ECAT Chemistry Chapter 8 Chemical Equilibrium

Sr	Questions	Answers Choice
1	Which statement about the following equilibrium in correct? $2SO_{2\,(g)} + O_{2(g)}$----------$2sO_{3(g)}$H= - 188.3 KJ mol-1	A. T value of K_{p falls witha rise in temperate.} B. The value of K_{p falls withincreasing pressure} <o:p></o:p> C. Adding V_{2O}₅catalyst increase the equilibrium yield of sulfur trioxide <o:p></o:p> D. The value of K_{p is equal to}K_p E. <o:p></o:p> <o:p></o:p>
2	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>
3	In a reversible chemical reaction having two reactants in equilibrium, if the concentration of the reactants are doubled then the equilibrium constant will	A. Also be doubled B. Be halved C. Becomes one fourth D. Remains the same
4	$K_a$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
5	For the above reaction the relationship b/w k_c and k_p will be :	A. K_p = K_cRT<o:p></o:p> B. Kp = K_c(RT)₋₁<o:p></o:p> C. K_p = K_c(RT)₋₂<o:p></o:p> D. K_c = K_p<o:p></o:p>
6	Question Image	A. Forward B. Backward C. Already in equilibrium D. K_cis never less
7	Question Image	A. Initial concentration of acetic acid B. Initial concentration of ethyl acetate C. Equilibrium concentration of acetic acid D. Equilibrium concentration of ethyl acetate
8	For which system does the equilibrium constant, KC has units of concentration	
9	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>

10	The concentration of reactants is increased by x, then equilibrium constant K becomes	A. ln K/x B. K/x C. K + x D. K
11	$N_2 3H_2 \rightleftharpoons 2NH_3$ Which of the following change will favorthe formation of more NH_3 at 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.
12	The solubility of PbF_2 is 2.6 x 10^{-3} mole dm^{-3} then its solubility product is	A. 2.6 x 10⁻³ B. 6.76 x 10⁻⁶ C. 5.2 x 10⁻⁶ D. 7.0 x 10⁻⁸
13	Question Image	A. Decrease in temperature favour more dissolution of the salt B. Increase in temperature favour more dissolution of the salt C. Lowering pressure favour more dissolution of the salt D. Increasing pressure favour more dissolution of the salt
14	K_{sp} value for $PbSO_4$= 1.8 x 10^{-8} $mole^2 dm^{-6}$. The maximum concentration of Pb^{++} ions is	A. 1.34 x 10⁻⁴mole dm⁻³ B. 1.8 x 10⁻⁴ C. 3.6 x 10⁻¹⁶mole dm⁻³ D. 1.0 x 10⁻⁸mole dm⁻³
15	In a lime kiln, to get higher yield of CO_2, the measure that can be taken is	A. To main high temperature B. To pump out CO₂ C. To remove Cao D. To add more CaCO₃
16	The solubility product of AgCl is 2.0 x 10^{-3} mol^2 dm^{-6} , The maximum concentration of Ag ion in the solution is :	A. <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;"><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;">2.0 x 10⁻¹⁰ mol dm⁻³<o:p></o:p> B. 1.41 <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;">x 10⁻¹⁰ mol dm^{-3<o:p></o:p>} C. 1.0^{<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;">}<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;">x 10⁻¹⁰ mol dm^{-3<o:p></o:p>} D. 4.0^{<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;">}<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;">x 10⁻¹⁰ mol dm⁻³<o:p></o:p>
17	An aqueous solution is neutral when its	A. pH = 14 B. pH = zero C. pH = 7 D. Kw = 10⁻⁷
18	strength of an acid can be determined by	A. P^{ka} B. P^{kp} C. P^{oH} D. P^{kw}
19	Almost forward reaction is complete when value of k_c:	A. Neither larger nor very small. B. Very small. C. Very large. D. Negligible.
20	pH of 1 molar NaOH is	A. 7 B. zero C. 14 D. 10