

D. B. college (Jaynagar) Lect-6  
chemistry department B.Sc - I (Hon)  
Akshay Kumar Singh

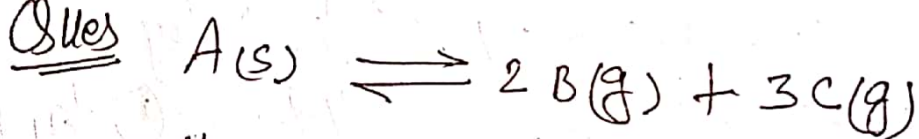
## chemical equilibrium

5. Change in  $\text{Conc}^n$  :- Change in  $\text{Conc}^n$  of reactant or product does not affect  $\text{eqm}^n$  Const.
6. Addition of inert gas :- It does not affect  $\text{eqm}^n$  Const.

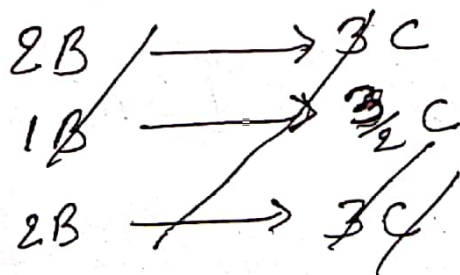
$\text{Eqm}^n$  changes when Temp., P, V,  $\text{Conc}^n$ . & addition of inert gas affect.

But  $\text{eqm}^n$  Const. affect when Temp. changes.

Ques



If  $\text{Conc}^n$  of B is doubled at  $\text{eqm}^n$  then find  $\text{Conc}^n$  of C at  $\text{eqm}^n$



$$K = [B]^2 [C]^3$$

$$K = [2B]^2 [C']^3$$

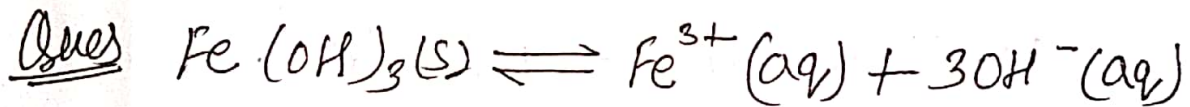
$$[B]^2 [C]^3 = [2B]^2 [C']^3$$

$$\frac{[B]^2}{[2B]^2} = \frac{[C']^3}{[C]^3}$$

$$\frac{1}{4} = \frac{[C']^3}{[C]^3}$$

$$\frac{[C]^3}{4} = [C']^3$$

$$C' = \frac{C}{4^{1/3}}$$



If: Conc<sup>n</sup> of  $OH^{-}$  is ↓ sed to  $\frac{1}{4}$  times at eq<sup>m</sup>  
then find Conc<sup>n</sup> of  $Fe^{3+}$  is ↑ by

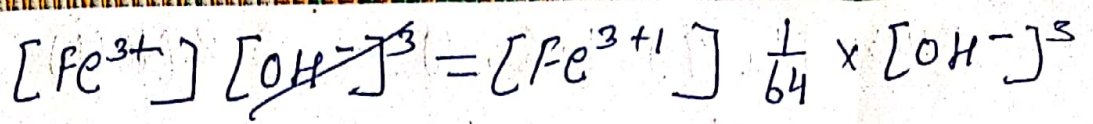
- ① 64 times ② 8 times ③ 4 times ④  $\frac{1}{64}$  times

$$K = [Fe^{3+}] [OH^{-}]^3$$

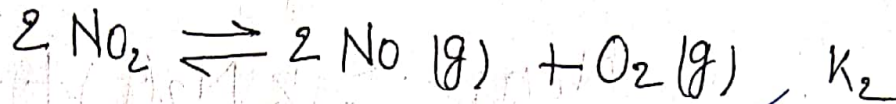
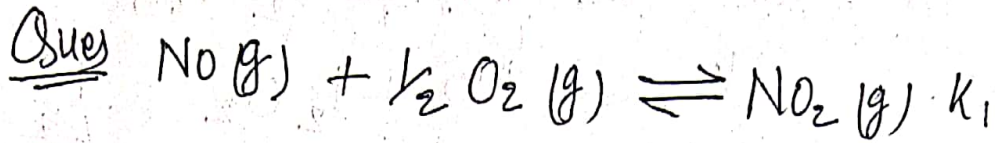
$$K = [Fe^{3+}] [\frac{1}{4} OH^{-}]^3$$

$$[Fe^{3+}] [OH^{-}]^3 = [Fe^{3+}] [\frac{1}{4} OH^{-}]^3$$

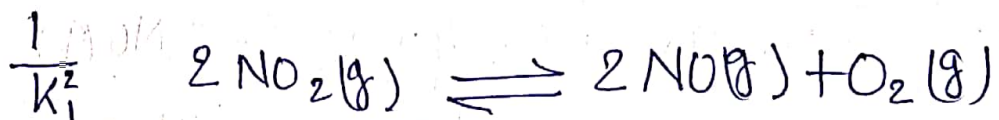
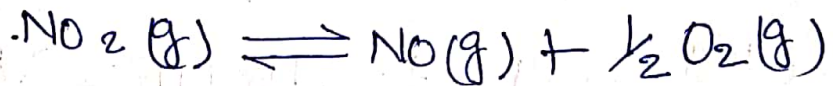
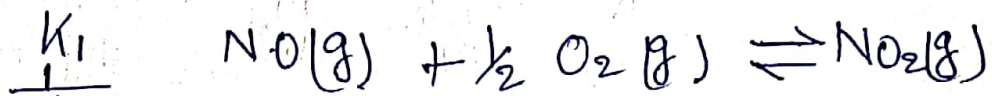




$$[Fe^{3+}] = 64 [Fe^{3+}]$$

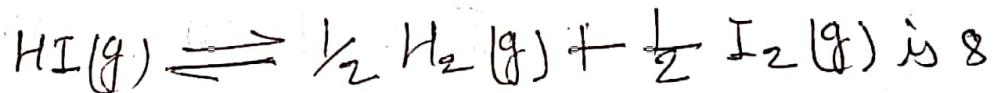


then ①  $K_2 = K_1^2$  ②  $K_2 = K_1^2$  ③  $K_2 = \frac{1}{K_1^2}$  ④  $K_2 = \frac{1}{K_1^2}$

