



CHEMISTRY

CH: 7 EQUILIBRIUM

Class: XI

- State the following
 - Law of chemical equilibrium.
 - Le Chatelier's principle
- Define the following
 - Equilibrium constant
 - Catalyst
 - Conjugate acid base pair
 - Ionic product of water
 - Common ion effect
 - Buffer solutions
 - Solubility product.
- Explain common ion effect with an example.
- Explain the factors affecting acid strength.
- How is K_a and K_b related to each other?
- Write the relation between degree of dissociation of acid/base with their ionization constant.
- Pure sodium chloride is crystallized from crude sample by passing HCl. Explain why
- To precipitate group 2 radicals H_2S is passed only after acidifying solution. Why?
- Explain the difference in nature of aqueous solutions of ammonium chloride and sodium carbonate..
- What is reaction quotient? How does it help in predicting the direction of reaction?
- $PCl_5(g) \rightarrow PCl_3(g) + Cl_2(g)$
 - Write the expression for K_p of the above reaction.
 - How will be the value of K_p for the above reaction affected ?
 - If pressure is increased
 - If chlorine is continuously removed.



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12. What is the effect of temperature on ionic product of water?
13. Why pure liquids and solids can be ignored while writing the equilibrium constant?
14. In group separation during cation analysis, explain why ammonium chloride is added to the aqueous salt solution of the salt before adding ammonium hydroxide?
15. The equilibrium constant expression for a reaction is given by

$$K_c = \frac{[\text{NO}]^4 [\text{H}_2\text{O}]^6}{[\text{NH}_3]^4 [\text{O}_2]^5}$$

Write the balanced chemical equation for the reaction .