Very short questions:

1. A force of 10 N is acting on a body in a certain direction. What is the magnitude of the force?
2. When an object continues to lie in its state of rest, what can you say about the forces acting on it?
3. What is the cause of change in state of motion of an object?
4. What is the net force acting on an object if force of 10 N and 20 N are applied on it in the same direction?
5. The Earth pulls all objects towards itself, this pull is called _____.
6. Give one example where muscular force comes into play.
7. What happens if two positively charged balloons are brought close to each other?

Short Answer Questions:

1. Why does a rubber sucker stick to a smooth surface?
2. Camels can walk easily in the desert. Give reason.
3. Give two examples of situations in which it is helpful to increase friction.
4. What makes a moving ball come to rest in a while, even if no force is applied on? it?
5. What is atmospheric pressure? What is it caused by?

Long Answer Questions:

1. What does a spring balance measure? How would you demonstrate the principle on which it works?
2. How is the pressure exerted by a liquid related to its depth? How would you demonstrate this?
3. If everything in this universe attracts everything else, why do we not get attracted by each other?
4. What do you mean by pressure? How can we increase the pressure by exerting same force?
5. We observe that the wheels of buses and trucks are larger and broader than the wheels of cars or scooters. Why?

Assertion & Reason Type

Directions: In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as:

(a) If both assertion and reason are true and reason is the correct explanation of assertion.

(b) If both assertion and reason are true but reason is not the correct explanation of assertion.

(c) If assertion is true but reason is false.

(d) If assertion is false but reason is true.

1. Assertion: Force is defined as a push or a pull acting on a body.

   Reason: CGS unit of force is newton.

2. Assertion: The weight of an object changes from place to place but not mass.

   Reason: The weight of the object is independent of the value of g.

3. Assertion: The force acting on a body can be replaced by the resultant force only as regards the motion of the body as a whole.

Reason: The resultant force can not replace the several forces acting on a body in other respects.

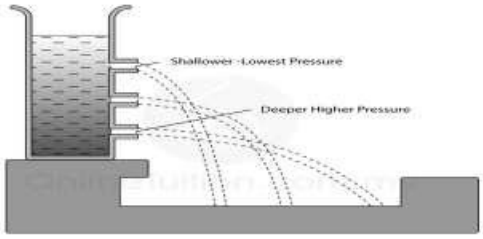
4. Assertion: The gravitational force makes the earth move around the sun and also makes the moon go around the earth.

   Reason: Every objects in the universe exert a force on other objects.

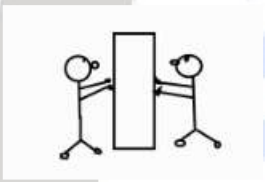
5. Assertion: When we bring a magnet close to a pin lying on a smooth table, the pin starts moving (sliding) towards the magnet.

   Reason: Magnetic force is a contact force.

Diagram Based Questions:



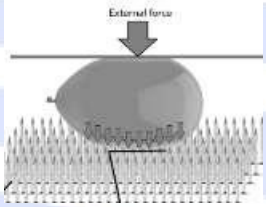
1. Which characteristic of liquid pressure is depicted in the adjacent picture?
2. Identify the type of forces given in the picture and give reason for your answer.
3. Which of the two will experience more pressure and why?
4. Will the balloon burst in the given case, if not then why?



(i)

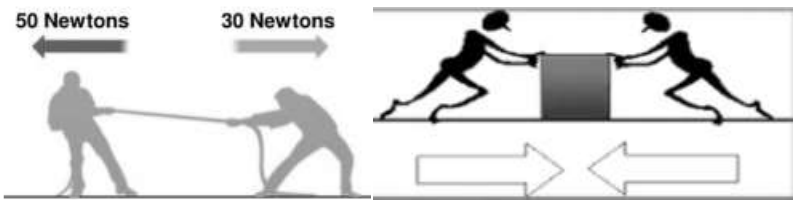
(ii)

(iii)



(iv)

5. Give Reason:
   (i) Sharp knife cuts well than a blunt knife.
   (ii) Transport trucks have pairs of wheels.
   (iii) A sharp edged nail can be hammered easily on the wall.
   (iv) Football players wear studs.
   (v) Military tanks have log chain.
6. Observe the given picture and give reason for your observation.



Case Base Questions

Case: Smita has a rectangular wooden block which has length, breadth and height of 50 cm, 25 cm and 10 cm respectively. The mass of the wooden block is 5 kg. Smita kept this wooden block on a table top in three different ways, turn by turn. Wooden block exerts some pressure on the table top. She calculate and observed the pressure exerted by the wooden block on the table top for different surface area of the block. She made her observations considering the effect of forces of the same magnitude on different areas is different.

1. Calculate the pressure exerted by the wooden block on the table top when the length and breadth of the wooden block from the base. (Take g = 9.8 m/s^2)

   (a) 140 N/m^2 (b) 392 N/m^2 (c) 980 N/m^2 (d) 1960 N/m^2

2. Calculate the pressure exerted by the wooden block on the table top when the length and height of the wooden block from the base.

   (a) 420 N/m^2 (b) 392 N/m^2 (c) 980 N/m^2 (d) 1960 N/m^2

3. Calculate the pressure exerted by the wooden block on the table top when the breadth and height of the wooden block from the base.

   (a) 392 N/m^2 (b) 980 N/m^2 (c) 1450 N/m^2 (d) 1960 N/m^2

4. Which one of the following is not a unit of pressure?

   (a) pascal (b) bar (c) newton (d) atm

ANSWERS

Assertion & Reason Type

1. (c) 2. (c) 3. (c) 4. (b)
5. (c)

Case Base Questions

1. (b) 2. (c) 3. (d) 4. (c)