

SARDAR PATEL UNIVERSITY
BSc (VI Semester) Examination
2016
Monday, 4th April
2.30 pm to 5.30 pm
US06CELE04 - Instrumentation

Total Marks: 70

Q.1 Multiple Choice Questions.

[10]

- 1) True RMS responding voltmeter sense _____.
 (a) Heating power of dc signal
 (b) Heating power of ac signal
 (c) None of above
- 2) The unit of sensitivity is _____.
 (a) ohms (b) ohm/voltage (c) volts
- 3) In the resonant circuit, at resonance capacitive reactance is equal to _____.
 (a) Inductance of circuit (b) Resistance of circuit (c) None of above
- 4) Which instrument is used to measure the electrical property of inductor and Capacitor.
 (a) Successive approximation DVM (b) Q Meter (c) Ramp type DVM
- 5) The acronym DCU stand for _____.
 (a) Digital control Unit (b) Decade control Unit
 (c) Decade Counting Unit
- 6) _____ type of recorders are well suited for low frequency AC input.
 (a) Null or Potentiometric (b) XY recorder (c) Galvanometer
- 7) _____ type of recorders are widely used in instrumentation system.
 (a) Galvanometer type recorder (b) Magnetic tape recorder
 (c) XY Recorder
- 8) The stylus (Pen) consist of a _____ wire moving across the aluminium surface.
 (a) Tungsten (b) Copper (c) Nichrome
- 9) The acronym ATE stand for _____.
 (a) Analog test equipment (b) Analog Transfer Equipment
 (c) Automatic test equipment
- 10) For a good radio receiver the signal to noise ratio should be greater than _____.
 (a) 1 or 2 dB (b) 6 or 10 dB (c) 2 or 4 dB

Q.2 Answer **Any Ten** questions in brief.

[20]

1. Write the difficulty of the true rms responding voltmeter and how it is overcome.
2. Draw the circuit diagram of basic Electronic Multimeter.

[P.T.O]

3. Define form factor.
4. What is the use of Q-meter ?
5. Explain the advantage of digital voltmeter over Analog voltmeter.
6. Write the drawback of differential voltmeter.
7. Write the applications of XY recorders.
8. Write the different methods to record the data on the strip chart paper.
9. Explain briefly Thermal Writing.
10. Which three component are required for computer operated test system?
11. Why it is difficult to connect the signal generator in ATE system?
12. What is IEEE 488 System ?

Q.3 Explain fully basic DC voltmeter with FET input. [10]

OR

Q.3 Explain briefly the chopper stabilized amplifier. [10]

Q.4. Draw the block diagram of Successive approximation type digital voltmeter and explain it. [10]

OR

Q.4 Draw the block diagram of ramp type digital voltmeter and explain it. [10]

Q.5 Write a note on magnetic recorder. [10]

OR

Q.5 Draw the basic circuit of potentiometric recorder and explain it. [10]

Q.6 Explain in detail computer controlled test system for Audio Amplifier. [10]

OR

Q.6 Explain in detail computer controlled test system for testing Radio Receiver. [10]

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