

**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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