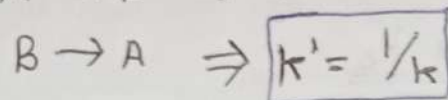
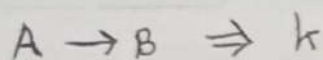


Characteristics of Equilibrium constant

- * equilibrium constant for a particular reaction is always constant
- * depending only upon the temperature of the reaction and independent of the concentration of the reactants and products.

- * If the reaction (having k_{eq}) is reversed then



- * If the reaction (having k_{eq}) is divided by 2, then

$$k' = \sqrt{k}$$

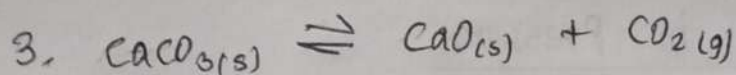
- * If the reaction (having k_{eq}) is multiplied by 2 then,

$$k' = k^2$$

- * If the reaction (having k_{eq}) is written in two steps (having k_1 & k_2) then

$$k' = k_1 \times k_2$$

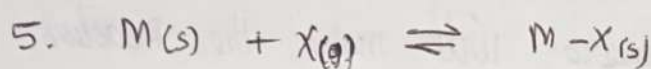
- * The value of the equilibrium constant is not affected by the addition of a catalyst to the Reaction



Most of dissociation reaction are favoured at low pressure because dissociation normally results change in volume of system.



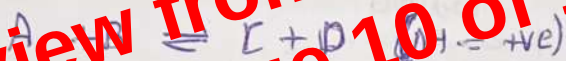
Solubility of any gas in any liquid is favoured at high pressure.



The extent of adsorption of any gas over any solid surface increases on the pressure.

Effect of Change in Pressure, Temperature

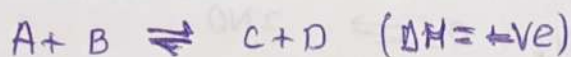
(i) Endothermic Process



$T \uparrow \Rightarrow$ The Rxn will proceed in forward direction

$T \downarrow \Rightarrow$ Rxn move backward direction

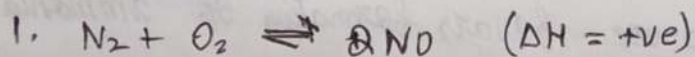
(ii) exothermic Process



$T \downarrow \Rightarrow$ forward Rxn

$T \uparrow \Rightarrow$ backward Rxn

Application



For higher yield of NO, temperature should be high.