

- Q.28 What are the advantages and limitations of Wheatstone bridge?
- Q.29 Explain with diagram the usage of Hay's bridge.
- Q.30 Explain in brief the function of earth tester.
- Q.31 Write short note on logic analyzer.
- Q.32 Write short note in Q-meter
- Q.33 Discuss briefly, the working principle of dual slope type digital voltmeter
- Q.34 Explain the terms: Sensitivity and Resolution.
- Q.35 Write short note on Megger.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Draw block of a diagram of CRO. Also explain function of each block in detail.
- Q.37 What do you mean by moving iron instruments? Explain with diagram the attraction type moving iron instrument.
- Q.38 Define standard. What are the different types of standards? Explain in detail.

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4th Sem / Mechatronics
Subject:- Electrical & Electronic Instrumentation and Measurement

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 Gross errors are occurred due to which of following reasons
- neglecting the source of error
 - incorrect reading of the instruments
 - improper recording of reading
 - all of the above
- Q.2 The deflection of any instruments is determined by the combined effect of _____
- deflecting torque
 - damping torque
 - controlling torque
 - all of the above
- Q.3 The voltmeter sensitivity is expressed in _____
- Ω/V
 - Ω/V^2
 - Ω^2/V
 - Ω^2/V^2
- Q.4 DSO stands for _____
- Dual System Oscillator
 - Dual storage Oscillator
 - Digital Storage Oscilloscope
 - Digital System Oscilloscope

- Q.5 Which of the following part is called as the heart of CRO?
a) CRT b) Sweep Generator
c) Trigger Circuit d) Amplifier
- Q.6 AC bridges are used for the measurement of _____
a) Capacitances
b) Resistances and inductances
c) Inductances and capacitances
d) Resistances, inductances & capacitances
- Q.7 Which among the following is a type of digital voltmeters?
a) Ramp type b) Integrating
c) Potentiometric type d) All of the above
- Q.8 The AC Bridge which is used for the measurement of frequency is _____
a) Schering bridge b) Wien bridge
c) Hay's bridge d) Anderson bridge
- Q.9 If the instrument is used in wrong manner while application, then it will result in _____
a) Systematic error b) Random error
c) Instrument error d) Environmental error
- Q.10 The spectrum analyzer can easily measure very _____
a) high amplitudes and high frequency
b) high amplitudes and low frequency
c) low amplitudes and high frequency
d) low amplitudes and low frequency

SECTION-B

- Note:** Objective type questions. All questions are compulsory. (10x1=10)
- Q.11 What do you mean by error?
Q.12 What is tong tester.
Q.13 Name any one bridge circuit used to measure inductance.
Q.14 Whether a CRO is used to observe frequency of signal?
Q.15 Define resolution.
Q.16 Define the term precision.
Q.17 Expand PMMC.
Q.18 Give examples of Moving iron type instruments.
Q.19 Define Duty Cycle.
Q.20 What is deflecting torque?

SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)
- Q.21 What are the major applications of CRO?
Q.22 What are LCR meters? Discuss their applications.
Q.23 What are different sources of error?
Q.24 What are the advantages of PMMC instruments?
Q.25 Distinguish between analog and digital instruments.
Q.26 How voltage is measured using CRO.
Q.27 What are the applications of function generator?