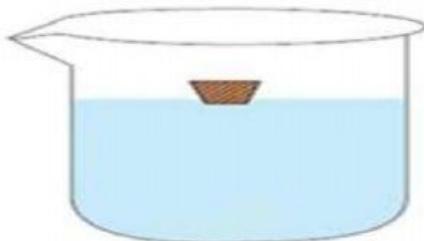


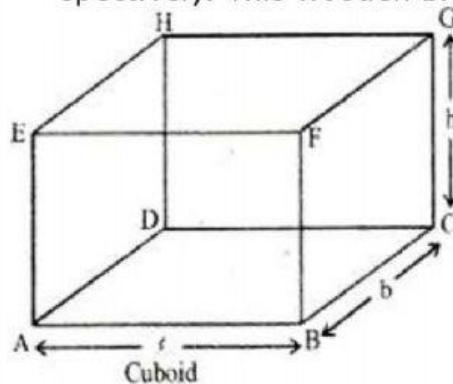
Gravitation:

1. The mass of moon is about 0.012 times that of the earth and its diameter is about 0.25 times that of earth. The value of G on the moon will be:
- (a) Same as that on the earth (b) About one-fifth of that on the earth
(c) About one-sixth of that on the earth (d) About one-fourth of that on the earth
2. An apple falls from a tree because of the gravitational attraction between the earth and the apple. If F_1 is the magnitude of the force exerted by the earth on the apple and F_2 is the magnitude of the force exerted by the apple on the earth, then
- (a) F_1 is very much greater than F_2 (b) F_2 is very much greater than F_1
(c) F_1 and F_2 are equal (d) F_1 is only a little greater than F_2
3. The earth and the moon are attracted to each other by gravitational force. The earth attracts the moon with a force that is:
- (a) More than that exerted by the moon (b) Same as that exerted by the moon
(c) Less than that exerted by the moon (d) Not related to that exerted by the moon
4. A stone is released from the top of a tower of height 19.6 m. Then its final velocity just before touching the ground will be: (Take $g = 9.8 \text{ m/s}^2$)
- (a) 384.16 m/s (b) 196 m/s (c) 19.6 m/s (d) 3841.4 m/s
5. When a piece of cork is put into the water it starts floating on the surface of water due to the upward buoyant force from water.



If the cork is pushed more inside the water by applying the force than the buoyant force:

- (a) Will increase as the cork is immersed into the water
(b) Will decrease as the cork is immersed into the water
(c) Will first increase and then decrease as the cork is immersed more into the water
(d) Will remain the same as long as the cork is inside the water
6. A rectangular wooden block has the length, breadth and height of 40 cm, 35 cm and 10 cm, respectively. This wooden block is kept on ground in three different ways, turn by turn.



Which of the following is the correct statement about the pressure exerted by this block on the ground?

- (a) The maximum pressure is exerted when the length and breadth form the base
(b) The maximum pressure is exerted when the length and height form the base
(c) The maximum pressure is exerted when the breadth and height form the base
(d) The maximum pressure is exerted when the length and height form the base
7. Two particles are placed at some distance. If the mass of each of the two particles is doubled, keeping the distance between them unchanged, the value of gravitational force between them will be:
- (a) 1/4 times (b) 4 times (c) 1/2 times (d) Unchanged