voltage and time period of a signal? (CO4)

Q.27 Differentiate between analog and digital instruments. (CO6)

Q.28 Define Lissajous pattern. How it can be used for the measurement of phase? (CO4)

Q.29 Write a short note on Distortion Factor Meter. (CO5)

Q.30 Draw and explain the block diagram of RF Signal generator. (CO5)

Q.31 What is Q meter? Explain its working principle. (CO6)

Q.32 Draw the circuit diagram and give advantages of Maxwell's induction bridge. (CO6)

Q.33 Draw the block diagram of frequency counter and write its features. (CO6)

Q.34 Explain the working principle of dual slope type digital voltmeter. (CO6)

Q.35 Write down the uses of logic probe and logic pulser. (CO5)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain construction and working principle of PMMC instruments. (CO2)

Q.37 Draw the block diagram of CRO and explain its different sections in detail. (CO4)

Q.38 Draw and explain the block diagram of laboratory type RLC bridge. Also write its specifications.(CO6)

No. of Printed Pages : 4 202444/122444

Roll No. .....

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 The static characteristics which represents the degree of correctness of the measured value with respect to the true value is termed as_____ (CO1)

a) Accuracy b) Sensitivity
c) Precision d) None of the above

Q.2 _____ instruments are those which measures the total quantity of electricity delivered in a particular time. (CO2)

a) Absolute b) Indicating
c) Recording d) Integrating

Q.3 A moving-iron instrument can be used for (CO2)

a) D.C only b) A.C only
c) both D.C. and A.C d) neither D.C. nor A.C.

Q.4 The sources of emission of electrons in a CRT is (CO4)

a) PN junction diode
b) Accelerating anode
c) A barium and strontium oxide coated cathode
d) Pre-accelrating anode

Q.5 The A.C bridges are used to measure impedances consisting of_____ (CO6)

a) Capacitances and inductances
b) Resistances and inductances
c) Capacitance only
d) Inductance only

Q.6 Which of the following oscilloscope is used in a D.S.O (CO4)

a) dual trace b) conventional
c) multi trace d) modern

Q.7 A shunt is a _____ (CO2)

a) very high resistance b) medium resistance
c) very low resistance d) high resistance

Q.8 The ratio of maximum displacement deviation to full scale deviation of the instrument is called (CO2)

a) static sensitivity b) dynamic deviation
c) linearity d) precision or accuracy

Q.9 Schmitt trigger is used in the output stage of function generator to produce (CO5)

a) Triangular wave b) Sine wave
c) Square wave d) Saw tooth wave

Q.10 For measuring a very high resistance we should use (CO6)

a) kelvin's double bridge
b) Wheatstone bridge
c) Megger
d) None of the above

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Define measurand. (CO1)

Q.12 Define standard. (CO1)

Q.13 Moving iron instrument can be used without error up to frequency of _____ (CO2)

Q.14 Find the frequency if the time period is 1 microsecond. (CO2)

Q.15 The units of the deflection sensitivity of a CRO are_____ (CO3)

Q.16 Oscillator uses_____ feedback. (CO4)

Q.17 Define RLC bridge. (CO6)

Q.18 Expand CRT. (CO4)

Q.19 What is the use of spectrum analyzer? (CO5)

Q.20 Write two limitations of digital multimeter. (CO6)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Define error. What are the sources of error? (CO1)

Q.22 What is the principle of repulsion type moving iron instrument? (CO2)

Q.23 Differentiate between PMMC and moving iron instruments. (CO2)

Q.24 Write the specifications and applications of multimeter. (CO2)

Q.25 Write the front panel controls of CRO. (CO4)

Q.26 Explain how CRO is used for the measurement of