Roll No. | | | | | | | | | | | | |

Total No. of Pages: 02
Total No. of Questions: 09

B. Tech (EE, ECE, ETE) (Sem.-4th)

ELECTRONICS MEASUREMENTS & INSTRUMENTATION

Subject Code: BTEC-404
Paper ID: [A1192]

Time: 3 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATE:

1. *Section-A is compulsory.*
2. *Section-B Attempt any four questions.*
3. *Section-C Attempt any two questions.*

SECTION-A

(10x2=20)

Q. 1.

(a) Comment upon the accuracy and precision of an instrument.

(b) Compare resolution and threshold.

(c) Explain the term synchronization w.r.t. CRO.

(d) Discuss the M.K.S system of units.

(e) Comment upon the resolution and sensitivity of digital meters.

(f) Discuss in brief the role of spectrum analyzer.

(g) Explain the advantages of digital indicating instruments over their analog counterparts.

(h) List the different requirements of recording.

(i) Why reference junction compensation is required in thermocouples? Explain.

(j) Explain the significance of telemetry in an instrumentation system.

Section-B

(4x5=20)

Q. 2. Describe the principle and working of Nixie tubes in detail.

Q. 3. Describe how CRO can be used to measure (i) frequency (ii) Phase angle.

Q. 4. Describe the construction and working of PMMC instrument. Explain why PMMC instruments are the most widely used instruments. Discuss their advantages and disadvantages.

Q. 5. What are the different types of telemetry systems? Explain the land-line telemetring system and describe its advantages.

Q. 6. Explain the construction and principle of working of a linear variable differential transformer (L.V.D.T). Explain how the magnitude and direction of the displacement of core of an L.V.D.T detected?

Section-C

(2x10=20)

Q. 7. (a) Discuss the principle and working of Successive approximation type DVM.

(b) Explain the functioning of a basic type of strip chart recorder. Also explain the different types of marking mechanisms used it.

Q. 8. What is an error? How error can be classified? Explain these errors by giving suitable examples. Discuss the means adopted to minimize the errors.

Q. 9. Discuss the following:

(a) Piezoelectric Transducers

(b) Harmonic distortion analyzer.

.....END.....