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C09–EE–305

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BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—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. Compare indicating and recording instruments in any three aspects.

2. Write a short note on pointers.

3. Draw the circuit diagram of measuring single-phase power using wattmeter.

4. List the common errors in a single-phase energy meter.

5. Calculate the shunt required to extend the range of moving coil ammeter, which takes 50 mA to measure 10 A, if the resistance of the coil is 0·08 ohm.

6. Write any three applications of potentiometer.

7. Write a short note on semiconductor sensors.

8. State the advantages of digital energy meters.

9. State any three specifications of digital voltmeter.

10. Draw the block diagram of three-phase digital energy meter.

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 Weston synchroscope with a neat diagram.

12. Explain the construction and working of PMMC voltmeter with a neat sketch.

13. Explain the construction and working of dynamometer-type ammeter with a neat sketch.

14. Explain the construction and working of MI attraction-type instruments with a neat diagram.

15. Explain the construction of Megger with a neat sketch.

16. Explain the working of thermocouple and state its applications.

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

18. *(a)* Briefly explain the spring control system with a neat sketch.

(b) Explain the working of rectifier-type ammeter.

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