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221021

2nd Semester / Branch: ECE

Subject : Electronics Instruments and Measurement

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 The focusing method used in CRO is

a) mechanical focusing

b) thermal focusing

c) electostatic focusing

d) electromagnetic focusing

Q.2 Which of the following instrument can be used to generate Sine waves with variable frequency and amplitude?

a) CRO

b) Function generator

c) LCR meter

d) DSO

Q.3 Lissajous patterns can be used to measure

a) frequency b) phase difference

c) both a and b d) intensity of light

Q.4 D.C. bridges are used for measurement of

a) resistance b) capacitance

c) current d) inductance

Q.5 What is the smallest change in applied input that will indicate a detectable change in output of an instrument?

a) Accuracy b) Precision

c) Sensitivity d) Resolution

Q.6 The main specification of a CRO is its

a) Weight b) Power supply

c) Dimensions d) Bandwidth

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Voltmeter is always connected in_____

Q.8 The scale of PMMC instruments is_____

Q.9 In CRO, Horizontal deflection plates are kept_____

Q.10 Q-Factor (Quality Factor) of a coil=

Q.11 Name the wave shape generated by the time base circuit of a CRO.

Q.12 The bridge used to measure inductance is_____

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Explain the effect of higher frequencies on measurement using multimeter.

Q.14 How the intensity of beam spot changes by intensity knob of a CRO?

Q.15 How a logic probe is helpful in troubleshooting of a digital circuit?

Q.16 Explain duty cycle of a pulse signal.

Q.17 Explain the main advantage of null indication used in bridges.

Q.18 Differentiate between accuracy and precision.

Q.19 Differentiate between analog and digital instruments.

Q.20 List four applications of a Digital multiplier.

Q.21 Explain the working of a De Sauty's bridge.

Q.22 Describe different types of errors in measurement.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain the working of a CRO with the help of block diagram in detail.

Q.24 Explain the construction and working of attraction type of Moving Iron Instruments.

Q.25 Explain the construction and working of a Function generator with the help of block diagram in detail.