



C09-EE-305

**3243**

**BOARD DIPLOMA EXAMINATION, (C-09)**

**MARCH/APRIL—2014**

**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. How the measuring instruments are classified?
2. State the need of controlling torque and list the types of controlling torques.
3. Calculate the shunt required to extend the range of moving coil ammeter, which takes 100 mA to measure 50 A, if the resistance of the coil is 0.1 ohm.
4. Draw the circuit diagram for measuring the three-phase power using 2-wattmeters.
5. List the common errors in dynamometer type instruments.
6. State the applications of potentiometer.
7. Define (i) transducer and (ii) inverse transducer.
8. State any three advantages of digital instruments.

\* 9. State the specifications of digital voltmeter.

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. Explain the construction and working of 3-phase 3-element type energy meter with a neat sketch.

12. Explain the construction and working of Merz price MD indicator with a neat sketch.

13. Explain the construction and working of PMMC instruments with a neat sketch.

14. Explain the construction and working of moving iron repulsion type instrument with neat diagram.

15. Explain how Megger is used to measure earth resistance with neat sketch.

16. Draw the circuit using thermistor and explain the method of measuring temperature.

17. Explain the working of ramp type digital voltmeter and list the specifications.

\* 18. (a) What are the different types of torques needed in indicating instrument? Explain each briefly.

(b) Explain the working of single-phase digital energy meter.

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