ECAT Chemistry Chapter 8 Chemical Equilibrium Online Test

Sr	Questions	Answers Choice
1	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
2	If pH of buffer of 1 mole $dm^{-3}$of HCOOH + 0.1 mole dm^{-3}HCOONa having pKa = 3.78 is	A. 1.78 B. 2.78 C. 3.78 D. 4.78
3	Question Image	A. K_p> K_c B. K_c> K_p C. K_p= K_c D. None of these
4	pKb value of NH_4OH is 4.74. If the concentration of NH_4OH is 1 molar containing 0.1 molar NH_4Cl, then pH of this buffer will be	A. 3.74 B. 10.26 C. 4.74 D. 9.26
5	The equilibrium constant in a reversible chemical reaction at a given temperature	A. Depends on the initial concentration of the reactants B. Depends on the concentration of one of the products at equilibrium C. Does not depend on the initial concentration of rectants D. It is characteristic of the reaction
6	If the difference of pKa values of the two acids is 2, then	A. Acid with smaller pKa is 10 times stronger acid B. Acid with greater pKa is 10 times stronger acid C. Acid with smaller pKa is 100 times stronger acid D. Acid with greater pKa is 100 times stronger acid
7	Which of the following factors will favour the reverse reaction in a chemical equilibrium?	A. Increase in concentration of one of the reactants B. Increase in concentration of one of the products C. Removal of one of the products regularly D. None of these
8	Question Image	A. 0.5 B. 4.0 C. 2.5 D. 0.25
9	Question Image	A. Moles per dm³ B. Partial pressures C. Number of moles D. Mole fractions
10	Question Image	A. Le-chatlier's principle B. Only adding catalyst C. Decreasing pressure D. Decreasing temperature
11	When the rate of formation of reactants is equal to the rate of formation of products, this is known as	A. Chemical reaction B. Chemical equilibrium C. Chemical kinetics D. None
12	Question Image	A. 0.073 B. 0.147 C. 0.05 D. 0.026
13	pH of the human blood which is essentially maintained constant due to carbonates, biocarbonates, phosphates etc., is	A. 7.00 B. 7.25 C. 7.35 D. 7.47
14	$N_23H_2 \rightleftharpoons 2NH_3$ Which of the following change will favorthe formation of moreNH_3at equilibrium in	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-

	above reaction :	origin: initial; background-clip: initial;">H_{2.} C. By decreasing pressure. D. By increasing pressure.
15	strength of an acid can be determined by	A. P^{ka} B. P^{kp} C. P^{oH} D. P^{kw}
16	Question Image	A. 32 B. 64 C. 16 D. 4
17	A gas bulb is filled with NO_2gas and immersed in an ice bath at 0°C which becomes colourless after sometimes. This colourless gas will be	A. NO₂ B. N₂O C. N₂O₄ D. N₂O₅
18	$K_b$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
19	A solution has pH = 0, its H^+ion concentration is	A. 1 x 10⁻¹⁴ B. 1 x 10¹⁴ C. 1 x 10¹ D. 1
20	Question Image	A. Low pressure B. High pressure C. High temperature D. High concentration of SO₂
21	Question Image	A. 0.12 B. 0.50 C. 0.25 D. 4.00
22	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
23	For which system does the equilibrium constant, KC has units of concentration	
24	Question Image	A. Increase in concentration of 1 B. Decrease in concentration of I₂ C. Increase in temperature D. Increase in total pressure
25	Question Image	A. Forward B. Backward C. Already in equilibrium D. K_cis never less
26	ph of the buffer CH_3COOh + CH_3COONa is 3.76. If the mixture contains 1 molar acetic acid and 0.1 molar sodium acetate, then pKa of this buffer is	A. 3.76 B. 4.76 C. 5.76 D. 6.76
27	Which of the following solution have zero pH	A. 1 M HCl B. MH₂SO₄ C. 0.1 M HNO₃ D. 1 M CH₃COOH
28	Question Image	A. Moles⁻²dm⁺⁶ B. No units C. Mole dm⁻³ D. Mole⁻¹dm⁻³
29	Question Image	A. The value of K_pfalls with a rise in temperature B. The value of K_pfalls with increasing pressure C. Adding V₂O₅catalyst increase the equilibrium yield of sulphur trioxide equilibrium yield of sulphur trioxide D. The value of K_pis equal to K_c
30	1.1 mol of A is mixed with 2.2 mol of B and the mixture is kept in on litre flask till the equilibrium is reached. At equilibrium, 0.2 mol of C is formed. If the equilibrium reaction is A+2B 2C+D, the value of equilibrium constant is	A. 0.002 B. 0.004 C. 0.001 D. 0.003

