

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER – IV-EXAMINATION – WINTER 2015

Subject Code: 3345501**Date: 12/12/2015****Subject Name: I.C. & Q.A.****Time: 02:30 PM TO 5:00 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 brief note on Interchangeability and selective assembly. 07
(b) Make dimension of 42.3235 mm by using M 112 sleep gauge set. 07
- Q.2 (a) Draw neat sketch of A type vernier caliper and explain 07
precaution required in use of vernier caliper..
(b) Explain following precision indirect measuring instrument with 07
neat sketch.
1. Telescopic gauge
2. Hemispheric gauge
3. Bore gauge
- OR
- (b) Define the term “Straightness”. List different methods for 07
checking straightness. Explain following methods with neat
sketch.
1. Wedge method
2. Straight-edge method
- Q.3 (a) Explain construction and least count of mechanical bevel 07
protector with neat sketch.
(b) Prepare an angle of 57° 34' 9” by using standard angle gauge 07
set. Draw its setup.
- OR
- Q.3 (a) Explain surface Roughness symbol with neat sketch and different 07
surface value for different manufacturing process as per BIS
3973.
(b) Explain Tomlimson surface roughness meter with neat sketch. 07
- Q.4 (a) Explain following Transducers with neat sketch:- 07
1. Resistance Transducer
2. Capacitance Transducer
3. L.V.D.T.
4. Piezo Electric Transducer
(b) Explain following temperature measuring instrument with 07
sketch:-
1. Mercury in glass Thermometer
2. Thermistor
- OR
- Q.4 (a) Explain following pressure measuring instrument with neat 07
sketch:-

1. U-tube Manometer
 2. Dead weight piston 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) Compare Open-loop and Close-loop control system. 07
- (b) Explain profile of inspector for fabrication industries. 07
- OR
- Q.5 (a) What is cost of prevention? Explain different cost include in cost of prevention. 07
- (b) Write brief note on SIX SIGMA. 07
