

- Q.28 Write down atleast five applications of CRO.
 Q.29 Discuss briefly about the usage of logic pulser.
 Q.30 What is the working principle of Q meters.
 Q.31 What are the applications of LCR meter?
 Q.32 Discuss briefly, the working principle of ramp type digital voltmeter.
 Q.33 Write the specification of CRO.
 Q.34 Explain with diagram, the construction of Maxwell's induction bridge.
 Q.35 Write short note on "Spectrum analyzer?."

SECTION-D

- Note :** Long Answer type question. Attempt any two questions. (2x10=20)
- Q.36 Explain with diagram, the principle, construction and working of PMMC instruments.
 Q.37 Draw and explain block diagram of functions generator. Also give its applications.
 Q.38 Explain construction and working of Hay's Bridge. Also write advantages and disadvantages of Hay's bridge.

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4th Sem / MSME (Mechatronics)
Subject : Electrical & Electronic Instrumentation
& Measurement

Time : 3 Hrs. **M.M. : 100**

SECTION-A

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

- Q.1 The systematic errors arise due to different reasons:
 a) Instrument error b) Environmental error
 c) Both A & B d) None of the above
- Q.2 The deflecting torque is _____ to the square of the current flowing through the coil
 a) Inversely proportional b) Directly proportional
 c) Equal d) None of the above
- Q.3 Multimeter can be used to measure _____
 a) Resistance b) DC Voltage
 c) AC Voltage d) All of the above
- Q.4 Measuring range of a voltmeter can be extended by using _____
 a) High shunt resistance
 b) High series resistance
 c) Low shunt resistance
 d) Low series resistance
- Q.5 VTVM stands for _____
 a) Vacuum testing voltmeter
 b) Vacuum tube voltmeter

- c) Varactor tube voltmeter
d) None of the above
- Q.6** The material used to coat inside the face of CRT is _____
a) Carbon b) Sulphur
c) Phosphorus d) Silicom
- Q.7** The AC Bridge used for the measurement of inductance is/are _____
a) Maxwell's inductance bridge
b) Hay's bridge
c) Anderson's bridge
d) All of the above
- Q.8** PMMC stands for _____
a) Permanent magnet moving coil
b) Premature magnet moving coil
c) Permanent magnet motion coil
d) Premature magnet motion coil
- Q.9** The smooth functioning of single generator depends on the performance of _____
a) Oscillator
b) Attenuator & amplifier
c) Oscillator and attenuator
d) None of the above
- Q.10** The Vacuum tube voltmeter can be used to measure _____
a) DC Voltage
b) AC voltage
c) AC as well as DC voltage
d) None of the above

SECTION-B

- Note :** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 Name any two AC bridge circuits.
Q.12 What is CRO?
Q.13 What is the function of LCR meters?
Q.14 Compare direct and indirect method of measurement.
Q.15 Name different types of errors in measurement
Q.16 Define the term accuracy.
Q.17 What is need of calibration?
Q.18 Expand DSO.
Q.19 What are applications of function generator?
Q.20 What is controlling torque?

SECTION-C

- Note :** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 What is the importance of standards and calibration?
Q.22 What are the specifications of digital multimeter?
Q.23 Explain with diagram the working of Wheatstone bridge.
Q.24 What are gross errors? How these can be avoided.
Q.25 Write short note on Tong Tester.
Q.26 Explain with diagram the attraction type moving iron instrument.
Q.27 What are the advantages of digital instruments over analog instruments?