31	Question Image	A. Complete conversion of A to B has taken place B. Conversion of A to B is only 50% complete C. Only 10% conversion of A to B has taken place D. The rate of transformation of A to B is just equal to rate of transformation of B to A in the system
32	The relation between Kc and Kp is	
33	Question Image	A. 0.02 B. 0.2 C. 50 D. 25
34	K_b for NH_4OH is 1.81 x 10^{-5}, then K_a value of its conjugate base is	A. 1.81 x 10⁺⁵ B. 1.81 x 10⁻⁹ C. 5.5 x 10⁻⁹ D. 5.5 x 10⁻¹⁰
35	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
36	Question Image	A. High temperature and low pressure B. Low temperature and high pressure C. Low temperature and low pressure D. High temperature and high pressure
37	The solubility product of $Ca(OH)_2$ is 6.5 x 10^{-6}. The concentration of OH^- ions is	A. 1.175 x 10⁻² B. 2.35 x 10⁻² C. 3.25 x 10⁻³ D. 3.25 x 10⁻⁴
38	In which of the following cases, the reaction goes farthest to completion	A. K = 10³ B. K = 10⁻² C. K = 10 D. K = 10⁰
39	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.
40	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>
41	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>
42	Ammonium carbonate when heated to 200°C gives a mixture of NH_3 and CO_2 vapour with a density of 13.0. What is the degree of dissociation of ammonia carbonate?	A. 3/2 B. 1/2 C. 2 D. 1
43	Question Image	A. Reaction occurs at STP B. Reaction is exothermic C. Reaction is endothermic D. Number of moles of production and reactant are same
44	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
45	In a reversible reaction, two substances are in equilibrium. If the concentration of each one is reduced to half, the equilibrium constant will be	A. Reduced to half of its original value B. Doubled C. Same D. Reduced to one fourth its original value
46	Question Image	A. Increases B. Decreases

		C. Remains same D. Cannot be predicted
47	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
48	Question Image	A. High temperature B. Low temperature C. Low pressure D. High pressure
49	Question Image	
50	Reactions that proceed on both sides and never go to completion are called	A. Irreversible reactions B. Reversible reactions C. Opposing reactions D. Spontaneous reactions
51	pH and pKa of the buffer are related by Henderson equation which is	
52	Addition of solid $NaHCO_3$ in water causes ionization of $NaCHO_3$ its $K_a = 4.7 \times 10^{-1}$. Then this solution has character	A. Acidic B. Very weakly basic C. Alkaline D. Neutral
53	Question Image	A. Forward reaction is favoured B. Backward reaction is favoured C. No effect D. None of the above
54	Question Image	
55	In 1000 molecules of 0.001 M acetic acid the number of H^+ ions is 12.6, then its percentage of ionization is	A. 1.33% B. 1.26% C. 12.6 D. 1%
56	The solubility of PbF_2 is 2.6×10^{-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
57	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
58	The ionization constant of an acid is expressed in term of the following constant	A. Kw B. Kn C. Ka D. Kb
59	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
60	0.1 MHCl has pH = 1.0, it is about 100 times stronger than acetic acid. Then pH of acetic acid will be	A. 0.1 B. 2.0 C. 1.3 D. 3.0
61	Question Image	A. Temperature is increased B. Pressure is increased C. HCl is added D. HCl is removed
62	Question Image	A. Favour the formation of N₂O₄ B. Favour the decomposition of N₂O₄ C. Not alter the equilibrium D. Stop the reaction
63	Which statement about the following equilibrium in correct? $2SO_{2\,(g)} + O_{2(g)} \text{----------} 2sO_{3(g)} H = -188.3$ 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>

