KINETICS
We Nurture The Future
IIT-JEE | Medical | Foundations

Motion

Multiple Choice Questions

Question 1.
Who gave the equations of motion for the first time?
(a) Bernhard Nobel
(b) Issac Newton
(c) C. V. Raman
(d) Einstein

▼ Answer

Answer: (b) Issac Newton

Question 2.
The displacement of the object in a unit time is called:
(a) speed
(b) velocity
(c) acceleration
(d) average speed

▼ Answer

Answer: (b) velocity

(b) velocity
(c) acceleration
(d) average speed

▼ Answer

Answer: (b) velocity

Question 3.
The rate of change of velocity per second is known as:
(a) acceleration
(b) speed
(c) average velocity
(d) linear motion

▼ Answer

Answer: (a) acceleration

Question 4.
If the velocity of an object changes from an initial value u to the final value v in time t, the acceleration a will be:
(a) a = $\frac{v-u}{t}$
(b) a = $\frac{v+u}{t}$
(c) a = $\frac{t}{v-u}$
(d) a = $\frac{t}{v+u}$

▼ Answer

Answer: (a) a = $\frac{v-u}{t}$

Question 5.
What is the unit of acceleration?
(a) m/s
(b) m/s^2
(c) ms
(d) m/s^3

▼ Answer

Answer: (b) m/s^2

Question 6.
The unit of speed and velocity both is:

(a) ms^{-1}
(b) ms^{-2}
(c) ms^{2}
(d) ms

▼ Answer

Answer: (a) ms^{-1}

Question 7.
A particle is moving in a circular path of radius r. The displacement after half a circle would be:
(a) zero
(b) πr
(c) 2r
(d) 2πr

▼ Answer

Answer: (c) 2r

Question 8.
A body is thrown vertically upward with velocity u, the greatest height h to which it will rise is:
(a) u/g
(b) $u^{2}/2g$
(c) u^{2}/g
(d) u/2g

▼ Answer

Answer: (b) $u^{2}/2g$

Question 9.
The slope of a velocity-time graph gives:
(a) the distance
(b) the displacement
(c) the acceleration
(d) the speed

▼ Answer

Answer: (c) the acceleration

Question 10.
If the displacement of an object is proportional to the square of time, then the object moves with:

(a) uniform velocity
(b) uniform acceleration
(c) increasing acceleration
(d) decreasing acceleration

▼ Answer

Answer: (b) uniform acceleration

Fill in the Blanks.

Question 11.
Newton's _____ law is based on the concept of inertia.

▼ Answer

Answer: first

Question 12.
Negative acceleration is known as _____

▼ Answer

Answer: retardation

Question 13.
If the path of a moving object is a straight line then, such a motion is known as a _____

▼ Answer

Answer: linear motion

Question 14.
_____ and _____ laid down the scientific foundation of concept of motion.

▼ Answer

Answer: Galileo, Newton

Question 15.
Velocity is _____ quantity.

▼ Answer

Answer: vector

Question 16.
During the uniform motion of an object along a straight line, the velocity remains _____ with time.

▼ Answer

Answer: constant

Question 17.
The initial velocity of an object moving from the position of rest is _____

▼ Answer

Answer: zero

Question 18.
The displacement of the object in a unit time is called _____

▼ Answer

Answer: velocity

True/False.

Question 19.
Acceleration is a measure of the change in the velocity of an object per unit of time.

▼ Answer

Answer: True

Question 20.
The acceleration of an object is indirectly proportional to the net applied force.

▼ Answer

Answer: False

Question 21.
Motion is a change of position, it can be described in terms of the distance moved or the displacement.

▼ Answer

Answer: True

Question 22.
The simplest type of motion is the motion along a straight line.

▼ Answer

Answer: True

Question 23.
Automobiles are fitted with a device that shows the distance travelled. Such a device is known as an odometer.

▼ Answer

Answer: True

Match the Column.

Question 24.

A	B
1. C.G.S. unit of acceleration	(i) Distance
2. Motion of a pendulum	(ii) cm/s^2
3. Scalar quantity	(iii) Simple harmonic motion
4. Momentum	(iv) Velocity/time
5. Acceleration	(v) Vector quantity

▼ Answer

Answer:

A	B
1. C.G.S. unit of acceleration	(ii) cm/s^2
2. Motion of a pendulum	(iii) Simple harmonic motion
3. Scalar quantity	(i) Distance
4. Momentum	(v) Vector quantity
5. Acceleration	(iv) Velocity/time

Answer in one Word/Sentence.

Question 25.
Write the unit of momentum.

▼ Answer

Answer: kg m/s or kg ms^{-1}

Question 26.
Give one example of simple harmonic motion.

▼ Answer

Answer: Motion of the pendulum of a clock

Question 27.
A body is moving with constant velocity, then what will be the acceleration of that body?

▼ Answer

Answer: zero (0)

Question 28.
What does the odometer of an automobile measure?

▼ Answer

Answer: The distance travelled

Question 29.
The motion of an athlete moving along a circular path, is an example of what type of motion?

▼ Answer

Answer: An accelerated motion
