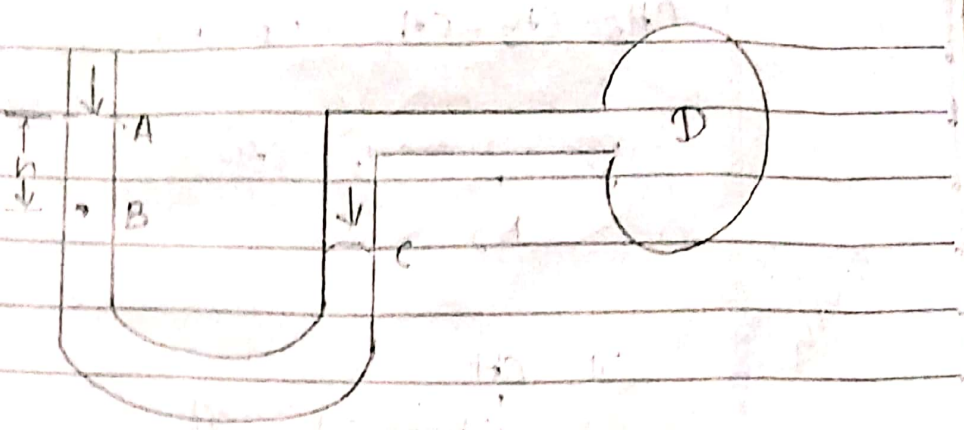
H.W

* Open tube manometer :-



• Pressure at point A is atmospheric pressure P_0

∴ We know that pressure at point B is

$$P_B = P_0 + h\rho g. \quad — (1)$$

We want to find pressure at point C.

In container we consider point B in open arm as point C. Thus pressure at point B & C is same

i.e $P_B = P_C$ —— (2)

From (1)

$P_B = P_0 + h\rho g$

$\therefore P_C = P_0 + h\rho g$ —— from (2) —— (3)

Here,

ρ is density

h is height of liquid column

g is acceleration due to gravity.

∴ According to pascals principle,

Pressure at point C is equal to or same as D.

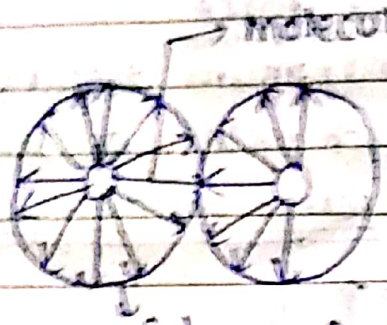
$\therefore P_D = P_C$ —— (4)

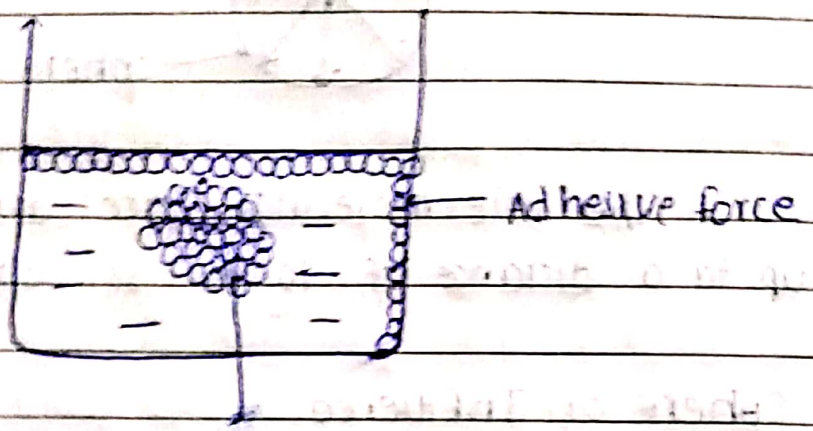
$\therefore P_D = P_0 + h\rho g$ —— from (3) & (4).

Therefore P is pressure in container is

$P = P_0 + h\rho g.$ —— from (1) (2) (3) & (4).

H.W





* The forces between the molecules is called intermolecular force.

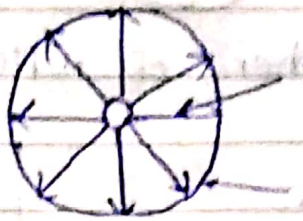
Cohesive force | Adhesive force

* Cohesive force :- The force of attraction between the molecules of same substance is called cohesive force.

* Adhesive force :- The force of attraction between the molecules of different substances is called adhesive force.

* **Range of molecular force :**

The maximum distance from a molecule up to which molecular force is effective is called range of molecular force.

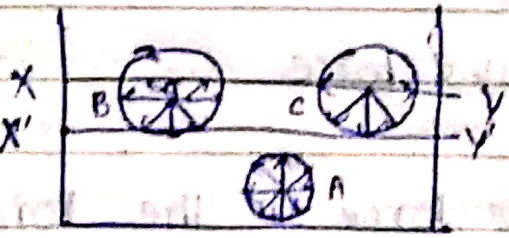


The intermolecular forces are effective up to a distance of 10^{-9}m in solids & liquids

* **Sphere of Influence**

An imaginary sphere with a molecule at its centre & radius equal to molecular range is called sphere of influence

* **Surface film :-**



The surface layer of a ~~rang~~ liquid w the tickness equal to range of intermolecular force is called surface film.