Q 1. A dog walking to the right with a velocity of 1.5 m/s sees a cat and speeds up with a constant rightward acceleration of magnitude 12 m/s^2. What is the velocity of the dog after speeding up for 3.0 m?
(a) 4 m/s   (b) 8.6 m/s   (c) 12.6 m/s   (d) 16.6 m/s

Q 2. A particle moving in straight line experience constant acceleration for 20 second after starting from rest. If it travel a distance S_1 in the first 10 seconds and distance S_2 in the next 10 seconds then find the relation between S_1 and S_2:
(a) $S_1 = 3S_2$ (b) $S_1 = \frac{3}{2}S_2$
(c) $S_2 = 3S_1$ (d) $S_2 = \frac{3}{2}S_1$

Q 3. A car travels a distance 100m with a constant acceleration and average velocity of 20 m/s. The final velocity acquired by the car is 25 m/s. Find the initial velocity.
(a) 15 m/s   (b) 30 m/s
(c) 10 m/s   (d) zero

Q 4. A body starting from rest is travelling on a straight road with constant non-zero acceleration. If the speeds after covering distances S_1 and S_2 be V_1 and V_2 respectively. If $\frac{V_2}{V_1} = 2$, then $\frac{S_2}{S_1} = N$. Find N?
(a) 1   (b) 2
(c) 1/2   (d) 3

Q 5. A bike moving along a straight road covers 35 m in the 4th second and 40 m in the 5th second. What is its initial velocity: (if the acceleration is assumed to be uniform)?
(a) 5 m/s   (b) 10 m/s
(a) (c) 17.5 m/s   (d) 15.5 m/s

Q 6. A truck moving on a straight road with constant acceleration covers the distance between two points 180 m apart in 6 seconds. Its speed as it passes the second points 45 m/s. Find its speed when it was at the first point:
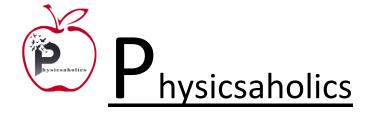(a) 5 m/s   (b) 10 m/s
(c) 15 m/s   (d) 20 m/s

Q 7. A car accelerates uniformly from 18 km/h to 36 km/h in 5 seconds. Calculate the acceleration of truck:
(a) 1 m/s^2 (b) 1 km/h^2
(c) 3 m/s^2 (d) 2.5 m/s^2

Q 8. A body starts from rest and travels with a uniform acceleration of $3 \, m/s^2$ and then decelerates at a uniform rate of $2 \, m/s^2$ again to come to rest. Total time of travel is 10 sec. find the maximum velocity during the journey:
(a) 10 m/s   (b) 12 m/s
(c) 15 m/s   (d) 27 m/s

Q 9. Consider a train which can accelerate with an acceleration of $20 \, cm/s^2$ and slow down with deceleration of $100 \, cm/s^2$. Find the minimum time for the train to travel between the stations 2.7km apart:
(a) 90 s   (b) 180 s
(c) 160 s   (d) 240 s

Q 10. An automobile travelling with the speed of 72 km/h, can be stopped within a distance of 20m, by applying brakes. Determine the distance travelled in the first second:
(a) 10 m   (b) 25 m
(c) 15 m   (d) 35 m

Q 11. A body starting from rest is moving with a uniform acceleration of $8 \, m/s^2$. Then the distance travelled by it in 5th second will be:
(a) 40 m   (b) 36 m
(c) 100 m   (d) zero

Q 12. A motor cycle moving with speed of 15m/s is subject to an acceleration of $0.2 \, m/s^2$ in the direction of motion. Calculate the speed of motorcycle after 10 second,
(a) 7 m/s   (b) 10 m/s
(c) 13 m/s   (d) 17 m/s

Answer Key

Q.1) b	Q.2) c	Q.3) a	Q.4) d	Q.5) c
Q.6) c	Q.7) a	Q.8) b	Q.9) b	Q.10) c
Q.11) b	Q.12) d			