64	Law of mass action was given by :	A. Guldberg and Waage. B. Berkeley and Hartly. C. Ramsay and Reyleigh. D. Berthelot.
65	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
66	Acetic acid is 1.33% ionized, In 1000 molecules of 0.1 M acetic acid the number of H^+ions is	A. 1.33 B. 13.3 C. 1.33 D. 1
67	Which of the following is a characteristic of a reversible reaction?	A. It never proceeds to completion B. It can be influenced by a catalyst C. It proceeds only in the forward direction D. Number of moles of reactants and products are equal
68	At certain temperature, 50% of HI is dissociated into $H_2$and $I_2$the equilibrium constant is	A. 1.0 B. 3.0 C. 0.5 D. 0.25
69	Question Image	
70	Question Image	A. 4 mole per dm³ B. 2 mole per dm³ C. 0.33 mole per dm³ D. 0.67 mole per dm³
71	A reaction is reversible because :	A. Products are stable. B. Reactants are reactive. C. Products are reactive. D. Reactants re stable.
72	pH of 0.1 molar HCl solution is	A. 1 B. zero C. 13 D. 14
73	$N_2 + O_2 \rightleftharpoons 2NO$ 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>
74	$N_2 + 3H_2 \rightleftharpoons 2NH_3$ 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:

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75	$2SO_2 + O_2 \rightleftharpoons 2SO_2$ 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>
76	Chemical equilibrium involving reactants and products in more than one phase is called	A. Static B. Dynamic C. Homogeneous D. Heterogeneous
77	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.
78	In exothermic reversible reaction increase in temperature shift the equilibrium to :	A. Remains unchanged. B. Product side. C. Reactant side. D. None of above.
79	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>
80	Question Image	A. Shift reaction toward forward direction B. Shift reaction backward C. Lower the value of K_c D. No change in reaction
81	Question Image	A. 8 B. 4 C. 9 D. 3
82	In an exothermic reaction, a 10° rise in temperature will	A. Decrease the value of equilibrium constant B. Double the value of K_c C. Not produce any change in K_c D. Produce some increase in K_c
83	Question Image	A. Equal volumes of N₂and H₂are reacting B. Equal masses of N₂and H₂are reacting C. The reaction has stopped

		D. The same amount of ammonia is formed as is decomposed into N₂and H₂
84	On passing HCl gas through a saturated solution of commercial sodium chloride, pure crystals of NaCl are precipitated due to	A. Increase in pH of the solution B. Decrease in pH of the solution C. Common ion effect D. Increase in ionization of NaCl
85	For what value ofK_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>
86	Law of mass action states that rate of chemical reaction is directly proportional to the product of active masses of the reactants. The term active mass means	A. Mass in grams converted to products B. Number of moles C. Number of moles per dm³of reactants D. Total pressures of the reactants
87	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
88	The rate of forward reaction is two times that of the reverse reaction at a given temperature and identical concentration, K equilibrium is	A. 0.5 B. 1.5 C. 2.5 D. 2.0
89	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>
90	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>
91	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>
92	Question Image	A. The value of K_pfalls with rise in temperature B. The value of K_pfalls with increasing pressure C. Addition of V₂O₅catalyst increase the concentration of SO₃ D. The value of K_pis equal to K_c
93	pH of 1 molar NaOH is	A. 7 B. zero C. 14 D. 10
94	Buffers having pH less than 7 are made	A. Mixture of weak acid + salt of it with strong base B. Mixture of weak acid + salt of it with weak base C. Mixture of weak base + salt of it with strong acid D. Mixture of weak base + salt of it with weak base
95	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
96	A chemical reaction is in equilibrium when	A. Formation of product is minimum B. Reactants are completely transformed into products C. Rates of forward and backward reactions are equal D. Equal amounts of reactants and products are present
97	Le-chatlier's principle is applied on the reversible reaction in order to	A. Determine the rate of reaction B. Predict the direction of reaction C. Determine the extent of reaction D. Find best conditions for favorable shifting the position of equilibrium
98	For which system does the equilibrium constant. K_c has units of	
99	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.
100	Question Image	A. At equilibrium there is no further change in the concentration of HI B. At equilibrium concentration of I₂remains constant C. At equilibrium concentration of H₂remains unaltered D. At equilibrium the rate of formation of HI is equal to the rate of decomposition of HI
101	The solubility product of AgCl is $2.0 \times 10^{-10} mol^2 dm^{-6}$The maximum concentration of Ag^+ions in the solution is	A. 2.0 x 10⁻¹⁰mol dm⁻³ B. 1.41 x 10⁻⁵mol dm⁻³ C. 1.0 x 10⁻¹⁰mol dm⁻³ D. 4.0 x 10⁻²⁰mol dm⁻³
102	Question Image	A. 1 B. 10 C. 5 D. 0.33
103	Under what condition of temperature and pressure the formation of atomic hydrogen from molecular hydrogen will be favourd	A. High temperature and high pressure B. Low temperature and low pressure C. High temperature and low pressure D. :Low temperature and high pressure
104	Two moles of HI was heated in a sealed tube at 440°C till the equilibrium was reached. HI was found to be 22% decomposed. The equilibrium constant for dissociation is	A. 0.282 B. 0.0796 C. 0.0199 D. 1.99

