13/6/2013.
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COMP 4 – 4 (RC)

IV Semester (RC) S.E. (Computer) Examination, May/June 2013
ELECTRONIC MEASUREMENT

Duration : 3 Hours | Total Marks : 100

Instructions: *1) Answer **five** full questions, atleast **one** full question from **each** Module.*
*2) Make suitable assumptions, **wherever** necessary.*

MODULE – 1

1. a) What are fundamental and derived units ? Give examples. 4
   b) What is IEEE standard ? 4
   c) Explain the following : 8
      1) Primary standard
      2) Working standard.
   d) Write a short note on gross error and random error. 4
2. a) Explain successive approximation DVM in detail. 7
   b) What is DVM ? Give DVM's operating and performance characteristics. 7
   c) Explain briefly permanent magnet moving coil mechanism. 6

MODULE – 2

3. a) Briefly, explain sine-wave generator. 4
   b) Along with a block diagram, explain digital storage oscilloscope. 8
   c) Explain in detail CRT. 8
4. a) Write a short note on lumped parameter delay line. 5
   b) Explain wide band sweep generator. 7
   c) Explain in detail function generator. 8

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MODULE – 3

5. a) Write a short note on gating error and level error. 6

   b) Show how precision computing counter using dual counters is carried out. 6

   c) Explain with neat diagram general purpose spectrum analyzer. 8

6. a) What is working principle for frequency counter ? Explain with block diagram. 6

   b) What is Harmonic Distortion (HD) ? What factor determines (THD) Total Harmonic Distortion ? 4

   c) Explain with block diagram "Heterodyne Wave Analyzer". Mention its applications. 10

MODULE – 4

7. a) Give a brief idea on any four thermo couple error sources. 4

   b) What is multiplexing ? Explain two techniques of multiplexing. 8

   c) Discuss elements of digital data acquisition system. 8

8. a) Explain following briefly : 10

      1) Multiplier phototubes

      2) Photo conductive cells.

   b) Explain in detail working of LVDT. 10