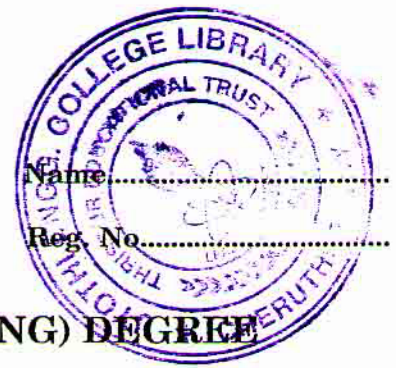


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**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2012**

AI 04 606 – INDUSTRIAL INSTRUMENTATION

Time : Three Hours

Maximum : 100 Marks

Part A

- I. (a) Explain about Liquid-in-glass thermal expansion method.
(b) Explain the characteristics of RTD.
(c) Differentiate the features of Capacitive type pressure sensor and Piezoresistive pressure sensor.
(d) What is meant by calibration of pressure gauges? Why it is needed?
(e) Explain the procedure involved in the installation of head flow meters.
(f) Which head type results in maximum flow? Why?
(g) Explain the principle of working of hotwire anemometry.
(h) Which method is an accurate method used for level measurement? Explain.

(8 × 5 = 40 marks)

Part B

- II. (a) Discuss the working of thermocouple and optical pyrometer.
Or
(b) Describe the operation of Radiation thermometry and Pressure thermometer.
- III. (a) Bring about the features of Bourdon tube, bellows, Ionization gauge and McLeod gauge.
Or
(b) Discuss any *one* method used for measurement of high pressure and low pressure.
- IV. (a) Describe the working of Piston type flow meter and Electromagnetic flow meter.
Or
(b) (i) Explain how the tapping and piping arrangements improves a flow in a pipe.
(ii) Explain the working of Turbine type flowmeter.
- V. (a) Describe the Doppler flow measurement technique and displacer type used for level measurement.
Or
(b) Explain the working of cross-correlation type flow meter and ultrasonic method of level measurement.

(6 + 9 = 15 marks)

[4 × 15 = 60 marks]