

- xv) Explain the constructional features of induction potentiometer.

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 Explain I to V converter in detail.
- Q.4 Describe the construction, working principle and application of linear variable differential transformer.
- Q.5 Describe the construction, working principle and application ultrasonic transducer.
- Q.6 Explain the principle of working, constructional details and applications of photodiode.
- Q.7 Write short note on any two
- a) Capacitance pickup
 - b) Resistive temperature transducers
 - c) Variable capacitance transducers

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4th Sem. / IC / EI

Subject : Transducer and Signal Conditioning

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1
- a) LED stands for _____
 - b) LVDT converts _____ motion into _____ signal.
 - c) Give one application of strain gauge.
 - d) Give one advantages of potentiometer.
 - e) Thermistor has a _____ temperature coefficient of resistance.
 - f) Give one advantage of accelerometer.
 - g) Give one application of piezoelectric transducer.
 - h) Give one limitation of tachogenerator.
 - i) What is the function of condenser microphone?

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- j) In a synchro-transmitter, the voltage induced in the three windings of the stator are in _____ with each other.
- k) The photo-diode as compared to photo-transistor has _____ sensitivity.
- l) Define inverse transducer.
- m) In a transducer, the observed output deviates from the correct value by a constant factor the resulting error is called _____
- n) What is filtering?
- o) Give one limitation of single shaft encoder.
- p) Give one advantage of photo diode.
- q) What is the use of magneto-strictive transducer?
- r) Give one advantage of ultrasonic transducer

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

- Q.2 i) For a transducer, explain the input characteristics.

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- ii) Differentiate between primary and secondary transducers with suitable examples.
- iii) Give the limitations of load cell.
- iv) Give the disadvantages of accelerometer.
- v) Explain the concept of impedance matching.
- vi) What is the function of single shaft encoder?
- vii) Give the advantages of piezoelectric transducer.
- viii) Explain the principle of LDR.
- ix) Explain the basic concept of F to V conversions.
- x) Give the disadvantages of LVDT.
- xi) Explain the basic principle of strain gauge.
- xii) Explain the different forms of construction of thermistors.
- xiii) Explain the basic concept of variable inductance transducer.
- xiv) Explain the working principle of differential capacitor pick up transducer.

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