

No. of Printed Pages : 4  
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181036/171036/  
121036/031036

**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

(1)

181036/171036/  
121036/031036

- Q.5 Multimeter is used to measure \_\_\_\_\_ quantity.  
a) Single                              b) Double  
c) Multiple                            d) Tripple
- 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

(2)

181036/171036/  
121036/031036

### SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=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. (12x5=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.

(3) 181036/171036/  
121036/031036

- 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. (2x10=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:-
  - a) Function Generator
  - b) Logic Pulser

(1280) (4) 181036/171036/  
121036/031036