

Chapter- 3

Force And Pressure

MCQ

1. What is force?
 - a. pull
 - b. push
 - c. push and pull both
 - d. none of these
2. What is state of motion?
 - a. position of rest
 - b. position of motion
 - c. both by the state of rest or motion
 - d. none of these
3. The strength of force is expressed by?
 - a. weight
 - b. mass
 - c. magnitude
 - d. longitudinal force
4. The force between two charged bodies is called
 - a. muscular force
 - b. gravitational force
 - c. magnetic force
 - d. electrostatic force
5. When two forces act in opposite directions, then net force acting two forces
 - a. sum of two factors
 - b. difference between two factors
 - c. both of these
 - d. none of these
6. Magnetic force is
 - a. contact force
 - b. non-contact force
 - c. both a and b
 - d. none of these
7. Force acts on an object may change
 - a. direction
 - b. shape
 - c. speed
 - d. all of above
8. Leaves or fruits fall on the ground due to
 - a. magnetic force
 - b. gravitational force

- c. electrostatic force
 - d. muscular force
9. In which of the following cases the net force is zero?
- a. kicking a football
 - b. shutting a door
 - c. pushing a wall
 - d. drawing a bucket of water from a well.
10. Straps of shoulder bags are made broad to
- a. increase the pressure on the shoulder
 - b. increase the friction on the shoulder.
 - c. decrease the pressure on the shoulder.
 - d. decrease the friction on the shoulder
11. Which of the following will exert less pressure on a surface?
- a. broad tyre
 - b. sharp knife
 - c. thin strap of a bag
 - d. pointed nail.
12. Which of the following is a contact force?
- a. friction
 - b. gravitational
 - c. magnetic force
 - d. electrostatic force
13. As soon as we open a tap, the water starts to fall on the ground because of
- a. muscular force
 - b. magnetic force
 - c. frictional force
 - d. gravitational force.
14. If the surface area is increased 2 times, then the pressure will be
- a. doubled
 - b. halved
 - c. four times
 - d. no change
15. When we press the bulb of a dropper with its nozzle kept in water, air in the dropper is seen to escape in the form of bubbles. Once we release the pressure on the bulb, water gets filled in the dropper. The rise of water in the dropper is due to
- (a) pressure of water.
 - (b) gravity of the earth.
 - (c) shape of rubber bulb.
 - (d) atmospheric pressure.
16. Pressure is inversely proportional to _____.
- a) force
 - b) thrust
 - c) surface area
 - d) time (c)

17. . When a potter makes pots of different size and shape from kneaded clay. This change in shape and size is due to _____.
- force
 - pressure
 - area
 - direction (a)
18. . A ball rolling along the ground, gradually slows and finally stops due to _____ force.
- muscular
 - frictional
 - gravitational
 - magnetic (b)
19. The pressure exerted by a stationary liquid kept in a container at any point inside the liquid is known as _____ pressure.
- atmospheric
 - hydrostatic
 - air
 - none (b)
20. As we climb up the mountain the atmospheric pressure _____. a)decreases
- increases
 - remains same
 - none (a)

Very Short Type Questions

- Give two examples each of situations in which you push or pull to change the state of motion of objects.
- Give two examples of situations in which applied force causes a change in the shape of an object.
- Fill in the blanks in the following statements.
 - To draw water from a well we have to _____ at the rope.
 - A charged body _____ an uncharged body towards it.
 - To move a loaded trolley we have to _____ it.
 - The north pole of a magnet _____ the north pole of another magnet.
- An archer stretches her bow while taking aim at the target. She then releases the arrow, which begins to move towards the target. Based on this information fill up the gaps in the following statements using the following terms: muscular, contact, non-contact, gravity, friction, shape, attraction
 - To stretch the bow, the archer applies a force that causes a change in its _____.
 - The force applied by the archer to stretch the bow is an example of _____ force.
 - The type of force responsible for a change in the state of motion of the arrow is an example of a _____ force.
 - While the arrow moves towards its target, the forces acting on it are due to _____ and that due to _____ of air.
- In the following situations identify the agent exerting the force and the object on which it acts. State the effect of the force in each case.
 - Squeezing a piece of lemon between the fingers to extract its juice.

