ECAT Chemistry Chapter 8 Chemical Equilibrium Online Test

Sr	Questions	Answers Choice
1	pH of water is 7, if 0.01 M NaOH is added, than its pH is	A. 12 B. 14 C. zero D. 10
2	pH of 1 molar NaOH is	A. 7 B. zero C. 14 D. 10
3	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
4	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
5	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
6	pH and pKa of the buffer are related by Henderson equation which is	
7	$K_b$value of NH_4OH is $1.81 \times 10^{-5}$and its conjugate acid has $K_a = 5.7 \times 10^{-10}$pKb of the base is 4.74, pKa of its conjugate acid is	A. -4.74 B. 4.74 C. 10 D. 9.26
8	strength of an acid can be determined by	A. P^{ka} B. P^{kp} C. P^{oH} D. P^{kw}
9	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
10	The ionization constant of an acid is expressed in term of the following constant	A. Kw B. Kn C. Ka D. Kb
11	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
12	Which one of the following is not a buffer	A. H₂CO₃+ NaHCO₃solution B. H₃PO₄+ NaH₂PO₄solution C. HI + NaI solution D. NH₄OH + NH₄Cl solution
13	Which one of the following is a buffer	A. HCl + NaCl solution B. CH₃COOH + CH₃COONH₄solution C. H₂SO₄+ CaSO₄solution D. CH₃COOH + CH₃COONa
14	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
	Whenever a week base is dissolved in water, it give its conjugate acid, similarly a	A. Law of mass action

15	Whenever a weak base is dissolved in water, it gives its conjugate acid. Similarly a weak acid in water produces its conjugate base. This conjugate acid-base pair concept is stated by	B. Le-charlier's principle C. Common ion effect D. Lowery Bronsted concept
16	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
17	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
18	Units of Kw are	A. Mole dm⁻³ B. Mole²dm⁻³ C. Mole²dm⁻⁶ D. Mole²dm⁻³
19	Which of the following solution have zero pH	A. 1 M HCl B. MH₂SO₄ C. 0.1 M HNO₃ D. 1 M CH₃COOH
20	The solubility of $KClO_3$ salt in water is decreased by adding	A. NaClO₃ B. NaCl C. KClO₄ D. KCl
21	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
22	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
23	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
24	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
25	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%
26	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
27	A solution of NaOH has pH = 13, then concentration of NaOH is	A. 10⁻¹³M B. 10¹³M C. 10⁻¹M D. 10⁺¹M
28	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
29	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
30	An aqueous solution is neutral when its	A. pH = 14 B. pH = zero C. pH = 7 D. Kw = 10⁻⁷