



## Chemistry Fsc Part 1 Chapter 8 Online Test

Sr	Questions	Answers Choice
1	For which system does the equilibrium constant $K_c$ has units of (concentration) <sup>-1</sup>	A. The value of $K_p$ falls with a rise in temperature B. The value of $K_p$ falls with increasing pressure C. Adding $V_2O_5$ catalyst increase the equilibrium yield of sulphur trioxide D. The value of $K_p$ is equal to $K_c$
2		A. 3.0 B. 2.7 C. 2.0 D. 1.5
3	The pH of $10^{-3} \text{ mol dm}^{-3}$ of an aqueous solution of $\text{H}_2\text{SO}_4$ is	A. $2.0 \times 10^{-10} \text{ mol dm}^{-3}$ B. $1.41 \times 10^{-5} \text{ mol dm}^{-3}$ C. $1.0 \times 10^{-10} \text{ mol dm}^{-3}$ D. $4.0 \times 10^{-20} \text{ mol dm}^{-3}$
4	The solubility product of AgCl is $2.0 \times 10^{-10} \text{ mol}^2 \text{ dm}^{-6}$ The maximum concentration of $\text{Ag}^+$ ions in the solution is	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
5	At equilibrium stage of chemical reaction	A. The concentration of reaction is equal to concentration of products B. The rate constant of forward reaction is equal to rate constant of backward reaction C. The rate of forward reaction is equal rate of backward reaction D. The energy of activation of forward step is equal to energy of activation of backward step
6		A. $\text{dm}^6 \text{ mole}^{-2}$ B. $\text{mole}^2 \text{ dm}^{-6}$ C. $\text{Mole dm}^{-3}$ D. Having no units
7	If the volumes of reactants and products are same in a gaseous phase reaction, then the equilibrium state is not affected by	A. Change of temperature B. Change of pressure C. Change of concentration D. Catalyst
8	The relationship between $K_p$ and $K_c$ is given by	A. Law of mass action B. Law of mobile equilibrium C. Law of active mass D. All of these above
9	Le-Chatelier Braun principle is sometimes known as	A. Lewis B. Van der wall C. Arrhenius D. Vant hoff
10	The effect of temperature on equilibrium was studied by	A. $K_a$ B. $K_a = K_w$ C. $K_a \cdot K_b = K_w$ D. $K_a / K_b = K_w$
11	$K_a$ and $K_b$ of a conjugate acid and are related with $K_w$ as	
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13	The pH of human blood is	A. 7.0 B. 7.4 C. 4.0 D. 6.5
14	The value of pH and $P^{OH}$ of pure water at 25° C is	A. 14 B. 7 C. $1 \times 10^{-14}$ D. $1 \times 10^{14}$
15	A buffer solution can be prepared by mixing	A. Weak acid and its salt with weak base B. Weak base and its salt with strong acid C. Strong acid and its salts with weak base D. Strong base and its salt with weak acid
16	The number of moles of acid or base required by one $dm^3$ of buffer to alter its pH by one unit is called	A. Buffer efficiency B. Buffer capacity C. Buffer action D. None
17	The $pK_a$ value of $CH_3COOH$ is 4.74 when we mix $CH_3COOH$ and $CH_3COONa$ in the ratio of 10:1, then the pH of the buffer is	A. 4.74 B. 5.74 C. 3.74 D. 7.00
18	The law of mass action was given by	A. D.C. down and P wage B. Gay Lussic and C.M C. C.M Goldberg and P. Waage D. Hendeson and Le Chateller's
19	_____ was derived by C.M Guldberg and P Waage in 1864	A. Law of conservation of Mass B. Law of mass action C. Law of conservation of energy D. Distribution law
20	Optimum pressure in Haber's process for synthesis of Ammonia is	A. 100 -150 atm B. 200- 300 atm C. 350 - 450 atm D. 500 - 600 atm
21	Catalyst used in preparation of $NH_3$ from $N_2$ and $H_2$ is.	A. Ni B. Fe C. Pt D. $V_2O_5$
22	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
23	A chemical reaction $A \rightleftharpoons B$ is said to be in equilibrium when	A. Complete conversion of A to B has taken place B. Conversion of A to B is 50% complete C. Rate of transformation of A to B is equal to B to A D. 50% Reactant have been changed to B
24	The unit of $K_c$ for the reaction $N_2 + O_2 \rightleftharpoons 2NO$ will be	A. $mol\ dm^{-3}$ B. $mol^{-1}\ dm^3$ C. $mol^{-2}\ dm^6$ D. No units
25	Almost forward reaction is complete when value of $K_c$ is	A. very high B. Very small C. Neither large nor very small
26	the substance which increase the rate of reaction but remains unchanged at the end of the reaction is called.	D. No correlation A. Indicator B. Promoter C. Catalyst D. Activated complex
27	For the equilibrium system $N_2 + O_2 + Heat \rightleftharpoons 2NO$ the equilibrium constant decreases by	A. Decreasing the temperature B. Adding a catalyst C. Adding $N_2$ D. Adding NO
28	When solid KI dissolved in water, its heat of solution is positive. What would happen to dissolution when temperature is increased.	A. Increases B. Decreases C. Remain same D. Firs increases than decreases

