Q.27 Write down the applications of CRO. (CO4)

Q28 Differentiate between dual trace and dual beam CRO. (CO4)

Q.29 Describe the functioning of standard signal generator. (CO5)

Q.30 What is wave analyzer? Explain the functioning of frequency selective wave analyzer. (CO5)

Q.31 Explain the working of LCR meter. (CO6)

Q.32 Explain the working principle of integration type digital voltmeter. (CO6)

Q.33 Explain, how the time period and frequency are measured by using universal counter. (CO6)

Q.34 Write down the advantages of digital instruments. (CO6)

Q.35 Differentiate between absolute and secondary instruments. (CO2)

SECTION-D

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

Q.36 Draw the block diagram of CRT and explain the function of each block. (CO4)

Q.37 What do you mean by electrical measuring instruments. Explain their classification on the basis of nature of operation. (CO3)

Q.38 Write a short note on

a) Wheat stone bridge (CO6)

b) Spectrum analyzer (CO5)

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Roll No. .....

4th Sem / Mechatronics

Sub. Electrical & Electronic Instrumentation & Measurement

Time : 3 Hrs. M.M. : 100

SECTION-A

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

Q.1 The desirable static characteristics of a measuring system are (CO1)

a) Accuracy and reproducibility

b) Accuracy, sensitivity and reproducibility

c) Drift and dead zone

d) Static error

Q.2 Systematic errors are (CO1)

a) Instrumental errors b) Environmental errors

c) Observational errors d) All of the above

Q.3 A PMMC instrument can be used as _____ by using a low resistance shunt. (CO2)

a) Ammeter b) Voltmeter

c) Flux-Meter d) Ballistic galvanometer

Q.4 Which of the following are Integrating instruments? (CO2)

a) Ammeters

b) Voltmeters

c) Wattmeters

d) Ampere hour and watt hour metters

Q.5 Cathode rays can be deflected by (CO4)

a) Magnetic field b) Electric field

c) Both A & B d) None of these

Q.6 In function generator, the output waveform of integrator is (CO5)

a) Sinusoidal b) Square

c) Triangular d) Saw-tooth

Q.7 For measurement of unknown value of capacitance and inductance, we need (CO6)

a) AF signal generator b) Oscilloscope

c) A known resistor d) All of the above

Q.8 Calculate the sensitivity of 200 mA meter movement that is to be used as a DC voltmeter. (CO2)

a) 5KW/V b) 5W/V

c) 5KW d) 5W

Q.9 Several people viewing the same meter will usually record the same reading, the meter will be (CO-6)

a) signal generator b) Analog meter

c) Digital meter d) All of the above

Q.10 In a megger controlling torque is provided (CO6)

a) Spring b) Gravity

c) Coil d) Eddy curren

SECTION-B

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

Q.11 The scale of _____ instrument is uniform. (CO2)

Q.12 Secondary instruments are widely used in practice? (True/False) (CO1)

Q.13 Define resolution. (CO1)

Q.14 Define deflecting torque. (CO2)

Q.15 Define Q factor. (CO6)

Q.16 Ammeter is connected in _____ with load. (CO2)

Q.17 A dual beam oscilloscope has _____ electron gun.(CO4)

Q.18 What is the use of logical probe? (CO5)

Q.19 Explain the term blanking in CRO. (CO4)

Q.20 What is the use of tong tester. (CO5)

SECTION-C

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

Q.21 Define measurement. Write down the importance of measurement. (CO1)

Q.22 What do you mean by loading effect? Explain its effects. (CO2)

Q.23 What is controlling torque? Discuss any one method of providing controlling torque. (CO2)

Q.24 Draw and explain the multi-range ammeter. (CO2)

Q.25 What is the purpose of sync control in an oscilloscope? Explain. (CO4)

Q.26 What is Aquadag coating? Where it is used? What is the advantage of this coating? (CO4)