

## Force and friction (part 2) Questions-Answers

### 12. Describe any three effects of force.

Ans. Effects of force:

1. A force can move a stationary object.
2. A force can stop a moving object.
3. A force can change the speed of a moving object.

### 13. Differentiate between contact and non-contact forces with suitable examples.

Ans. **Contact forces-** Some forces act on bodies only when they are in contact with another body. These are called contact forces. E.g. muscular force.

**Non-contact forces-** The forces that do not require a physical contact to act on an object and work from a distance, such forces are called non-contact forces. E.g. gravitational force.

### 14. Why do all objects have a tendency to fall towards the earth when thrown up?

Ans. The gravitational force of the earth is very strong. When an object is thrown up, this earth's gravitational force attracts the object towards it. Thus, it always falls back.

### 15. Differentiate between mass and weight of an object.

Ans.

MASS	WEIGHT
1. The amount of matter that an object contains is called its mass.	1. Gravitational force of the earth acting on this mass is called the weight of the object.
2. Mass of an object always remains the same.	2. The weight of an object varies with different gravitational forces.

### 16. How does friction depend upon the nature of the surfaces in contact?

Ans. Rough surfaces offer a greater friction as compared to smooth surfaces. Smooth surfaces such as glass offer less friction.

### 17. What are the disadvantages of friction?

Ans. Disadvantages of friction:

1. Friction produces heat which can damage the moving parts of a machine.
2. Friction produces wear and tear.
3. A lot of energy is wasted due to friction.

### 18. A force always moves a stationary object. Do you agree? Give reason.

Ans. I disagree, because if the object is heavy like a large rock and we apply our muscular force, the large and heavy rock will not move. Therefore, a force may not always move a stationary object.

19. **How does friction help us?**

**(OR) What are the advantages of friction?**

Ans. It helps us

1. in walking,
2. the car and buses to be able to move safely on roads,
3. to apply brakes,
4. to hold objects with our hands and also to write on paper,
5. to light a matchstick by rubbing it against the matchbox.

20. **Define:**

- a. **Frictional force:** A force that opposes motion when two surfaces are in contact is called frictional force.
- b. **Muscular force:** A force that is applied by the muscles of one's body is called muscular force.
- c. **Gravitational force:** A universal force of attraction that exists between any two objects that have mass.
- d. **Gravity:** The gravitational force exerted(applied) by the earth.
- e. **Electrostatic force:** The force applied by a charged body on another charged or uncharged body is known as electrostatic force.

21. **What are the ways of reducing friction?**

Ans. Some ways of reducing friction are

- a. Providing wheels or ball bearings
- b. Oiling or lubricating
- c. Polishing
- d. Streamlining