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) lmpulse and momentum
(c) surface tension and force
(d) moment of lnertia and torque

▼ Answer

Answer: (b) lmpulse 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 x R?
(a) [M0L0TA0]
(b) [ML0TA-2]
(c) [ML0TA2]
(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

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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 m³
(c) 512 m³
(d) 196 m³

▼ Answer

Answer: (b) 216 m³

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

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Question 12.
F energy (E), velocity (v) and force (F) are taken as fundamental quantities, what are the dimensions of mass?
(a) Ev2
(b) Ev -2
(c) Fv -1
(d) Fv -2

▼ Answer

Answer: (b) Ev -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

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Question 16.
Which of the following units denotes the dimensions [ML2/Q2], 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 CxR?
(a) [M0L0TA0]
(b) [ML0TA-2]
(c) [ML0TA2]
(d) [MLTA-2]

▼ Answer

Answer: (a) [M0L0TA0]

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 m^3

Question 20.
Electron volt is a unit of
(a) charge
(b) potential difference
(c) energy
(d) magnetic force

▼ Answer

Answer: (c) energy
