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SE - Sem - III - CBQS - EXTC - EIM

30/5/16

**QP Code : 30714**

(3 Hours)

[ Total Marks : 80

- N. B. :** (1) Question No.1 is **compulsory**.  
(2) Out of remaining question, attempt any **three** questions.  
(3) Assume suitable additional data if required.  
(4) **Figure** to the **right** of question indicates **full** marks.  
(5) Write your answers in ink only.

1. Attempt any **four**:
- (a) Explain Alternate mode and Chop mode in a dual trace oscilloscope.
  - (b) What is cold junction compensation in thermocouples.
  - (c) Write a note on piezoelectric transducer.
  - (d) Which is fastest ADC and why?
  - (e) Define accuracy, precision and sensitivity with suitable example.
  - (f) Compare Analog instrument with Digital Instrument.
2. (a) Explain the principle, working and construction of LVDT. What is meant by residual voltage? **10**
- (b) Draw neat block diagram of Dual Beam Oscilloscope. Give the comparison between Dual Trace and Dual Beam Oscilloscope. **10**
3. (a) What are the various D/A Converting Techniques? Explain any one technique. **10**
- (b) What is the basic principle of wave analyser? Explain heterodyne type wave analyser with application. **10**
4. (a) Explain Kelvin's double bridge and its application in very low resistance measurement. **10**
- (b) Draw and discuss Hex Bridge and its application for measurement of inductance. **10**
5. (a) Explain the principle and working of operation of dual slope DVM. **10**
- (b) Define Q factor and explain working of a Q meter for Q factor measurement. **10**
6. (a) Draw block diagram for generalised measurement system and explain its components. **5**
- (b) List various sensors for pressure and temperature along with their ranges. **5**
- (c) Brief out classification of errors in measurements. **5**
- (d) Explain electro-dynamometer type watt meter. **5**

**FW-Con. 11492-16.**

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