

ARJUNA JEE 2023

Motion in a Straight Line

DPP-06

- A body starts from rest. What is the ratio of the distance travelled by the body during the 4th and 3rd second?
 - $\frac{7}{5}$
 - $\frac{5}{7}$
 - $\frac{7}{3}$
 - $\frac{3}{7}$
- The engine of a car produces acceleration 4 m/s^2 in the car. If this car pulls another car of same mass, what will be the acceleration produced
 - 8 m/s^2
 - 2 m/s^2
 - 4 m/s^2
 - $\frac{1}{2} \text{ m/s}^2$
- A particle travels 10 m in first 5 sec and 10 m in next 3 sec. Assuming constant acceleration what is the distance travelled in next 2 sec
 - 8.3 m
 - 9.3 m
 - 10.3 m
 - None of above
- The driver of a car which is moving on a straight horizontal road with a speed of 72 kmh^{-1} applies brakes. If the retardation produced is 20 ms^{-2} , the distance moved by the car before coming to rest will be
 - 10 m
 - 8 m
 - 6 m
 - 2 m
- Two cars A and B are at rest at same point initially. If A starts with uniform velocity of 40 m/sec and B starts in the same direction with constant acceleration of 4 m/s^2 , then B will catch A after how much time
 - 10 sec
 - 20 sec
 - 30 sec
 - 35 sec
- If a body starts from rest and travels 120 cm in the 6th second, then what is the acceleration
 - 0.20 m/s^2
 - 0.027 m/s^2
 - 0.218 m/s^2
 - 0.03 m/s^2
- A car moving with a speed of 40 km/h can be stopped by applying brakes after at least 2 m. If the same car is moving with a speed of 80 km/h , what is the minimum stopping distance
 - 8 m
 - 2 m
 - 4 m
 - 6 m
- A body falling from a high Minaret travels 40 meters in the last 2 seconds of its fall to ground. Height of Minaret in meters is (take $g = 10 \text{ m/s}^2$)
 - 60
 - 45
 - 80
 - 50
- A body is thrown vertically upwards. If air resistance is to be taken into account, then the time during which the body rises is
 - Equal to the time of fall
 - Less than the time of fall
 - Greater than the time of fall
 - Twice the time of fall
- A body is released from the top of a tower of height h . It takes t sec to reach the ground. Where will be the ball after time $t/2$ sec
 - At $h/2$ from the ground
 - At $h/4$ from the ground
 - Depends upon mass and volume of the body
 - At $3h/4$ from the ground
- A stone thrown upward with a speed u from the top of the tower reaches the ground with a velocity $3u$. The height of the tower is
 - $3u^2/g$
 - $4u^2/g$
 - $6u^2/g$
 - $9u^2/g$

Note: Kindly find the Video Solution of DPPs Questions in the Quiz Section.

ANSWER KEY

1. (1)
2. (2)
3. (1)
4. (1)
5. (2)
6. (3)
7. (1)
8. (2)
9. (2)
10. (4)
11. (2)



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