Max. Marks: 70

B.Tech II Year I Semester (R15) Supplementary Examinations June 2017 SENSORS & TRANSDUCERS

(Electronics and Instrumentation Engineering)

Time: 3 hours

1

PART – A

(Compulsory Question)

- Answer the following: (10 X 02 = 20 Marks)
- (a) What are the sensors and transducers?
- (b) Describe the classification of sensors according to emerging sensor technology.
- (c) Name the different types of capacitive sensors.
- (d) State optic axis.
- (e) Explain Helium low temperature thermometer.
- (f) What is Seebeck effect?
- (g) What is Magnetostriction?
- (h) What are synchros?
- (i) What are MEMS?
- (j) What are the parameters monitored for optimization of aerospace sensors.

PART – B

2 What are the statistical characteristics of sensors (measuring systems)?

OR

3 Write in detail about the Resistance Stain Gauge.

UNIT – II

OR

4 Briefly describe the inductive sensors.

5 Briefly describe the following:

- (a) The parallel plate capacitive sensors.
- (b) Electrostatic transducer.

UNIT – III

6 What are MI thermocouples? What special advantage do these thermocouples have and what are their disadvantages?

OR

7 What are the important detectors in a total radiation pyrometer (Pyroelectric thermal sensor)? How are they characterized?

UNIT – IV

8 Explain in detail about the Hall effect sensor.

OR

9 Explain Linear Variable Differential Transformer (LVDT) in detail.

UNIT – V

10 What are the unexpected developments occur through Nano-sensors? Explain them.

OR

11 Explain the important aspects in Micromatching.

www.ManaResults.co.in