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221532

Roll No.

**3rd Sem / Branch : Instrumentation & Control
Sub.: Sensors & Transducers**

Time : 3Hrs.

M.M. : 60

SECTION-A

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

- Q.1 Resistance of a metal is depends upon:
a) Length b) Area
c) Resistivity d) All of these
- Q.2 Sensor is a type of transducer.
a) True b) False
- Q.3 Inductive transducer use one of the following principle for its working
a) Change of self Inductance
b) Change of mutual Inductance
c) Production of eddy current
d) All of these
- Q.4 A microphone is an example of
a) Ultrasonic Transducer
b) Acoustic transducer
c) Magnetic Transducer
d) Inductive Tranducer

- Q.5 Smallest change which a sensor can detect is
a) Resolution b) Accuracy
c) Precision d) Scale
- Q.6 Which of the following is correct for thermistor?
a) Positive temperature co-efficient of resistance
b) Negative temperature co-efficient of resistance
c) Un-predictable temperature co-efficient
d) None of the mentioned

SECTION-B

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

- Q.7 Transducer converts _____ into _____.
- Q.8 Semiconductor has negative temperature coefficient. (True/False)
- Q.9 Expand LVDT.
- Q.10 Write the unit of Capacitor.
- Q.11 What is LDR?
- Q.12 Define Sensor.

SECTION-C

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

- Q.13 Write the various application of LVDT.

- Q.14 Explain inductive transducer in brief.
- Q.15 What is RTD and their application.
- Q.16 Differentiate between analog and digital transducer.
- Q.17 How we can measure change in capacitance due to movement of dielectric between plates.
- Q.18 What are the three major components of general measurement system.
- Q.19 Write atleast two advantages and disadvantage of capacitive transducer.
- Q.20 What is strain gauge and also define gauge factor?
- Q.21 Explain vibrometer seismic transducer.
- Q.22 What are the classification of transducer?

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)
- Q.23 Explain working principle of piezoelectric transducer.
- Q.24 Write the principle construction and working of capacitive transducer.
- Q.25 What is potentiometer? Explain its working and principle.