Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 18

B.Tech. (EE) PT (Sem.–2)

ELECTRICAL MEASUREMENT & INSTRUMENTS

Subject Code : BTEE-303

M.Code : 71536

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 & C. have FOUR questions each.**
3. **Attempt any FIVE questions from SECTION B & C carrying EIGHT marks each.**
4. **Select atleast TWO questions from SECTION - B & C.**

SECTION-A

Answer briefly :

Q1 State the advantages of Dynamometer type instruments.

Q2 List the advantages and applications of ac potentiometers.

Q3 Write down the sources of EM waves, which can cause interference?

Q4 State the method of reducing ground loop interference.

Q5 What is the working principle of wattmeter employed in measuring equipment?

Q6 What are the practical difficulties in AC potentiometer?

Q7 List the disadvantages of Hay's bridge.

Q8 Principle of operation of a current transformer.

Q9 How the range of instrument can be extended in PMMC instruments?

Q10 What are parasitic voltages and how they are eliminated?

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SECTION-B

Q11 Derive the bridge balance condition for the Maxwell bridge and Schering bridge.

Q12 Describe with help of suitable diagrams basic and modern form of DC potentiometer.

Q13 Explain the working of a digital multimeter with a schematic block diagram.

Q14 Explain the function of 3 phase energy meter and wattmeter.

SECTION-C

Q15 Discuss the advantages and limitations of electromagnetic interference in measurements.

Q16 Describe the construction and functioning of current transformer. Also discuss its testing and characteristics.

Q17 a) Describe the construction and working of PMMC instrument. Derive the equation for deflection if the instrument is spring controlled.

b) What is the use of self balancing potentiometer in the field of electrical measurement?

Q18 Write short notes on following :

a) Flux Meter

b) Wein Bridge

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.

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