G - 1075 (Pages : 02) COMP 4 - 4 (RC)

[Total No. of Questions : 8]

S.E. (COMP) (Semester - IV) Examination, May/June 2011
ELECTRONIC MEASUREMENTS

Duration : 3 Hours **Total Marks : 100**

Instructions : 1) Answer total five questions and one question is compulsory from each Module.
2) Assume suitable data if required and mention it clearly.

MODULE - I

Q1) a) Describe the different types of errors found in measurement systems. [8]
b) Explain the three principles followed by the metric system of units. [6]
c) What a IEEE standards? [3]
d) Write a short note on International Standards. [3]

Q2) a) Explain the principle of operation of the following DVM's. [9]
i) Successive approximation DVM's.
ii) Ramp type DVM's.
iii) Dual slope DVM's.
b) Explain electronic multimeter in detail. [8]
c) Explain PMMC mechanism with the help of a diagram. [3]

MODULE - II

Q3) a) Explain the horizontal deflection system of a CRO. [8]
b) With a neat diagram distinguish between dual beam and dual trace CRO. [8]
c) Explain the working of a current probe. [4]

Q4) a) Explain function generator with a diagram. [8]
b) Explain pi and piston-type attenuator. [6]
c) Compare the merits and demerits of the following methods of frequency synthesizers. [6]
i) Direct frequency synthesizer.
ii) Indirect frequency synthesizer.

MODULE - III

Q5) a) Draw block diagram of a general purpose spectrum analyzer and explain its operation. [8]
b) Explain the Harmonic distortion analyzer with the help of a block diagram. [8]
c) Explain any two applications of work analyzer. [4]

P.T.O.

Q6) a) Explain automatic and computing counters with the help of a block diagram. [8]

b) List and explain measurement errors for frequency and time measurements made by an electronic counter. [8]

c) Explain how a frequency counter can be used to measure period of a waveform. [4]

MODULE - IV

Q7) a) Describe the working principle of LVDT for measuring displacement, with suitable diagram. [8]

b) Write a note on : [8]

i) Strain gauge.

ii) Thermocouples.

c) State the selection criteria for a transduced. [4]

Q8) a) Explain analog to digital multiplexing. [6]

b) Explain DAS system with the help of a block diagram. [8]

c) Write a note on spatial encoders. [6]

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