MORE QUESTIONS SOLVED

I. Multiple Choice Questions
Choose the correct option:
1. The S.I. unit of force is
(a) kgm/s
(b) kgm/s^2
(c) Newton
(d) Newton-meter
2. The product of mass and velocity gives a physical quantity
(a) force
(b) inertia
(c) momentum
(d) Newton
3. 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
4. If two balls of different 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 'mi/ is same for both bodies
(d) none of these
5. The coin remains at rest in the figure shown. This is due to

(a) inertia of rest
(b) two forces act on the coin which balance each other
(c) no unbalanced force acts on it
(d) all of these
6. A force of 50 N moves a body.
(a) Frictional force exerted on the body is less than 50 N
(b) Frictional force exerted on the body is more than 50 N
(c) None of these
(d) Both (a) and (b)
7. Fielder giving a swing while catching a ball is an example of
(a) inertia
(b) momentum
(c) Newton's II law of motion
(d) Newton's I law of motion
8. Action and reaction forces
(a) acts on same body
(b) act on different bodies
(c) act in same direction
(d) both (a) and (c)
9. When we stop pedaling the bicycle it stops because
(a) the earths gravitational force acts on it
(b) it is not accelerated
(c) no unbalanced force acts on it
(d) frictional force acts on it
10. A football and a stone has same mass
(a) both have same inertia
(b) both have same momentum
(c) both have different inertia
(d) both have different momentum
Answer. 1—(c), 2—(c), 3—(c), 4-(c), 5-(d), 6-(a), 7-(c), 8-(b), 9-(d), 10-(a).

II. Very Short Answer Type Questions
Question 1. Define force.
Answer: It is a push or pull on an object that produces acceleration in the body on which it acts. 4

Question 2. What is S.I. unit of force?
Answer: S.I. unit of force is Newton.

Question 3. Define one Newton.
Answer: A force of one Newton produces an acceleration of 1 m/s^2 on an object of mass 1 kg. .
1 N = 1 kg m/s^2

Question 4. What is balanced force?
Answer: When forces acting on a body from the opposite direction do not change the state of rest or of motion of an object, such forces are called balanced forces.

Question 5. What is frictional force?
Answer: The force that always opposes the motion of object is called force of friction.

Question 6. What is inertia?
Answer: The natural tendency of an object to resist a change in their state of rest or of uniform motion is called inertia.

Question 7. State Newton's first law of motion.
Answer: An object remains in a state of rest or of uniform motion in a straight line unless acted upon by an external unbalanced force.

Question 8. State Newton's second law of motion.
Answer: The rate of change of momentum of an object is proportional to the applied unbalanced force in the direction of the force.

Question 9. What is momentum?
Answer: The momentum of an object is the product of its mass and velocity and has the same direction as that of the velocity. The S. I. unit is kg m/s. (p = mv)

Question 10. State Newton's III law of motion.
Answer: To every action, there is an equal and opposite reaction and they act on two different bodies.

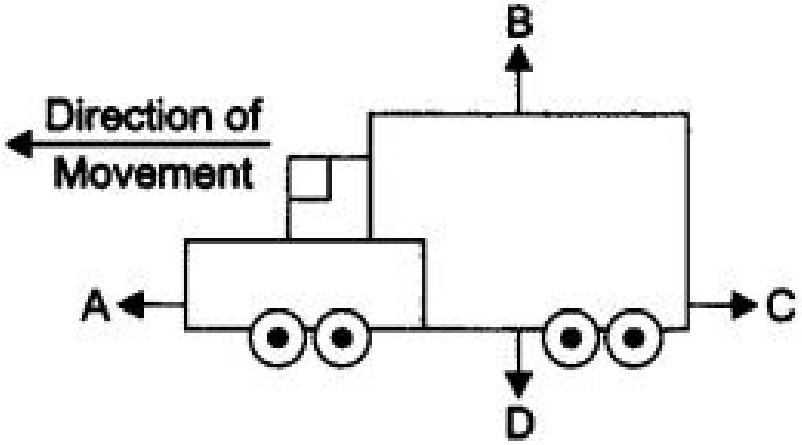
Question 11. Which will have more inertia a body of mass 10 kg or a body of mass 20 kg?
Answer: A body of mass 20 kg will have more inertia.

Question 12. Name the factor on which the inertia of the body depends.
Answer: Inertia of a body depends upon the mass of the body.

Question 13. Name two factors which determine the momentum of a body.
Answer: Two factors on which momentum of a body depend is mass and velocity. Momentum is directly proportional to the mass and velocity of the body.

Question 14. What decides the rate of change of momentum of an object?
Answer: The rate of change of momentum of an object is proportional to the applied unbalanced force in the direction of force.

Question 15. The diagram shows a moving truck. Forces A, B, C and D are acting on the truck.
Name the type of forces acting on a truck.



Answer: The forces A, B, C and D acting on the truck are:

A ⟶ driving force

B ⟶ reacting force

C ⟶ frictional force

D ⟶ weight/gravitational force

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