

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 What are proximity sensors? Explain the types of proximity sensors. (CO-01)

Q.24 Explain electromagnetic type of flow meter with its advantage and disadvantages. (CO-04)

Q.25 Write short note on any two

a) Smart sensors (CO-05)

b) Static characteristics of sensors (CO-01)

c) Bourdon tube (CO-02)

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Roll No.

4th Sem / Automation & Robotics

Subject : Sensors and Actuators

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Sensors can be _____ (CO-01)

- a) Temperature b) Light
- c) Motion d) All of the above

Q.2 Smallest change which a sensor can detect is _____ (CO-01)

- a) Resolution b) Accuracy
- c) Precision d) Scale

Q.3 Thermocouple gives output voltage according to: (CO-04)

- a) Circuit parameters b) Humidity
- c) Temperature d) Voltage

Q.4 What is the use of Ultrasonic sensor? (CO-01)

- a) Proximity Detection b) Humidity Detection
- c) Image Processing d) GPS

Q.5 _____ converts energy into motion. (CO-04)

- a) Sensors b) Actuator
- c) Switch d) Transistor

Q.6 Advantages of smart sensor are: (CO-05)

- a) Reduced wiring cost
- b) Reduced start up time
- c) Easy to expand system
- d) All of the above

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define transducers. (CO-01)

Q.8 Name any inductive transducer. (CO-01)

Q.9 Define proximity switch. (CO-02)

Q.10 Name the materials used for thermocouple? (CO-03)

Q.11 What is the use of Rotameter. (CO-04)

Q.12 Write the name of a pneumatic actuator. (CO-04)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 What are the different types of transducers? (CO-01)

Q.14 Explain the operation of photoelectric Transducers. (CO-01)

Q.15 Explain the principle and working of Bellows pressure sensor. (CO-02)

Q.16 Write short note on MEMS sensors. (CO-02)

Q.17 Explain the working of bio sensors. (CO-05)

Q.18 Write short note on Infrared Thermography.(CO-03)

Q.19 Define thermistor. List the types of thermistors. (CO-03)

Q.20 Write the criteria of selection of actuators. (CO-04)

Q.21 Explain the working of orifice plate for flow measurement. (CO-03)

Q.22 Write the name of electrical actuators. Write applications of any one. (CO-04)