

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(Automation & Robotics) (2011 & Onward) (Sem.-5)
ELECTRONICS MEASUREMENT AND INSTRUMENTATION

Subject Code : BTEC-404

M.Code : 70478

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

Q1 Answer briefly :

- a) What do you mean by resolution? Explain.
- b) What is loading? Explain.
- c) List the general specifications of a DVM.
- d) List the advantages of Kelvin double bridge.
- e) Discuss the principle of galvanometer.
- f) Why is Hay's bridge suited for measurement of inductance of high Q coils? Explain.
- g) What is the need of spectrum analyzer? Discuss.
- h) List the advantages of digital tape recorders.
- i) What is seeback effect? Explain.
- j) What is the need of telemetry system? Discuss.

SECTION-B

2. Define the following :
 - a) Accuracy
 - b) Precision
 - c) Sensitivity
 - d) Linearity
 - e) Hysteresis
3. Explain how the following measurements can be made with the use of a CRO ?
 - a) Frequency
 - b) Voltage
4. Explain the term “Total Harmonic Distortion”. Describe the functioning of a total harmonic distortion analyzer.
5. Explain the construction and principle of working of a linear variable differential transformer (L.V.D.T).
6. Describe the different methods of data transmission. Explain the block diagram of a general telemetry system.

SECTION-C

7. Explain the working of (i) attraction type and (ii) repulsion type of moving iron instruments with the help of neat diagrams. Describe the methods of producing controlling and damping torques in them. Explain why these meters can be used on both a.c and d.c?
8.
 - a) Explain the functioning of a ramp type digital voltmeter.
 - b) Explain the construction and working nixie tube.
9. Discuss the following :
 - a) Data Acquisition systems
 - b) Error and its classification

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.