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Total No. of Pages : 02

Total No. of Questions : 17

**B.Tech.(EE) (2012 Onwards)/(Electrical & Electronics Engg.)  
(2011 Onwards)/B.Tech. (Electronics & Electrical Engg./ Electrical  
Engineering & Industrial Control) (2012 to 2017) (Sem.-3)**

**ELECTRICAL MEASUREMENTS AND INSTRUMENTATION**

Subject Code : BTEE-303

M.Code : 57094

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

**SECTION-A**

**Answer briefly :**

- Q1 Differentiate between Analog and Digital measuring instrument.
- Q2 Describe the Resistance, capacitance and induction with their SI units.
- Q3 Describe the features of instrument transformers.
- Q4 What is dynamometer?
- Q5 Explain the pointers and scales for Analog measuring instruments.
- Q6 What is the major cause of creeping error in an energy meter?
- Q7 What is self-balancing potentiometer?
- Q8 What is meant by dc potentiometer and ac potentiometer and its applications?
- Q9 Explain the energy meter and its sources of error.
- Q10 What is meant by damping torque?

### SECTION-B

- Q11 Describe the principal of operation of induction meter also measure its voltage, current, power for ac circuits?
- Q12 How the AC testing of magnetic material is done and also explain the B-H curve?
- Q13 Describe how a DC potentiometer, and its modern form works?
- Q14 Define Bridge and also differential between the various types of bridges used.

### SECTION-C

- Q15 Define Instrument Transformer and explain the construction of both current and potential transformer.
- Q16 Draw the circuit diagram of AC Bridge. Derive the conditions for balancing the bridge and draw the phasor diagram during balanced condition.
- Q17 Write short notes on :
- a. PMMC
  - b. Torque
  - c. Multi-meter

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**