21. When car takes turn around a curve road, the passengers feel a force acting on them in a direction away from the center of the curve. It is due to
A. centripetal force
B. gravitational force
C. their inertia
D. centrifugal force

Answer: Option C
22. A body is falling freely under gravity. How much distance it falls during an interval of time between 1 st and 2 nd seconds of its motion, taking $\mathrm{g}=10$ ?
A. 14 m
B. 20 m
C. 5 m
D. 25 m

Answer: Option A
23. What is the shape of velocity, time graph for constant acceleration?
A. straight inclined line.
B. parabola
C. inclined curve
D. declined curve

Answer: Option A
24. When collision between the bodies in a system is inelastic in nature then for system
A. momentum changes but K.E remain conserve
C. both momentum and K.E changes
B. K.E changes but momentum remain conserve
D. both momentum and K.E remain conserve

Answer: Option B
25. Which shows the correct relation between time of flight $T$ and maximum height H ?
A. $H=g T 2 / 8$
B. $H=8 \mathrm{~T} 2 / \mathrm{g}$
C. $\mathrm{H}=8 \mathrm{~g} / \mathrm{T} 2$
D. $H=g T 2$

Answer: Option A
26. The acceleration in the rocket at any instant is proportional to the nth power of the velocity of the expelled gases. Where the value of $n$ must be?
A. -1
B. 1
C. 2
D. -2

Answer: Option B
27. Taking off rocket can be explained by
A. 1st law of motion
B. 2nd law of motion
C. Law of conservation of momentum
D. law of conservation of energy

Answer: Option C
28. Which of the following is not an example of projectile motion.
A. a gas filled ballon
B. bullet fired from gun
C. a football kicked
D. a base ball shot

Answer: Option A
29. What is the angle of projection for which the range and maximum height become equal?
A. $\tan -1 \quad 1 / 4$
B. $\tan -14$
C. $\tan -11 / 2$
D. $\tan -12$

Answer: Option B
30. The thrust on the rocket in the absence of gravitational force of attraction is
A. constant
B. not constant
C. constant if the rate of ejected
D. constant for short range rocket.

## gases is constant

Answer: Option A

