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**EX-604****B.E. VI Semester**

Examination, June 2017

**Electronic Instrumentation****Time : Three Hours****Maximum Marks : 70**

- Note:** i) Answer any five questions.  
ii) All questions carry equal marks.

1. a) Discuss the considerations in selecting electronic voltmeter. Also explain the advantages of using electronic voltmeter.  
b) Draw the circuit diagram and explain the working of a electronic chopper type d.c. voltmeter.
2. a) Draw the block diagram of CRO and explain the function of each block.  
b) Explain the working principle of dual trace and dual beam oscilloscope and compare them.
3. a) Draw the circuit diagram of Maxwell's inductance bridge. Derive the expression for measurement of unknown parameters.  
b) Explain the working of basic Q-meter and Describe how the Q-meter can be used for the measurement of high impedance.

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4. a) Define transducers. Give classification of transducers.  
b) Explain function, principle and working of strain gauge. Define expression for gauge factor of strain gauge.
5. a) With help of block diagram explain the working of function generator.  
b) With the help of circuit diagram explain the working principle of basic wave analyzer.
6. a) Compare digital instruments over analog instruments.  
b) With the help of block diagram give the working principle of dual scope digital voltmeter.
7. a) How uncertainty measurement is done with scalar and vector network? Explain.  
b) Describe the working principle of optical time domain reflectometry.
8. Write short notes on any two of the following:
  - a) Storage oscilloscope
  - b) Wein's bridge
  - c) LVDT
  - d) Digital frequency meter
  - e) RS 232C and IEEE 488

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