Physisorption	Chemisorption
1. It arises due to Van der Waal's forces.	1. It is caused by chemical bond formation.
2. It is not specific in nature.	2. It is highly specific in nature.
3. It is reversible in nature.	3. It is irreversible.
4. It depends on the nature of gas.	4. It also depends on the nature of gas.
5. Enthalpy of adsorption is low	5. Enthalpy of adsorption is high.
6. No activation energy is needed.	6. High activation energy is sometimes needed.
7. Low temperature is favourable for adsorption.	7. High temperature is favourable for adsorption.

Adsorption Isotherms :-

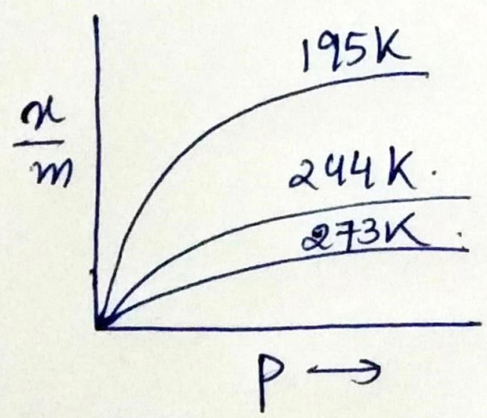
The variation in the amount of gas adsorbed by the adsorbent with pressure at constant temperature can be expressed by means of a curve termed as adsorption isotherm.

* Freundlich adsorption isotherm :-

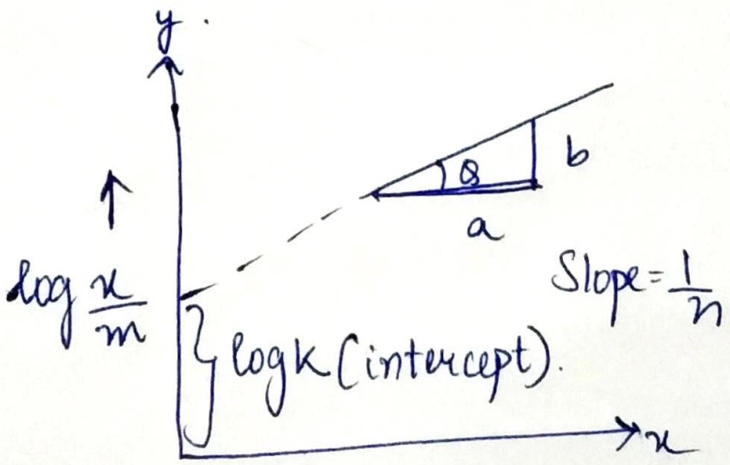
$$\boxed{\frac{x}{m} = k \cdot p^{1/n} \quad (n>1)}$$

$$\log \frac{x}{m} = \log k + \frac{1}{n} \log p$$

x = mass of gas.
m = mass of adsorbent.
P = pressure, k, n = constants.



Adsorption Isotherm



Freundlich isotherm