



C09-EE-305

**3243**

**BOARD DIPLOMA EXAMINATION, (C-09)**

MARCH / APRIL - 2019

**DEEE - III SEMESTER EXAMINATION**

**ELECTRICAL & ELECTRONIC MEASURING INSTRUMENTS**

Time : 3 Hours]

[Total Marks : 80

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**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.

- 1 Why damping torque is necessary in measuring instruments ?
- 2 Give one example for the following instruments :
  - (a) Indicating Instrument
  - (b) Integrating Instrument
  - (c) Recording Instrument.
- 3 Write the formula for power factor in two-wattmeter method.
- 4 Calculate the shunt required to extend the range of moving coil ammeter, which takes 100 mA to measure 50 A if the resistance of the coil is 0.1 ohm.
- 5 List any three types of errors in a single-phase energy meter.
- 6 Classify resistances based on their values.
- 7 Define : (i) transducer (ii) inverse transducer.
- 8 List any three specifications of Digital voltmeter.
- 9 List any three advantages of Digital Energy Meters.
- 10 List the components of three phase digital energy meter.

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**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.

- 11 Explain the construction and working of Weston Frequency meter with a legible sketch.
- 12 Explain the construction and working of PMMC voltmeter with a legible sketch.
- 13 (a) Compare MC and MI instruments in any five aspects. **5**  
(b) List any five errors commonly occurring in moving coil instruments and state their remedies. **5**
- 14 Explain the construction and working of dynamometer type wattmeter with a legible sketch.
- 15 Explain the construction of a potentiometer with a legible sketch.
- 16 Write short notes on following (a) NTC Thermistor (b) PTC Thermistor.
- 17 Draw the block diagram of digital multimeter and explain its working.
- 18 (a) What are the different types of supporting system ? **5**  
Explain about suspension type of support.  
(b) Distinguish between absolute and secondary instruments. **5**