ASS MATRIC HIGHER SECONDARYSCHOOL KUCHIPALAYAM

STD: XI II – MIDTERM TEST MARK: 50

DATE: 23. 11.21 CHEMISTRY TIME: 1:30 HRS

I Choose the correct answer: 8x1=8

1..Which one of the following is incorrect statement?

a) For a system at equilibrium, Q is always less than the equilibrium constant.
b) Equilibrium can be attained from either side of the reaction.
c) Presence of catalyst affects both the forward reaction and reverse reaction to the same extent.
d) Equilibrium constant varied with temperature.

2.An equilibrium constant of 3.2x 10-6 for a reaction means, the equilibrium is

a) Largely towards forward direction
b) Largely towards reverse direction
c) Never established9
d) None of these88

3.The morality of a solution containing 1.8 g of glucose dissolved in 250 g of water is

a) 0.2 M b) 0.01M c) 0.02 M d) 0.0 4M

4.Which one of the following is incorrect for ideal solution?

a) ΔH mix = 0 b) ΔUmix =0 c) ΔP= Pobserved – P calculated by Raoult,s law=0 d) ΔG=0

5.Osmotic pressure (π) of a solution is given by the relation

a) π= nRT b) πV= nRT c) πRT= n d) none of these

6.Kc/ Kp for the reaction, N2(g) + 3H2(g) 2 NH3(g) is

a) 1/RT b) √ RT c) RT d)(RT) 2

7.When Δng is negative in chemical equilibrium reaction then :

a) Kp< Kc b) Kp= 1/Kc c) Kp= kc (RT) j- ve d) kp>Kc

8.Normality of 1.25 M sulphuric acid is

a) 1.25 N b) 3.75N c) 2.5 N d) 2.25N

II Short answer the following question: 6x2=12

9. State Le- chatelier principle.

10.State law of mass action.

11. Define (I) Molality (ii) Normality

12.What is osmosis? }

13.State and explain Henry's law

14.what is reaction quotient?

III.Short answer the following question 5X3=15

15.Explain how will you predict the direction of a equilibrium reaction.

16. The study the decomposition of hydrogen iodide, a student fills an evacuated 3 litre flask with 0.3 mol of HI gas and allows the reaction to proceed at 500°c at equilibrium he found the concentration of HI which is equal to 0.05 M. Calculate Kc and Kp for this reaction.

17.Explain the effect of pressure on the solubility.

18.Calculate the molality of a solution containing 7.5 g of glycine (NH2- CH2- COOH) dissolved in 500 g of water.

19.2.82 g glucose is dissolved in 30 g of water. Calculate the mole fraction of glucose and water.

IV. Long answer the following question; 3X5=15

20. Derive a general expression for the equilibrium constant Kp and Kc for the reaction 3H2 (g) + N(2) 2 NH3(g).

21.Derive the relation between Kp and Kc.

22. Dissociation of Pcl5.