Al Amal Learning Center

Class 9 Physics Chapter 1 MCQ Quiz Online | Level 1

Class 9 Physics · Chapter 1: Physical Quantities and Measurement

Name: _____ Date: _____ Score: _____ / 34

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1. What are physical quantities?

A) Quantities that cannot be measured
B) Quantities that can be measured
C) Quantities that are only felt by the senses
D) Quantities that have no units

2. Which of the following is a non-physical quantity?

A) Taste
B) Density
C) Temperature
D) Mass

3. What are base (fundamental) quantities?

A) Quantities obtained by multiplying other quantities
B) The simplest quantities from which all others can be derived
C) Quantities without any unit
D) Only vector quantities

4. How are derived quantities obtained?

A) By adding base quantities only
B) By rounding off base quantities
C) By multiplying or dividing base quantities
D) By measuring with a ruler

5. How many base units are there in the SI system?

A) Five
B) Six
C) Nine
D) Seven

6. How does scientific notation (standard form) write a number?

A) A mantissa between 1 and 10 multiplied by a power of 10
B) A whole number multiplied by 100
C) A fraction divided by 10
D) A number with all zeros removed

7. What is a prefix?

A) A type of error in measurement
B) A base unit of SI
C) A name given to a power of ten
D) A scale on a vernier caliper

8. What completely describes a scalar quantity?

A) Direction only
B) Magnitude and direction
C) Numerical magnitude with unit only
D) Its graph

9. What does a vector quantity require?

A) Magnitude and direction
B) Only magnitude
C) Only a unit
D) Only a coordinate system

10. What is the resultant vector?

A) The largest of the vectors being added
B) A single vector with the same effect as the combined vectors
C) The scalar sum of the magnitudes
D) The vector with zero magnitude

11. What is the least count of an instrument?

A) The maximum value it can measure
B) The error made by the user
C) The total length of its scale
D) The minimum value that can be measured on its scale

12. How does a vernier caliper measure a fraction of the smallest main-scale division?

A) By sliding another (vernier) scale over it
B) By rotating a circular scale over it
C) By balancing weights on two pans
D) By reading the liquid level

13. What is the pitch of a screw gauge?

A) The number of divisions on the circular scale
B) The distance moved on the linear scale in one complete rotation of the circular scale
C) The zero error of the instrument
D) The smallest division on the thimble

14. What are systematic errors?

A) Errors that occur irregularly and unpredictably
B) Errors that can never be reduced
C) Errors that occur only in digital instruments
D) Errors that occur consistently in one direction, positive or negative

15. What does precision mean?

A) Closeness of a measurement to the true value
B) Consistency and repeatability of repeated measurements
C) Absence of all errors
D) The size of the least count only

16. What are significant figures?

A) All the zeros in a number
B) Only the digits before the decimal point
C) The accurately known digits plus the first doubtful digit
D) The digits left after rounding to the nearest ten

17. Physics is the branch of science that deals with the study of what?

A) Living organisms only
B) Matter, energy and their interaction
C) Chemical reactions only
D) Rocks and soil

18. Which of the following is based on the principles of physics?

A) Rockets and space shuttles
B) Computers and smartphones
C) PET scans
D) All of these

19. Which branch of physics deals with light?

A) Thermodynamics
B) Mechanics
C) Optics
D) Nuclear physics

20. What is measurement?

A) A comparison of an unknown physical quantity with a standard
B) Guessing the size of a quantity
C) Writing a number in power of ten
D) Finding the direction of a quantity

21. What is a unit?

A) The size of a quantity in numbers only
B) An error in an instrument
C) A mistake made during measurement
D) The standard with which physical quantities are compared

22. What does the abbreviation SI stand for?

A) International System of Units
B) Standard Instrument
C) Scientific Index
D) Simple Interval

23. What is a reference frame?

A) The frame of a measuring instrument
B) A coordinate system from which the positions of objects are described
C) A box used to store weights
D) The border of a graph paper

24. How is a vector represented graphically?

A) By a circle
B) By a straight line without an arrow
C) By an arrow whose length shows magnitude and head shows direction
D) By a dot on the origin

25. How is the least count of a vernier caliper found?

A) Smallest division on main scale ÷ total divisions on vernier scale
B) Pitch ÷ divisions on circular scale
C) Main scale reading + vernier scale reading
D) Total length of main scale ÷ 10

26. When does zero error occur?

A) When the reading is exactly zero
B) When the object has zero mass
C) When the instrument is not used at all
D) When the zeros of the scales do not coincide with the jaws closed

27. What is the ratchet of a screw gauge used for?

A) To prevent too much pressure on the object
B) To increase the pitch
C) To remove the zero error
D) To read the circular scale

28. What does a physical balance measure?

A) Volume
B) Mass
C) Time
D) Temperature

29. What does a measuring cylinder measure?

A) Mass of solids
B) Length of liquids
C) Volume of liquids
D) Density of gases

30. What does a stopwatch measure?

A) Temperature
B) Mass
C) Length
D) A time interval

31. What is error in measurement?

A) The uncertainty that arises during measurement
B) A mistake that can always be avoided
C) The unit of a quantity
D) The size of the object

32. How can random errors be reduced?

A) By taking a single reading carefully
B) By taking repeated measurements and finding the mean
C) By using a smaller object
D) By ignoring the zero error

33. What is an accurate measurement?

A) One that is always the same when repeated
B) One measured with the largest instrument
C) One that is close to the true or accepted value
D) One written with the most zeros

34. What does rounding off a number mean?

A) Writing it in words
B) Changing its unit
C) Making it a vector
D) Approximating it to a simpler value with fewer digits while keeping suitable accuracy

Answer key

1-B 2-A 3-B 4-C 5-D 6-A 7-C 8-C 9-A 10-B

11-D 12-A 13-B 14-D 15-B 16-C 17-B 18-D 19-C 20-A

21-D 22-A 23-B 24-C 25-A 26-D 27-A 28-B 29-C 30-D

31-A 32-B 33-C 34-D