



DPP - 2

- 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
(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



Solution on Website:-

<https://physicsaholics.com/home/courseDetails/41>

Solution on YouTube:-

<https://youtu.be/TQmJSIfjdDE>

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			



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