USN

15MA663

Sixth Semester B.E. Degree Examination, June/July 2019
Sensors

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1	a. Define sensors. Explain the classification of sensors.	(08 Marks)
	b. Explain the design consideration for strain gauge.	(08 Marks)

OR

2	a. Explain the types of inductive sensors.	(08 Marks)
	b. Explain the material and input-output relationship in LVDT.	(08 Marks)

Module-2

3	a. Briefly explain the types of capacitive sensors.	(08 Marks)
	b. Explain the calculation of sensitivity in capacitive sensors.	(08 Marks)

OR

4	a. Explain piezoelectric effect in capacitive sensors.	(08 Marks)
	b. Briefly explain ultrasonic sensors.	(08 Marks)

Module-3

5	a. Explain material expansion type in thermal sensors.	(08 Marks)
	b. Explain the range and accuracy specification in thermal sensors.	(08 Marks)

OR

6	a. Briefly explain thermo emf sensors.	(08 Marks)
	b. Explain the types of semiconductor junction type in thermal sensors.	(08 Marks)

Module-4

7	Explain the assessment of the following using Villeri effect in magnetic sensors: i) Force ii) Torque.	(16 Marks)

OR

8	a. Explain Wiedemann effect for yoke coil sensors.	(08 Marks)
	b. Explain the performance characteristics for magnetic sensors.	(08 Marks)

Module-5

9	a. Explain LDR in radiation sensors.	(08 Marks)
	b. Explain the types of photo emission cells.	(08 Marks)

OR

10	Explain the following in radiation sensors: i) Gerger counters ii) Scintillation detectors.	(16 Marks)

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