ECAT Chemistry Chapter 8 Chemical Equilibrium

Sr	Questions	Answers Choice
1	A buffer of a 0.09 molar acetic acid and 0.11 molar sodium acetate has pH = 4.83. If 0.01 mole NaOH in 1 dm^3 of the buffer solution is added, then pH of the buffer becomes	A. 4.74 B. 4.92 C. 5.0 D. 4.0
2	The relation between Kc and Kp is	
3	K_b value of NH_4OH is 1.81 x 10^{-5} and its conjugate acid has K_a= 5.7 x 10^{-10} pKb of the base is 4.74, pKa of its conjugate acid is	A. -4.74 B. 4.74 C. 10 D. 9.26
4	Question Image	A. Temperature is increased B. Pressure is increased C. HCl is added D. HCl is removed
5	Product of concentration of ions raised to the power equal to the co-efficient of ions in balanced equation for saturated solution of a salt is called	A. Ionic product B. Equilibrium constant K_c C. K_w D. Solubility product (K_{sp})
6	The rate of which the reaction proceeds is directly proportional to the product of the active masses of the reactants is according to	A. Law of mass action B. Le Chateliers principle C. Equilibrium law D. Law of constant proportion
7	What happens when reaction is at equilibrium and more reactant is added :	A. Forward reaction rate is increased. B. Forward reaction rate is decreased. C. Backward reaction rate is increased. D. Equilibrium remains unchanged.
8	The state of equilibrium refers to	A. State of rest B. Dynamic state C. Stationary state D. State of inertness
9	Question Image	A. Favour the formation of N_2O_4 B. Favour the decomposition of N_2O_4 C. Not alter the equilibrium D. Stop the reaction
10	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
11	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.
12	Question Image	
13	The pH of 10^{-3} mole dm^{-3} of an aqueous solution of H_2SO_4 is	A. 3.0 B. 2.7 C. 2.0 D. 1.5
14	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
15	Question Image	A. Le-chatlier's principle B. Only adding catalyst C. Decreasing pressure

16	An aqueous solution is neutral when its	A. pH = 14 B. pH = zero C. pH = 7 D. Kw = 10⁻⁷
17	Question Image	A. 8 B. 4 C. 9 D. 3
18	pH of 1 molar NaOH is	A. 7 B. zero C. 14 D. 10
19	The best buffer is prepared when molar concentrations of the salt and acid are equal, then its pH and pKa value are related	A. pH = pKa B. pH < pKa C. pH > pKa D. pH x pKa = 14
20	Which of the following favours the reverse reaction in chemical equilibrium?	A. Increasing the concentration of the reactant B. Removal of the least one of the products at regular intervals C. Increasing the concentration of one or more of the products D. None of these