

Code :R7410304

R7

IV B.Tech I Semester (R07) Supplementary Examinations, May 2011
INSTRUMENTATION & CONTROL SYSTEMS
(Mechanical Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

1. (a) Classify errors. Elaborate on why they occur and how to eliminate them.
(b) Discuss about dynamic performance characteristics of instruments.
2. (a) How capacitive transducer is used for displacement measurement? Explain.
(b) Give an account of thermocouple.
3. (a) Explain pressure measurement using Bourdon pressure gauge.
(b) Explain about vacuum measurement using ionization gauge.
4. (a) Describe bubbler system for level measurement.
(b) Discuss about flow measurement using hot wire anemometer.
5. (a) List different types of mechanical tachometers. Elaborate on any two with neat sketches.
(b) How vibration is measured? Explain.
6. (a) Give principle of operation of strain gauge. List different types of strain gauges and explain bonded strain gauges.
(b) Describe torque measurement with strain gauges.
7. (a) What is psychrometer? Discuss about any one type with neat diagram.
(b) Give an account of load cell.
8. (a) What is servomechanism? Explain with example.
(b) Describe temperature control system with neat figure.
