

VISWABHARATHI WISEWOODS

PRACTICE SHEET

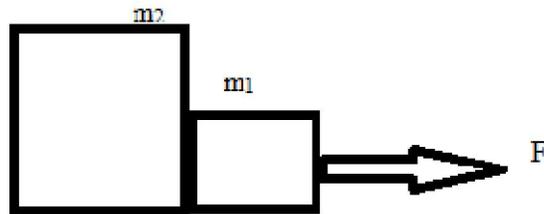
GRADE : VIII – IX

SUBJECT : PHYSICS

I. Answer the following

1. Why do passengers tend to fall sideways when the bus takes a sharp turn?
2. Why are road accidents at high speed very much worse than accidents at low speed?
3. Name the action and reaction forces acting during rocket propulsion?
4. Why do we have to run in the direction of the moving bus while getting down from the bus?
5. Why does an electric fan continue to rotate for sometime after the current is switched off?
6. A person hit harder when he falls on a concrete floor than when he falls on a heap of sand from the same height. Why?
7. A bullet fired against a glass window pane make a clear hole in it, but a stone smashes the glass pane. Why?
8. Define inertia. How does it depend on mass of the object? Explain?
 - (a) Dusting of a carpet by beating it with a stick.
 - (b) Removal of water form wet cloth?
9. Give reason and give the law related to these statements
 - (a) It is easier to push an empty box than a box full of books
 - (b) It is difficult for a fireman to hold a hose which ejects large amount of water with high velocity.
10. A bullet leaves a rifle with a velocity of 100 m/s and the rifle of mass 2.5 kg recoils with a velocity of 1 m/s. Find the mass of the bullet?
11. A cricket ball of mass 0.15 kg is moving with a velocity of 1.2 m/s. Find the impulse on the ball and force applied by the player if he is able to stop the ball in 0.18s?
12. A speedboat has a mass of 500 kg. It starts from rest and travel 200 m in 12 seconds. The boat undergoes constant acceleration during 12 seconds. Find the magnitude of unbalanced force acting on the boat?
13. A motor car of mass 200 kg is moving with a certain velocity. It is brought to rest by the application of brakes, within a distance of 20 m when the average resistance being offered to it is 500 N. What was the velocity of the motor car?
14. A man throws a ball weighing 500 g vertically upwards with a speed of 10 m/s, find
 - (a) Initial momentum
 - (b) Its momentum at the highest point

15. A cricket ball of mass 0.15 kg is moving with a velocity of 1.2 m/s . Find the impulse on the ball and average force applied by the player if he is able to stop the ball in 0.18 s ?
16. Two blocks of mass $m_1 = 1\text{ kg}$ and $m_2 = 2\text{ kg}$ are placed in contact on a frictionless horizontal surface. A force of 10 N is acting on m_1 . What is the acceleration of m_1 and m_2 . What is the magnitude of action and reaction forces?



17. The S.I. unit of force is ()
 A) kgm/s B) kgm/s^2 C) Newton D) B & C
18. What do we get by the product of mass and velocity? ()
 A) Force B) Inertia C) Momentum D) Newton
19. The rate of change of momentum of an object is proportional to ()
 A) Mass of the body B) Velocity of the body
 C) Net force applied on the body D) None of these
20. If two balls of same masses are dropped on sand, the depths of penetration is same if ()
 A) Heavier ball is dropped faster than lighter ball
 B) Lighter ball is dropped faster than heavier ball
 C) The product ' mv ' is same for both bodies
 D) None of these
