

**4246****BOARD DIPLOMA EXAMINATION, (C-14)****MARCH /APRIL-2019****DEEE - THIRD SEMESTER EXAMINATION****ELECTRICAL & ELECTRONIC MEASURING INSTRUMENTS**

Time: 3 Hours

Max.Marks:80

**PART-A****10x3=30M**

**Instructions :** 1) Answer **all** questions and each question carries Three marks.  
2) Answer should be brief and straight to the point and shall not exceed five simple sentences.

- 1) Differentiate absolute and secondary instruments.
- 2) Define (a) Sensitivity (b) Accuracy (c) Precision.
- 3) Explain the method of extending the range of moving coil ammeters.
- 4) State creeping error in energy meters and how it can be prevented.
- 5) Draw the circuit diagram of basic ohm meter.
- 6) State the applications of potentiometer.
- 7) What is a sensor and list its applications.
- 8) List any four advantages of electrical transducer.
- 9) List analog electronic instruments.
- 10) State the uses of Tong tester.

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## PART-B

**5x10=50M**

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

2) Answer should be comprehensive and the criteria for valuation is the content but not length of the answer.

- 11) a) What are the torques that are required in the measuring instruments for their satisfactory operation. 5M  
b) Write the advantages and disadvantages of digital instruments over analog instruments. 5M
- 12) Describe the construction and working of moving iron repulsion instruments with a Neat sketch. 10M
- 13) Describe the construction and working of single-phase induction type energy meter with a neat sketch. 10M
- 14) A D.C ammeter and leads have a total resistance of 1.5 ohms. The instrument gives a full scale deflection for a current of 50mA. Calculate resistance of the shunt necessary to give full scale ranges of 2.5A, 5A and 25A. 10M
- 15) Explain briefly the principle of operation of current and potential transformers. 10M
- 16) Explain the construction and use of megger for the measurement of earth resistance. 10M
- 17) Explain the constructional details and working principle of LVDT with a neat sketch. 10M
- 18) Explain with a block diagram about the operation of a ramp-type digital voltmeter. 10M

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