

Chemical Equilibrium

Sr	Questions	Answers Choice
1	Consider the equilibrium $2H_2 + O_2 \rightleftharpoons 2H_2O$. If the concentration of H_2O is increased, the concentrations of H_2 and O_2 will	A. Increases B. Decrease C. Remain the same D. Change irregularly
2	Unit of K_c depend on	A. Change in concentration B. Change in number of moles of gas C. Change in pressure D. Change in Entropy
3	Catalyst affects	A. Value of K B. Equilibrium position C. Activation energy D. Final concentrations
4	Catalyst used in Haber process is	A. Fe B. Pt C. Cu D. Zn
5	In a reversible reaction.	A. Products do not reform reactants B. Rate of forward reaction is always higher C. Both forward and reverse reactions occur D. Products are in excess
6	NH_4Cl in water makes solution	A. Neutral B. Acidic C. Basic D. amphoteric
7	Units of K_c depend on	A. Catalyst B. Reaction stoichiometry C. Activation energy D. Delta H
8	According to law of mass action rate of reaction is proportional to.	A. Temperature B. Pressure C. Product of active masses D. Atomic mass
9	Reaction quotient Q is calculated using	A. Initial concentration B. Equilibrium concentrations C. Temperature D. Catalyst
10	Removing product from equilibrium	A. Shifts equilibrium left B. Stops reaction C. Shifts equilibrium right D. Has no effect
11	Removing a reactant shifts equilibrium to	A. Left B. Right C. No shift D. Depends on temperature
12	Pressure used in Haber Process.	A. 2 atm B. 300 atm C. 200 atm D. 5 atm
13	Le Chatelier's Principle applies to.	A. Irreversible reactions B. Static equilibrium C. Dynamic equilibrium D. Precipitation reactions
14	Contact process is used for	A. Sulfuric acid production B. Ammonia Synthesis C. Nitric Acid production D. Hydrogenation
15	If Δn is positive, then K_p is	A. Greater than K_c B. Less than K_c C. equal K_c

D. Zero

16 For a specific reaction the value of the equilibrium constant, K_c ?

- A. Always remains the same at different reaction conditions
- B. Increases if the concentration of one of the product is increased
- C. Changes with changes in the temperature
- D. Increases if the concentration of one of the reactants is increased

17 If $Q > K$, the reaction

- A. Shift left
- B. Moves forward
- C. At equilibrium
- D. Stops

18 Combustion of methane is.

- A. Reversible
- B. Endothermic
- C. Irreversible
- D. Equilibrium process

19 Law of mass action is applicable to.

- A. Reversible reaction
- B. Combustion reactions
- C. Irreversible reactions
- D. Endothermic reactions only

20 $K_c = 0.040$ at 450 oC for the given reaction, evaluate K_p for the reaction.
 $\text{PCl}_5 \rightleftharpoons \text{PCl}_2 + \text{Cl}_2$

- A. 0.40
- B. 2.4
- C. 0.64
- D. 0.052