

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain the working of LED. Give its advantages and disadvantages .
- Q.22 What is direct and indirect methods of measurement ?
- Q.23 What is piezoelectric effect.
- Q.24 Explain LVDT in detail.
- Q.25 Discuss Dynamometer.
- Q.26 What is pirani Gauge ?
- Q.27 Explain AC & DC tachometer .
- Q.28 Explain thermocouple.
- Q.29 Explain thermistor .
- Q.30 Discuss turbine flow meter .
- Q.31 Write a short note on Hygrometer.
- Q.32 Discuss Potentiometer.
- Q.33 Define graphic recorder.
- Q.34 What is signal conditioning explain briefly ?
- Q.35 Explain inductive torque transducer .

SECTION-D

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

- Q.36 What is a strain gauge ? Discuss in brief.
- Q.37 Write a short note on piezoelectric transducer , burden tube and bellow.
- Q.38 Write a shorts note on load cell .

No. of Printed Pages : 4

Roll No.

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3rd Sem / Mechatronics

Subject:- Electronic Instrumentation

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 LVDT is _____ type of transducer.
- a) Resistive
 - b) Capacitive
 - c) Inductive
 - d) Optical
- Q.2 To detect very small changes in resistance strain gauges are configured with:
- a) Wheatstone bridge
 - b) Maxwell's Bridge
 - c) Hay's Bridge
 - d) Anderson Bridge
- Q.3 Which transducer does not require any external power supply for working ?
- a) Strain gauge transducer
 - b) Piezoelectric crystals
 - c) Hydraulic transducer
 - d) Pneumatic transducer

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- Q.4** What is the difference between gauge pressure and absolute pressure ?
- a) Gauge pressure is relative to atmospheric pressure , while absolute pressure is measured relative to a vacuum.
 - b) Gauge pressure is measured relative to a vacuum , while absolute pressure is relative to atmospheric pressure.
 - c) Gauge pressure and absolute pressure are the same thing.
 - d) Gauge pressure is only used for liquids, while absolute pressure is only used for gases.
- Q.5** What is a manometer ?
- a) A device used to measure the pressure of a gas
 - b) A device used to measure the pressure of a liquid
 - c) A device used to measure the flow rate of a fluid
 - d) A device used to measure the temperature of a fluid
- Q.6** What is the definition of flow rate ?
- a) The amount of fluid flowing per unit time
 - b) The amount of fluid stored in a container
 - c) The amount of pressure in a fluid
 - d) The amount of fluid velocity
- Q.7** When the reference junction is the same temperature as the measurement junction in a thermocouple circuit , the output voltage (measured by the sensing instrument) is :
- a) Zero
 - b) Reverse polarity
 - c) Noisy
 - d) AC instead of DC

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- Q.8** Humidity is simply the amount of _____ held in the air.
- a) Water
 - b) Water vapor
 - c) Oxygen
 - d) Liquid
- Q.9** What is a digital recorder ?
- a) records digital data
 - b) records analog data
 - c) does not record data
 - d) records both analog and digital data
- Q.10** Phase difference between two voltages at frequencies above 10 Hz can be measured using _____ .
- a) CRO
 - b) Voltmeter
 - c) X-Y Plotter
 - d) Multi meter
- SECTION-B**
- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 SI unit of temperature is
 - Q.12 Define Linearity.
 - Q.13 What is gauge factor ?
 - Q.14 What is humidity ?
 - Q.15 Write the full form of DAS .
 - Q.16 Write the full form of LCD.
 - Q.17 What is below?
 - Q.18 Write Faraday's first law
 - Q.19 Define pyrometry.
 - Q.20 Define force.

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