

ECAT Chemistry Chapter 8 Chemical Equilibrium

Sr	Questions	Answers Choice
1	Le-chatlier's principle is applied on the reversible reaction in order to	A. Determine the rate of reaction B. Predict the direction of reaction C. Determine the extent of reaction D. Find best conditions for favorable shifting the position of equilibrium
2	Question Image	A. 8 B. 4 C. 9 D. 3
3	Question Image	A. Equal volumes of N_2 and H_2 are reacting B. Equal masses of N_2 and H_2 are reacting C. The reaction has stopped D. The same amount of ammonia is formed as is decomposed into N_2 and H_2
4	I a chemical reaction equilibrium is said to have been established when :	A. Rate of opposing reactions are equal. B. Rate constants of opposing reactions are equal. C. Opposing reactions stop. D. Concentration of reactants and products are equal
5	A solution having pH = 4 its OH^- ion concentration in mole dm^{-3} is	A. 1.0×10^{-4} B. 1.0×10^{-10} C. 1.0×10^{-14} D. 1×10^0
6	If K_C of a reaction product is very large, it indicates that equilibrium occurs :	A. With the help of a catalyst. B. With no forward reaction. C. At a low product concentration. D. At a high product concentration.
7	Question Image	A. Temperature is increased B. Pressure is increased C. HCl is added D. HCl is removed
8	0.1 M HCl has pH = 1.0, it is about 100 times stronger than acetic acid. Then pH of acetic acid will be	A. 0.1 B. 2.0 C. 1.3 D. 3.0
9	Question Image	A. Increases B. Decreases C. Remains same D. Cannot be predicted
10	Question Image	A. Complete conversion of A to B has taken place B. Conversion of A to B is only 50% complete C. Only 10% conversion of A to B has taken place D. The rate of transformation of A to B is just equal to rate of transformation of B to A in the system
11	Units of K_w are	A. dm^{-3} B. dm^{-2} C. dm^{-6} D. dm^{-3}
12	Base buffer solution can be prepared by mixing	A. Weak acid and its salt B. Strong acid and its salt with weak base C. Weak base and its salt with strong acid D. Strong base and its salt with weak acid
13	$H_2 + I_2 \rightleftharpoons 2HI$ In the above equilibrium system, if the concentration of reactants at $25^\circ C$ is increased, the value K_C will :	A. Remains Constant B. Increases C. Decreases D. Depends upon nature of reactants
14	pH and pKa of the buffer are related by Henderson equation which is	A. $pH = pK_a + \log \frac{[A^-]}{[HA]}$

15	For which system does the equilibrium constant, K_c has units of (concentration) ?	<p>-----2NH_3</p> <p>B. $\text{H}_2 + \text{L}_2$</p> <p>-----2H_2</p> <p>C. $2\text{NO} + \text{N}_2 + \text{O}_4$</p> <p>D. $2\text{HF} + \text{H}_2 + \text{F}_2$</p>
16	What happens when reaction is at equilibrium and more reactant is added :	<p>A. Forward reaction rate is increased.</p> <p>B. Forward reaction rate is decreased.</p> <p>C. Backward reaction rate is increased.</p> <p>D. Equilibrium remains unchanged.</p>
17	Which one of the following is not a buffer	<p>A. $\text{H}_2\text{CO}_3 + \text{NaHCO}_3$ solution</p> <p>B. $\text{H}_3\text{PO}_4 + \text{NaH}_2\text{PO}_4$ solution</p> <p>C. $\text{HI} + \text{NaI}$ solution</p> <p>D. $\text{NH}_4\text{OH} + \text{NH}_4\text{Cl}$ solution</p>
18	Law of mass action states that rate of chemical reaction is directly proportional to the product of active masses of the reactants. The term active mass means	<p>A. Mass in grams converted to products</p> <p>B. Number of moles</p> <p>C. Number of moles per dm³ of reactants</p> <p>D. Total pressures of the reactants</p>
19	Question Image <input type="text"/>	<p>A. Le-chatlier's principle</p> <p>B. Only adding catalyst</p> <p>C. Decreasing pressure</p> <p>D. Decreasing temperature</p>
20	Question Image <input type="text"/>	