- (b) Taking out paste from a toothpaste tube.
 - (c) A load suspended from a spring while its other end is on a hook fixed to a wall.
 - (d) An athlete making a high jump to clear the bar at a certain height.
6. A blacksmith hammers a hot piece of iron while making a tool. How does the force due to hammering affect the piece of iron?
 7. An inflated balloon was pressed against a wall after it has been rubbed with a piece of synthetic cloth. It was found that the balloon sticks to the wall. What force might be responsible for the attraction between the balloon and the wall?
 8. Name the forces acting on a plastic bucket containing water held above ground level in your hand. Discuss why the forces acting on the bucket do not bring a change in its state of motion.
 9. A rocket has been fired upwards to launch a satellite in its orbit. Name the two forces acting on the rocket immediately after leaving the launching pad.
 10. When we press the bulb of a dropper with its nozzle kept in water, air in the dropper is seen to escape in the form of bubbles. Once we release the pressure on the bulb, water gets filled in the dropper. The rise of water in the dropper is due to
 - (a) pressure of water.
 - (b) gravity of the earth.
 - (c) shape of rubber bulb.
 - (d) atmospheric pressure.

VST Question Bank

1 mark questions.....

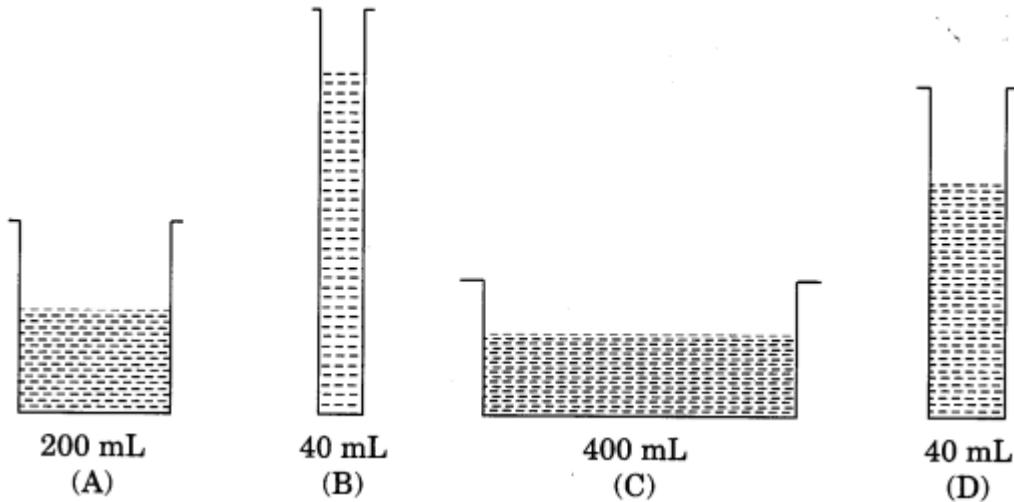
1. What is a force?
2. What is SI unit of force?
3. Give one example from everyday life where the force of push is applied and write its effect.
4. What is the relationship between Newton and Kilogram-force?
5. An object has a mass of 4 kg. What is its weight (in Newton's) on earth?
6. Define contact force.
7. Explain the term 'non-contact forces'.
8. What is an electrostatic force?
9. What is gravitational force?
10. Define atmospheric pressure.
11. What is a spring force?
12. Define pull force and write its effects.
13. What are the five effects of force?
14. Define muscular force.
15. Define frictional force.
16. Which device is used to measure the weight of a body?
17. Define the push force with its effect.
18. What is a force?
19. What is pressure?

20. Define the term 'gravity'.
21. What happens when two forces act in opposite directions on an object?
22. What is the similarity between electrostatic and magnetic forces?
23. What are the effects of force on an object?
24. While sieving grains, small pieces fall down. Which force pulls them down?
25. How can we change the speed and the direction of a moving body?
26. What is the distance moved by an object in unit time called?
27. Does the force of gravity act on dust particles?
28. Does the force of gravitation exist between two astronauts in space?
29. What is the SI unit of pressure?
30. At least how many objects are needed to apply a force?

2 mark questions.....

1. What is Force? And write its SI unit.
2. Differentiate between contact and non-contact force.
3. Give two examples of the followings:
 - (a) Gravitational force
 - (b) Muscular force
 - (c) Magnetic force
 - (d) Mechanical force
4. Name the force used in removing iron scrap from a heap of mixed scrap. A plastic comb when rubbed in dry hair can attract small pieces of paper. Name the force in each case and its nature.
5. What is resultant force? Write the condition for the resultant force to be zero.
6. Two forces 200N and 300N acting on a body in same direction. What is resultant force?
7. Define pressure. What is the SI unit of pressure?
8. The pressure of a nail was measured at 350Pa. What force is exerted by the nail if the surface area is 13cm²?
9. Why school bags are provided with wide straps?
10. Give two examples from everyday life which show that air exerts pressure.
11. Why do mountaineers usually suffer from nose-bleeding at high altitudes?
12. Give at least two examples of forces applied to do work in everyday life.
13. Give a formula to find pressure in terms of i) force ii) thrust.
14. Explain why:
 - (a) It is difficult to walk on sand.
 - (b) School bags have wide straps.
15. Name the two factors on which pressure in liquids depends.
16. Why do deep sea fishes die when they are brought to the surface?
17. Name the force used in removing iron scrap from a heap of mixed scrap. A plastic comb when rubbed in dry hair can attract small pieces of paper. Name the force and its nature.
18. Do liquids and gases exert pressure on the walls of the container, they are kept in? Does the figure below exhibit, an example of liquid pressure?
19. How does a person move forward during swimming?
20. Why is the moon's force of gravity less than that of the earth?

