1. Which type of transducer operates on the principle of converting temperature variations into changes in electrical resistance?

A) LVDT
B) RTD
C) Piezo-electric transducer
D) Photo emissive

Answer: B) RTD
Explanation: RTD stands for Resistance Temperature Detector. It works based on the principle that the electrical resistance of certain materials changes with temperature. As temperature increases, the resistance of the RTD element also increases, allowing it to accurately measure temperature variations.

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2. What type of transducer is commonly used for measuring small displacements with high accuracy?

A) Thermistor
B) Photo conductive
C) Strain gauge
D) Photo voltaic

Answer: C) Strain gauge
Explanation: Strain gauges are widely used for measuring small displacements with high

accuracy. They operate on the principle of the change in electrical resistance due to mechanical strain or deformation in the material to which they are attached.

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3. Which transducer type utilizes the piezoelectric effect to convert mechanical stress or pressure into electrical signals?

A) RVDT
B) Thermocouple
C) Piezo-electric transducer
D) Photo-diode

Answer: C) Piezo-electric transducer
Explanation: Piezo-electric transducers generate electrical signals in response to mechanical stress or pressure applied to them, based on the piezoelectric effect. When mechanical stress is applied, they produce a voltage output proportional to the applied force or pressure.

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4. Which transducer type is primarily used for converting light energy into electrical signals?

A) RTD
B) Thermistor
C) Photo voltaic
D) RVDT

Answer: C) Photo voltaic
Explanation: Photo voltaic transducers convert light energy directly into electrical energy. They generate a voltage or current when exposed to light, making them suitable for various light detection and energy conversion applications.

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5. What type of transducer is specifically designed for converting rotary motion into electrical signals?

A) RVDT
B) Thermocouple
C) Photo-diode
D) Strain gauge

Answer: A) RVDT
Explanation: RVDT, or Rotary Variable Differential Transformer, is specifically designed for converting rotary motion into electrical signals. It consists of a primary coil and two secondary coils wound on a cylindrical former, allowing precise measurement of angular displacement.

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6. Which transducer type relies on the Seebeck effect for generating voltage in response to temperature differences?

A) Thermistor
B) Thermocouple
C) Piezo-electric transducer
D) Strain gauge

Answer: B) Thermocouple
Explanation: Thermocouples operate based on the Seebeck effect, where a voltage is generated when two dissimilar metals are joined together and exposed to a temperature gradient. This voltage is proportional to the temperature difference between the junctions.

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7. What type of transducer is sensitive to changes in light intensity and commonly used in optical communication systems?

A) Photo emissive
B) Photo conductive
C) Photo voltaic
D) Photo Transistor

Answer: D) Photo Transistor
Explanation: Photo Transistors are sensitive to changes in light intensity and are commonly used in optical communication systems, such as fiber optics. They amplify the electrical signals produced by incident light, facilitating optical signal detection.

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8. Which transducer type is most suitable for measuring minute changes in temperature, typically in the range of -200°C to 850°C?

A) RTD
B) Thermistor
C) Thermocouple
D) Piezo-electric transducer

Answer: A) RTD
Explanation: RTDs, or Resistance Temperature Detectors, are highly accurate sensors used for measuring small temperature changes. They are suitable for a wide temperature range and offer precise measurements, typically in the range of -200°C to 850°C.

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9. What type of transducer is commonly used for converting mechanical vibrations into electrical signals?

A) Piezo-electric transducer
B) Photo voltaic
C) LVDT
D) RVDT

Answer: A) Piezo-electric transducer

Explanation: Piezo-electric transducers are commonly used for converting mechanical vibrations into electrical signals. They utilize the piezoelectric effect to generate electrical charges in response to mechanical stress or vibration, making them ideal for various sensing applications.

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10. Which transducer type is specifically designed for accurately measuring linear displacement?

A) RVDT
B) Thermistor
C) Photo emissive
D) LVDT

Answer: D) LVDT
Explanation: LVDT, or Linear Variable Differential Transformer, is specifically designed for accurately measuring linear displacement. It operates on the principle of electromagnetic induction and provides precise measurements of linear movements.

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