

Roll No

EC-224

B.E., III Semester

Examination, December 2016

**Choice Based Credit System (CBCS)
Measurements and Instrumentation**

Time : Three Hours

Maximum Marks : 60

- Note:* i) Attempt any five questions out of eight.
ii) All questions carry equal marks.

1. a) What do you understand by Hysteresis and Loading effect?
b) Define the following terms:
 - i) Accuracy
 - ii) Sensitivity
 - iii) Resolution
2. a) List the various parts of CRO. Draw its block diagram and explain the working of all parts of CRO.
b) How does the digital oscilloscope differ from the conventional storage oscilloscope using a storage cathode tube?
3. a) Describe the circuit and working of a Q-meter. Describe its applications.
b) Explain Schering bridge method for measurement of capacitance. Draw the phasor diagram to explain. Determine dissipating factor.

4. a) Describe the Wein bridge method for measuring unknown frequencies in audio range. What are the other applications of this bridge?
b) What is a Thermistor? Describe with the help of neat sketches.
5. a) Explain construction and operation of LVDT. Also explain the performance characteristics of LVDT.
b) Explain the principle of working and function of strain gauge. Derive an expression for gauge factor of strain gauge.
6. a) Explain the principle of working and application of Sweep frequency generator.
b) Compare LED with LCD. Also discuss construction and working of LED.
7. a) Explain the working principle of dual slope integrating type DVM. Discuss why it has excellent noise rejection.
b) Give advantages of digital instrument over analog instrument. Also define and explain resolution and sensitivity of digital meter.
8. Write a short note on any two of the following:
 - a) Function generator
 - b) Bolometer
 - c) Piezo-electric transducer
