

Q.22 What is the difference between sensor and transducer? (CO-4)

Section-D

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

Q.23 Explain in detail various types of errors found in measurement. (CO-5)

Q.24 Write notes on any two of the following: (CO-2)

- a) Segmental Displays
- b) LED displays
- C) Importance of Recorders

Q.25 Explain the dynamic performance characteristics of instruments. (CO-1)

No. of Printed Pages : 4
Roll No.....

221516

**Sem. 1 NEP
Instrumentation & Control Engg.
Sub : fundamentals of Instrumentation Engg.**

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1. The error caused by poor calibration of the instrument is called. (CO-5)

- a) Random error b) Systematic error
- c) Gross error d) Precision error

Q.2 Transducers which have their own power are called (CO-4)

- a) Passive transducer b) Active transducer
- c) Both A & B d) None of these

Q.3 Torque/weight ratio of an instrument represents. (CO-3)

- a) Selectivity b) Accuracy
- c) Fidelity d) Sensitivity

Q.4 LCD is a (CO-2)

- a) Recording device b) Display device
 c) Calibration device d) Sensing device
- Q.5 Strain gauge, LVDT and thermocouple are examples of (CO-4)
- a) Active transducers b) Passive transducers
 c) Analog transducers d) Digital transducers
- Q.6 The quantity to be measured is called. (CO-1)
- a) Measured b) Instrument
 c) Measurand d) Display device

Section-B

- Note:** Objective/Completion type questions. All questions are compulsory. (6x1=6)
- Q.7 LED is a recording device. (True/False) (CO-2)
- Q.8 LCD stands for _____. (CO-2)
- Q.9 Instrumental error are caused by _____. (Instrument defect/ Human mistake) (CO-5)
- Q.10 Strip chart is an example of _____ (Calibration device/ recording device) (CO-3)
- Q.11 Thermocouple is an example of primary sensing

element. (True/False) (CO-4)

- Q.12 The error caused by human mistake is called Systematic error. (True/False) (CO-5)

Section-C

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

- Q.13 Explain the significance of measurement. (CO-1)
- Q.14 Explain the terms Precision and linearity in measurement of Instruments. (CO-1)
- Q.15 What are absolute and secondary instruments? (CO-3)
- Q.16 What are primary sensing elements? Explain with example. (CO-4)
- Q.17 What is Dump instrumentation System? (CO-5)
- Q.18 What is the importance of calibration? (CO-3)
- Q.19 What are random error and Gross error? (CO-5)
- Q.20 Explain the use and classification of Recorders. (CO-2)
- Q.21 What is normal distribution of errors? (CO-5)