C14–EE–**304**

4246

BOARD DIPLOMA EXAMINATION, (C–14)
OCT/NOV—2018
DEEE—THIRD SEMESTER EXAMINATION
ELECTRICAL AND ELECTRONIC MEASURING INSTRUMENTS

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. State any three differences between absolute instrument and secondary instrument.

2. What is the need of damping torque in a measuring instrument?

3. State any three disadvantages of moving coil measuring instrument.

4. List any three errors in a single-phase energy meter.

5. Classify the resistances based on their values.

6. Draw the circuit diagram for basic ohmmeter.

7. State the need of transducer in measurements.

8. List any three applications of sensors.

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9. State any three advantages of digital measuring instrument.

10. List any three basic components of analog electronic measuring instrument.

PART—B   10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain the construction and working of moving coil ammeter with a neat sketch.   10

12. *(a)* Explain the method of extending the range of moving coil voltmeter.

(b) A moving coil instrument has a resistance of 10 ohm and takes a current of 100 milliamp for full scale deflection. Calculate resistance to be connected to it to measure a voltage of 400 V.   5+5=10

13. Explain the construction of single-phase induction-type energy meter with a neat sketch.   10

14. Explain the construction and working of Weston synchroscope with a neat sketch.   10

15. Explain the working of a potentiometer with a neat sketch.   10

16. Explain the measurement of temperature using thermistor in a bridge circuit.   10

17. Explain the working of digital multimeter with a neat sketch.   10

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18. *(a)* Explain the eddy current damping system with a neat sketch.

(b) Explain the working of rectifier-type voltmeter with the circuit diagram.   5+5=10

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