## ECAT Chemistry Chapter 8 Chemical Equilibrium

| 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 <br> B. 2.7 <br> C. 2.0 <br> D. 1.5 |
| 2 | A solution has pH = 0, its $H^+$ ion concentration is | A. $1 \times 10^{-14}$ <br> B. $1 \times 10^{14}$ <br> C. $1 \times 10^{1}$ <br> D. 1 |
| 3 | Question Image | A. 0.02 <br> B. 0.2 <br> C. 50 <br> D. 25 |
| 4 | The relation between Kc and Kp is | |
| 5 | Question Image | A. Complete conversion of A to B has taken place <br> B. Conversion of A to B is only 50% complete <br> C. Only 10% conversion of A to B has taken place <br> D. The rate of transformation of A to B is just equal to rate of transformation of B to A in the system |
| 6 | When the rate of formation of reactants is equal to the rate of formation of products, this is known as | A. Chemical reaction <br> B. Chemical equilibrium <br> C. Chemical kinetics <br> D. None |
| 7 | The state of equilibrium refers to | A. State of rest <br> B. Dynamic state <br> C. Stationary state <br> D. State of inertness |
| 8 | Question Image | A. Moles per $dm^3$ <br> B. Partial pressures <br> C. Number of moles <br> D. Mole fractions |
| 9 | Question Image | A. 0.60 <br> B. 1.67 <br> C. 0.66 <br> D. 2.6 |
| 10 | A solution of NaOH has pH = 13, then concentration of NaOH is | A. $10^{-13}$ M <br> B. $10^{13}$ M <br> C. $10^{-1}$ M <br> D. $10^{+1}$ M |
| 11 | 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 <br> B. Law of mass action <br> C. A dynamic equilibrium <br> D. Irreversible reaction |
| 12 | $K_a$ value of HF acid is $6.7 \times 10^{-15}$ the acid is a | A. Weak acid <br> B. Moderately strong acid <br> C. Strong acid <br> D. Very weak acid |
| 13 | When $H_2$ and $I_2$ are mixed and equilibrium is attained, then | A. Amount of HI formed is equal to the amount of $H_2$ dissociated <br> B. HI dissociation stops <br> C. The reaction stops completely <br> D. None of these |
| 14 | A solution having pH = 4 its $OH^-$ ion concentration in mole $dm^{-3}$ is | A. $1.0 \times 10^{-4}$ <br> B. $1.0 \times 10^{-10}$ <br> C. $1.0 \times 10^{-14}$ <br> D. $1 \times 10^{0}$ |
| | | A. Moles |

| 15 | Question Image | $^2\,dm^{+6}$ <br> B. No units <br> C. Mole $dm^{-3}$ <br> D. $Mole^{-1}dm^{-3}$ |
|----|----------------|------|
| 16 | For the above reaction the relationship b/w $k_c$ and $k_p$ will be : | A. $K_p = K_c RT$ <br> B. $K_p = K_c(RT)^{-1}$ <br> C. $K_p = K_c(RT)^{-2}$ <br> D. $K_c = K_p$ |
| 17 | In the particular reaction for the value $K_c\ 1 \times 10^{-25}$ which statement is correct : | A. Almost forward reaction is completed. <br> B. Amount of reactant is negligible as compared to product. <br> C. Amount of product is negligible as compared to reactant. <br> D. Amount of product is equal to amount of reactant. |
| 18 | For what value of $K_c$ almost forward reaction is complete : | A. $K_c = 10^{30}$ <br> B. $K_c = 10^{-30}$ <br> C. $K_c = 0$ <br> D. $K_c = 1$ |
| 19 | pH of 1 molar NaOH is | A. 7 <br> B. zero <br> C. 14 <br> D. 10 |
| 20 | Which of the following favours the reverse reaction in chemical equilibrium? | A. Increasing the concentration of the reactant <br> B. Removal of the least one of the products at regular intervals <br> C. Increasing the concentration of one or more of the products <br> D. None of these |