KALPAVRUKSHA MODEL SCHOOL

Answers of Online class Assignments-1

Class: VIII   **Sub: Physics**   **Date: 28.8.2021**

Topic: PRESSURE

I .Answer the following questions:

1. **What is the SI unit of pressure?**
    ANS: The SI unit of pressure is Pascal (Pa)

2. **Name two quantities that define pressure?**
    ANS: Force and Area are two quantities that define pressure.

3. **Define pressure.**
    ANS: pressure is the force acting on a unit area of the object.

4. **Give examples from everyday life which show that air exerts pressure.**
 ANS: Applications of pressure
 a. While cutting an apple, we need to use the sharp edge of the knife. Using the blunt edge of a knife shall not serve the purpose. The blunt edge of the knife has larger surface area than the sharp edge. Due to smaller surface area; more pressure can be applied through the sharp edge of the knife and something can be easily cut.
 b. While putting a nail into a wooden board, the pointed end of the nail is kept at the front. The pointed end of the nail has very small surface area and this enables us to apply a greater pressure with the applied force.

5. **Calculate the pressure when a force of 200 N is exerted on an area of (a) 10 m^2 and (b) 5 m^2**
   ANS: (a) A force of 200N is applied over an area of 10m^2
          Force=200N, Area=10m^2
          Pressure = Force/Area =200/10
                        =20 Pa.

Prepared By: POORNIMA S   Verified By: Aruna B. M (Science HOD)

(b) A force of 200N is applied over an area of 5m^2

Force=200N, Area=5m^2

Pressure = Force/Area =200/5

=40 Pa.

6. A force of 25N acts on an area of 25cm^2. Calculate the pressure produced.

ANS: A force of 25N is applied over an area of 25cm^2.

To get the pressure in Pa,we have to make sure that the force is in Newton and the area in m^2 here the area is in cm^2 to convert this into m^2 we have to divide the given area by 10,000.(because 1m=100cm)

mxm=100x100=10000

Force = 25N

Area = 25cm^2= (25/10000) m^2

Pressure = Force/Area = 25/25 ×10^4= 10^{4}Pa

7. A force of 75N acts on an area of 75cm^2. Calculate the pressure produced.

ANS: A force of 75N is applied over an area of 75cm^2.

To get the pressure in Pa,we have to make sure that the force is in Newton and the area in m^2 here the area is in cm^2 to convert this into m^2 we have to divide the given area by 10,000.(because 1m=100cm)

mxm=100x100=10000

Force = 75N

Area = 75cm^2= (75/10000) m^2

Pressure = Force/Area = 75/75 ×10^4= 10^{4}Pa