

Units and Measurements

Question 1.

Electron volt is a unit of

- (a) charge
- (b) potential difference
- (c) energy
- (d) magnetic force

▼ [Answer](#)

Answer: (c) energy

Question 2.

Light year is a unit of

- (a) time
- (b) distance
- (c) sunlight intensity
- (d) mass

▼ [Answer](#)

Answer: (b) distance

Question 3.

Which of the following pairs has the same dimensions?

- (a) specific heat and latent heat
- (b) Impulse and momentum
- (c) surface tension and force
- (d) moment of Inertia and torque

▼ [Answer](#)

Answer: (b) Impulse and momentum

Question 4.

Which of the following sets of quantities has the same dimensional formula?

- (a) Frequency, angular frequency and angular momentum
- (b) Surface tension, stress and spring constant
- (c) Acceleration, momentum and retardation
- (d) Work, energy and torque

▼ [Answer](#)

Answer: (d) Work, energy and torque

Question 5.

If C and R denote capacitance and resistance respectively, what will be the dimensions of $C \times R$?

- (a) $[M^0L^0TA^0]$
- (b) $[ML^0TA^{-2}]$
- (c) $[ML^0TA^2]$
- (d) $[MLTA^{-2}]$

▼ [Answer](#)

Answer: (a) [M0L0TA0]

Question 6.

A particle starting from the origin (0, 0) moves in a straight line in the (x, y) plane. Its coordinates at a later time are (The path of the particle makes with the x-axis an angle of

- (a) 300
- (b) 450
- (c) 600
- (d) 0

▼ Answer

Answer: (c) 600

Question 7.

Resolution is

- (a) a measure of the bias in the instrument
- (b) None of these
- (c) the smallest amount of input signal change that the instrument can detect reliably
- (d) a measure of the systematic errors

▼ Answer

Answer: (d) a measure of the systematic errors

Question 8.

Fundamental or base quantities are arbitrary. In SI system these are

- (a) length, force, time, electric current, thermodynamic temperature, amount of substance, and luminous intensity
- (b) length, mass, time, electric current, thermodynamic temperature, amount of substance, and luminous intensity
- (c) as length, mass, time, electric charge, thermodynamic temperature, amount of substance, and luminous intensity
- (d) length, mass, force, electric current, thermodynamic temperature, amount of substance, and luminous intensity

▼ Answer

Answer: (b) length, mass, time, electric current, thermodynamic temperature, amount of substance, and luminous intensity

Question 9.

Unit for a fundamental physical quantity is

- (a) defined as best of various reference standards
- (b) the smallest measurable value of the physical quantity
- (c) defined as average various reference standards
- (d) reference standard for the physical quantity

▼ Answer

Answer: (d) reference standard for the physical quantity

Question 10.

The volume of a cube in m^3 is equal to the surface area of the cube in m^2 . The volume of the cube is

- (a) 64 m^3

- (b) 216 m^3
- (c) 512 m^3
- (d) 196 m^3

▼ Answer

Answer: (b) 216 m^3

Question 11.

In SI system the fundamental units are

- (a) meter, kilogram, second, ampere, Kelvin, mole and candela
- (b) meter, kilogram, second, coulomb, Kelvin, mole and candela
- (c) meter, Newton, second, ampere, Kelvin, mole and candela
- (d) meter, kilogram, second, ampere, Kelvin, mole and lux

▼ Answer

Answer: (b) meter, kilogram, second, coulomb, Kelvin, mole and candela

Question 12.

F energy (E), velocity (v) and force (F) are taken as fundamental quantities, what are the dimensions of mass?

- (a) $E v^2$
- (b) $E v^{-2}$
- (c) $F v^{-1}$
- (d) $F v^{-2}$

▼ Answer

Answer: (b) $E v^{-2}$

Question 13.

Unit for a fundamental physical quantity is

- (a) defined as best of various reference standards
- (b) the smallest measurable value of the physical quantity
- (c) defined as average various reference standards
- (d) reference standard for the physical quantity

▼ Answer

Answer: (d) reference standard for the physical quantity

Question 14.

Fundamental or base quantities are arbitrary. In SI system these are

- (a) length, force, time, electric current, thermodynamic temperature, amount of substance, and luminous intensity
- (b) length, mass, time, electric current, thermodynamic temperature, amount of substance, and luminous intensity
- (c) as length, mass, time, electric charge, thermodynamic temperature, amount of substance, and luminous intensity
- (d) length, mass, force, electric current, thermodynamic temperature, amount of substance, and luminous intensity

▼ Answer

Answer: (b) length, mass, time, electric current, thermodynamic temperature, amount of substance, and luminous intensity

Question 15.

Physical quantities are

- (a) quantities such as degrees, radians and steradians
- (b) quantities such as length, mass, time, electric current, thermodynamic temperature, amount of substance, and luminous intensity
- (c) quantities such as pounds, dollars and rupees
- (d) quantities such as kilos, pounds and gallons

▼ [Answer](#)

Answer: (b) quantities such as length, mass, time, electric current, thermodynamic temperature, amount of substance, and luminous intensity

Question 16.

Which of the following units denotes the dimensions $[ML^2/Q^2]$, where Q represents the electric charge?

- (a) Wb/m^2
- (b) Henry(H)
- (c) H/m^2
- (d) Weber(Wb)

▼ [Answer](#)

Answer: (b) Henry(H)

Question 17.

Which of the following sets of quantities has the same dimensional formula?

- (a) Frequency, angular frequency and angular momentum
- (b) Surface tension, stress and spring constant
- (c) Acceleration, momentum and retardation
- (d) Work, energy and torque

▼ [Answer](#)

Answer: (d) Work, energy and torque

Question 18.

If C and R denote capacitance and resistance respectively, what will be the dimensions of $C \times R$?

- (a) $[M^0L^0T^0A^0]$
- (b) $[ML^0TA^{-2}]$
- (c) $[ML^0TA^2]$
- (d) $[MLTA^{-2}]$

▼ [Answer](#)

Answer: (a) $[M^0L^0T^0A^0]$

Question 19.

The volume of a cube in m^3 is equal to the surface area of the cube in m^2 . The volume of the cube is

- (a) $64 m^3$
- (b) $216 m^3$
- (c) $512 m^3$
- (d) $196 m^3$

▼ [Answer](#)

Answer: (b) 216 m³

Question 20.

Electron volt is a unit of

- (a) charge
- (b) potential difference
- (c) energy
- (d) magnetic force

▼ [Answer](#)

Answer: (c) energy

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