

UNIT-II

Multiple Choice questions

1	Thermal sensors are primarily used to measure:
	A) Pressure B) Temperature C) Displacement D) Humidity
2	Gas thermometric sensors operate based on the variation of:
	A) Resistance B) Pressure or volume of a gas C) Capacitance D) Inductance
3.	Thermal expansion thermometers work on the principle of:
	A) Magnetic effect B) Thermal expansion of materials C) Piezoelectric effect D) Hall effect
4.	An acoustic temperature sensor measures temperature through changes in:
	A) Light intensity B) Sound velocity C) Resistance D) Magnetic field
5	Dielectric constant thermometers determine temperature by measuring changes in:
	A) Resistance B) Capacitance C) Dielectric constant D) Inductance
6.	Helium low-temperature thermometers are mainly used for:
	A) High-temperature furnaces B) Cryogenic temperature measurement C) Room temperature measurements D) Industrial heating systems
7	Nuclear thermometers are based on:

	<p>A) Thermal expansion B) Nuclear properties of materials C) Piezoelectricity D) Magnetic induction</p>
8.	. Magnetic thermometers determine temperature from changes in:
	<p>A) Capacitance B) Magnetic susceptibility C) Voltage D) Frequency</p>
9	Resistance Temperature Detectors (RTDs) work on the principle that:
	<p>A) Resistance changes with temperature B) Capacitance changes with pressure C) Frequency changes with force D) Inductance changes with displacement</p>

10.	Thermocouples are examples of:
	A) RTDs B) Thermocouples C) Thermistors D) Heat flux sensors
11.	The Seebeck effect is utilized in:
	A) RTDs B) Thermocouples C) Thermistors D) Heat flux sensors
12.	Junction semiconductor temperature sensors are based on:
	A) Variation in PN junction voltage with temperature B) Thermal expansion C) Piezoelectric effect D) Magnetic effect
13.	Thermal radiation sensors measure temperature by detecting:
	A) Heat conduction B) Infrared radiation emitted by objects C) Magnetic flux D) Capacitance changes
14	NQR thermometry is based on:
	A) Nuclear Quadrupole Resonance B) Nuclear Magnetic Resonance C) Optical Resonance D) Thermal Expansion
15	Heat flux sensors measure:
	A) Heat flow per unit area B) Temperature difference only C) Pressure variation D) Magnetic field strength
	Fill in the blanks
1.	A thermal sensor is used to measure _____
2.	Gas thermometric sensors use the properties of a _____.
3.	Thermal expansion thermometers rely on the expansion of materials due to _____.
4.	The speed of sound varies with _____ in acoustic temperature sensors.
5	Dielectric constant thermometers measure temperature through changes in the _____ constant.
6	Helium thermometers are commonly used for _____ temperature measurements.



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7	Helium thermometers are commonly used for _____ temperature measurements.
8	Magnetic thermometers operate based on changes in magnetic _____.
9	In RTDs, the resistance of the sensing element changes with _____
10	The thermos emf generated in a thermocouple is due to the _____ effect
11	. A thermocouple consists of two dissimilar _____ joined together.
12	Semiconductor temperature sensors generally use a _____ junction.
13	Thermal radiation sensors commonly detect _____ radiation.
14	Quartz crystal thermoelectric sensors use _____ crystals as sensing elements.
15	Heat flux sensors measure the rate of _____ transfer through a surface.