

**Equilibrium state**

1. (c) When rate of forward reaction is equal to the rate of backward reaction then equilibrium is supposed to be established.
2. (b) Equilibrium can be achieved only in closed vessel.
3. (a) Chemical equilibrium

**Explanation:**

Chemical equilibrium is the state in a reversible reaction where the rate of the forward reaction equals the rate of the backward reaction, and the concentrations of reactants and products remain constant with time.

4. (c) When rate of forward reaction is equal to rate of backward reaction the reaction is said to be in equilibrium.
5. (b) The rates of forward and backward reactions are equal

**Explanation:**

At chemical equilibrium, the forward and backward reactions occur at the same rate. The concentrations of reactants and products remain constant, but not necessarily equal in amount.

6. (d) At equilibrium rate of forward reaction is equal to the rate of backward reaction.
7. (c) According to Le-chatelier principle when concentration of reactant increases, the equilibrium shift in favour of forward reaction.
8. (b) At equilibrium, the rate of forward & backward reaction become equal.
9. (d) Both forward and backward reactions occur at all times with same speed

**Explanation:**

At equilibrium, the forward and reverse reactions continue to occur simultaneously, but at equal rates. This constant molecular activity makes equilibrium dynamic, not static.



10 (c) Molar concentration

**Explanation:**

Molar concentration (or molarity) is defined as the number of moles (gram molecules) of a solute present in one liter of solution.

