MDCAT Chemistry Online Test

Sr	Questions	Answers Choice
1	If Kc value is small then equilibrium position will shift	A. Towards left B. Remains unchanged C. Towards right D. It is always constant value
2	A basic buffer solution can be prepared by mixing?	A. Weak acid and its salt with strong base B. Weak base and its salt with strong acid C. Strong acid and its salt with weak base D. Strong base and its salt with strong acid
3	The solubility of A2B3 is X mole dm-3. Its Ksp is?	A. 6X(5) B. 36X(5) C. 64X(5) D. 108X(5)
4	The pH of neutral water is 6.8 then the temperature of H2O is	A. 25°C B. More than 25°C C. less than 25 C° D. Not predicted
5	Which Henderson equation is not correct?	A. pH= pKa +log [salt/acid] B. pH = pKa - log [salt/acid] C. pH= pKa - log[acid/salt] D. Pka = pH - log [salt/acid]
6	Which one of the following has the lowest pH values	A. 0.1 M HCl B. 0.01 M HCl C. 0.1 M KOH D. 0.01 M KOH
7	On adding NH3 to water	A. Ionic product will increase B. [H3O+] will inerease C. Ionic product will decrease D. [H3O+] will decrease
8	The units of ionic product of H2O is	A. Mole dm-3 B. Mole2 dm-6 C. Mole-1 dm-3 D. Mole-2 dm-6
9	According to Lowery Bronsted concept, which of the following is considered as an acid?	A. BF3 B. OH- C. H3O+ D. Cl-
10	With increase in temperature, ionic product of H2O	A. Decreases B. Remains same C. Increases D. May increase or decrease
11	Which of the following is a base according to lowery Bronsted concept?	A. I-1 B. HCl C. H3O+ D. NH4+1
12	A certain buffer solution contains equal cone. of X- and HX. Ka for HX is 10(-8). The pH of buffer is	A. 3 B. 11 C. 8 D. 14
13	For N2: +3H2<--------> 2NH3, if Kc is 1 than value of Kp at 273K would be	A. 1/22.414 B. 1/(22.414)2 C. 22.414 D. 11.207
14	At equilibrium, the concentration of reactants and products are	A. Constant B. Maximum C. Different D. Equal

15	Buffer action can be explained by except	A. Common ion effect B. Le-Chatelier's principle C. Law of mass action D. Solubility product
16	Buffer solutions are used in except	A. Clinical analysis B. Nutrition C. Soil science D. Qualitative analysis
17	What will be the pH of 1.0 mol dm-3 of NH4OH, which is 1% dissociated	A. 2 B. 12 C. 0 D. 2.7
18	What will be the pH of 1.0 mol dm -3 of H2X, which is only 50% dissociated	A. 1 B. 0 C. 2 D. Less than 0
19	The solubility product is only applicable for those substance whose molar concentrations is	A. 0.01 B. Equal to 1 C. Less than 0.01 D. Greater than 10
20	If ionic product is equal to Ksp then the solution is	A. Unsaturatec B. Ideal C. Supersaturated D. Saturated
21	The pH of ideal buffer is	A. 10 B. 7 C. Less than 7 D. 0
22	Which one is best buffer those have	A. pH = pKa B. pH > pKa C. pOH < pKb D. pKa =0
23	A basic buffer solution can be prepared by mixing	A. Strong acid and its salt with weak base B. Weak base and its salt with strong acid C. Strong base and its salt with weak acid D. Weak acid and its salt with strong base
24	Which one increases by common ion effect except?	A. Crystallization B. Solubility C. Association of ions D. All of these
25	Which one is correct about conjugate acid-base concept?	A. Conjugate base of a very weak acid is relatively very strong B. Conjugate base of a very weak acid is relatively very weak C. Conjugate base of a very strong acid is relatively very weak D. Both A and C
26	Which one is very weak acid	A. HF B. HCl C. H2CO3 D. H2O
27	pH of an aqueous solution is 3.0 at 25°C. The hydrogen ion concentration in the solution would be	A. 0.001 B. 0.01 C. 0.0001 D. 10(-5)
28	Which statement is incorrect	A. pH and [OH-] are inversely related to cach other B. pOH and [OH-] are inversely related to each other C. pH and [OH-] are directly related to each other D. pOH means potential of hydroxyl ion concentration
29	If the volume term is present in denominator of Kc expression, then which one is correct	A. Increase in pressure will shift the reaction backward B. Increase in pressure will shift the reaction forward direction C. Decrease in volume will shift the reaction forward direction D. Reaction will not effected

