

SCIENCE (PHYSICS)
WORKSHEET_140925
CHAPTER 08 FORCE AND PRESSURE

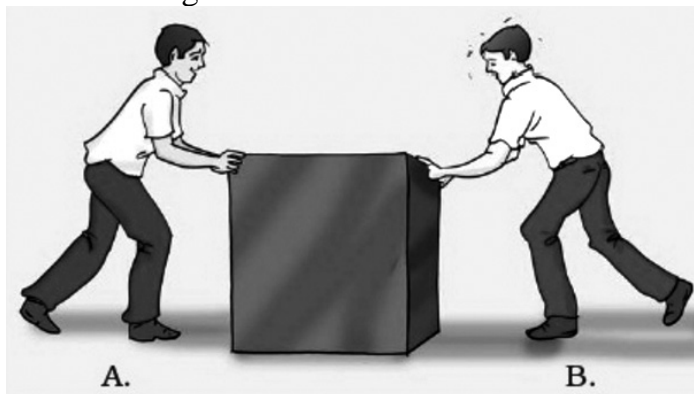
SUBJECT: SCIENCE
CLASS : VIII

MAX. MARKS : 40
DURATION : 1½ hr

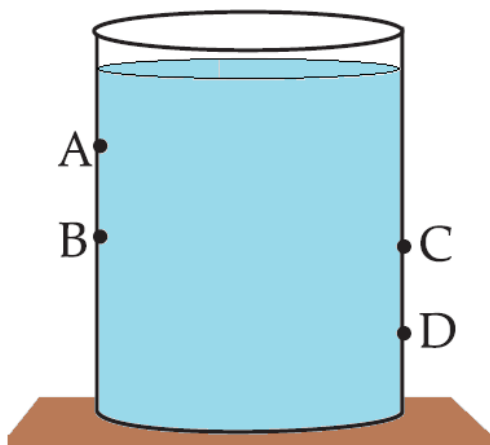
SECTION – A

Questions 1 to 6 carry 1 mark each.

1. In the Fig. two boys A and B are shown applying force on a block. If the block moves towards the right, which one of the following statements is correct?



- (a) Magnitude of force applied by A is greater than that of B.
(b) Magnitude of force applied by A is smaller than that of B.
(c) Net force on the block is towards A.
(d) Magnitude of force applied by A is equal to that of B.
2. A water tank has four taps fixed at points A, B, C, D as shown in Fig. The water will flow out at the same pressure from taps at :

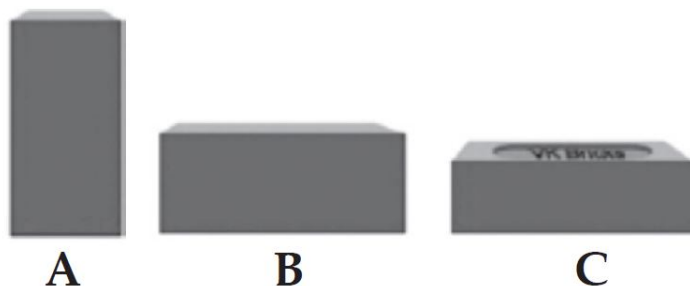


- (a) B and C (b) A and B (c) C and D (d) A and C
3. When we press the bulb of a dropper with its nozzle kept in water, air in the dropper is seen to escape in the form of bubbles. Once we release the pressure on the bulb, water gets filled in the dropper. The rise of water in the dropper is due to :
- (a) pressure of water (b) gravity of earth
(c) shape of rubber bulb (d) atmospheric pressure
4. In the circuit shown in figure, when the circuit is completed, the hammer strikes the gong. Which of the following forces is responsible for the movement of hammer?



- (a) gravitational force alone
(b) electrostatic force alone
(c) magnetic force alone
(d) frictional force alone

5. A brick is kept in three different ways on a table as shown in Fig. The pressure exerted by the brick on the table will be :



- (a) maximum in position A
(b) maximum in position B
(c) maximum in position C
(d) equal in all cases.

6. In the below question, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as
Assertion (A): In the game of tug of war; sometimes the rope doesn't seem to move to any side even if strong forces are applied from both sides.
Reason (R): Equal force applied from opposite sides on any object makes the net applied force zero.
(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A)
(c) Assertion (A) is true but reason (R) is false.
(d) Assertion (A) is false but reason (R) is true.

SECTION – B

Questions 7 to 9 carry 2 marks each.

7. What do you mean by gravitational force?
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. What is atmospheric pressure?

SECTION – C

Questions 10 to 13 carry 3 marks each.

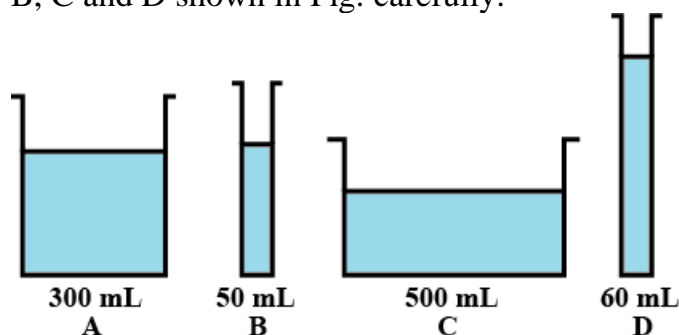
10. A man is pushing a cart down a slope. Suddenly the cart starts moving faster and he wants to slow it down. What should he do ?

11. What happens when (i) Two forces are exerted in same direction? (ii) Two forces are exerted in opposite directions?
12. If the area of your head is $15\text{ cm} \times 15\text{ cm}$, how much force air will exert on your head?
13. How can a force change the states of motion?

SECTION – D

Questions 14 to 16 carry 4 marks each.

14. What are the two factors on which effect of force depends?
15. 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.
- (a) 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.
16. Observe the vessels A, B, C and D shown in Fig. carefully.



Volume of water taken in each vessel is as shown. Arrange them in the order of decreasing pressure at the base of each vessel. Explain.

SECTION – E (Case Study Based Question)

Question 17 carry 4 mark

17. The Push and Pull Adventure

Rahul and Priya were helping their father rearrange the furniture in their living room. As they pushed the heavy sofa across the floor, they noticed it was much harder to move than the lighter chairs. Their father explained that they were applying a force to move the objects, and how the size and direction of the force affect movement.

Rahul tried to push the sofa alone but found it difficult, while Priya suggested they both push it together. They noticed that when they applied force in the same direction, the sofa moved more easily. Their father also showed them how pulling a table instead of pushing it made it easier to move over the carpet.



Later, their curiosity grew, and they asked their father how these forces worked and why the objects moved differently depending on the surface and the way they pushed or pulled them.

(i) Rahul and Priya found it easier to move the sofa when both of them applied force together in the same direction. Explain why. (2)

(ii) What are states of motion? (2)

OR

(ii) What is muscular force? Why is it called contact force? (2)

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