



C14-EE-304

4246

BOARD DIPLOMA EXAMINATION, (C-14)
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 different types of measuring instruments according to principle of working.

2. Define (a) accuracy and (b) error.

3. List three types of errors commonly occurring in moving-coil (MC) instruments.

4. List the applications of current transformer and potential transformer.

5. Classify the resistance according to its value.

6. List the applications of potentiometer.

- * 7. Define transducer.
- 8. State the advantages of LVDT.
- 9. State the uses of tong tester.
- 10. Write the advantages of digital instruments over analog instruments.

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 in brief the different methods of obtaining of controlling torques in an instrument.

(b) Explain the working of rectifier-type voltmeter.

12. Explain the construction and working of a permanent magnet moving-coil instrument with a neat sketch.

13. Explain the working of Weston synchroscope with a neat sketch.

14. Describe the principle and working of 1-phase energy meter with a neat sketch.

* 15. (a) List the advantages and disadvantages of dynamometer instruments.

(b) Describe the method of measuring power with wattmeter in single-phase circuit in conjunction with instrument transformers.

- * **16.** Explain with neat sketch the construction and working of a megger.
- 17.** Explain the constructional details and working principle of LVDT with neat sketch.
- 18.** Explain the working of digital multimeter with neat sketch and list the specifications.

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