



C14-EE-304

4246

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2017

DEE—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. Distinguish among indicating, recording and integrating instruments. 3
2. Explain with a neat sketch the eddy-current damping used in indicating instruments. 3
3. List the common errors in PMMC instruments. 3
4. State the advantages and disadvantages of dynamometer-type instruments. 3
5. What are the different methods of measuring resistances? 3
6. Explain the working of potentiometer. 3
7. Write a brief note on semiconductor sensors. 3

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8. Explain the ^{*}advantages and disadvantages of thermistors. 3
9. Mention specifications of digital multimeter. 3
10. State the advantages of digital energy meters. 3

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) What is the purpose of controlling torque in measuring instrument? 5
- (b) State the uses of tong tester (clamp meter). 5
12. Explain with neat sketch, the construction and working of attraction-type moving-iron instruments. 10
13. (a) Write a short note on instrument transformers. 5
- (b) List out the applications of instrument transformers. 5
14. Explain the construction and working of 3-phase, 2-element type energy meter with a neat sketch. 10
15. A moving-coil instrument has a resistance of 10 ohms and gives full scale deflection when carrying a current of 50 mA. Calculate the resistance to be used to measure voltage up to 175 V. 10
16. Explain the working of series-type ohmmeter with a neat sketch. 10
17. (a) Write the advantages and disadvantages of LVDT. 5
- (b) State the applications of LVDT. 5
18. Explain the working of three-phase digital energy meter. 10
