

GUJARAT TECHNOLOGICAL UNIVERSITY
Diploma Engineering - SEMESTER – V • EXAMINATION – WINTER 2012

Subject code: 351701**Date: 30/12/2012****Subject Name: Electronic and Pneumatic Instrumentation****Time: 10.30 am - 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. English version is considered to be Authentic.

- Q.1** (a) Explain Kelvin's double bridge with neat circuit diagram. **07**
(b) What is pneumatics? Explain force balance principle with application. **07**
- Q.2** (a) Describe ramp type DVM with circuit diagram and waveform. **07**
(b) Explain construction and working of pneumatic proportional Integral controllers. **07**
- OR**
- (b) What is instrumentation? Give the classification of electronic instruments. **07**
- Q.3** (a) Explain OP-AMP based instrumentation amplifier. **07**
(b) Describe Metal Detector with block diagram and give its applications. **07**
- OR**
- Q.3** (a) Describe electronics integrator with block diagram and give its applications. **07**
(b) Draw the diagram of current to pressure (I to P) converter and explain. **07**
- Q.4** (a) What is offset error? Explain electronic proportional control action with circuit diagram. **07**
(b) What is transformer? Explain potential transformer with diagram. **07**
- OR**
- Q. 4** (a) Explain construction of electronic recorder with block diagram and working principle. **07**
(b) Write a short note on Alpha Numeric Display. **07**
- Q.5** (a) Explain SSG with its block diagram. **07**
(b) Explain motion balance principle with neat diagram. **07**
- OR**
- Q.5** (a) Explain CRO and give its application. **07**
(b) What is controller? List various type of controller and explain any one of them. **07**
