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Uni. Roll No.

Program: B.Tech. – Electrical Engineering
Semester: 5th
Name of Subject: Measurements and Instrumentation
Subject Code: PCEE-112
Paper ID: 16464

15-01-2022(E)

Time Allowed: 02 Hours

Max. Marks: 60

***Scientific Calculator is allowed**

NOTE:

1. Each question is of 10 marks.
2. Attempt any six questions out of nine
3. Any missing data may be assumed appropriately

1. (a) Explain the term

- i. True Value (ii) Accuracy (iii) Precision
(iv) Resolution (v) Drift (vi) Hysteresis (vii) Sensitivity

(b) A voltmeter reads 109.5 V. The error taken from an error curve is -0.37 V, Determine the true voltage.

2. Why is a controlling torque necessary in an analog indicating instrument, describe different methods of producing controlling with neat diagram.

3. Explain how Weins's bridge can be used for experimental determination of frequency. Derive the expression for frequency in terms of bridge parameters.

4. Describe the Lloyd Fisher square for measurement of iron losses in specimen of laminations.

5. Draw the block diagram of DSO. Explain the function of controls. How it is different from CRO.

6. Explain the construction and principle of working of LVDT. Explain how the magnitude and direction of displacement of core of an LVDT detected.

7. Describe the construction, principle of working and applications of Hall effect transducer.

8. Write a short note on

- a) Flux Meter
- b) Proximate Sensor

9. Write a short note on

- a) Thermocouple
- b) Strain Gauge