Chemistry - 11th Class Chemistry Short Questions Chapter 8 Preparation

Q1. The change of temperature disturbs both the equilibrium position and equilibrium constant of a reaction.Explain with reason?

Ans 1: According to Le-Chatelier's principle an increase in temperature will favour the endothermic reaction and decrease in temperature will favour the exothermic reaction.Therefore change of temperature will disturb equilibrium position.The Equilibrium constant is temperature dependent therefore with the change of temperature a new equilibrium a position will be established.

Q2. What are application of buffer in daily life?

Ans 1: Buffers are important in many areas of chemistry and allied science like molecular biology, microbiology, cell biology, soil science, nutrition and the clinical analysis.

Q3. Why we need buffer solution?

Ans 1: Buffers are the substances which resist the change in pH.Buffers are very important in many areas of chemistry.Buffers are needed in chemical analysis, pharmaceuticals,electroplating etc.

Q4. Why the equilibrium constant value has its units for some of the reversible reactions but has not units for some other reactions?

Ans 1:

Units of K_c depends upon the number of moles of reactions and products involved in the reaction.

1. If number of moles of reactant and products are same it has no unit.
2. If number of moles of reactants are different from products then K_c has units, related to the concentration or pressure.

Q5. Reversible reaction attains the position of equilibrium which is dynamic in nature and not static.Explain it?

Ans 1: At Equilibrium state the reaction is not stopped.Only the rate of forward reaction become equal to reverse reaction.Since reaction is in progress in both the direction. Therefore equilibrium is dynamic in nature not static.

Q6. What are buffer solutions? How a basis buffer can be prepared?

Ans 1: The solution that resists in pH changes when small amount of an acid or a base is added to it is called buffer solution. Basic buffers are formed by mixing a weak base and its salt with strong acid.Such solution will give basic buffers with pH more than 7.Mixing of NH_4OH and NH_4Cl is one of the best example of such a basic buffer.

Q7. Define pH and pOH.Give its equation?

Ans 1: pH:The negative logarithm of H^+ Ions concentration is called pH.

pH = -LOG[H^+]

pOH:The negative logarithm of OH^- Ions concentration is called pOH.

pOH =-log [OH^-]

Q8. State Le-Chatlier's principle?

Ans 1: Le-Chatlier's principle:If stress is applied to a system at equilibrium, the system will act in such a way so as to nullify as for as possible the effect of that stress.

Q9.

Give the physical significance of K_f and K_b?

Ans 1:

The rate of forward and reverse reaction tell us the condition on which a reaction will depend. It also tells about:

1. Direction of area action
2. Extent of reaction.

Q10.

How K_c predict the extent of chemical reaction?

Ans 1:

The value of K_c also helps us to predict extent of chemical reaction. There are three possibilities.

1. Large K_c Value: If K_c value is large it means reaction is almost completed.
2. Small K_c Value: If K_c value is small amount it means reaction does not proceed appreciably in forward direction. Small amount of product will be formed
3. K_c is in fractions: If K_c is in fractions. It means little forward reaction.