B.Tech.(ETE) / (ECE) / (Electronics & Computer) (2011 Onwards)
B Tech.(Electronics Engineering) (2012 Onwards)
(Sem.–4)

ELECTRONIC MEASUREMENT AND INSTRUMENTATION

Subject Code : BTEC-404

Paper ID : [A1192]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION 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 has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1) Write briefly :

a. Define the term resolution.

b. Define loading effect.

c. Define the basic principle of operation of galvanometer.

d. What is distortion factor?

e. State one application of Nixie tube.

f. What is telemetry?

g. State the principle of piezoelectric transducers.

h. What is probable error?

i. What is the difference between peak responding and true RMS voltmeter?

j. What is the use of chopper in microvoltmeter?

SECTION-B

2) Distinguish between DC and AC telemetry systems. Enlist various methods adopted in an ac telemetry system.

3) What is the difference between the photo-emissive, photo-conductive and photo-voltaic transducers?

4) A 0-25A ammeter has guaranteed accuracy of 1 percent of full scale reading. The current measured by this instrument is 10A. Determine the limiting error in percentage.

5) Draw the basic block diagram of an oscilloscope and explain the function of each block.

6) Explain the minimum of five specifications that should be considered while selecting a recording instrument. What is the difference between an indicator and recorder?

SECTION-C

7) Explain the principle of successive approximations type DVMs. what is the advantage of a SAR type DVM over other types of DVM.

8) What is a function generator? Give its applications. Describe an harmonic distortion analyzer with the help of a block diagram.

9) Draw a neat schematic diagram of the Anderson Bridge. Deduce the equations when the bridge is under balance condition. Explain clearly how you measure self inductance by using this bridge.