13/12/14 Repeat (M) Comp

COMP 4 – 4(RC)

S.E. (Comp) (Semester – IV) (RC) Examination, Nov./Dec. 2014
ELECTRONIC MEASUREMENT

Duration : 3 Hours Max. Marks : 100

Instructions : 1) *Attempt **five** questions by taking atleast **one** question from **each** Module.*
2) *Assume **suitable** data **wherever** necessary.*
3) *Draw **neat** labelled diagrams **where** necessary.*

MODULE – 1

1. a) Explain PMMC mechanism with a neat diagram. 8
   b) What are IEEE standards ? 6
   c) Explain the derived and fundamental units of measurement. 6

2. a) Explain with necessary block diagram the operation of a digital voltmeter based on successive approximation principle. 8
   b) List and explain briefly the various elements of a electronic multimeter in detail. 8
   c) Explain briefly how is the absolute ampere determined. 4

MODULE – 2

3. a) Explain the horizontal deflection system of CRO. 7
   b) Draw and explain briefly lumped parameter delay line. 6
   c) Draw the block diagram of general purpose CRO and explain the functions of the various blocks. 7

4. a) Explain briefly pi and piston-type attenuator. 6
   b) Explain wideband sweep generator with a neat diagram. 6
   c) Draw a block diagram and explain the working of a function generator. 8

P.T.O.

MODULE – 3

5. a) With the help of a suitable block diagram explain the operation of the heterodyne type harmonic analyzer. 8

   b) Draw and explain block diagram of a fundamental suppression distortion analyzer. 8

   c) Explain any two applications of spectrum analyzer. 4

6. a) Explain briefly how frequency range of the counter can be extended. 8

   b) Explain basic block diagram of a frequency counter. 4

   c) List and explain the various errors made by an electronic counter performing frequency and time measurements. 8

MODULE – 4

7. a) Explain with a neat diagram the operation of a photomultiplier tube. 5

   b) Write a note on : (3×5=15)

      i) Thermocouple

      ii) Photoconductive cell

      iii) Thermistor

8. a) Explain how interfacing transducers to electronic control and measuring systems is done. 8

   b) Explain analog to digital multiplexing. 4

   c) Explain capacitive transducer and list its advantages and disadvantages. 8