ECAT Chemistry Online Test

Sr	Questions	Answers Choice
1	In exothermic reversible reaction increase in temperature shift the equilibrium to :	A. Remains unchanged. B. Product side. C. Reactant side. D. None of above.
2	$N_2O_4 \rightleftharpoons 2NO_2$ For the above reaction, which of the Following expression of K_c correct :	A. <o:p></o:p> Kc = [N₂O₄]/[NO₂] ²<o:p></o:p> B. Kc = [N₂O₄]/ [NO₂] <o:p></o:p> C. Kc = [N₂O] ²/[N₂O₄] <o:p></o:p> D. Kc = [N₂O₄]/[N O₂] <o:p></o:p>
3	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.
4	Almost forward reaction is complete when value of k_c :	A. Neither larger nor very small. B. Very small. C. Very large. D. Negligible.
5	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.
6	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>
7	$N_2 + 3H_2 \rightleftharpoons 2NH_3$ 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<sup>-

		1</sup> dm⁺³<o:p></o:p>
8	$N_2 + O_2 \rightleftharpoons 2NO$ The unit of K_c for tis reaction will be:	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⁻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>
9	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>
10	The correct relation b/w K_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>
11	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>
12	$H_2 + L_2$ ----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
13	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
14	Law of mass action was given by :	A. Guldberg and Waage. B. Berkeley and Hartly. C. Ramsay and Reyleigh. D. Berthelot.
15	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.
16	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.
17	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.
		A. Forward reaction rate is increased.

18	What happens when reaction is at equilibrium and more reactant is added :	B. Forward reaction rate is decreased. C. Backward reaction rate is increased. D. Equilibrium remains unchanged.
19	A reaction is reversible because :	A. Products are stable. B. Reactants are reactive. C. Products are reactive. D. Reactants re stable.
20	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>
21	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>
22	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>
23	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>
24	For which system does the equilibrium constant, kc has units of (concentration) ?	A. 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>
25	Molecular orbitals are filled with the available electrons according to:	A. Hund's of rule. B. Pauli's exclusion principle. C. Aufbau principle. D. All of above.
26	Molecular orbitals are filled with the available:	A. Hund's of rule. B. Pauli's exclusion principle. C. Aufbau principle. D. All of above.
27	CsF is an ionic compound because:	A. High I.P of Cs and high E.A of F. B. High I.P of Cs and low E.A of F. C. Low I.P of Cs and high E.A of F. D. Low I.P of Cs and low E.A of F.
28	The covalent radius of Cl atom is:	A. 99.4 pm. B. 176.7 pm C. 38 pm D. 76 pm.
29	The increase in size of the anion is due to:	A. Increase in electron-electron repulsion B. Increase in valence shell electrons. C. Decrease in valence shell electrons. D. Both (a) and (b).
30	The decrease in radius in large for:	A. Monovalent ions. B. Trivalent ions. C. Divalent ions. D. Atoms.