

Chemical Equilibrium

Sr	Questions	Answers Choice
1	Reaction quotient Q is calculated using	A. Initial concentration B. Equilibrium concentrations C. Temperature D. Catalyst
2	Which of the following is an irreversible reaction.	A. Haber process B. Precipitation of Ag Cl C. Synthesis of ammonia D. Esterification
3	Which of the following reactions reaches equilibrium	A. Reversible B. Irreversible C. Combustion D. Neutralization
4	Addition of inert gas at constant volume	A. Affects equilibrium B. Shifts reaction left C. Shifts reaction right D. No effect
5	Which is NOT a feature of dynamic equilibrium.	A. Closed system B. Constant Temperature C. Unequal reaction rates D. No net change
6	K _p is used for.	A. Solid state reactions B. Gaseous reactions C. Aqueous reactions D. Liquid reactions
7	Catalyst affects	A. Activation energy B. Equilibrium position C. K _p value D. Enthalpy
8	Which does not alter equilibrium constant.	A. Catalyst B. Temperature C. Pressure D. Both a and c
9	Law of mass action was proposed by	A. Le Chatelier B. Arrhenius C. Guldberg and Waage D. Dalton
10	A large K value indicates.	A. Products are favored B. Reactants are favored C. No reaction D. Slow reaction
11	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
12	If K _c > 1, the reaction.	A. Favors products B. Favors reactants C. Is at equilibrium D. Does not occur
13	Contact process is used for	A. Sulfuric acid production B. Ammonia Synthesis C. Nitric Acid production D. Hydrogenation
14	Consider the gas phase equilibrium system represented by the equation $2\text{H}_2 + \text{O}_2 \rightleftharpoons 2\text{H}_2\text{O}$. Given that the forward reaction is endothermic, which of the following changes will decrease the equilibrium amount of H ₂ O.	A. Adding more oxygen B. Adding a solid phase catalyst C. Decreasing the volume of the container D. Increasing the temperature at constant pressure
		A. Closed systems only

15	Law of mass action applies to	B. Open systems C. Irreversible systems D. Combustion reactions
16	Salts of weak acid + strong base are.	A. Basic B. Acidic C. Amphoteric D. Neutral
17	Le Chatelier's Principle applies to.	A. Irreversible reactions B. Static equilibrium C. Dynamic equilibrium D. Precipitation reactions
18	At equilibrium the observable properties.	A. Keep changing B. Fluctuate randomly C. Remain constant D. Oscillate
19	NH ₄ Cl in water makes solution	A. Neutral B. Acidic C. Basic D. amphoteric
20	K _c = 0.040 at 450 °C for the following reaction, evaluate K _p for the reaction. $\text{PCl}_5 \rightleftharpoons \text{PCl}_3 + \text{Cl}_2$	A. 0.40 B. 2.4 C. 0.64 D. 0.052