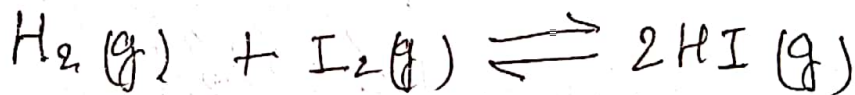


$$K_2 = \frac{1}{K_1^2}$$

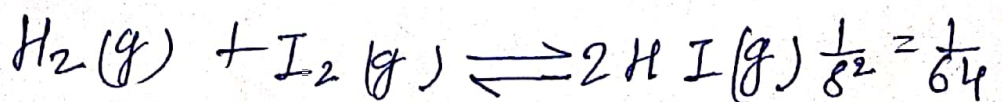
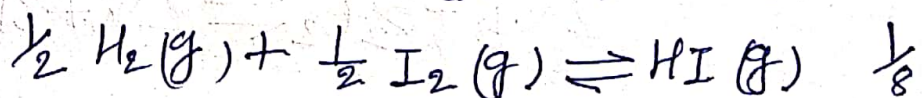
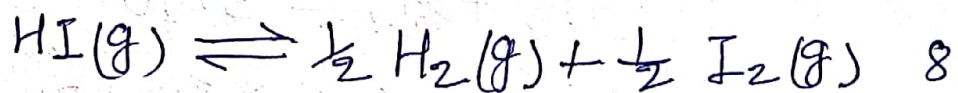
(1) Ques If eqm const for the react

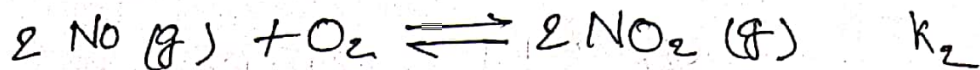
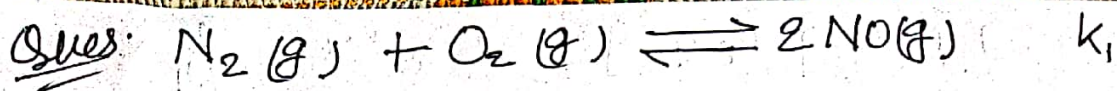


then find eqm const for the react

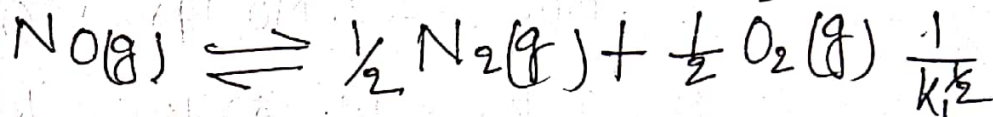
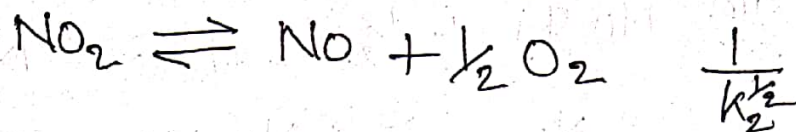


① 64    ② 16    ③  $\frac{1}{16}$     ④  $\frac{1}{64}$

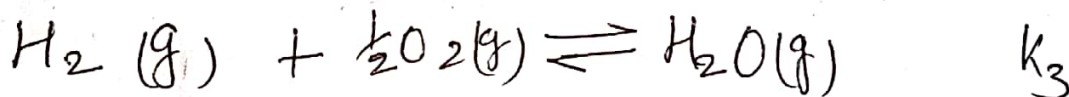
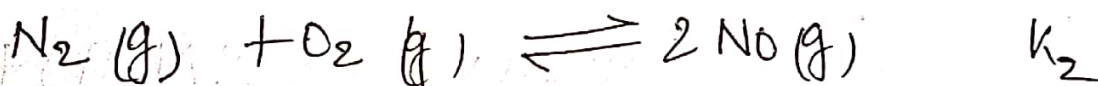
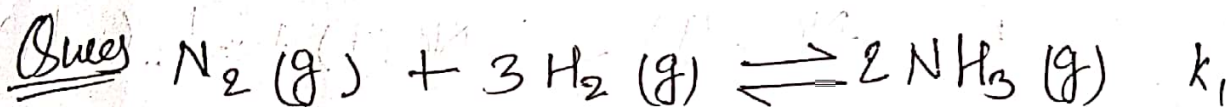




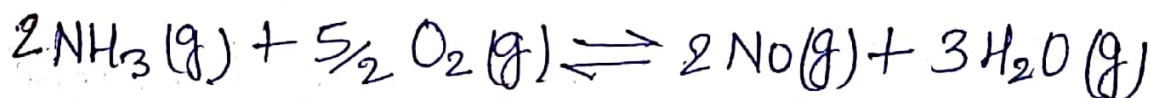
then find  $K$  for  $NO_2 \rightleftharpoons \frac{1}{2}N_2(g) + O_2(g)$



$$K = \frac{1}{K_1^{1/2}} \cdot \frac{1}{K_2^{1/2}}$$



Find  $K$  for reaction



$-① + ② + 3③$

$$K = \frac{1}{K_1} \cdot K_2 \cdot K_3$$

