ECAT Chemistry Chapter 8 Chemical Equilibrium

Sr	Questions	Answers Choice
1	Which one of the following has no units of its $K_c$value	
2	Question Image	A. 0.073 B. 0.147 C. 0.05 D. 0.026
3	When a weak acid is dissolved in water or a weak base dissolved in water, then in both cases the conjugate acid base pair is produced. The ionization constants $K_a$and $K_b$of a pair are related with each other as	A. K_a= K_b B. K_a. K_b= K_w C. K_a. K_w= K_b D. K_b. K_w= K_a
4	1 mol of N_2O_4 was decomposed according to given equation in $1dm_3$ container. At equilibrium x mole of N_2O_4 have dissociated. What is the value of K_C:	A. 2x/(1-x)^{2<o:p></o:p>} B. 4x²/(1-x)<o:p></o:p> C. 4x/(1-x)<o:p></o:p> D. 2x/(1-x)<o:p></o:p>
5	Which of the following solution have zero pH	A. 1 M HCl B. MH₂SO₄ C. 0.1 M HNO₃ D. 1 M CH₃COOH
6	The solubility product of AgCl is 2.0×10^{-10}mole $^2dm^{-6}$. The maximum concentration of Ag^+ions in the solution is	A. 2.0 x 10⁻¹⁰mole dm⁻³ B. 1.41 x 10⁻⁵mole dm⁻³ C. 1.0 x 10⁻¹⁰ D. 4.0 x 10⁻²⁰mole dm⁻³
7	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	A. Mass in grams converted to products B. Number of moles C. Number of moles per dm³of reactants D. Total pressures of the reactants
8	$H_2 + L_2$ ----2HI In the above equilibrium system, if the concentration of reactants at 25°C is increased, the value K_C will :	A. Remains Constant B. Increases C. Cecreases D. Depends upon nature of reactans
9	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
10	Which of the following is a characteristic of a reversible reaction?	A. It never proceeds to completion B. It can be influenced by a catalyst C. It proceeds only in the forward direction D. Number of moles of reactants and products are equal
11	pH of water is 7, if 0.01 M NaOH is added, than its pH is	A. 12 B. 14 C. zero D. 10
12	According to Le-Chatelier's principal, adding heat to a solid and liquid in equilibrium will cause the	A. Amount of solid to decrease B. Amount of liquid to decrease C. Temperature to rise D. Temperature to fall
13	Question Image	A. Favour the formation of N₂O₄ B. Favour the decomposition of N₂O₄ C. Not alter the equilibrium D. Stop the reaction
14	pH of 1 molar NaOH is	A. 7 B. zero C. 14 D. 10
		A. <p

15	For which system does the equilibrium constant, kc has units of (concentration) ?	class="MsoNormal">N₂+3H₂₋₋-----2NH₃<o:p></o:p> B. H₂+L₂--------2HL<o:p></o:p> C. 2NO₂----------N₂O₄<o:p></o:p> D. 2HF--------H2+F₂<o:p></o:p>
16	Question Image	A. High temperature and low pressure B. Low temperature and high pressure C. Low temperature and low pressure D. High temperature and high pressure
17	$K_a$value of HF acid is 6.7 x $10^{-15}$the acid is a	A. Weak acid B. Moderately strong acid C. Strong acid D. Very weak acid
18	A chemical reaction is in equilibrium when	A. Formation of product is minimum B. Reactants are completely transformed into products C. Rates of forward and backward reactions are equal D. Equal amounts of reactants and products are present
19	$N_2 + 3H_2 \rightleftharpoons 2NH_3$ + Heat for above equation, themaximum product will be obtained at :	A. Low temperature at high pressure. B. High temperature and low pressure. C. High temperature and high pressure. D. Low temperature at low pressure.
20	Question Image	A. HF is stable and does not decompose even at 2000°C B. HF is stable and slowly decomposes at 2000°C C. HF is strong acid D. HF produces equal moles of hydrogen and fluorine