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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

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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

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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