

## Chemical Equilibrium

Sr	Questions	Answers Choice
1	Which of the following reactions reaches equilibrium	A. Reversible B. Irreversible C. Combustion D. Neutralization
2	Law of mass action was proposed by	A. Le Chatelier B. Arrhenius C. Guldberg and Waage D. Dalton
3	At equilibrium	A. Products dominate B. Reactants dominate C. Forward and reverse rates are zero D. Forward rate = reverse rate
4	Salts of weak acid + strong base are.	A. Basic B. Acidic C. Amphoteric D. Neutral
5	Which is NOT a feature of dynamic equilibrium.	A. Closed system B. Constant Temperature C. Unequal reaction rates D. No net change
6	Dynamic equilibrium occurs.	A. In open systems B. Only in gases C. In closed systems D. Only at low temperature
7	$\text{NH}_4\text{Cl}$ in water makes solution	A. Neutral B. Acidic C. Basic D. Amphoteric
8	Units of $K_c$ depend on	A. Catalyst B. Reaction stoichiometry C. Activation energy D. Delta H
9	Removing a reactant shifts equilibrium to	A. Left B. Right C. No shift D. Depends on temperature
10	Catalyst affects	A. Value of $K$ B. Equilibrium position C. Activation energy D. Final concentrations
11	Removing product from equilibrium	A. Shifts equilibrium left B. Stops reaction C. Shifts equilibrium right D. Has no effect
12	Law of mass action applies to	A. Closed systems only B. Open systems C. Irreversible systems D. Combustion reactions
13	A reversible reaction is one which	A. Proceeds to completion B. Occurs only in one direction C. Proceeds in both directions D. Has no products
14	Optimum temperature for a Haber process is	A. 50 oC B. 450 oC C. 200 oC D. 1000 oC
15	Law of mass action is applicable to.	A. Reversible reaction B. Combustion reactions C. Irreversible reactions

16 According to law of mass action rate of reaction is proportional to.

- A. Temperature
- B. Pressure
- C. Product of active masses
- D. Atomic mass

17 Which statement is true at dynamic equilibrium.

- A. No reaction is occurring
- B. Concentrations are changing
- C. Rates of forward and reverse reactions are equal
- D. Rate forward reaction < reverse

18 Active mass means

- A. Moles
- B. Volume
- C. Mass
- D. Molar concentration

19 Catalyst used in Haber process is

- A. Fe
- B. Pt
- C. Cu
- D. Zn

20 Which does not alter equilibrium constant.

- A. Catalyst
- B. Temperature
- C. Pressure
- D. Both a and c