

P1559

[3764] - 250

B.E. (Electronics Engineering)
ELECTRONICS MEASUREMENT SYSTEMS
(2003 Course)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Answer three questions from section I and three questions from section II.*
- 2) Answers to the two sections should be written in separate books.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Figures to the right indicate full marks.*
- 5) Your answers will be valued as a whole.*
- 6) Assume suitable data, if necessary.*

SECTION - I

Q1) a) With neat diagram explain working of vector volt meter. **[12]**

b) Explain the working principle of 'Q' meter with phasor diagram. **[6]**

OR

Q2) a) What errors are associated with the measurement of 'Q' using LCR - Q meter? Explain in detail. **[12]**

b) Explain with neat diagram working of phase meter. **[6]**

Q3) a) Explain working of frequency counter with diagram. **[8]**

b) Explain functions of time base generator in frequency counter. What is a criteria for selection of period measurement or frequency measurement in measurement of unknown frequency? **[8]**

OR

Q4) a) Explain 'Gating Error' in frequency measurement using frequency counter. **[8]**

b) Explain with neat diagram how to increase the frequency range of frequency counter? **[8]**

P.T.O.

- Q5) a) Explain with neat diagram frequency selective wave analyzer. [8]
b) Explain with neat diagram superheterodyne spectrum analyzer. [8]

OR

- Q6) a) Explain fundamental suppression harmonic distortion analyzer. [10]
b) Explain pretrigger, posttrigger and trigger modes of logic analyzer center. [6]

SECTION - II

- Q7) a) Explain SMPTE method of intermodulation distortion measurement. [8]
b) Explain direct method for measurement of complex gain of an amplifier. [8]

OR

- Q8) a) Explain impedance measurement using dual channel network analyzer. [8]
b) Explain with neat diagram 'SINAD' sensitivity test. [8]

- Q9) a) Explain with block diagram Digital Storage Oscilloscope. [9]
b) With neat diagram explain digital data acquisition system. [9]

OR

- Q10) Write short note on: [18]
a) Sampling technique used in sampling CRO.
b) Power Scope.
c) ATE.

- Q11) a) Explain how to test an audio amplifier using computer controlled measurement system. [8]
b) What are the advantages and disadvantages of virtual instruments. [8]

OR

- Q12) a) Give setup for computer controlled testing of radio receiver. [8]
b) Explain PCI interface. [8]
