11 Force

Multiple Choice Questions

1.

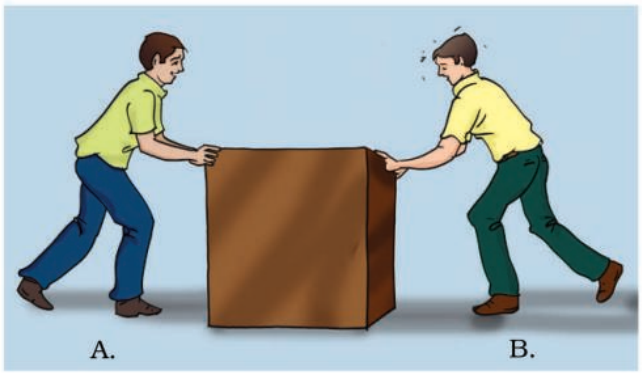


Fig. 11.1

In Fig 11.1, 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.



Fig. 11.2

In the circuit shown in Fig.11.2, when the circuit is completed, the hammer strikes the gong. Which of the following force is responsible for the movement of hammer?

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

3. During dry weather, while combing hair, sometimes we experience hair flying apart. The force responsible for this is

(a) force of gravity.
(b) electrostatic force.
(c) force of friction.
(d) magnetic force.

4. Fig.11.3 shows a container filled with water. Which of the following statements is correct about pressure of water?

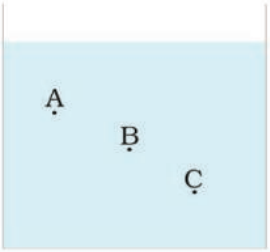


Fig.11.3

(a) Pressure at A> Pressure at B> Pressure at C
(b) Pressure at A=Pressure at B=Pressure at C
(c) Pressure at A< Pressure at B>Pressure at C
(d) Pressure at A< Pressure at B<Pressure at C

5. Two objects repel each other. This repulsion could be due to

(a) frictional force only
(b) electrostatic force only
(c) magnetic force only
(d) either a magnetic or an electrostatic force

6. Which one of the following forces is a contact force?

(a) force of gravity
(b) force of friction
(c) magnetic force
(d) electrostatic force

7.

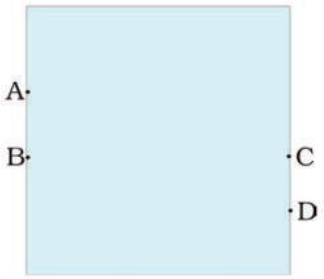


Fig. 11.4

A water tank has four taps fixed at points A, B, C, D as shown in Fig. 11.4. 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

8.



A B C

A brick is kept in three different ways on a table as shown in Fig. 11.5. 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.

VERY SHORT ANSWER QUESTIONS

9. A ball of dough is rolled into a flat chapatti. Name the force exerted to change the shape of the dough.

10. Where do we apply a force while walking?

11. A girl is pushing a box towards east direction. In which direction should her friend push the box so that it moves faster in the same direction?

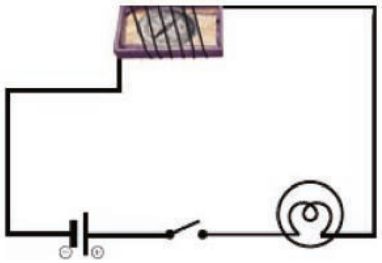
12. 

Fig. 11.6

In the circuit shown in Fig.11.6, when the key is closed, the compass needle placed in the match box deflects. Name the force which causes this deflection.

13. During dry weather, clothes made of synthetic fibre often stick to the skin. Which type of force is responsible for this phenomenon?

14. While sieving grains, small pieces fall down. Which force pulls them down?

15. Does force of gravity act on dust particles?

16. A gas filled balloon moves up. Is the upward force acting on it larger or smaller than the force of gravity?

17. Does the force of gravitation exist between two astronauts in space?

SHORT ANSWER QUESTIONS

18. A chapati maker is a machine which converts balls of dough into chapati's. What effect of force comes into play in this process?

19.



Fig. 11.7

Fig.11.7 shows a man with a parachute. Name the force which is responsible for his downward motion. Will he come down with the same speed without the parachute?

20. 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.

21. Two thermocol balls held close to each other move away from each other. When they are released, name the force which might be responsible for this phenomenon. Explain.

22. Fruits detached from a tree fall down due to force of gravity. We know that a force arises due to interaction between two objects. Name the objects interacting in this case.

23. 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?

24.



Fig. 11.8

Fig. 11.8 shows a car sticking to an electromagnet. Name the forces acting on the car? Which one of them is larger?

LONG ANSWER QUESTIONS

25. 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.

26. It is difficult to cut cloth using a pair of scissors with blunt blades. Explain.

27. Two rods of the same weight and equal length have different thickness. They are held vertically on the surface of sand as shown in Fig.11.9. Which one of them will sink move? Why?

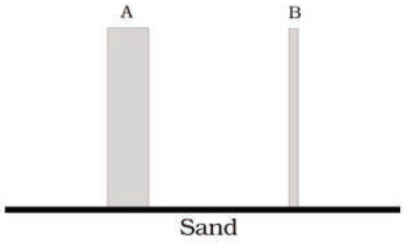


Fig. 11.9

28. Two women are of the same weight. One wears sandals with pointed heels while the other wears sandals with flat soles. Which one would feel more comfortable while walking on a sandy beach? Give reasons for your answer.

29. It is much easier to burst an inflated balloon with a needle than by a finger. Explain.

30. Observe the vessels A, B, C and D shown in Fig.11.10 carefully.

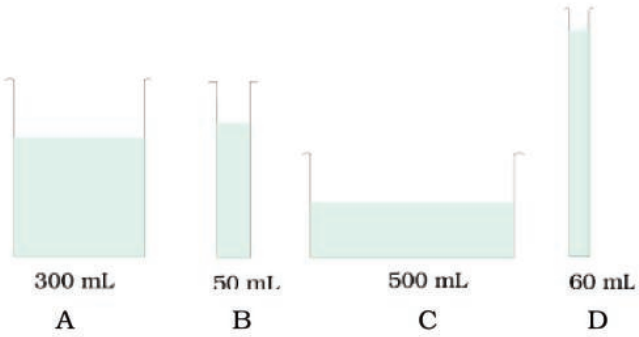


Fig. 11.10

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.