



C09-EE-305

3243

BOARD DIPLOMA EXAMINATION, (C-09)

SEPTEMBER/OCTOBER - 2020

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. State the essential torques of indicating instruments.
2. Compare spring and gravity control instruments in any three aspects.
3. State any three advantages of moving coil instrument.
4. A moving coil instrument has a resistance of 10 Ω and gives full-scale deflection of 50 mA. Show how it can be adopted to measure voltages up to 750 V.
5. List the common errors in dynamometer instruments.
6. Write any three applications of potentiometers.
7. Write any three applications of sensors.

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[*Contd...*

8. List the basic components of digital instruments.
9. Write the applications of multimeter.
10. State the advantages of 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 attraction-type moving iron instrument with a neat sketch. 10
12. Explain the construction and working of dynamometer-type wattmeter with a neat sketch. 10
13. Explain the construction of a one-phase induction-type energy meter with a neat sketch. 10
14. Explain the construction and working of Weston synchroscope with a neat sketch. 10
15. Explain the method using megger for the measurement of insulation resistance with sketch. 10
- * 16. Define and explain thermistor and thermocouple. 10
17. Explain the working of single-phase digital energy meter with block diagram. 10
18. (a) List different types of electrical measuring instruments according to principle of working.
- (b) Explain the working of rectifier-type ammeter. 5+5=10
