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5th Sem / Branch : Electrical, Eltx
Sub. : Instrumentation

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 What should be the biasing of the LED? (CO-1)
a) Forward bias
b) Reverse bias
c) Forward bias than Reverse bias
d) No biasing required

Q.2 Which of the following consumes less power? (CO-1)
a) Incandescent lamp b) LCD
c) Fluorescent tube d) LED

Q.3 In a positive Temperature Coefficient thermistor, increase in temperature_____. the value of device resistance? (CO-4)
a) Increases b) Decreases
c) Constant d) Zero

Q.4 Strain gauge is an active transducer. (CO-3)
a) True b) False

Q.5 Strain gauges can be used to measure. (CO-3)
a) Tension b) Compression
c) Both of these d) None of these

Q.6 Load cells are used for the measurement of____? (CO-3)
a) Stress b) Weight
c) Strain d) Velocity

Q.7 A quartz crystal is____. (CO-3)
a) A chemical transducer
b) A photoelectric transducer
c) Not a self-generating transducer
d) a self-generating transducer

Q.8 A resistance thermometer is basically an (CO-4)
a) Active transducer b) Passive transducer

Q.9 The thermo - electric effect was first observed by (CO-4)
a) Seebeck b) Thomas young
c) Pirani d) Thermus

Q.10 A junction / joint of two dissimilar metal is called ____. (CO-4)
a) Reference point b) Solder joint
c) Thermocouple d) All are corrent

SECTION-B

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

Q.11 Define measurement? (CO-1)

Q.12 How many secondaries are there in LVDT. (CO-4)

Q.13 State principle of See back's effect? (CO-4)

Q.14 Define Absolute pressure? (CO-4)

Q.15 Core of LVDT is made of which material? (CO-3)

Q.16 Tell usage pyrometer? (CO-4)
Q.17 Define Gauge factor? (CO-4)
Q.18 Define load Cell? (CO-2)
Q.19 Define torque. (CO-4)
Q.20 Define relative humidity? (CO-4)

SECTION-C

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

Q.21 State the importance of measurement? (CO-1)
Q.22 Compare direct and indirect method of measurement? (CO-1)
Q.23 Give examples of piezoelectric material. (CO-3)
Q.24 Define (a) Vacuum pressure (b) Dew point. (CO-4)
Q.25 State the difference between primary and secondary transducers? (CO-2)
Q.26 Define stroboscope? (CO-4)
Q.27 Enlist the limitations of electromagnetic flowmeter? (CO-3)
Q.28 State factors while selecting the material used for the load cell? (CO-3)
Q.29 On what principle LVDT works? (CO-2)
Q.30 State basic principle of capacitive transducers? (CO-2)
Q.31 State the methods used for level measurement? Explain any one Indirect method. (CO-5)
Q.32 Define (a) Specific Humidity (b) Pressure sensor. (CO-4)

Q.33 Discuss the need of variable manipulation element? (CO-1)
Q.34 List some factors that determine the choice of transducer? (CO-2)
Q.35 Define hygrometer? (CO-4)

SECTION-D

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

Q.36 With the help of diagram, explain functional elements of an instrumentation system? (CO-1)
Q.37 Explains with the help of neat diagram the working of Electromagnetic Flowmeter (CO-2)
Q.38 Write short note on
a) Bellows
b) piezoelectric transducer . (CO-4)