

NEET MOTION IN A STRAIGHT LINE — KINEMATIC EQUATIONS FOR UNIFORMLY ACCELERATED MOTION — PYQS

Max. Marks: 24
Questions: 6

Section A (MCQ) — 6 questions

- Q.1** A bullet from a gun is fired on a rectangular wooden block with velocity u . When bullet travels 24 cm through the block along its length horizontally, velocity of bullet becomes $\frac{u}{3}$. Then it further penetrates into the block in the same direction before coming to rest exactly at the other end of the block. The total length of the block is :

[NEET (UG) 2023]

- (1) 24 cm (2) 28 cm (3) 30 cm (4) 27 cm

 Scan or tap for the full solution 

- Q.2** A small block slides down on a smooth inclined plane, starting from rest at time $t = 0$. Let S_n be the distance travelled by the block in the interval $t = n - 1$ to $t = n$. Then the ratio $\frac{S_n}{S_{n+1}}$ is :

[NEET (UG) 2021]

- (1)
- $\frac{2n}{2n-1}$
- (2)
- $\frac{2n-1}{2n}$
- (3)
- $\frac{2n-1}{2n+1}$
- (4)
- $\frac{2n+1}{2n-1}$

 Scan or tap for the full solution 

- Q.3** When an object is shot from the bottom of a long smooth inclined plane kept at an angle 60° with horizontal, it can travel a distance x_1 along the plane. But when the inclination is decreased to 30° and the same object is shot with the same velocity, it can travel x_2 distance. Then $x_1 : x_2$ will be :

[NEET (UG) 2019]

- (1)
- $1 : \sqrt{2}$
- (2)
- $\sqrt{2} : 1$
- (3)
- $1 : \sqrt{3}$
- (4)
- $1 : 2\sqrt{3}$

 Scan or tap for the full solution 

- Q.4** A particle starts its motion from rest under the action of a constant force. If the distance covered in first 10 seconds is S_1 and that covered in the first 20 seconds is S_2 , then

[AIPMT 2009]

- (1)
- $S_2 = 3S_1$
- (2)
- $S_2 = 4S_1$
- (3)
- $S_2 = S_1$
- (4)
- $S_2 = 2S_1$

 Scan or tap for the full solution 

- Q.5** A particle moves in a straight line with a constant acceleration. It changes its velocity from 10 m s^{-1} to 20 m s^{-1} while passing through a distance 135 m in t second. The value of t is

[AIPMT 2008]

- (1) 12 (2) 9 (3) 10 (4) 1.8

 Scan or tap for the full solution 

- Q.6** The distance travelled by a particle starting from rest and moving with an acceleration $\frac{4}{3} \text{ m s}^{-2}$, in the third second is

[AIPMT 2008]

- (1)
- $\frac{10}{3} \text{ m}$
- (2)
- $\frac{19}{3} \text{ m}$
- (3) 6 m (4) 4 m

 Scan or tap for the full solution 

ANSWER KEY

Ques.	1	2	3	4	5	6					
Ans.	4	3	3	2	2	1					