



C14-EE-304

4245

**BOARD DIPLOMA EXAMINATION, (C-14)
OCTOBER/NOVEMBER-2018
DEEE - THIRD SEMESTER EXAMINATION**

ELECTRICAL AND ELECTRONIC MEASURING INSTRUMENTS

Time : 3 Hours]

[Total Marks: 80

PART-A

3X10=30

- Instructions :**
1. Answer **All** questions.
 2. Each question carries **three** marks.
 3. Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. Define (a) Accuracy and (b) Error related to measuring instruments.
2. Distinguish between absolute and secondary instruments.
3. List the common errors in dynamometer type instruments.
4. What is creeping in energy meters?
5. Draw the circuit diagram of a basic ohmmeter and label the parts.
6. List the methods of measuring high resistances.
7. Define transducer and inverse transducer.
8. Write any three applications of sensors.
9. List various types of digital voltmeters.
10. Compare digital and analog instruments from any six aspects.

PART-B

10X5=50

Instructions :

1. Answer any **Five** questions.
2. Each question carries **ten** marks.
3. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. (a) What are the different types of torques produced in measuring instruments and explain their significance
(b) List the specifications of a digital multimeter.
12. (a) Compare MI and MC instruments.
(b) A DC ammeter has a resistance of 1.5Ω . The instrument gives a full scale deflection for a current of 50mA. Calculate the resistance of shunt necessary to give full scale range of 5A and 25A.
13. Explain the construction and working of a repulsion type moving iron instrument.
14. With neat sketch, explain the construction and working of a single phase energy meter.
15. (a) State the applications of instrument transformers.
(b) For a 5A, 230V, 1- ϕ energy meter the no. of revolutions per kW hr is 480. If, upon test at full load, UPF, the disc makes 10 revolutions in 64 seconds, calculate the percentage error
16. With neat sketch, explain the construction and working of a potentiometer.
17. Explain the working principle of (a) Thermocouple and (b) Thermistor.
18. Explain the working of a digital multimeter.
