

Exam

(3 Hours)

[Total marks: 80]

- N.B.: (1) Question no.1 is compulsory  
 (2) Attempt any three questions from remaining.  
 (3) Figures to the right indicates full marks  
 (4) Assume suitable data if required. Justify the same.

- Q.1 A) Define the terms related to sensors:  
 Static calibration, Linearity, Static Sensitivity, Accuracy 5  
 B) Compare: Thermistors and thermocouples 5  
 C) Explain Actuator bandwidth and frequency response 5  
 D) Draw block diagram showing Components of pneumatic system 5
- Q.2 A) Explain Selection criteria of sensors for mechatronic systems 10  
 B) State different types of strain measurement sensors. Explain wheatstone bridge circuit. 10
- Q.3 A) Explain any one method for pressure measurement. 10  
 B) How Induction motor can be used to Drive actuating system? 10
- Q.4 A) Explain stepper motor drive in brief. 10  
 B) Explain LVDT for displacement measurement. 10
- Q.5 A) Differentiate between Analog and Digital Sensors. 10  
 B) What is hall effect sensor? Explain in brief. 10
- Q.6 Write short notes on: 20  
 A) Digital tachometers  
 B) Ultrasonic Flow-meter  
 C) Servo Amplifier