Class – XI

Chemistry

States of matter

1) State Boyle's law.

At constant temperature, the pressure of a fixed amount of gas varies inversely with its volume. This is Boyle's law.

It can be written as,

$P=K/V$, where K is a constant.

2) State Charle's law.

At constant pressure, the volume of a fixed amount of a gas is directly proportional to it's absolute temperature.

It can be written as,

$V=KT$, where K=constant.

3) State Gay Lussac's law.

At constant volume, pressure of a fixed amount of a gas varies directly with the temperature.

It can be written as,

$P=KT$, where K=constant.

4) State Avogadro's law.

It states that equal volume of all gases under the same condition of temperature and pressure contain equal number of molecule.

It can be written as,

$V=Kn$, where n= no of molecules

K= constant

5) Write Ideal gas equation.

$PV=nRT$ where, P= pressure of gas

V= volume of gas

n= no of molecules of gas

R= universal gas constant

T= absolute temperature.

6) Write real gas equation.

$(P+an^2/V^{2)} (V-nb) =nRT$, where a, b= van der waal parameter.

7) Define viscosity.

Viscosity is a measure of resistance to deformation at a given rate.

8) Define surface tension.

Surface tension can be defined as the property of surface of a liquid that allows it to resist an external force due to the cohesive nature of the water molecule.

9) Explain the physical significance of van der Waals parameter.

Significance of 'a':- 'a' is a measure of the magnitude of intermolecular attractive forces within the gas.

Significance of 'b':- 'b' is a measure of