ECAT Chemistry Chapter 8 Chemical Equilibrium Online Test

Sr	Questions	Answers Choice
1	$N_2 + 3H_2 \rightleftharpoons 2NH_3$ + 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.
2	The substance which increases rate of reaction but remains unchanged at the end of reaction is called :	A. Catalyst. B. Indicator. C. Promoter. D. Activator.
3	$N_2 3H_2 \rightleftharpoons 2NH_3$ 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.
4	Extent to $H_2 + L_2 \rightarrow 2HI$ can be increased by :	A. Increasing temperature.<o:p></o:p> B. Increasing product. <o:p></o:p> C. Increasing pressure. <o:p></o:p> D. Adding a catalyst.<o:p></o:p>
5	$2SO_2 + O_2 \rightleftharpoons 2SO_2 H = 188 KJ\ mole^{-1}$ Which statement about following equilibrium is correct :	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;">The value ofK_pfalls with arise in temperature.<o:p></o:p> B. <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;">The value ofK_pis equal tok_{c.<o:p></o:p>} C. <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;">The value ofK_pfalls with the increase pressure.<o:p></o:p> D. <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;">Adding V₂ <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 ₅<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;">catalyst increase the equilibrium yield of Sulphur trioxide.<o:p></o:p>
6	$2SO_2 + O_2 \rightleftharpoons 2SO_2$ H= 188KJ $mole^{-1}$ Which statement about following equilibrium is correct :	A. The value of<span style="font-size:11.0pt;line-height:107%; font-family:"Calibri",sans-serif;mso-ascii-theme-font:minor-latin;mso-fareast-font-family: Calibri;mso-fareast-theme-font:minor-latin;mso-hansi-theme-font:minor-latin; mso-bidi-font-family:"Times New Roman";mso-bidi-theme-font:minor-bidi; mso-ansi-language:EN-US;mso-fareast-language:EN-US;mso-bidi-language:AR-SA">K_pfalls with arise in temperature. B. The value ofK_pis equal to<span style="font-size:11.0pt;line-height:107%; font-family:"Calibri",sans-serif;mso-ascii-theme-font:minor-latin;mso-fareast-font-family: Calibri;mso-fareast-theme-font:minor-latin;mso-hansi-theme-font:minor-latin; mso-bidi-font-family:"Times New Roman";mso-bidi-theme-font:minor-bidi; mso-ansi-language:EN-US;mso-fareast-language:EN-US;mso-bidi-language:AR-SA">k_{c.} C. The value ofK_pfalls with the increase pressure. D. Adding V₂O₅ catalyst increase the equilibrium yield of Sulphur trioxide. <o:p></o:p>
7	A large value of $K_c$means that at equilibrium :	A. Less reactant and more products. B. Reactants and product in same amounts. C. More reactants and less products. D. None of above.
8	In exothermic reversible reaction increase in temperature shift the equilibrium to :	A. Remains unchanged. B. Product side. C. Reactant side. D. None of above.
9	$N_2O_4 \rightleftharpoons 2NO_2$	A. <o:p></o:p> Kc = [N₂O₄]/[NO₂]²<o:p></o:p> B. Kc = [N₂O₄]/[NO₂]<o:p></o:p>

	For the above reaction, which of the Following expression of K_c correct :	C. Kc = [N₂O]²/[N₂O₄]<o:p> </o:p> D. Kc = [N₂O₄]/[N O₂]<o:p></o:p>
10	If k_c of a reaction productis verylarge, 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.
11	Almost forward reaction is complete when value of k_c :	A. Neither larger nor very small. B. Very small. C. Very large. D. Negligible.
12	In the particular reaction for the value K_c $1 x 10^{-25}$ which statement is correct :	A. Almost forward reaction is completed. B. Amount of reactant is negligible as compared to product. C. Amount of product is negligible as compared to reactant. D. Amount of product is equal to amount of reactant.
13	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>
14	$N_2 + 3H_2 \rightleftharpoons 2NH_3$ The unit of K_c for tis reaction will be:	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;">mol² dm⁻⁶<o:p></o:p> B. <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⁺⁶<o:p></o:p> C. <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 dm⁻³<o:p></o:p> D. <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>
		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-

15	$N_2 + O_2 \rightleftharpoons 2NO$ The unit of K_c for tis reaction will be:	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> 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>
16	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>
17	The correct relation b/wK_c and K_p is :	A. K_p = K_c[P/N] ^{Δn<o:p></o:p>} B. K_{c =}K_p(RT) ^{Δn}<o:p></o:p> C. K_{p =}K_c(RT) ^{Δn}<o:p></o:p> D. K_{p =}K_c(RT) ^{Δn}<o:p></o:p>
18	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</sub><o:p></o:p>
19	$H_2 + L_2$ ----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
20	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
21	Law of mass action was given by :	A. Guldberg and Waage. B. Berkeley and Hartly. C. Ramsay and Reyleigh. D. Berthelot.
		A. Remain same as reaction proceeds. B. May decrease or increase as

22	The rate of reaction :	B. May decrease or increase as reaction proceeds . C. Increase as reaction proceeds. D. Decreases as reaction proceeds.
23	A chemical reaction A----------->B is said to be in equilibrium when :	A. Rate of transformation of A to B is equal to B to A. B. 50% reactant has been changed to B. C. Conversion of A to B is 50% complete D. Complete conversion of A to B has taken place.
24	The rate of a chemical reaction is directly;y proportional to product of molar concentration of reaction substance it is called :	A. Low of conservation of energy. B. Law of mass action. C. Rate law . D. Active mass rule.
25	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.
26	A reaction is reversible because :	A. Products are stable. B. Reactants are reactive. C. Products are reactive. D. Reactants re stable.
27	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>
28	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<sup>-3<o:p></o:p>

		</sup> 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>
29	The ph of 10-3 mole dm-3 of an aqueous solution of H_2SO_4 is :	A. 3.0<o:p></o:p> B. 2.7<o:p></o:p> C. <span style="font-size:11.0pt;line-height:107%; font-family:"Calibri",sans-serif;mso-ascii-theme-font:minor-latin;mso-fareast-font-family: Calibri;mso-fareast-theme-font:minor-latin;mso-hansi-theme-font:minor-latin; mso-bidi-font-family:Arial;mso-bidi-theme-font:minor-bidi;mso-ansi-language: EN-US;mso-fareast-language:EN-US;mso-bidi-language:AR-SA">2.0 D. 1.5<o:p></o:p>
30	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>