21. Why it is easier to walk on soft sand if we have flat shoes rather than shoes with sharp heels (or pencil heels)?
22. What is pressure? What is the relation of pressure with area on which it is applied?
23. We know that there is a huge amount of atmospheric pressure on us. But we do not experience its effect why?
24. Why do sea divers wear specially designed suits?
25. Two persons are applying forces on two opposite sides of a moving cart. The cart still moves with the same speed in the same direction. What do you infer about the magnitudes and direction of the forces applied?
26. An archer shoots an arrow in the air horizontally. However, after moving some distance, the arrow falls to the ground. Name the initial force that sets the arrow in motion. Explain why the arrow ultimately falls down
27. Two rods: A and B, having same weight and equal length have different thickness. Rod A is thinner while Rod B is thicker. They are held vertically on the surface of sand. Which one of them will sink more? Why?
28. It is difficult to cut cloth using a pair of scissors with blunt blades. Explain.



29. Volume of water in each vessel is shown above. Arrange them in order of decreasing pressure at the base of each vessel. Explain the reason.

3 mark questions.....

1. Write any three effects of force. Give an example of each.
2. Give at least three examples of your actions today that use forces.
3. What is balanced force? Give two examples of balanced force.
4. What is unbalanced force? Write changes it can bring in an object.
5. When a ball is dropped from a height, its speed increases gradually. Name the force which causes this change in speed. Define the force. Write its nature.
6. Categories the following actions into either push or pull or both: Opening the door, stretching the rubber band, drawing a bucket of water from the well, kicking the ball, throwing a stone, a football player taking a penalty corner
7. What is a rubber sucker? How does it work? State any one use of a rubber sucker.

8. What is the relation between pressure, force and area? A piece board that is 4.3m by 7.3m exerts a force of 230N when laid down on the grass what is the pressure of the board on the grass?
9. What is atmospheric pressure? What is it due to? Why does a barometer show a lower reading when taken to a mountain?
10. How does the pressure of a liquid depend on its depth? Draw a labeled diagram to show that the pressure of a liquid depends on its depth.
11. State at least four effects a force can produce?
12. Give an example each where :
 - (a) A force moves a stationary object
 - (b) A force stops a moving object
 - (c) A force changes the speed of a moving object
 - (d) A force changes the direction of a moving body
 - (e) A force changes the shape of a body
 - (f) A force changes the size of a body
13. Define with examples contact and non-contact force?
14. Write one word for the following:
 - (a) The force which acts in the direction opposite to the motion of any object.
 - (b) The force acting between two electrically charged bodies.
 - (c) The single force which acts on a body to produce the same effect as it done by all the forces collectively.
15. Explain:
 - (a) Which force act from distance and pull iron object?
 - (b) Which force attracts bits of paper when a comb rubbed with hair is brought near it?
16. Explain with an activity that liquids exert pressure.
17. What is atmosphere and what is atmospheric pressure.
18. Explain why:
 - (a) it is easier to drink with a straw from a bottle.
 - (b) we use a dropper to fill ink in a fountain pen.
19. Explain at least two consequences of atmospheric pressure.
20. Why is it easier to swim in sea than in river?
21. What do you mean by contact and non contact forces? Give two examples of each.
22. Give two examples of the following:
 - (a) Gravitational force
 - (b) Muscular force
 - (c) Magnetic force
 - (d) Mechanical force
23. On Lokesh's birthday Shreya was given charge to amuse children with some little tricks. Shreya stuck balloons to the wall by just rubbing them in her clothes. She bent the water stream from a tap without touching it. She did so by bringing big balloon near to the

flowing water. All children were very happy on seeing this little magic. Everybody praised Shreya.

- How do balloons stick to walls?
- How Shreya bent the water stream by bringing a big balloon near it and without touching it?
- What values of Shreya is shown here?

