

## FORCE AND PRESSURE

1. Why do deep sea divers have to wear specially designed steel suits before going for diving at oceans and seas?
2. Heavy loaded vehicles have double tyres in the rear end. Why?
3. Why do fountain pens leak when we go at higher altitudes like Himalayas?
4. Will a person experience more force when he is standing, sitting or lying on the ground? Explain.
5. Why is it easier to hammer a sharp nail into a wall rather than a blunt one?
6. Why do paper pieces stick to the comb when it is rubbed against hairs?
7. Mention the type of force acting in the following cases:
  - (a) Sticking of balloons to the walls
  - (b) Lifting of luggage
  - (c) To collect scrap iron from garbage
  - (d) Stopping of goal by a goalkeeper
  - (e) Falling of an apple on a ground
  - (f) Throwing of a football
  - (g) To push or pull a loaded trolley at any supermarket
8. A cow weighing 4000 Newton stands on one foot of area  $100\text{cm}^2$ . Calculate the pressure exerted on the ground.
9. How much force should be applied on a  $500\text{cm}^2$  area using pressure of 45 Pascal?
10. A brick of size  $40\text{cm} \times 25\text{cm} \times 10\text{cm}$  is placed on the ground. When force of 80 Kg is applied on it. Calculate the maximum and minimum pressure acting the brick.
11. Define force. What is its SI unit?
12. Give relation between Newton and Kg force.
13. Define pressure and what its SI unit is.

14. Give reason:

(a) Why bottle gets crushed when all the air inside it is removed and vacuum condition is created?

(b) Why dams and buildings have wider base?

(c) Why we need pointed needles in syringes?

(d) Why is it easier to hold bags with broader straps much easier when compared to thin straps?

15. What are the various effects of force?

16. Differentiate between contact and non-contact force with example.

17. Name the device used to measure liquid and atmospheric pressure respectively.

18. Name the principle behind working of atmospheric and liquid pressure respectively.