

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Sem-IV Examination July 2010

Subject code: 345501

Subject Name: Instrumentation Control & Quality Assurance

Date: 05 /07 /2010

Time: 10:30am-1:00pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is Authentic

- Q.1** (a) Define the term “metrology”. Explain objectives of Metrology **07**
 (b) Define “errors in measurement”. Classify & Explain different types of errors in measurements **07**
- Q.2** (a) Explain vernier height gauge with neat sketch. **07**
 (b) Explain Following terms briefly **07**
 1. Measuring Range 2. Sensitivity 3. Hysteresis
 4. Response Time 5. Repeatability 6. Precision & Accuracy
 7. In Accuracy
- OR**
- Q.3** (b) Explain micrometer screw gauge with neat sketch. **07**
- (a) Explain following instruments with neat sketch. **07**
 1. Bevel protector
 2. Auto collimator
- (b) Make 52.2375 mm dimension by using M-112 slip gauge set. **07**
- OR**
- Q.3** (a) Make 37° 10' 18" dimension by using angle gauge **07**
 (b) Define the term “pressure” write unit of pressure. Classify Different pressure measuring instrument & explain any one With neat sketch. **07**
- Q.4** (a) Explain following temperature measuring instruments with Neat sketch. **07**
 1. Mercury in glass thermo meter
 2. Optical pyrometer
 (b) Explain following flow measuring instruments with neat Sketch. **07**
 1. Rota meter
 2. Nututing disc meter
- OR**
- Q.4** (a) Explain Automatic control system with block diagram **07**
 (b) Explain interchangeability and selective assembly **07**
- Q.5** (a) Explain Need and types of inspection. Compare centralized and decentralized inspection. **07**
 (b) Explain different indirect (comparison) surface finish measuring methods **07**
- OR**
- Q.5** (a) What is calibration ? explain calibration procedure of Pressure Gauge with neat sketch. **07**
 (b) Write short note on **07**
 1. QUALITY CIRCLE 2. KAIZEN