105	The value of K_p is greater than K_c for a gaseous reaction when	A. Number of molecules of products is greater than the reactants B. Number of molecules of reactants is greater than those of products C. Number of molecules of reactants and products equal D. Catalyst is added
106	K_{sp} value for $PbSO_4$= 1.8 x 10^{-8} $mole^2dm^{-6}$. 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
107	Which one of the following has no units of its K_c value	
108	Question Image	A. [A] = [B] B. [A] < [B] C. [B] = [C] D. [A] > [B]
109	$N_2 + 3H_2 \rightleftharpoons 2NH_3$ + 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.
110	Question Image	A. Shift reaction toward forward direction B. Shift reaction backward C. Lower the value of K_c D. No change in reaction
111	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.
112	Base buffer solution can be prepared by mixing	A. Weak acid and its salt B. Strong acid and its salt with weak base C. Weak base and its salt with strong acid D. Strong base and its salt with weak acid
113	The ionic product of H^+ ions and OH^- in water is called ionization constant of water Kw. The value of Kw at 25°C is	A. 0.11 x 10⁻¹⁴ B. 0.30 x 10⁻¹⁴ C. 1.0 x 10⁻¹⁴ D. 3 x 10⁻¹⁴
114	Question Image	A. Reversible reaction B. Irreversible reaction C. Spontaneous reaction D. None of these
115	Question Image	A. 450°C B. 250°C C. 850°C D. 1000°C
116	When rate of forward reaction is equal to rate of backward reaction, then the equilibrium established is called	A. Chemical equilibrium B. Static equilibrium C. Dynamic equilibrium D. None of these
117	Question Image	A. Introduction of an inert gas at constant volume B. Introduction of PCl₃(g) at constant C. Introduction of PCl₅(g) at constant volume D. Introduction of Cl₂at constant volume
118	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>
119	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})
120	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
		A. Decrease in temperature favour more dissolution of the salt

