



Physics

Worksheet 3 : 21/07/2020

Class - IX

CHAPTER 5 : STATE OF MATTER AND PRESSURE

Instructions:

- ✓ Read the chapter in your book - quickly and thoroughly, preferably more than once.
- ✓ Watch the uploaded video classes of this chapter from school's website/You Tube channel. For becoming more clear about the basics, watch more than once, if needed.
- ✓ Contact me in case of any difficulty in understanding.

(Questions given in this worksheet are important questions for all exams)

Cognitive Questions (Mark - 1)

.1 What is buoyancy?

Ans.: Buoyancy is an upward force exerted by a fluid that opposes the weight of an immersed object.

2. What is pressure?

Ans.: The force exerted perpendicularly on an unit area of a body is known as pressure.

3. State Archimedes's law.

Ans.: "If a body is immersed in a liquid, the weight of the body is reduced by an amount equal to the displaced liquid."

4. What is density?

Ans.: The mass per unit volume of a substance is called density.

5. What is pascal?

Ans.: If 1N force is applied perpendicularly to an area of 1m^2 then the pressure is called pascal.

Analytical Questions (Marks - 2)**1. Write down the condition of floatation and immersion of a body.**

Ans.: The conditions of floatation and immersion of an object are -

- i) If $W_1 > W_2$, or if the weight of the body is greater than the weight of the displaced liquid by the body, then the body will sink in the liquid.
- ii) If $W_1 = W_2$ or if the weight of the body is equal to the weight of the displaced liquid by the body, then the body floats being fully immersed in the liquid.
- iii) If $W_1 < W_2$ or if the weight of the body is less than the weight of the displaced liquid by the body, then the body doesn't sink. It floats being partly immersed in liquid.

2. Which one is more difficult - when you walk by bare foot on plain brick road or brickbat road? Explain.

Ans.: In a brickbat road, the edge of the brickbat is sharp. So while walking barefooted on this, force is applied on a small area. On the other hand, in plain brick road, same force is applied on a large area. In this time, the pressure is small. So while walking on brickbat road, pain is felt because of the high pressure. For this reason, walking on brickbat road becomes difficult.

3. Why is a heavy weight easy to lift in water? Explain.

Ans.: In water an upward force or buoyancy acts on any heavy object. For this reason a heavy object appears lighter when immersed in water and it becomes easy to lift it.