

S. E. (ETRX) SEM-III (CBGS) 16/12/13
Electronic Instruments and Measurement

28-11-2013-DTP-P-7-RA-6

Con. 9938-13.

GX - 12182

(3 Hours)

[Total Marks :80

- N. B. : (1) Question No. 1 is **compulsory**.
(2) Attempt any **three** questions from remaining **five** questions.
(3) Assume **suitable** data if **required**.

1. Solve all :— 20
- (a) Define the following terms :—
(i) Accuracy (ii) Precision (iii) Sensitivity
(iv) Linearity (v) Resolution.
- (b) Write the applications of Q-meters.
(c) Estimate the Bandwidth of CRO if a signal of 12 MS rise time is observed as the signal with 15 MS rise time.
(d) Write the selection criteria of transducer.
2. (a) Write short notes on "Resistance strain gauges". 10
(b) List the types of liquid level measurements. Explain any two in detail. 10
3. (a) Compare the temperature measurement transducers RTD, thermistors and thermocouples on the basis of principle, characteristics, ranges and applications. 10
(b) Explain the magnetic flow meter in detail. 10
4. (a) Draw and explain the block diagram of data logger. 10
(b) Explain the measurement of unknown resistance using Kelvin double bridge. 10
5. (a) Draw and explain the generalized block diagram of the CRO. 10
(b) Explain the linear variable differential transformer in detail. 10
6. (a) What are the types of errors in measurements ? Explain all in details. 10
(b) Draw and explain the block diagram of digital storage oscilloscope. Also write the applications of DSO. 10
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