121	Question Image	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
122	An aqueous solution is neutral when its	A. pH = 14 B. pH = zero C. pH = 7 D. Kw = 10⁻⁷
123	Question Image	A. 0.60 B. 1.67 C. 0.66 D. 2.6
124	Almost forward reaction is complete when value of k_c :	A. Neither larger nor very small. B. Very small. C. Very large. D. Negligible.
125	Whenever a week base is dissolved in water, it give its conjugate acid. similarly a weak acid in water produces its conjugate base. This conjugate acid-base pair concept is stated by	A. Law of mass action B. Le-charlier's principle C. Common ion effect D. Lowery Bronsted concept
126	Units of Kw are	A. Mole dm⁻³ B. Mole²dm⁻³ C. Mole²dm⁻⁶ D. Mole²dm⁻³
127	$K_a$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
128	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
129	The rate at which a substance reacts is directly proportional to its active mass and the rate of reaction is directly proportional to the product of the active masses of reacting substances, is called	A. Law of conservation of energy B. Le-Chateliers principle C. Law of mass action D. None of these
130	A solution of NaOH has pH = 13, then concentration of NaOH is	A. 10⁻¹³M B. 10¹³M C. 10⁻¹M D. 10⁺¹M
131	The optimum conditions of temperature and pressure to get maximum NH_3form $N_2$and H_2gases is	A. 2000°C and 10 atmosphere B. 0°C and 1 atmosphere C. 400°C and 200-300 atmosphere D. 200°C and 100 atmosphere
132	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.
133	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.
134	Question Image	A. HF is stable and does not decompose even at 2000°C B. HF is stable and slowly decomposes at 2000°C C. HF is strong acid D. HF produces equal moles of hydrogen and fluorine
135	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.
136	Question Image	A. KC = KP B. Kp = KcRT C. Kp = kc(RT)⁻² D. Kp = Kc(RT)⁻¹
137	Which one of the following is not a buffer	A. H₂CO₃+ NaHCO₃solution B. H₃PO₄+ NaH₂PO₄solution

		C. HI + NaI solution D. NH₄OH + NH₄Cl solution
138	The solubility product of AgCl is 2.0 x 10^{-10}mole ^{2}dm^{-6}. The maximum concentration of Ag^{+}ions in the solution is	A. 2.0 x 10⁻¹⁰mole dm⁻³ B. 1.41 x 10⁻⁵mole dm⁻³ C. 1.0 x 10⁻¹⁰ D. 4.0 x 10⁻²⁰mole dm⁻³
139	Which one of the following is a buffer	A. HCl + NaCl solution B. CH₃COOH + CH₃COONH₄solution C. H₂SO₄+ CaSO₄solution D. CH₃COOH + CH₃COONa
140	Question Image	A. Total pressure B. Amount of A₂and B₂ C. Temperature D. Catalyst
141	$2SO_2 + O_2 \rightleftharpoons 2SO_2 H = 188KJ\ mole^{-1}$ 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;">O₅<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>
142	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>
	$N_2O_4 \rightleftharpoons 2NO_2$	A. <o:p></o:p> Kc = [N₂O₄]/[NO₂] ²<o:p></o:p> B. Kc = [

143	$N_2O_4 \rightleftharpoons 2NO_2$ For the above reaction, which of the Following expression of K_c correct : 	N₂O₄]/ [NO₂] <o:p></o:p> C. Kc = [N₂O] ²/[N₂O₄] <o:p></o:p> D. Kc = [N₂O₄]/[N O₂] <o:p></o:p>
144	The solubility of $KClO_3$salt in water is decreased by adding	A. NaClO₃ B. NaCl C. KClO₄ D. KCl
145	Question Image	A. High temperature and low pressure B. Low temperature and low pressure C. Low temperature and high pressure D. High temperature and high pressure
146	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
147	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
148	An excess of aqueous silver nitrate is added to aqueous barium chloride and precipitate is removed by filtration. What are the main ions in the filtrate	
149	The state of equilibrium refers to	A. State of rest B. Dynamic state C. Stationary state D. State of inertness
150	Question Image	A. Pressure change B. Temperature change C. Concentration change D. Catalyst
151	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
152	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
153	$H_2 + L_2$ ----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
154	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.
155	pH of water is 7, if 0.01 M NaOH is added, than its pH is	A. 12 B. 14 C. zero D. 10
156	When a weak acid is dissolved in water or a weak base dissolved in water, then in both cases the conjugate acid base pair is produced. The ionization constants $K_a$and $K_b$of a pair are related with each other as	A. K_a= K_b B. K_a. K_b= K_w C. K_a. K_w= K_b D. K_b. K_w= K_a
157	When $H_2$and $I_2$are mixed and equilibrium is attained, then	A. Amount of HI formed is equal to the amount of H₂dissociated B. HI dissociation stops C. The reaction stops completely D. None of these
158	The avtive mass of 64 g of HI in a two litre flask would be	A. 2 B. 1 C. 5 D. 0.25
159	Which of the following in an example of reversible reaction	