 Roll No .....

EX - 604(NGS)

B.E. VI Semester

Examination, June 2013

Electronic Instrumentation

(Non-Grading Scheme)

Time : Three Hours

Maximum Marks : 100 *Minimum pass Marks: 35*

Note: Attempt any two parts from each unit. All questions carry equal marks.

Unit - I

1. a) Explain the functions of various controls on the front panel of a CRO. 10

   b) Explain Lissajous pattern. A Lissajous pattern on an oscilloscope is stationary and has 5 vertical maximum values and 4 horizontal maximum values. The frequency of the horizontal input is 1200 Hz. Determine the frequency of vertical input. 10

   c) Explain the principle and working of electronic multimeter. 10

Unit - II

2. a) Draw Schering Bridge, its phasor diagram and obtain the balance condition. 10

   b) Discuss the common sources of errors in AC bridges. How they are eliminated? 10

   c) Describe the different types of temperature transducers and mention the applications of each. 10

Unit - III

3. a) Discuss the construction, and principle of working of spectrum analyser. 10

   b) Describe Beat frequency oscillator state its applications. 10

   c) List the various controls on the front panel of a pattern generator. What are the various patterns generated by a pattern generator? 10

Unit - IV

4. a) Define the sensitivity of digital meter. A $3\frac{1}{2}$ digit voltmeter is used for measuring voltage.

      i) Find the resolution of instrument

      ii) How would a voltage of 14.42 V be displayed on a 10 V range. 10

   b) Describe the frequency modulated (FM) magnetic tap recording. 10

   c) Explain the principle and working of digital tachometer 10

Unit - V

5. a) Explain with pin diagram IEEE 488 GPIB electrical interface. 10

   b) Discuss the methods of measurement of uncertainty with the help of circuit diagram. 10

   c) Describe optical time domain reflectometer with the help of block diagram. 10