



- 1. Which of the following is not covered under Mechanical energy domain?**
 - (A) Distance
 - (B) Latent heat**
 - (C) Force
 - (D) Size
- 2. Which of the following form the basis of Electrical domain?**
 - (A) Current
 - (B) Resistance
 - (C) Inductance
 - (D) All of the above**
- 3. The sensors are classified on the basis of**
 - (A) Functions
 - (B) Performance
 - (C) Output
 - (D) All of the above**
- 4. The following is not a static performance parameter to be looked into before selecting a parameter.**
 - (A) Range
 - (B) Deflection**
 - (C) Stability
 - (D) Error
- 5. The following main dynamic characteristic(s) is usually considered in Mechatronics application of sensors.**
 - (A) Response time
 - (B) Rise time
 - (C) Time constant
 - (D) All of the above**

- 6. The ability to give same output reading when same input value is applied repeatedly is known as**
- (A) Stability
 - (B) Repeatability**
 - (C) Accuracy
 - (D) Sensitivity
- 7. It is the ability of the sensor to indicate the same output over a period of time for a constant input.**
- (A) Stability**
 - (B) Resolution
 - (C) Error
 - (D) Impedance
- 8. It is the time required to come to an output value within the specified error level.**
- (A) Response time
 - (B) Rise time
 - (C) Settling time**
 - (D) None of the above
- 9. Following is the coded output.**
- (A) Modulation of amplitude
 - (B) Modulation of frequency
 - (C) Modulation of pulse width
 - (D) All of the above**
- 10. Following is not an example of transducer.**
- (A) Analogue voltmeter**
 - (B) Thermocouple
 - (C) Photo electric cell
 - (D) Pneumatic cylinder
- 11. Smallest change which a sensor can detect is**
- (A) Resolution**
 - (B) Accuracy
 - (C) Precision
 - (D) Scale
- 12. Which of the following is not an analog sensor**

- (A) Potentiometer
- (B) Force-sensing resistors
- (C) Accelerometers
- (D) none of the mentioned**

13. _____ is the curve plotted between input and output by giving known inputs to an instrument and obtaining corresponding outputs.

- (A) Characteristic curve
- (B) Accuracy curve
- (C) Calibration curve**
- (D) Sensitivity curve

14. Sensitivity of a sensor can be depicted by

- (A) Nyquist plot
- (B) Pole- zero plot
- (C) Bode plot**
- (D) None of the above

15. Thermocouple generate output voltage according to

- (A) Circuit parameters
- (B) Humidity
- (C) Temperature**
- (D) Voltage

16. It is the time required to come to an output value within the specified error level.

- (A) Response Time
- (B) Rise Time
- (C) Settling time**
- (D) None of the above

17. Following is not an example of transducer.

- (A) Analog voltmeter**
- (B) Thermocouple
- (C) Photo electric cell
- (D) Pnuematic cylinder

18. Which of the following error is caused by reversal of measured value?

- (A) Hysterisis
- (B) Noise
- (C) Digitization error**

(D) Quantization error

19. Semiconductor used in sensors will be

- (A) Pure form
- (B) Doped form
- (C) Pure or doped form**
- (D) None

20. The process of establishment of a relationship between the input to the instrument and output from the instrument is called as

- (A) Static sensitivity
- (B) Static characterization
- (C) Static accuracy
- (D) Static calibration**

21. Measurement is an act of quantitative _____

- (A) Addition
- (B) Comparison**
- (C) differentiation
- (D) Integration

22. The result of measurement is expressed in _____

- (A) Numerical value**
- (B) Alphabets
- (C) Hexa decimal
- (D) All of the above

23. _____ instruments indicate the instantaneous value of the electrical quantity being measured at the time at which it is being measured?

- (A) Absolute
- (B) Indicating**
- (C) Recording
- (D) Integrating

24. The use of _____ instruments is merely confined within laboratories as standardizing instruments.

- (A) Absolute**
- (B) Indicating
- (C) Recording
- (D) Integrating

25. _____ instruments measure the total quantity of electricity delivered at a particular time.

