



C09-EE-305

3243

BOARD DIPLOMA EXAMINATION, (C-09)

APRIL/MAY—2015

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

1. Compare indicating and recording instruments in any two aspects.
2. What are different types of supporting moving systems?
3. Define accuracy and standard of the instruments.
4. Calculate the shunt required to extend the range of moving-coil ammeter, which takes 20 mA to measure 20 A if the resistance of the coil is 0.075 ohm.
5. For a certain balanced 3-phase load, one wattmeter reads 20 kW and other 5 kW after the reversal of current coil in two-wattmeter method. Calculate the power of the load.
6. State the applications of potentiometer.
7. Write any three advantages of semiconductor strain gauge.
8. Draw the basic block diagram of ramp-type digital voltmeter.

9. ^{*} Compare digital instrument and analog instrument in three aspects.
10. Draw the diagram of rectifier type ammeter.

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 working of 3-phase 3-element type energy meter with a neat sketch. 4+6
12. Explain the construction and working of PMMC instrument with a neat sketch. 4+6
13. Explain the construction and working of Weston frequency meter with a neat diagram. 4+6
14. Explain the construction and working of dynamometer type wattmeter with a neat sketch. 4+6
15. Explain the construction and working of Megger with a neat diagram. 4+6
16. Define transducer. Classify transducers and state the applications of transducers. 2+4+4
17. Explain the working of digital multimeter with neat sketch. 4+6
18. (a) Explain eddy current damping system with neat sketch. 3+3
(b) Draw the block diagram of single-phase digital energy meter. 4

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