BCM SCHOOL, BASANT AVENUE, DUGRI ROAD, LUDHIANA

ASSIGNMENT

XI – PHYSICS

## CHAPTER – LAWS OF MOTION

DATE : AUG 7, 2023

Multiple Choice Type Questions:

1. A body of mass 50 g is moving with a constant velocity of 5 ms^{-1} on a horizontal smooth surface. The force acting on the body is
   - (a) 1 N
   - (b) 2 N
   - (c) 5 N
   - (d) zero

2. To shake off water from wet cloth, it is common to give it a sudden jerk. In doing so, we are taking advantage of
   - (a) Newton's first law of motion
   - (b) Newton's third law of motion
   - (c) Newton's second law of motion
   - (d) Impulse

3. The apparent weight of a body in the lift is less than its true weight. The lift is moving
   - (a) Upwards with constant velocity
   - (b) Upwards with constant acceleration
   - (c) downwards with constant velocity
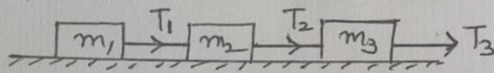   - (d) downwards with constant acceleration

4. The tension in the string in the pulley system shown in figure is
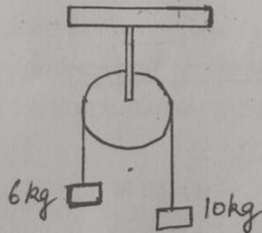
   - (a) 5.7 N
   - (b) 7 N
   - (c) 7.5 N
   - (d) 74 N

5. A 100 g ball moving with velocity of 20 ms^{-1} returns in opposite direction with a velocity of 30 ms^{-1} after striking a bat. The magnitude of impulse is
   - (a) 5 N s
   - (b) 10 N s
   - (c) 15 N s
   - (d) 20 N s

6. A block of mass 1 kg starts from rest at x = 0 and moves along the X-axis under the action of a force F = kt, where t is time and k = 1 Ns^{-1}. The distance the block will travel in 6 seconds is
   - (a) 36 m
   - (b) 72 m
   - (c) 108 m
   - (d) 18 m

7. It is easier to catch a tennis ball as compared to a cricket ball moving the same velocity because
   - (a) The tennis ball has less momentum than cricket ball
   - (b) The tennis ball is lighter than cricket ball
   - (c) The tennis ball has more momentum than cricket ball

(d) Both the balls have same kinetic energy.

8. The apparent weight of a person inside a lift is W_1, when lift moves up with a certain acceleration and is W_2, when lift moves down with same acceleration. The weight of the person when lift moves up with constant speed is

   (a) $(W_1 + W_2) / 2$ (b) $(W_1 - W_2) / 2$ (c) $2 W_1$ (d) $2 W_2$

9. Sand is being dropped on a conveyor belt at the rate of M kg s^{-1}. The force necessary to keep the belt moving with a constant velocity v m s^{-1} will be

   (a) Zero   (b) Mv newton   (c) 2 Mv newton   (d) Mv/2 newton

10. Three blocks of masses m_1, m_2 and m_3 are connected by mass less strings as shown on a frictionless table. They are pulled with a force $T_3 = 40$ N. If $m_1 = 10$ kg, $m_2 = 6$ kg and $m_3 = 4$ kg. then Tension T_2 will be:

   (a) 20 N   (b) 40 N   (c) 10 N   (d) 32 N