EXERCISE

1.)Select the most correct alternative and rewrite the sentence again.

A. If ionic product----------the solubility product then the state of solution

is saturated state

a) > b) < c)= d)≤

B)When ionic product---------- the solubility productprecipitation occurs

a) > b) < c)= d)≤

C)Degree of dissociation of H_2S is suppressed by addition of ---------strong electrolyte

a)KCl b)HCl c)NH_4Cl d)Na_2CO_3

D) The group reagent for V^{th}group is----------

a)H_2S b)NH_4OH c) $(NH_4)_2CO_3$ d)Na_2HPO_4

E) The quantity of sample required for semi-micro qualitative analysis is--------

a) 10to100 mg. b)1to10mg. c)0.1to5.0mg . d)100mgto1gm

F) Due to common ion effect weak electrolyte becomes--------

a)more weak b)more strong c) remains as it is d)either weak or strong

G) Yellow ammonium sulphate is used for separation of group --------

a) $IIIA^{rd}$ to $IIIB^{rd}$ b) II^{nd} A to II^{nd} B c)IV^{th} to V^{th} d) I^{st} to II nd

H) H_2S in presence of HCl is a group reagent for

a) IIIArd b) IIIBrd c)IInd d) Vth

I) In-------group there is only one Mg^{2+}basic radical

a) IIIArd b) IIIBrd c)IInd d) Vth

J) the chemical composition of brown ring produced in the test of NO_2 is-------

a)[FeNO]SO_4 b))[FeNO]Cl_2 c)[$FeSO_4$]NO_2 d))[$FeCl_2$]NO

K)The spot test analysis technique was developed by scientist-------and his coworkers

a) C. V. Raman b) A.I.Vogel c) F.iegl d) P.Waage

L)---------gives blood red colouration to ferric ion

a)K_3 [$Fe(CN)_6$] b) K_4 [$Fe(CN)_6$] c)NH_4CNS d) $(NH_4)_2$ [$Hg(SCN)_4$]

M)Dimethyl glyoxime is a specific reagent for----------

a)Ni^{2+} b)Co^{2+} c)Cu^{2+} d) Fe^{3+}

N) IInd A group cations are called as---------- group cations

a)tin b)cadmium c)arsenic d)Copper

O)The basic radicals are classified in to different groups according to their tendency to give----------with specific group reagent

a)precipitate b)complex ion c)double salt d)clear solution

P)-------group basic radicals are not having specific group reagent

a) Vth b) IVth c)VIth d)IInd

ANSWERS:-A-c, B-a, C-b, D-d, E-a, F-a, G-b, H-c, I-d, J-a, K-c, L-c, M-a,

N-d, O-a,P-c

2.Write precise note on the following.

i)Solubility product

ii)Common ion effect

iii)complex formation

vi)Separation of $Cu^{2+}$and Cd^{2+}

vii) Separation of $Co^{2+}$and Ni^{2+}

viii)Separation of NO_2^- and NO_3^-

.ix)Separation of Cl^- from $Br^-$and I^-

X) Separation of Cl^- , $Br^-$and $I^-$by oxidation and reducrion

xi) Brown ring test for NO_2^- and NO_3^-

3.Discuss the basic principles involved in the semi-micro qualitative analysis.

4.How Cu^{2+} is separated from Cd^{2+} by complex ion formation ?

5. How Cl^- is separated from $Br^-$and $I^-$by complex ion formation?

6.How NO_2^- and NO_3^- are detected by complex formation?

7.Explain in brief separation of of Cl^- , $Br^-$and $I^-$by oxidation and reducrion.

8.Explain in brief application of Solubility product and Common ion effect in the separation of II^{nd} group cations.

9. Explain in brie application of Solubility product and Common ion effect in the separation of III^{rd} group cations.

10. How Co^{2+} is separated from Ni^{2+} by complex ion formation?

11.Explain the role of oxidation and reducrion in the separation of NO_2^- and NO_3^-.