

## Chemical Equilibrium

Sr	Questions	Answers Choice
1	Unit of K <sub>c</sub> depend on	A. Change in concentration B. Change in number of moles of gas C. Change in pressure D. Change in Entropy
2	According to law of mass action rate of reaction is proportional to.	A. Temperature B. Pressure C. Product of active masses D. Atomic mass
3	Law of mass action is applicable to.	A. Reversible reaction B. Combustion reactions C. Irreversible reactions D. Endothermic reactions only
4	Le Chatelier's Principle applies to.	A. Irreversible reactions B. Static equilibrium C. Dynamic equilibrium D. Precipitation reactions
5	Dynamic equilibrium is attained when	A. Forward reaction stops B. Reverse reaction stops C. Forward and reverse reactions continue at equal rates D. Concentration of products become zero
6	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
7	Consider the gas phase equilibrium system represented by the equation $2\text{H}_2\text{O} \rightleftharpoons 2\text{H}_2 + \text{O}_2$ . Given that the forward reaction is endothermic, which of the following changes will decrease the equilibrium amount of $\text{H}_2\text{O}$ .	A. Adding more oxygen B. Adding a solid phase catalyst C. Decreasing the volume of the container D. Increasing the temperature at constant pressure
8	For a specific reaction the value of the equilibrium constant, K <sub>c</sub> ?	A. Always remains the same at different reaction conditions B. Increases if the concentration of one of the products is increased C. Changes with changes in the temperature D. Increases if the concentration of one of the reactants is increased
9	Catalyst affects	A. Value of K B. Equilibrium position C. Activation energy D. Final concentrations
10	Catalyst affects	A. Activation energy B. Equilibrium position C. K <sub>p</sub> value D. Enthalpy
11	Lowering temperature in an exothermic reaction.	A. Favors reverse B. Favors forward C. No effect D. Stop the reaction
12	$\text{NH}_4\text{Cl}$ in water makes solution	A. Neutral B. Acidic C. Basic D. amphoteric
13	Addition of inert gas at constant volume	A. Affects equilibrium B. Shifts reaction left C. Shifts reaction right D. No effect
		A. Formation of ammonia

14	Which one of the following is not an example of reversible reaction.	<p>B. Formation of water</p> <p>C. Decomposition of <math>\text{PCl}_5</math></p> <p>D. Decomposition of <math>\text{NO}_2</math></p>
15	Which does not alter equilibrium constant.	<p>A. Catalyst</p> <p>B. Temperature</p> <p>C. Pressure</p> <p>D. Both a and c</p>
16	A saturated solution represents a dynamic equilibrium Macroscopically, the concentration of dissolved solute is constant, Microscopically this occurs because.	<p>A. No more solute particles are dissolving</p> <p>B. The rate of dissolution of solute is zero</p> <p>C. Solute particles are dissolving and precipitating at the same rate</p> <p>D. All solute particles have dissolved</p>
17	Catalyst used in contact process	<p>A. Fe</p> <p>B. <math>\text{V}_2\text{O}_5</math></p> <p>C. Ni</p> <p>D. <math>\text{Al}_2\text{O}_3</math></p>
18	Optimum temperature in Haber process is	<p>A. <math>50^\circ\text{C}</math></p> <p>B. <math>450^\circ\text{C}</math></p> <p>C. <math>200^\circ\text{C}</math></p> <p>D. <math>1000^\circ\text{C}</math></p>
19	Which is NOT a feature of dynamic equilibrium.	<p>A. Closed system</p> <p>B. Constant Temperature</p> <p>C. Unequal reaction rates</p> <p>D. No net change</p>
20	The reversible reaction cannot be achieved in	<p>A. Open system</p> <p>B. Closed system</p> <p>C. Both a and b</p> <p>D. None of these</p>