

Chapter-2

Worksheet-1

Section 1

- Q1. Differentiate between Balanced and Unbalanced Forces.
- Q2. State Newton's Laws of Motion.
- Q3. Why we say second Law of motion contains all three laws?
- Q4. Define the term inertia.
- Q5. Prove 2nd Law of Motion.
- Q6. State 2 examples of laws of motion in real life.
- Q7. State the Law of conservation of momentum?
- Q8. State Impulse- momentum theorem.
- Q9. What do you mean by elastic collision?
- Q10. What are the different effects of Force?

Section 2

Q11. The inertia of an object tends to cause the object

- a) to increase its speed
- b) to decrease its speed
- c) to resist any change in its state of motion
- d) to decelerate due to friction

Answer: c

Q12. A passenger in a moving train tosses a coin which falls behind him. It means that motion of the train is

- a) accelerated
- b) uniform
- c) retarded
- d) along circular tracks

Answer: a

Q13. An object of mass 2 kg is sliding with a constant velocity of 4 ms^{-1} on a frictionless horizontal table. The force required to keep the object moving with the same velocity is

- a) 32 N
- b) 0 N
- c) 2 N
- d) 8 N

Answer: b

Q14. Rocket works on the principle of conservation of

- a) mass
- b) energy
- c) momentum
- d) velocity

Answer: c

Q15. A water tanker filled up to $\frac{2}{3}$ of its height is moving with a uniform speed. On a sudden application of brakes, the water in the tank would

- a) move backward
- b) Move forward

- c) Be unaffected
- d) Rise upwards

Answer: b

Q16. If the mass of a body is doubled and its velocity becomes half, then the linear momentum of the body will

- a) Remains same
- b) Becomes double
- c) Becomes half
- d) Becomes four times

Answer: a

Q17. When a number of forces acting simultaneously on a body bring about a change in its state of rest or of uniform motion in a straight line, then these forces acting on the body are said to be

- a) Balanced forces
- b) Equal forces
- c) Unbalanced forces
- d) Opposite Forces

Answer: d

Q18. When a car at high speed makes a sharp turn, the driver in a car tends to get thrown to the side opposite to the turn. This is due to the

- a) Inertia of Motion
- b) Inertia of Time
- c) Inertia of Rest
- d) Inertia of Direction

Answer: a

Q19. A man is standing on a boat in still water. If he walks towards the shore, then the boat will

- a) Move away from the shore
- b) Move towards the shore
- c) Remains Stationary
- d) None of these

Answer: a

Q20. Which of the following is an incorrect statement?

- a) Mass is measure of inertia of a body
- b) Newton's first law of motion is the law of inertia
- c) Unbalanced force produces constant velocity
- d) Newton's third law talks about the direction of force.

Answer: c