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

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Full form of AC

- a) Analog coil b) Alternating current
- c) Alternate cycle d) None of the above

Q.2 Measurement methods are of _____ types.

- a) 4 b) 5
- c) 2 d) 1

Q.3 What are types of measuring instruments?

- a) Primary and secondary instrument
- b) Type 1 and type 2 instrument
- c) Absolute and secondary instrument
- d) Absolute and Primary instrument

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 Multimeter is used to measure _____ quantity.

- a) Single b) Double
- c) Multiple d) Triple

Q.6 DC bridge consist of _____ arms.

- a) 2 b) 3
- c) 5 d) 4

Q.7 Function generator can generate

- a) sine wave b) square wave
- c) triangular wave d) all of these

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 A quantity having discrete numerical value is called

- a) An Analog quantity b) Digital quantity
- c) Octal quantity d) Natural quantity

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. $(10 \times 1 = 10)$

- Q.11 What is Accuracy?
- Q.12 What is Damping torque?
- Q.13 Expand PMMC.
- Q.14 Write the full form of CRT.
- Q.15 What is duty cycle?
- Q.16 DC bridge consist of _____ arms.
- Q.17 An instrument having continuous output is called _____ instrument.
- Q.18 Write any one advantages of Digital Instrument.
- Q.19 What is Aquadag?
- Q.20 Distortion factor meter is used to measure _____.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. $(12 \times 5 = 60)$

- Q.21 Explain the term Accuracy, Precision and Range.
- Q.22 Explain Deflecting Torque and Controlling torque.
- Q.23 Draw and explain the block diagram of Q meter.
- Q.24 Explain the working of Digital Multimeter.
- Q.25 Enlist the various types of Error in measurement.

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- Q.26 How distortion is measured using Distortion Meter?
- Q.27 Write five advantages of Digital instrument over Analog instrument.
- Q.28 Explain working principle of pulse Generator.
- Q.29 Explain different types of instruments.
- Q.30 Explain Integrating type digital voltmeter.
- Q.31 Explain signature Analyzer.
- Q.32 Write any five application of multimeter.
- Q.33 Explain logic probe.
- Q.34 Explain repulsion type moving iron instrument.
- Q.35 How amplitude of waveform is measured using CRO.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. $(2 \times 10 = 20)$

- Q.36 Draw and explain block diagram of CRO in detail.
- Q.37 Explain construction and working principle of Permanent Magnet Moving Coil (PMMC) instrument.
- Q.38 Write short note on following:-
- Function Generator
 - Logic Pulser

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