

- Q.26 Write a short note on characteristics of transducer.
 Q.27 Explain construction and working of accelerometer.
 Q.28 Write a short note on potentiometer.
 Q.29 Discuss capacitive microphone.
 Q.30 Explain construction and working of seismic pick-up with suitable diagram.
 Q.31 Write short note on classification of transducer.
 Q.32 Explain construction and working principle of Capacitive pickup.
 Q.33 Explain working and construction of Piezoelectric transducer.
 Q.34 Explain electromagnetic pick up.
 Q.35 Describe working of carbon microphone.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain construction, working principle, advantages, disadvantages and application of Hot wire anemometer with neat and clean diagram.
 Q.37 Explain construction and working of LVDT in detail.
 Q.38 Explain construction and working of stain gauge in detail.

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3rd Sem / Branch : IC
Subject:- Transducers and Signal Conditioning

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 LVDT stands for .
 a) Linear voltage differential transducer
 b) Linear variable differential transducer
 c) linear variable differential transformer
 d) linear variable displacement transformer
 Q.2 The gauge factor of strain gauge is .
 a) $\frac{\Delta R}{R} / \frac{\Delta D}{D}$ b) $\frac{\Delta R}{R} / \frac{\Delta L}{L}$
 c) $\frac{\Delta R}{R} / \frac{\Delta P}{P}$ d) $\frac{\Delta R}{R} / \frac{\Delta A}{A}$
 Q.3 Which of the following transducer is active transducer.
 a) Strain guage
 b) RTD
 c) Piezoelectric transducer
 d) Thermistor
 Q.4 Electromagnetic transducer is a
 a) Resistive transducer
 b) Inductive transducer
 c) Capacitive transducer
 d) Digital transducer

- Q.5 What is the frequency of the supplied alternating current in india.
- a) 50 KHz
 - b) 30 KHz
 - c) 50 HZ
 - d) 60 Hz
- Q.6 Termistor is made up of
- a) Metal
 - b) Semiconductor
 - c) Non metal
 - d) Insulator
- Q.7 Seismic pickup does not measure _____.
- a) Velocity
 - b) Displacement
 - c) Acceleration
 - d) Temperature
- Q.8 An inverse transducer converts _____.
- a) Electrical energy to any other form of energy
 - b) Electrical energy to mechanical energy
 - c) Mechanical displacement in to electrical energy
 - d) None of these
- Q.9 Hot wire anemometer is used to measure.
- a) Pressure
 - b) Flow
 - c) level
 - d) temperature
- Q.10 Temperature coefficient of RTD is _____.
- a) Negative
 - b) Positive
 - c) Both a & b
 - d) None of these

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Write one application of potentiometer.
- Q.12 Define Pick-up.
- Q.13 Expand LVDT.
- Q.14 Define passive transducer.
- Q.15 Temperature coefficient of thermistor is.....
- Q.16 Name any two materials used in piezoelectric transducers.
- Q.17 The working principle of thermocouple iseffect.
- Q.18 Define signal conditioning.
- Q.19 Write two criteria for the selection of transducer.
- Q.20 Shaft encoder is an example of _____.

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 Explain selection criteria of Transducer.
- Q.22 Write a short note on F to V converter.
- Q.23 Write a short note on thermister.
- Q.24 Describe Filtering and impedance matching for A.C. signal conditioning.
- Q.25 Describe differential capacitive pick up.