare an angle of  $37^{\circ}10'18''$  by using standard angle gauge set. Draw its setup. 07
- OR
- Q.3 (a) Explain Angle Dekkar with neat sketch 07
- (b) Explain Tomlimson surface roughness meter with neat sketch. 07
- Q.4 (a) Draw Block diagram of Generalized measuring system and define it. Explain its different stages with example. 07
- (b) Explain following temperature measuring instrument with sketch:- 07
1. Thermocouple
  2. Radiation Pyrometer
- OR
- Q. 4 (a) Explain following pressure measuring instrument with neat sketch:- 07
1. Bourdon Tube Pressure Gauge
  2. Dead weight piston gauge
- (b) Explain different flow measuring instrument with neat sketch:- 07
1. Rotating Impeller Meter

- 2. Reciprocating Piston Meter
- 3. Rota Meter

Q.5	(a)	Explain calibration of vernier caliper with neat sketch.	07
	(b)	Compare Centralize and Decentralize inspection system.	07
OR			
Q.5	(a)	Define the term quality. Explain ten ability of product for satisfactory performance.	07
	(b)	Write brief note on KAIZEN.	07

\*\*\*\*\*