- (A) Absolute
- (B) Indicating
- (C) Recording
- (D) Integrating**

26. The pointer of an indicating instrument should be _____

- (A) very light**
- (B) very heavy
- (C) either 1 or 2
- (D) neither 1 nor 2

27. The household energy meter is _____

- (A) an indicating instrument
- (B) a recording instrument
- (C) an integrating instrument**
- (D) none of the above

28. The indicating instruments with linear scale is

- (A) PMMC**
- (B) Electrostatic instrument
- (C) Dynamometer instrument
- (D) Thermocouple instrument

29. Active transducers develops _____

- (A) mechanical parameter
- (B) electrical parameter**
- (C) chemical parameter
- (D) physical parameter

30. How do passive transducers develop electrical signals?

- (A) using a transformer
- (B) using internal source
- (C) using external source**
- (D) using a diode

31. Analog transducers convert input into _____

- (A) voltage
- (B) current
- (C) digital
- (D) analog**

32. The output of a transducer must _____

- (A) be different at different environment conditions
- (B) be same at all environment conditions**
- (C) be same at some environment conditions
- (D) be zero always

33. The output of a transducer must be _____

- (A) low
- (B) medium
- (C) high**
- (D) zero

34. The size of a transducer must be _____

- (A) infinite
- (B) zero
- (C) large
- (D) small**

35. A transducer must be _____

- (A) quick in response**
- (B) slow in response
- (C) medium in response
- (D) very slow in response

36. The output of a transducer must _____

- (A) be less reliable
- (B) be highly reliable**
- (C) not be reliable
- (D) be of medium reliability

37. The transducer output is _____

- (A) exponential
- (B) unit step
- (C) non-linear

(D) linear

38. Which of the following is caused by careless handling?

- (A) Systematic error
- (B) Gross error**
- (C) Random error
- (D) None of the mentioned

39. Which of the following is not a fundamental quantity?

- (A) Length
- (B) Angle**
- (C) Time
- (D) Luminous intensity

40. Which of the following error is caused by poor calibration of the instrument?

- (A) Random error
- (B) Gross error
- (C) Systematic error**
- (D) Precision error

41. Science of precise and accurate measurement of various physical quantities is termed as

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- (A) Metrology**
 - (B) Meteorology
 - (C) Pedology
 - (D) Mineralogy

42. In a measuring system quantity under measurement is termed as _____

- (A) Measurand**
- (B) Controllers
- (C) Sensors
- (D) Indicators

43. In a measurement, what is the term used to specify the closeness of two or more measurements?

- (A) Precision**
- (B) Accuracy
- (C) Fidelity
- (D) Threshold

44. During a measurement, for a measure value “B”, absolute error is obtained as “A”, what will be the relative error of measurement?
- (A) A/B
 - (B) B/A
 - (C) $(A+1)/B$
 - (D) $(B+A)/A$
45. In a measuring system what is the term used to specify a difference between higher and lower calibration values?
- (A) Range
 - (B) **Span**
 - (C) Drift
 - (D) Threshold
46. What is the span of an ammeter with range -30 to +30A?
- (A) **60**
 - (B) -60
 - (C) 30
 - (D) 0
47. Which of the following is not a characteristic of an ideal transducer?
- (A) High dynamic range
 - (B) **Low linearity**
 - (C) High repeatability
 - (D) Low noise
48. Which of the following represent active transducer?
- (A) Strain gauge
 - (B) Thermistor
 - (C) LVDT
 - (D) **Thermocouple**
49. Which transducer is known as ‘self-generating transducer’?
- (A) **Active transducer**
 - (B) Passive transducer
 - (C) Secondary transducer
 - (D) Analog transducer
50. Which of the following is an analog transducer?
- (A) Encoders

(B) Strain gauge

(C) Digital tachometers

(D) Limit switches