NARSIMHA REDDY ENGINEERING COLLEGE
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UNIT–II

Thermal Sensors:

S.No		Questions	BT	CO	PO
Part – A (Short Answer Questions)					
1		List the classifications of temperature sensors.	1	2	1,2
2		State the requirements of an ideal temperature senso	1	2	1,2
3		State the principle of gas thermometric sensors.	1	2	1,2
4		What are constant-volume gas thermometers	2	2	1,2
5		Define thermal expansion thermometer.	1	2	1,2
6		State the working principle of thermal expansion sensors	2	2	1,2
7		What is an acoustic temperature sensor?	2	2	1,2
8		State the principle of acoustic thermometry.	2	2	1,2
9		Explain the principle of magnetic thermometry.	2	2	1,2
10		Mention applications of magnetic thermometers	1	2	1,2
Part – B (Long Answer Questions)					
11	a)	Explain the classification of temperature sensors with examples.	2	2	2,3
	b)	Discuss the characteristics and requirements of an ideal temperature sensor.	3	2	3,4
12	a)	Explain the construction and working of gas thermometric sensors.	4,6	2	3,4,5
	b)	Discuss the principle, advantages, and limitations of gas thermometer.	3	2	3,4
13	a)	Explain the principle and operation of acoustic temperature sensors.	3	2	3,4
	b)	Describe temperature measurement using velocity of sound.	4,6	2	3,4,5
14	a)	Explain the construction and working of magnetic thermometers.	2,3	2	2,3
	b)	Derive the relationship between magnetic susceptibility and temperature.	3,4	2	3,4
15	a)	Explain the construction and working of quartz crystal thermoelectric sensors.	3,4	2	3,4
	b)	Discuss the characteristics, advantages, and applications of quartz crystal sensors.	2,3	2	2,3

16	a)	Explain the construction and working of heat flux sensors.	3,4	2	3,4
	b)	Discuss various methods of heat flux measurement.	3,4	2	3,4