

## Chemistry - 11th Class Chemistry Short Questions Chapter 8 Preparation

Q1.

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.

Q2. Explain the terms buffer and buffer capacity?

**Ans 1:** Buffer: The solution which resist the change in pH by the addition of small amount of an acid or base is called buffer.  
Buffer Capacity: The capacity of a buffer to maintain definite pH is called buffer capacity.

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. Explain the term reversible reaction and state of equilibrium?

**Ans 1:** State of Equilibrium: The state of reversible reaction in which rate of forward reaction becomes equal to rate of reverse reaction is called chemical equilibrium. There are two types: Static Equilibrium Dynamic Equilibrium

Q5.

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 reaction
2. Extent of reaction.

Q6. What will be nature of solution when: (a) pH=3.0 (b) pH=8.0?

**Ans 1:** The value of pH varies between 0-14. A solution having pH value 0-7 are acidic in nature while a solution having pH value 7-14 are basic in nature.

1. PH= 3 This solution is acidic.
2. pH= 8 This solution is basic.

Q7. Define acid and base by Lower-Bronsted concept?

**Ans 1:**

Q8. 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  $\text{NH}_4\text{OH}$  and  $\text{NH}_4\text{Cl}$  is one of the best example of such a basic buffer.

Q9. Why do rates of forward reactions slow down the reversible reaction approaches the equilibrium stage?

**Ans 1:** The rate of forward reaction is directly proportional to molar conc. of reactants. Near the equilibrium stage, the concentration of reactant become small. Therefore the rate of forward reaction slow down due to decrease in concentration.

Q10. State Law of Mass Action?

**Ans 1:** The rate at which substance reacts is directly proportional to its active mass and the rate of reaction is directly proportional to the product of active masses of the reactants.