

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. Sem. - V - Examination – June- 2011****Subject code:151701****Subject Name: Industrial Measurement****Date:22/06/2011****Time: 10:30 am – 01:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 (a) Explain Basic Principle of working of RTD (Resistance Temperature Detector) to measure the Temperature with necessary diagram. Why Platinum metal is preferred to be used in RTD. **07**

(b) Name different types of Electrical Pressure transducer commonly used in Process Industries. Explain working, of any one Electrical Pressure transducer with necessary diagram. **07**

Q.2 (a) Describe Principle of operation of (1) Orifice Plate (2) Venturi Tube as used in Fluid Flow Measurement with necessary Diagram. **07**

(b) Define the following: **07**
(1) Seeback Effect
(2) Law of Intermediate Temperature

OR

(b) What are the different types of Manometer? Explain the working of any one with necessary diagram. **07**

Q.3 (a) Describe the working of Capacitive Level Transducer with necessary diagram. **07**

(b) Name non contact types of Level Measurement Systems. Discuss advantages & disadvantages of any one. **07**

OR

Q.3 (a) What is Thermister? Discuss its Resistance vs. Temperature curve. **07**

(b) Write units of Pressure measurement for high & Low pressure Measurement. Define Gauge pressure, Absolute pressure & Differential Pressure. **07**

Q.4 (a) Explain Basic principle of working of Ultrasonic Flow meter with necessary diagram. **07**

(b) (1) Define Beta Ratio, Discharge Coefficient and Flow Coefficient **07**
(2) Basic difference between Total Radiation pyrometer and optical pyrometer.

OR

Q.4 (a) Discuss Basic Operating Principle of variable Head Differential Flow meters. Write equation of velocity of Flowing fluid. **07**

(b) Name the devices Which are used for low Pressure measurement. Explain the working of any one. **07**

Q.5 Write short notes on

(a) Types of Thermocouples **07**

(b) Elastic Type Pressure Transducer **07**

OR

Q.5 Write short note on

(a) Float Level Switch **07**

(b) Rota meter **07**
