24226

B. Tech. 5th Semester (F) Scheme (EEE)
Examination, December–2018
ELECTRONIC MEASUREMENT AND INSTRUMENTATION
Paper–EE-339-F

Time allowed : 3 hours] *[Maximum marks : 100*

Note : ***Question no. 1 is compulsory.*** *Attempt* ***one question*** *from each section.*

1. (a) Differentiate between dual trace and Dual beam oscilloscope. 2

(b) List characteristics of LCD. 2

(c) CRO has become an universal tool in all kinds of electrical and electronic investigation why ? 2

(d) What is the need of sample and hold circuit in analog to digital converter ? 2

(e) What is piezoelectric effect ? 2

(f) Explain function of gate control flip flop in digital meter. 2

(g) What is spectrum analyzer ? 2

(h) What is meant by phosphor burning ? 2

(i) What are the requirements of sweep generator ? 2

(j) Mention any four types of analog to digital converters. 2

Section–A

2. Draw the block diagram of general purpose CRO and explain the functions of following controls : 20
   (i) Intensity
   (ii) Focus
   (iii) Horizontal and Vertical positioning
   (iv) Synchronization

3. (a) Explain the term total harmonic distortion. Describe functioning of total harmonic distortion meter. 10
   (b) Describe the following : 10
      (i) A signal generator using envelop feedback for amplitude modulation.
      (ii) Heterodyne oscillator

Section–B

4. (a) Explain methods of measurement of voltage and power at Radio frequencies. 12
   (b) What are the advantages of digital meter over an analog meter ? 8

5. (a) Describe working of Decade Counting Assembly. 10
   (b) Draw block diagram of digital frequency meter and explain function of each block. 10

Section–C

6. (a) What is the operating principle of LCD display ? State its advantages over Nixie tube and LED display. 10
   (b) What is Dot matrix displays ? Explain 5×7 dot matrix using circuit connections and example. 10

7. (a) What do you mean by negative temperature coefficients ? Explain transducer having negative temperature coefficients used for measurement of temperature. 10
   (b) Describe the method of measurement of pressure using capacitive transducer. 10

Section-D

8. (a) Draw and explain block diagram of carrier type ac signal conditioning. 10
   (b) Describe binary weighted resistance type digital to analog conversion. 10

9. Explain data acquisition system in detail. Write their applications in various areas. 20