Q.1.The angle between two equal vectors is

a. 0°
b. 160°
c. 90°
d. 180°

Ans. (a)

Q.2.Which of the following statements is false.

a. Displacement has specific direction.
b. Displacement has no specific direction.
c. Displacement of a body can be zero.
d. Magnitude of displacement is equal or less than the distance travelled.

Ans. (b)

Q.3.The cross product of two equal vectors is

a. 1
b. 0
c. 2
d. 1.5

Ans. (b)

Q.4. Walking of a man is an example of

a. Resolution of vectors
b. Addition of vectors
c. Subtraction of vectors
d. Multiplication of vector

Ans. (a)

Q.5.The quantity which has the only magnitude is called

a. A scalar quantity
b. A vector quantity
c. A chemical quantity
d. A magnitude quantity

Ans. (a)

Q.6. Velocity is the

a. Distance covered per unit time.
b. Displacement covered per unit time.
c. Time taken per unit distance.
d. Time taken per unit displacement.

Ans. (b)

Q.7. Distance in specified direction is termed as

a. Directional distance
b. Unidirectional distance
c. Displacement
d. Directional displacement

Ans. (c)

Q.8.Which of the following defines acceleration?

a. Change in distance per unit time.
b. Change in speed per unit time.
c. Change in displacement per unit time.
d. Change in velocity per unit time.

Ans. (d)

Q.9. If external force on a body is zero, its

a. Displacement is zero.
b. Velocity is zero.
c. Acceleration is zero.
d. None of these.

Ans. (c)

Q.10.A car on a road may be thrown out of the road is taking a turn

a. Due to the lack of frictional force between the tire and the road.
b. By the gravitational force.
c. Due to the lack of proper centripetal force.
d. Due to the reaction of the ground.

Ans. (a)

Q.11.What is the unit of coefficient of limiting friction?

a. m
b. m/s
c. m/s^2
d. no unit

Ans. (d)

Q.12. What is the minimum velocity attained by a ball thrown with velocity of 20 m/s at an angle of 40° with horizontal?

a. 15.32 m/s
b. 12.85 m/s
c. 16.78 m/s
d. None of the above

Ans. (a)

Q.13.The path of projectile is called as

a. Curve
b. Time of flight
c. Orbit
d. Trajectory

Ans. (d)

Q.14.The formula for angular acceleration is

a. $v = r\omega$
b. $\alpha = \Delta\omega/\Delta t$
c. $\alpha = \Delta\omega/\Delta\theta$
d. none of these

Ans. (b)

Q.15.The relationship between linear and angular acceleration is _____

a. $v = r\omega$
b. $v = r\omega^2$
c. $v = r^2\omega$
d. $v^2 = r\omega$

Ans. (a)

Q.16.The rate of change of angular displacement is known as _____

a. Acceleration
b. Angular velocity
c. Angular acceleration
d. None of these

Ans. (c)

Q.17.When a body is thrown upward making an angle of θ with the horizontal and moves freely under the action of gravity is called a _____.

a. Horizontal
b. Vertical
c. Projectile
d. None of these

Ans. (c)

Q.18.Which of the following kinetic friction is smaller?

a. Limiting friction
b. Static friction
c. Sliding friction
d. Rolling friction

Ans. (d)

Q.19.How is friction due to air reduced?

a. Streamlining
b. Lubrication
c. By using ball bearing
d. By polishing

Ans. (a)

Q.20.The value of ‘g’

a. Increases as we go above the earth’s surface.
b. Decreases as we go to the centre of the earth.
c. Remains constant
d. Is more at equator and less at poles.

Ans. (b)

Q.21.The ball is thrown up, the value of ‘g’ will be

a. Zero
b. Positive
c. Negative
d. Negligible

Ans. (c)

Q.22.Dimensional formula for work is

a. $[M\ L\ T^{-2}]$
b. $[M\ L^2\ T^{-2}]$
c. $[M\ L^2\ T^{-1}]$
d. $[M\ L^2\ T]$

Ans. (b)

Q.23.Dimensional formula for gravitational constant

a. $[M^{-1}\ L^3\ T^{-2}]$
b. $[M\ L^3\ T^{-2}]$
c. $[M^{-1}\ L^{-3}\ T^2]$
d. $[M^{-1}\ L^3\ T^2]$

Ans. (a)

Q.24. The frequency ‘υ’ and time period ‘T’ are related as

a. $\upsilon = 1/T$
b. $\upsilon = T$
c. $\upsilon/T = 1$
d. $\upsilon = 1/T^2$

Ans. (a)

Q.25. In a simple harmonic motion, the acceleration of a particle is

a. Directly proportional to its displacement and the direction of acceleration & displacement are same.
b. Directly proportional to its displacement and opposite to the direction of displacement.
c. Directly proportional to the square of its displacement.
d. Independent of the displacement of the particle.

Ans. (b)

Q.26. Direction of waves is parallel to distance of vibration in _____ wave.

a. Transverse
b. Longitudinal
c. Both transverse and longitudinal
d. None of the waves

Ans. (b)

Q.27. The amplitude of a wave is _____.

a. The distance the wave moves in one second.
b. The distance the wave moves in one time period of the wave.
c. The maximum displacement moved by particle on either side of the mean position.
d. The distance equal to one wave length.

Ans. (c)

Q.28. Ultrasonic waves are those waves which

a. Human beings can hear.
b. Human beings cannot hear.
c. Have high velocity.
d. Have large amplitude.

Ans. (b)

Q.29. Ultrasonic waves carry more _____.

a. Energy.
b. Frequency.
c. Heat.
d. Both frequency and energy.

Ans. (d)

Q.30. Which of the followings is not an application of ultrasonic

a. In ultrasonic welding.
b. In metallurgical industry.
c. In radar.
d. In diagnostic use.

Ans. (c)