



C14-EE-304

4246

BOARD DIPLOMA EXAMINATION, (C-14)

OCT/NOV—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.

1. Classify the electromechanical measuring instruments according to their working principle. 3
2. Define the following terms by relating them with measuring instruments : 3
 - (a) Accuracy
 - (b) Error
 - (c) Resolution
3. State any six advantages of moving iron measuring instrument. 3
4. What is the meter constant of single-phase energy meter? 3
5. Write any three applications of a potentiometer. 3

- * 6. List any three methods for the measurement of low resistances. 3
- 7. List any three applications of a transducer. 3
- 8. State the working principle of a strain gauge. 3
- 9. List any three types of digital voltmeter. 3
- 10. Write any three specifications of digital multimeter. 3

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.
 (2) Each question carries **ten** marks.

- 11. Explain the construction and working of M.I. repulsion type instrument with a neat sketch. 10
- 12. (a) Explain the method of extending the range of moving coil ammeter. 5
- (b) A moving coil instrument has a resistance of 10 ohms and takes a current of 40 milliamps for full-scale deflection. Calculate resistance to be connected to it to measure a current of 10 A. 5
- 13. Explain the construction and working of dynamometer type Wattmeter with a neat sketch. 10
- * 14. Explain the construction of 3-phase 3-element type energy meter with a neat sketch. 10
- 15. Explain the working of basic ohmmeter with the circuit diagram. 10

- * 16. Explain the construction and working of linear variable differential transformer. 10
17. Explain the working of three-phase digital energy meter with a block diagram. 10
18. (a) Explain the spring control system with a neat sketch. 5
(b) Explain the working of a digital frequency meter with a block diagram. 5
