



C14-EE-304

4245

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DEEE - III SEMESTER EXAMINATION

ELECTRICAL & 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.

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|----|---|-------------------------------|
| 1 | State different types of measuring instruments according to principle of working. | 3 |
| 2 | Define : (i) Sensitivity (ii) Resolution. | $1\frac{1}{2} + 1\frac{1}{2}$ |
| 3 | What is creeping ? How is it prevented ? | $1\frac{1}{2} + 1\frac{1}{2}$ |
| 4 | List the errors in energy meter. | 3 |
| 5 | Classify the resistances according to it's value. | 3 |
| 6 | State the applications of potentiometer. | 3 |
| 7 | Define transducer and inverse transducer. | $1\frac{1}{2} + 1\frac{1}{2}$ |
| 8 | List the applications of thermistor. | 3 |
| 9 | State the specifications of digital multimeter. | 3 |
| 10 | Compare between digital and analog instruments. | 3 |

4245]

1

[Contd...

PART - B**10×5=50**

- Instructions :**
- (1) Answer any **FIVE** questions.
 - (2) Each question carries **TEN** marks.
 - (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

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|-----------|---|-----------|
| 11 | (a) Distinguish between gravity control and spring control. | 4 |
| | (b) Classify the digital voltmeter and give specifications of digital voltmeter. | 6 |
| 12 | Explain the construction and working of permanent magnet moving coil instrument with a neat sketch and give its applications. | 10 |
| 13 | (a) Explain the method of extending the range of voltmeter using high resistance in series with it. | 7 |
| | (b) List the applications of CT and PT. | 3 |
| 14 | Describe the principle, construction and working of Dynamometer type instrument with a neat sketch. | 10 |
| 15 | Explain the working of Weston synchroscope with a neat sketch. | 10 |
| 16 | Draw and explain the working of megger used to measure insulation resistance. | 10 |
| 17 | (a) Write a short note on thermocouple. | 6 |
| | (b) Write applications of sensors. | 4 |
| 18 | Explain the working of three phase digital energy meter with block diagram. | 10 |