SS

Code: 9A03704

B.Tech III Year I Semester (R13) Regular Examinations December 2015

INSTRUMENTATION & CONTROL SYSTEMS

(Mechanical Engineering)

Time: 3 hours Max Marks: 70

Answer any FIVE questions
All questions carry equal marks
*****

1 (a) Explain the difference between a measurement and calibration.
(b) What are the different sources of error in measurement? Explain.

2 (a) Explain the working principle involved in LVDT with neat diagram.
(b) Describe the working of bimetallic thermometer with the help of neat sketch.

3 (a) What is diaphragm pressure gauge? Explain its operation.
(b) Explain working of ionization gauge for pressure measurement with a neat sketch.

4 (a) Sketch and explain the working of rotameter.
(b) Sketch and explain the working of ultrasonic fuel level indicator.

5 (a) Explain the working of any non-contact type tachometer with a neat sketch.
(b) List various types of accelerometers and discuss any two with neat diagrams.

6 (a) Write a note on surface preparation and bonding techniques.
(b) Explain the procedure to measure axial strain using strain gauges.

7 (a) Explain the working principle of any one absorption psychrometer with a neat sketch.
(b) Explain the working of mechanical torsion meter.

8 What is transfer function? How it will be changed between open loop and closed loop systems?

*****