

Code: 9A03704

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2017

INSTRUMENTATION & CONTROL SYSTEMS

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

- 1 Explain the working principle of generalized measurement system with a neat diagram.
- 2 (a) Describe the working principle of piezoelectric transducer with its applications.
(b) Explain the working principle involved in electrical resistance thermometer.
- 3 (a) Write a note on types of manometers.
(b) Describe the working principle of bourdon tube pressure gauge with a neat sketch and also mention its advantages and disadvantages.
- 4 (a) Enumerate the principle involved in cryogenic fuel level indicators.
(b) Elaborate the working principle of laser Doppler anemometer with a sketch.
- 5 (a) What do you understand the working principle of stroboscope? Explain with a diagram.
(b) Explain the working principle involved in seismic accelerometer.
- 6 (a) How the torque is measured by using torsion meter? Explain the working principle involved in it.
(b) Enumerate the working principle involved in strain gauge accelerometer with a diagram.
- 7 Explain with a neat sketch the following load cells:
(a) Hydraulic load cell.
(b) Pneumatic load cell.
- 8 (a) Define the basic terms which are involved in control system.
(b) What do you understand about speed and position control systems?