A. Equard

29	When concentration of one product is removed at equilibrium stage, in which direction it moves to reestablish equilibrium.	A. Forward B. Reverse C. Neither forward nor reverse D. Equally move in both direction
30	The sum of pH and pOH is	A. 0 B. 7 C. 14 D. 10
31	Which one of the following aqueous solutions has the highest pH	A. 0.1 M NaOH B. 0.1 M HCl C. 0.2 M H <sub>2</sub> SO <sub>4</sub> D. 0.1 M HNO <sub>3</sub>
32	Which one of the following has highest pH	A. Distilled water B. 1 M NH <sub>4</sub> OH C. 1 M NaOH D. Water saturated with chlorine gas
33	A solution have H <sup>+</sup> ions concentration $1 \times 10^{-7}$ , its pH will	A. Acidic B. Basic C. Neutral D. Zero
34	K <sub>w</sub> for water at 0 °C is $0.1 \times 10^{-34}$ and at 100 °C $7.5 \times 10^{-14}$ , How many times dissociation of water increase from 0 °C to 100 °C	A. 7.5 times B. 50 times C. 75 times D. 100 times
35	A solution has pH zero. Its H <sup>+</sup> ions concentration will	A. zero B. More than unity C. Less than unity D. Unity only
36	pH of rain water.	A. 7 B. Slightly basic C. slightly acidic D. Highly basic
37	Which acid has less value of pK <sub>a</sub> .	A. CH <sub>3</sub> COOH B. H <sub>2</sub> S C. H <sub>2</sub> CO <sub>3</sub> D. HCl
38	Sum of pK <sub>a</sub> and pK <sub>b</sub> is equal to.	A. 1 B. 7 C. 0 D. 14
39	Buffer action can be explained by	A. Common ion effect B. Law of mass action C. Le Chatelier's principle D. All above
40	One dm <sup>3</sup> of a buffer solution containing 0.01 M NH <sub>4</sub> Cl and 0.1 M NH <sub>4</sub> OH having pK <sub>a</sub> of 3 has pH.	A. 4 B. 6 C. 9 D. 10
41	pH of buffer is calculated by.	A. Sorenson equation B. Mosley equation C. Henderson equation D. De broglie equation
42	pK <sub>a</sub> of CH <sub>3</sub> COOH is 4.74. The pK <sub>b</sub> value of CH <sub>3</sub> COO <sup>-</sup> ions will be	A. 7 B. 14 C. 9.26 D. zero
43	When small amount of acid or base is added to buffer, its pH.	A. Remain same B. Always increases C. Always decreases D. slightly increases or decreases
44	When HCl is added to H <sub>2</sub> S aqueous solution, Its ionization	A. Decrease B. Increase C. Remains constant D. First increases than decreases
45	Some impurities of MgCl <sub>2</sub> are present in NaCl which separation technique can be used to separate the impurities.	A. Filtration B. Crystallization C. Common ion effect D. Chromatography
46	A solution will be unsaturated if	A. Ionic product = K <sub>sp</sub> B. Ionic product < K <sub>sp</sub> C. Ionic Product > K <sub>sp</sub> D. both 'a' and 'b' are correct

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Which statement is correct about solubility product constant.

- A. It is applicable at highly soluble substances.
- B. Value of  $K_{sp}$  is independent of temperature
- C. It is used for homogeneous aquarium system
- D. It can be used to predict that precipitation will take place or not by combining two ions