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C09–EE–**305**

# 3243

## BOARD DIPLOMA EXAMINATION, (C–09)

## OCT/NOV—2018

## DEEE—THIRD 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) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

**1.** Classify measuring instructions.

**2.** Why damping torque is necessary in measuring instruments.

**3.** Compare M.C. and M.I. instruments.

**4.** A milliammeter with a resistance of 5 Ω is connected with a shunt gives full scale. Deflection of 15 mA.

Calculate the shunt resistance required to extend to read up to 1A.

**5.** Write the uses of (i) Synchroscope, (ii) Trivector Meter.

**6.** Classify the resistance into low, Medium and High Values giving examples for each.

**7.** What is the need of Transducers in Measurement systems?

**8.** Write the advantages of digital voltmeter.

**9.** List the components of 3-phase digital energy meter.

**10.** Draw the circuit diagram of rectifier ammeter.

## PART–B

10×5=50

***Instructions :*** (1) Answer *any* **five** questions.
(2) Each questions carries **ten** marks.
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

**11.** Explain the construction of repulsion type moving iron ammeter with neat sketch.

**12.** Explain the construction and working of a 1-phase induction type Energy meter with a neat sketch.

**13.** Explain the method of measuring 3-phase power using 2-wattmeter method.

**14.** Explain the working of single phase dynamometer type p.f meter with a neat sketch.

**15.** Explain the method of measurement of earth resistance using earth megger.

**16.** Explain the following :

(a) Thermistor

(b) Semiconductor Sensor

**17.** Explain the working of Digital multi meter with block diagram.

**18.** (a) Explain air friction damping.

(b) Compare analog and digital instruments.