ECAT Chemistry Chapter 8 Chemical Equilibrium

Sr	Questions	Answers Choice
1	For what value of K_c almost forward reaction is complete :	A. K_{c =}10³⁰<o:p></o:p> B. <o:p></o:p> K_{c =}10⁻³⁰<o:p></o:p> C. <o:p></o:p> K_{c =}0<o:p></o:p> D. K_{c =}1<o:p></o:p>
2	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})
3	The rate of reaction :	A. Remain same as reaction proceeds. B. May decrease or increase as reaction proceeds . C. Increase as reaction proceeds. D. Decreases as reaction proceeds.
4	$N_2 + 3H_2 \rightleftharpoons 2NH_3$ + 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.
5	strength of an acid can be determined by	A. P^{ka} B. P^{kp} C. P^{oH} D. P^{kw}
6	An excess of aqueous silver nitrate is added to aqueous barium chloride and precipitate is removed by filtration. What are the main ion in filtrate?	A. Ag⁺ and NO₃₋ only<o:p></o:p> B. Ag⁺ and Ba² and NO⁻³<o:p></o:p> C. Ba² and NO⁻³<o:p></o:p> D. Ba² and NO⁻³and Cl-<o:p></o:p>
7	Question Image	A. K_p> K_c B. K_c> K_p C. K_p= K_c D. None of these
8	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
		A. <o:p></o:p> No unit<o:p></o:p> B. <o:p></o:p> <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">mol<sup>-

9	$N_2 + O_2 \rightleftharpoons 2NO$ The unit of K_c for tis reaction will be:	2</sup> dm⁻³ <o:p></o:p> C. <o:p></o:p> <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">mol⁻¹ dm⁻³ <o:p></o:p> D. <o:p></o:p> <span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">mol⁻² dm⁺³ <o:p></o:p>
10	Hydrogen gas and iodine vapours combine to form HI at 425°C, the same composition of mixture is present if we start with decomposition of HI. It suggests	A. A static equilibrium B. Law of mass action C. A dynamic equlibrium D. Irreversible reaction
11	$K_b$value of NH_4OH is $1.81 \times 10^{-5}$and its conjugate acid has $K_a = 5.7 \times 10^{-10}$pKb of the base is 4.74, pKa of its conjugate acid is	A. -4.74 B. 4.74 C. 10 D. 9.26
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. Increases B. Decreases C. Remains same D. Cannot be predicted
14	A solution having pH = 4 its OH^-ion concentration in mole $dm^{-3}$is	A. 1.0 x 10⁻⁴ B. 1.0 x 10⁻¹⁰ C. 1.0 x 10⁻¹⁴ D. 1 x 10⁰
15	$N_23H_2 \rightleftharpoons 2NH_3$ Which of the following change will favorthe formation of moreNH_3at equilibrium in above reaction :	A. By adding NH_{3.} B. By removing<span style="font-size: 10.5pt; line-height: 107%; font-family: Arial, sans-serif; background-image: initial; background-position: initial; background-size: initial; background-repeat: initial; background-attachment: initial; background-origin: initial; background-clip: initial;">H_{2.} C. By decreasing pressure. D. By increasing pressure.
16	A buffer solution of 0.1 molar HCOOH and 0.1 molar HCCONa has pH = 3.78 To is 0.01 molar HCl is added, then pH of the buffer solution becomes	A. 2.78 B. 4.78 C. 3.78 D. 3.70
17	Question Image	A. Low pressure B. High pressure C. High temperature D. High concentration of SO₂
18	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
19	1 mole of $N_2$and 2 moles of $H_2$are allowed to react in a 1 dm^3vessel. At equilibrium 0.8 mole of $NH_3$is formed. The concentration of H_2in the vessel is	A. 0.6 mole B. 0.8 mole C. 0.2 mole D. 0.4 mole
20	Question Image	A. 32 B. 64 C. 16 D. 4