

- Q.28 Write any five difference between AC bridge and DC bridge.
- Q.29 Write any five application of LCR meter.
- Q.30 Explain integrating type Digital Voltmeter.
- Q.31 Explain Frequency Counter.
- Q.32 Explain working principle of Meggar.
- Q.33 Explain different methods of Measurement.
- Q.34 Explain Indicating Instrument in detail.
- Q.35 Write any five specification of CRO.

#### Section-D

**Note: Long answer questions. Attempt any two question 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:
- Earth Tester
  - Logic Probe

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### 4th Sem. Branch : Mechatronics Subject : Electrical & Electronics Instrumentation & Measurement

Time : 3 Hrs.

M.M. : 100

#### SECTION-A

**Note: Multiple type Questions. All Questions are compulsory. (10x1=10)**

- Q.1 Which of the following is caused by careless handling?
- Systematic error
  - Gross error
  - Random error
  - None of the mentioned
- Q.2 The pointer of an indicating instrument should be
- Very light
  - Very heavy
  - Either A or B
  - Neither A or B
- Q.3 Which one of the following moving coil instruments is used only for DC measurement?
- PMMC
  - Dynamometer
  - Both A & B
  - None of the above
- Q.4 The cathode of a C.R.O. is usually coated with
- Alkali metals
  - Tungsten or thorium oxide
  - Copper oxide
  - Barium or strontium oxide

Q.5 \_\_\_\_\_ provide sinusoidal signal at the output.

- a) Oscillator
- b) Signal Generator
- c) DC Tachometer generator
- d) None of the above

Q.6 AC bridge is an outcome of \_\_\_\_\_.

- a) Kelvin bridge                      b) Meggar
- c) De Sauty bridge                  d) Wheatstone bridge

Q.7 IN a DVM, a transducer converts \_\_\_\_\_.

- a) Input to a proportional current
- b) Input to a proportional power
- c) Input to a proportional voltage
- d) Input to a proportional resistance

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 Megger is used to measure

- a) Breakdown voltage of insulation
- b) Earth resistance
- c) Insulation resistance
- d) None of the above

Q.10 Logic probe is used for \_\_\_\_\_.

- a) Testing                                  b) Debugging
- c) Controlling                              d) Monitoring

### 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 Earth Tester is used to measure \_\_\_\_\_.

### Section-C

**Note: Short answer type Question. 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 Write any five difference between Dual Beam and Dual Trace CRO.

Q.26 How distortion is measured using Distortion Meter.

Q.27 Describe the working principle of Pulse Generator.