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C14–EE–304

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BOARD DIPLOMA EXAMINATION, (C–14)

OCT/NOV—2017

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. Classify the different measuring instruments.

2. Explain the necessity of damping torque in indicating instruments and state the types of damping torques.

3. Briefly explain the method of extending the range of voltmeters.

4. List the common errors in dynamometer instruments.

5. Explain the working of ohmmeter with a neat sketch.

6. What are the tests of be conducted by using Megger?

7. Explain thermocouple instruments and their applications.

8. Explain in brief about transducer.

9. List any three applications of digital multimeter.

10. State the specifications of digital energy meters.

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. *(a)* Explain the methods of obtaining deflecting torque. 5

(b) State the advantages and disadvantages of ramp-type DVM. 5

12. Describe the construction and working of moving coil (PMMC) instrument with a neat sketch. 10

13. Describe the construction and working of dynamometer type wattmeter with a neat sketch. 10

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

15. A DC voltmeter has an internal resistance of 100 ohms and full scale deflection current of 1 mA. Calculate the resistance of the multipliers required to extend the range of the voltmeter to 50 V, 250 V and 500 V. 10

16. Explain the construction and working of Megger (insulation tester) with a neat sketch. 10

17. Define transducer. Classify transducers and state the applications of transducers. 10

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

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