

1. What are the functional elements of instruments?
2. What is meant by accuracy of an instrument?
3. What is primary sensing element?
4. What is calibration?
5. Define the terms precision & sensitivity
6. What are primary standards? Where are they used?
7. When are static characteristics important?
8. What is standard? What are the different types of standards?
9. Define static error. Distinguish reproducibility and repeatability.
10. Distinguish between direct and indirect methods of measurements.
11. Name some static and dynamic characteristics
12. State the difference between accuracy and precision of a measurement.
13. What are primary and secondary measurements?
14. What are the functions of instruments and measurement systems?
15. What is an error? How it is classified?
16. Classify the standards of measurement?
17. What are the sources of error?
18. Define resolution.
19. What is threshold?
20. Define zero drift.
21. What is loading effect?
22. Give the factors to be considered for selecting a transducer.
23. Why is an A/D converter usually considered as an encoder?
24. Define inverse transducer with example.
25. Explain the principle of piezoelectric transducers and name any two piezoelectric materials.
26. Name the transducers used for sensing acceleration.
27. Mention the use of capacitive transducers.
28. Classify the transducers and what is the other name of it.
29. What are active and passive transducers? Give examples
30. What are the characteristics of transducers?
31. What is meant by data acquisition system? List its types.
32. Give the operating principle of a resistive transducer. Also give some examples
33. What is piezoelectric effect?
34. What is LVDT?
35. List the advantages and disadvantages of LVDT.
36. What is thermocouple?
37. What is seeback voltage?
38. What is strain gauge? List its types.
39. What is gauge factor? Give its expression.
40. What is resistance thermometer?
41. What are the salient features of thermistor?
42. What are capacitive transducers? Give the expression for a capacitance of a capacity transducer
43. What are optical detectors? List its types
44. What are photoelectric transducers?

45. What is the need of A/D and D/A converters
46. Give a short note on data acquisition system.
47. What is the composition of materials used in thermistor?
48. State the laws of thermoelectric.
49. State the classification of standards.
50. What is need for calibration?
51. What is the value of damping ratio consideration for transducers meant to measure temperature?
52. How is linearity of a transducer specified?
53. State the principle of operation of hotwire anemometer.
54. How to minimize null voltage in LVDT?
55. Name the transducer used for angular position telemetry.
56. State the principle of operation of Fiber optic sensor.
57. What is charge amplifier?
58. What is a synchro?
59. What is servomechanism?
60. What is the use of Dead weight tester?