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Question Paper Code: 43603

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Third Semester

Instrumentation and Control Engineering

14UIC303-SENSORS AND TRANSDUCERS

(Common to Electronics and Instrumentation Engineering)

(Regulation 2014)

Duration: 1:45 hour

Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. Define measurement.
2. Define static calibration.
3. Differentiate between resolution and threshold.
4. Define Resolution.
5. List the applications of inductive transducers.
6. Define gauge factor.
7. What is SQUID?
8. What is piezoelectric effect?
9. What are the features of smart sensors?
10. Define manosensor.
11. Define gauge factor.
12. Define magnetostriction.

13. Define Hall effect.
14. State the features of smart sensors.
15. Give some of the humidity sensing elements.

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16. Discuss in detail the different types of errors occurring in measuring instruments and explain how to minimize them. (10)
17. State in detail, various types of static characteristics of transducers with example. (10)
18. With the basic principle of operation, derive the necessary conditions for loading effect of potentiometer under loading. (10)
19. Define piezo-electric effect. Explain how a piezo-electric crystal is used for the measurement of force with necessary derivations. (10)
20. With neat sketches and expressions, illustrate the constructional details and operation of seismic accelerometer. (10)