

Q1. Objective type/ short-answer type questions

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- i. What is meant by instrumentation?
- ii. Explain how noise affects the characteristics of a signal to be measured?
- iii. Define sensors and transducers.
- iv. Discuss various types of errors in measurement.
- v. Elaborate the transducers on the basis of classification.

SECTION-A

Q2(a) Discuss the functional block diagram of generalized instrumentation system.

(b) Explain the method of high gain feedback for correcting the inputs.

Q3(a) Elaborate input-output configuration of instrumentation system.

(b) What do you understand by desired, modifying and interfering inputs? Show relation among them with the help of sketch.

SECTION-B

Q4(a) What are the performance characteristics of a generalized instrumentation system?

(b) Discuss various steps required for calibration.

Q5(a) Differentiate between static and dynamic characteristics.

(b) Explain various dynamic characteristics of instrumentation system.

SECTION-C

Q6(a) Differentiate between sensors and transducers.

(b) Classify transducers on the basis of method used for transduction.

Q7(a) Discuss the significance of transducer in measurement and instrumentation system.

(b) Discuss various factors affecting the choice of transducer.

SECTION-D

Q8(a) Elaborate in details the primary and secondary transducer.

(b) Explain the characteristics of transducers while choosing any particular type of it.

Q9(a) Briefly describe advantages and disadvantages of resistance potentiometer.

(b) What is thermocouple sensor? Explain its working principle.