

**DELHI PUBLIC SCHOOL, JAMMU**

**DATE: 20<sup>th</sup> August, 2021 ASSIGNMENT- 2**

**CLASS: IX**

**Marks-10**

**SUBJECT: PHYSICS**

**Instructions:**

**Total No. of questions – 10 each question carry one mark**

**TOPIC: Forces and Laws of Motion**

**Based on your understanding of the E-Lectures-cum PPT's, video links and other e-resources shared with you, answer the following questions**

**TYPE (I): MCQS with four options**

Q1. Identify the correct statement(s).

1. To accelerate the motion of an object, a balanced force is required.
2. Balanced forces do not change the state of rest or of motion of an object.
3. Balanced forces do not produce any acceleration; they can change the shape or size of the body.

- (a) 1 and 2
- (b) 2 and 3
- (c) 1 and 3
- (d) None of these

Q2. A Cannon after firing recoils due to

- (a) conservation of energy
- (b) backward thrust of gases produced
- (c) Newton's third law of motion
- (d) Newton's first law of motion

Q3. A number of forces acting on a body changes velocity of the body. The forces cannot be

- (a) paralleled
- (b) unbalanced
- (c) balanced
- (d) inclined

**TYPE (II): ASSERTION AND REASONING TYPE:**

**DIRECTION :** In each of the following questions, a statement of Assertion is given and a corresponding statement of Reason is given just below it. Of the statements, given below, mark the correct answer as:

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
- (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
- (c) Assertion is true but reason is false.
- (d) Both Assertion and Reason are false.

Q4. **Assertion:** If the net external force on the body is zero, then its acceleration is zero.

**Reason:** Acceleration does not depend on force.

**Q5. Assertion:** A rocket works on the principle of conservation of linear momentum.

**Reason:** For two bodies system when there is a change in momentum of one body, the same change occurs in the momentum of the second body but in the opposite direction.

**TYPE (III) : Fill in the Blank**

**Direction :** Complete the following statements with an appropriate word/term to be filled in the blank space (s).

Q6. .... is equal to change in momentum.

Q7. When a running car stops suddenly, the passengers are jerked.....

**TYPE (IV) : Match the Column**

Q8.

	Column I		Column II
(A)	Force	(p)	$\text{kg ms}^{-1}$
(B)	Momentum	(q)	newton
(C)	Impulse	(r)	kg
(D)	Mass	(s)	$\text{ms}^{-2}$
(E)	Acceleration	(t)	Force $\times$ time

**TYPE (V) : Case Study Questions**

Q9. A parrot is sitting on the floor of a closed glass cage which is in a boy's hand. If the parrot starts flying with a constant speed, the boy will feel the weight of the cage as

a. What is the weight of the cage

Q10. When we push our foot against the ground backwards (action), the ground exerts an equal and opposite force (reaction) on our foot which causes us to move forward.

a. Justify the statement whether it is true or false.

**You-Tube**

**Links:**

1. [https://www.youtube.com/watch?v=eeG9\\_f9ELBA](https://www.youtube.com/watch?v=eeG9_f9ELBA)
2. <https://www.youtube.com/watch?v=1KqhvSpzma8>

**Note:**

1. Due date of submission: 27<sup>th</sup> August, 2021
2. Send your answer here: a. [Satishpawarom@gmail.com](mailto:Satishpawarom@gmail.com) for classes IX F, IX G, IX H, IX I, IXJ  
b. [dpsanil77@gmail.com](mailto:dpsanil77@gmail.com) for classes IX A, IX B, IX C, IX D, IX E

3. Students must mention their name, class/section and date in their assignments. Your Assignment will be marked for internal/ Term assessments. Therefore, it is necessary for you to submit it on time.

4. Your assignment will be marked for internal/ Term assessments. Therefore it is necessary for you to submit it on time.