30	If the temperature is inereased of following reaction, then will go in N2 +3H2 <---------> .2NH3, ∆H= -Ve	A. Forward direction B. Reverse direction C. Remain constant D. Cannot be predicted
31	Correct relationship b/w Kc and Kp can be written as	A. Kp=, Kc(R)∆n B. Kc=Kp (RT)∆n C. Kp.= Kc.(RT)∆n D. Kp=Kc (R/N)∆n
32	In which of the following Equilibria will Kc and Kp have not the same value	A. 2HI <--------> H2+I2 B. 2SO2 + O2 <--------> 2SO3 C. N2 + O2 <---------> 2NO D. All of these
33	For what value of Kc almost forward reaction is complete	A. Kc.=10(-30) B. Kc.=1 C. Kc = 10(30) D. Kc,=0
34	When HCl gas is passed through saturated solution of rock salt, the solubility of NaCl	A. Increases B. May increase or decrease C. Decreases D. None of these
35	The Kw. of water at 25 C° is given by	A. 10(-7) B. 10(-10) C. 10(-12) D. 10(-14)
36	The most suitable temperature for preparing ammonia gas is	A. 250°C B. 450°C C. 350°C D. 550°C
37	pH of 10-4 mole dm-3 of HCl	A. 2 B. 4 C. 3 D. 5
38	An excess af silver nitrate is added to the aqueous barium chloride and the precipitate is removed by filtration. What are the main ions in the filtrate?	A. Ag+ and NO3-, only B. NO3- and Ba+2 only C. Ag+ and NO-3, and Ba+2 only D. Cl- and NO-3, and Ba+2 only
39	The solubility product of AgCl is 2.0 x 10(-10) mol2 dm(-6). The maximum concentration Ag+ ions in the solution is:	A. 1.41 × 10(-5) mol. dm(-3) B. 1.41 × 10(-10) mol. dm(-3) C. 2.0 × 10(-10) mol. dm(-3) D. 4.0 × 10(-20) mol. dm(-3)
40	In a given system, water and ice are in equilibrium, if the pressure is applied to the above system then	A. Morc ice is formed B. Amount of ice and water will remain the same C. more ice is melted D. both A and B
41	The decomposition of N2O4 to NO2 is carried out at 280°C in chloroform. When quilibrium is reached. 0.2 moles of N2O4 and 0.02 mole of NO2 are present in 1:1 ratio The equilibrium constant for the reaction N2O4------> 2NO2 is	A. 0.01 B. 0.001 C. 0.02 D. 0.002
42	For the reaction H2(g) +I2 (g) <---------> 2HI(g). The equilibrium constant changes with	A. Total pressure B. Catalyst C. Concentration of H2 and I2 D. Temperature
43	The solubility of Fe(OH)3 is 'x' mole per dm3. Its Ksp would be	A. 9X3 B. 3X4 C. 27X4 D. 9X4
44	In a saturated solution of AgCl, the molar concentration of Ag+ and Cl- is 1.0x10(-5)M each. What is the value of Ksp	A. 1.0x10(-5) B. 1.0x10(-15) C. 0.1x10(-5) D. 1.0x10(-10)
45	If the concentration of salt is greater than the acid in buffer solution, then the	A. pH = pKa B. pH = pKb C. pH > pKa D. pH < pKb
46	The oxidation of SO2 to SO3 is exothermic reaction. The yield of SO3 will be maximum if	A. Temperature is increased and pressure is kept constant B. Temperature is reduced and pressure is increased C. Both temperature and pressure are increased D. Both temperature and pressure are increased

47	Consider the reaction PCl5 (g) <---------> PCl3 (g) +Cl2 (g) in a closed container at equilibrium. At a fixed temperature, what will be the effect of adding more PCl5 on the equilibrium constant	A. It increases B. It remains unaffected C. It decreases D. Can't be predicted without Ki
48	In the reaction A2 (g) + 4B2 (g) <----------> 2AB4 (g) such that ΔH < 0, the formation of AB4(g) will be favoured at	A. Low temperature and high pressure B. Low temperature and low pressure C. High temperature and low pressure D. High temperature and high pressure
49	In the reaction A2 (g) + 4B2 (g) <----------> 2AB4 (g) such that ΔH < 0, the formation of AB4(g) will be favoured at	A. Low temperature and high pressure B. Low temperature and low pressure C. High temperature and low pressure D. High temperature and high pressure
50	Plastics are amorphous solids and	A. have sharp melting points B. undergo clean cleavage when cut with knife C. do not undergo clean cleavage D. possess orderly arrangement over long distances
51	Amorphous means	A. arranged B. ordered C. shaped D. shapeles (no arrangements)
52	The arrangement ABC, ABC .... is referred as	A. cubic close packing B. octahedral close packing C. hexagonal close packing D. tetrahedral close packing
53	All the metal shine when they are freshly cut The reason is	A. the conductivity of the metal is increased B. the process of cutting gives energy to the metal atoms C. the electrons become less delocalized according to valance bond theory D. the electrons are excited at higher energy levels and emit the photons when they fall back
54	The electrical conductivity of the metals decreases with the increasing temperature. This is because	A. the number of free electrons decrease B. the bonds of the metal atoms become weak C. the to and fro motion of the metal ions decrease D. the increase of to and fro motion of the metal ions hinders the free movement of electrons
55	Metallic bonds have been explained by many theories. Luis Pauling has proposed a theory called	A. molecular orbital theory B. electron gas theory C. band theory D. valence bond theory
56	How temperature affects the electrical conductivity of metals?	A. Does not change at all B. Decreases with increasing temperature C. Increases with increasing temperature D. Decreases with decreasing temperature
57	Which attractive forces cause molecular solids to be formed?	A. Ionic B. Metallic C. Covalent D. van der Waals
58	in diamond a unit cell is tetrahedral and averall crystai structure is	A. face centred cubic B. body centred cubic C. tetrahedral D. hexagonal
59	In diamond, which hybridization is there?	A. sp2 B. dsp2 C. sp3 D. sp

60	Which of the following solids does not have a covalent bond?	A. Silica B. Copper C. Diamond D. Graphite