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**3rd Sem / Branch : Eltx/EI/Med. Eltx/Mechatronics/  
(6th Sem) Power Eltx, Elect & Eltx Engg./GE ( 4th Sem)  
Subject:- Electronic Instruments and measurement**

Time : 3Hrs.

M.M. : 100

### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Which of the following is caused by careless handling?
- a) Systematic error
  - b) Gross error
  - c) Random error
  - d) None of the mentioned
- Q.2 write full form of DC
- a) direct coil                      b) direct current
  - c) direct cycle                      d) None of the above
- Q.3 Which one of the following moving coil instruments is used only for DC measurement?
- a) PMMC
  - b) Moving Iron Type
  - c) Both a and b
  - d) None of the above
- Q.4 The cathode of a C.R.O is usually coated with
- a) Alkali metals
  - b) Tungsten or thorium oxide
  - c) Copper oxide
  - d) Barium or strontium oxide

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- Q.5 \_\_\_\_\_ provide sinusoidal signal at the output.
- a) Oscillator
  - b) Signal Generator
  - c) DC Tachometer generator
  - d) None of the above
- Q.6 DC bridge consist of \_\_\_\_\_ arms.
- a) 2                                      b) 3
  - c) 5                                      d) 4
- Q.7 Full form of DSO is
- a) Direct signal Operator
  - b) Digital system operator
  - c) Digital signal oscillator
  - d) Digital storage oscilloscope
- Q.8 Digital multimeter is used for \_\_\_\_\_
- a) measuring a.c/d.c current/voltage and resistance
  - b) measuring a.c/d.c current/voltage
  - c) measuring d.c current and resistance
  - d) measuring a.c voltage
- Q.9 Q - meter is used to measure
- a) Quality factor                      b) Power factor
  - c) current and voltage                      d) None of the above
- Q.10 Logic pulser is used to insert
- a) Logic pulse in analog circuit
  - b) Logic pulse in digital circuit
  - c) Logic pulse in analog circuit and digital circuit.
  - d) All the above

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### SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 What is precision ?
- Q.12 What is damping torque ?
- Q.13 Expand CRT.
- Q.14 PMMC is used to measure \_\_\_\_\_.(AC/DC)
- Q.15 What is time period
- Q.16 The Duty cycle of square wave generator is \_\_\_\_\_percent. (50/75)
- Q.17 How many arms are there in a bridge circuit?
- Q.18 Write any one advantage of Digital Instrument.
- Q.19 What is Range.
- Q.20 Distortion factor meter is used to measure.

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain different types of Error in measurement.
- Q.22 Explain Deflecting torque and Controlling torque.
- Q.23 Write any five difference between Analog Multimeter and Digital Multimeter.
- Q.24 Explain CRT with diagram.
- Q.25 Explain working principle of Q-meter.
- Q.26 How distortion is measured using Distortion Meter.

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- Q.27 Describe the working principle of Pulse Generator.
- Q.28 Write any five difference between AC bridge and DC bridge.
- Q.29 Explain Wheat Stone Bridge.
- Q.30 Explain Integrating type Digital Voltmeter.
- Q.31 Explain Logic Probe.
- Q.32 Write any five application of multimeter.
- Q.33 Explain different methods of Measurement.
- Q.34 Explain repulsion type moving iron instrument.
- Q.35 Write any five specification of CRO.

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain Digital storage Oscilloscope ( DSO) with block diagram.
- Q.37 Explain construction and working principle of permanent magnet moving Coil (PMMC) instrument.
- Q.38 Write short note on following.
  - a) Function Generator.
  - b) Logic Pulser

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