ARJUNA (NEET)

Newton's Law of Motion

DPP-01

1. A rider on horse back falls when horse starts running all of a sudden because
(A) Rider is taken back
(B) Rider is suddenly afraid of falling
(C) Inertia of rest keeps the upper part of body at rest whereas lower part of the body moves forward with the horse
(D) None of the above

2. When a train stops suddenly, passengers in the running train feel an instant jerk in the forward direction because
(A) The back of seat suddenly pushes the passengers forward
(B) Inertia of rest stops the train and takes the body forward
(C) Upper part of the body continues to be in the state of motion whereas the lower part of the body in contact with seat remains at rest
(D) Nothing can be said due to insufficient data

3. A man getting down a running bus falls forward because
(A) Due to inertia of rest, road is left behind and man reaches forward
(B) Due to inertia of motion upper part of body continues to be in motion in forward direction while feet come to rest as soon as they touch the road
(C) He leans forward as a matter of habit
(D) Of the combined effect of all the three factors stated in (A), (B) and (C)

4. Essential characteristic of equilibrium is :-
(A) Momentum equals zero
(B) Acceleration equals zero
(C) K.E. equals zero
(D) Velocity equals zero

5. A boy sitting on the topmost berth in the compartment of a train which is just going to stop on a railway station, drops an apple aiming at the open hand of his brother sitting vertically below his hands at a distance of about 2 meter. The apple will fall
(A) Precisely on the hand of his brother
(B) Slightly away from the hand of his brother in the direction of motion of the train
(C) Slightly away from the hand of his brother in the direction opposite to the direction of motion of the train
(D) None of the above

6. In which of the following cases the net force is not zero ?
(A) A kite skillfully held stationary in the sky
(B) A ball freely falling from a height
(C) An aeroplane rising upwards at an angle of 45° with the horizontal with a constant speed
(D) A cork floating on the surface of water

7. A particle is in a straight line motion with uniform velocity. A force is not required :-
(A) To increase the speed
(B) To decrease the speed
(C) To maintain the same speed
(D) To change the direction

8. When a constant force is applied to a body, it moves with uniform :-
(A) Acceleration
(B) Velocity
(C) Speed
(D) Momentum

9. A body of mass 40 g is moving with a constant velocity of 2 cm/s on a horizontal frictionless table. The force on the body (in dynes) is :-

(A) Zero (B) 39200

(C) 160 (D) 80

10. There are two bodies A & B of same mass body A is at rest while body B is under going uniform motion, which is correct statements?

(A) Inertia of A > inertia of B.

(B) Inertia of B > inertia of A.

(C) Inertia of A = inertia of B.

(D) Either 1^{st}, 2^{nd} or 3^{rd} depending upon the shape of body.

ANSWERS KEY

1. **(C)**
2. **(C)**
3. **(B)**
4. **(B)**
5. **(B)**
6. **(B)**
7. **(C)**
8. **(A)**
9. **(A)**
10. **(C)**

Note - If you have any query/issue

Mail us at support@physicswallah.org