

**Law of mass action**

1. According to law of mass action rate of a chemical reaction is proportional to
 - (a) Concentration of reactants
 - (b) Molar concentration of reactants
 - (c) Concentration of products
 - (d) Molar concentration of products
2. In a reaction the rate of reaction is proportional to its active mass, this statement is known as
 - (a) Law of mass action
 - (b) Le-chatelier principle
 - (c) Faraday law of electrolysis
 - (d) Law of constant proportion
3. The active mass of 64 gm of HI in a two litre flask would be
 - (a) 2
 - (b) 1
 - (c) 5
 - (d) 0.25
4. Under a given set of experimental conditions, with increase in the concentration of the reactants, the rate of a chemical reaction
 - (a) Decreases
 - (b) Increases
 - (c) Remains unaltered
 - (d) First decreases and then increases
5. The law of mass action was enunciated by
 - (a) Guldberg and Waage
 - (b) Bodenstein
 - (c) Birtelot
 - (d) Graham
6. Theory of 'active mass' indicates that the rate of chemical reaction is directly proportional to the
 - (a) Equilibrium constant
 - (b) Properties of reactants
 - (c) Volume of apparatus
 - (d) Concentration of reactants
7. The rate at which substances react depends on their
 - (a) Atomic weight
 - (b) Molecular weight
 - (c) Equivalent weight
 - (d) Active mass
8. Which is false
 - (a) The greater the concentration of the substances involved in a reaction, the lower the speed of the reaction
 - (b) The point of dynamic equilibrium is reached when the reaction rate in one direction just balances the reaction rate in the opposite direction



- (c) The dissociation of weak electrolyte is a reversible reaction
- (d) The presence of free ions facilitates chemical changes
9. Chemical equations convey quantitative information on the
- Type of atoms/molecules taking part in the reaction
 - Number of atoms/molecules of the reactants and products involved in the reaction
 - Relative number of moles of reactants and products involved in the reaction
 - Quantity of reactant consumed and quantity of product formed
10. In the thermal decomposition of potassium chlorate given as
- $$2KClO_3 \longrightarrow 2KCl + 3O_2$$
- law of mass action
- Cannot be applied
 - Can be applied
 - Can be applied at low temperature
 - Can be applied at high temp. and pressure

