

Q.22 Explain the need of recorders in Instrumentation system. (CO2)

SECTION-D

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

Q.23 Explain in detail various sources of errors in measurement. (CO5)

Q.24 Explain the static performance characteristics of instruments. (CO1)

Q.25 Explain various display devices used in measurement system. (CO2)

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Roll No.

1. Sem.

**Branch: Instrumentation & Control Engg.
Sub : Fundamentals of Instrumentation Engg.a**

Time : 3 Hrs.

M.M. : 60

SECTION-A

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

Q.1 Error of measurement is the difference between (CO1)

- a) True value and measured value
- b) Precision & True value
- c) Measured value and Precision
- d) None of these

Q.2 Transducer may be (CO4)

- a) Active b) Passive
- c) Analog d) All of the above

Q.3 A measuring system consists of (CO1)

- a) Sensors
- b) Variable conversion elements

- c) Signal processing elements
d) All of these
- Q.4 The quantity to be measured is called (CO1)
a) Measured b) Instrument
c) Measurand d) Display device
- Q.5 LED is a (CO2)
a) Recording device b) Display device
c) Calibration device d) Sensing device
- Q.6 Which is an absolute instruments? (CO3)
a) Ammeter b) Voltmeter
c) Wattmeter d) Tangent Galvanometer

SECTION-B

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

- Q.7 LED stands for _____. (CO2)
- Q.8 The error caused by human mistake is called Gross error. (True/False) (CO5)
- Q.9 LCD is a display device. (True/False) (CO2)
- Q.10 Instrumental error are caused by _____ (Instrument defect/Human mistake. (CO5)

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- Q.11 XY and strip chart are examples of _____ (Calibration devices/ Recording devices) (CO3)
- Q.12 Strain Gauge is an example of primary sensing element. (True/False) (CO4)

SECTION-C

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

- Q.13 Explain analog and digital modes of operation of secondary Instruments. (CO1)
- Q.14 Explain direct and indirect methods of measurement. (CO1)
- Q.15 What are transducer? Write its types. (CO4)
- Q.16 What is instrumental error? How is can be minimized? (CO5)
- Q.17 What is data presentation element? Explain with example. (Co2)
- Q.18 What is Intelligent instrumentation system? (CO3)
- Q.19 Explain the terms Accuracy and Sensitivity in measurement of Instruments. (CO5)
- Q.20 Explain the selection criteria of instruments. (CO3)
- Q.21 What is calibration? Write its importance. (CO3)

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