

1. Define the following:

- a) **Force:** It is a push or a pull acting on a body which tend to change its state of rest or of uniform motion.
- b) **Contact Forces:** Those forces in which two interacting objects are in physical contact with each other are called Contact Forces.
- c) **Non Contact Forces :** The forces which do not make a physical contact with the body and act through space are called Non contact forces
- d) **Muscular Force:** The force exerted by the muscles of our body is known as Muscular Force.
- e) **Friction :** The force that opposes the motion of an object is called Friction
- f) **Mechanical Force:** The Force produced by a Machine is called a Mechanical Force.
- g) **Magnetic Force :** The force exerted by a Magnet is called Magnetic Force
- h) **Electrostatic Force:** The force exerted by a charged body on another charged or uncharged body is known as electrostatic forces.
- i) **Gravitational Force:** Gravitation force is the force with which any two masses or objects pull each other.
- j) **Gravity:** Gravity is the force with which the earth attracts towards itself.
- k) **Pressure:** Pressure is defined as the force acting on a unit area of a surface.
- l) **Atmospheric Pressure:** The pressure exerted by the weight of the air on an object is called atmospheric pressure.

Q. 2. What are the effects of force?

Ans. A force can

- Make an object move
- Stop a moving body
- Change the direction of a body
- Increase or decrease the speed of a moving body
- Change the shape and size of a body

Q.3. What are the different types of Contact Forces?

A.3. a) The different types of contact forces are: Muscular Force, Friction, Mechanical Force.

Q.4. What are the different types of Non Contact Forces?

A.4. a) Magnetic Force b) Electrostatic Force c) Gravitational Force

Q.5. What is the S.I. unit of Force?

A.5. The S.I. unit of Force is Newton and is denoted by N.

Q.6. What is the S.I. unit of Pressure?

A.6. The S.I. unit of Pressure is Pascal and is denoted by Pa.

Q.7. State the significance of gravitational force in our life ?

A.7. The significance of gravitational force in our life are :

- i) It keeps us bound to the earth**
- ii) the weight of an object on the earth is the gravitational force of the earth acting on the object.**
- iii) the earth revolves around a sun and the moon revolves around the earth because of the gravitational force.**

Q.8. Why it is easier to walk on rough surface than on smooth surface?

A.8. It is easier to walk on rough surface because the friction is more than smooth surface.

HOMEWORK

Q.1. With the help of diagram show that liquids exert the same pressure in all directions at a given depth.

Q.2. With the help of diagram show that liquid pressure varies with depth

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Q.9. Fill in the Blanks:

- i) If the same force is act to made on a larger area, then the pressure will decrease
- ii) When two or more forces act in the same direction the resultant force is the sum of all forces applied.
- iii) To stop a moving body you apply force on it in a direction opposite to the direction of motion.
- iv) The pressure of liquid column varies with the depth of the column.
- v) Weight of an object is the gravitational force of the earth acting on the object.
- vi) The use of skis helps a person to slide smoothly over snow because the skis increases the area over which the weight of the person acts.
- vii) Construction workers use mechanical force when they carry blocks
- viii) The Standard unit of Pressure is Pascal .

Q. 10. State whether the following statements are True or False :

- a) A Push or a pull acting on a body is called Pressure --- False
- b) A charged body attracts another charged or uncharged body because of electrostatic force.--- True
- c) A ball rolling along the ground comes to rest because of gravitational force. ---- False.
- d) Non contact forces need no physical contact between two objects to be effective.—True
- e) Liquids exert pressure in one direction only.----True
- f) The atmospheric pressure of a place reduces at higher altitudes. --- True.

Q.11. Match the two columns:

Column A

Column B

- | | |
|-------------------------|--|
| a) Newton things | i) the force with which the earth attract |
| b) Connector | ii) the standard unit of Pressure |
| c) Gravity | iii) the force exerted by a Magnet |
| d) Atmospheric Pressure | iv) the standard unit of Force |
| e) Pascal | v) A piece of rope. |
| f) Magnetic Force | vi) The pressure exerted by the weight of the air. |

Ans. a) ---iv,

b)--- v)

c) --- i)

d) --- vi)

e)---ii)

f)--- iii

Q.12. Give one word:

- i) The forces in which two interacting objects are in physical contact with each other—Contact Forces**
- ii) The force that opposes the motion of an object.----- Friction**
- iii) The force produced by a Machine ---- Mechanical Force**
- iv) The forces which do not make a physical contact with the body act through space ----- Non Contact Force**
- v) The force exerted by a charged body on another charged or uncharged body --- electrostatic force.**
- vi) The pressure exerted by the weight of the air on an object – atmospheric pressure**

Q.13 Give reasons:

a) People often encounter problems like nose bleeding when they reach high altitudes

Ans.: This happens because the pressure exerted by the blood in their body becomes much higher than the pressure outside making the blood vessels burst.

b) Divers have to wear special suits before diving into a deep sea.

Ans. Deep Sea divers wear special suits to protect themselves from the increasing water pressure.

c) A feather floats on water

Ans. A feather floats on water because the weight of the feather is less than the upward force exerted by the water.

HOMEWORK:

Do : 1. Multiple Choice Question

2. Calculate the pressure if a Force of 23 N is applied over an area of 46 sq.m.

3. Calculate the area over which a force 72N is applied thereby exerting pressure of 9 Pa