CHAPTER VII.

Summary and Conclusion.


CHAPTER VII

SUMMARY AND CONCLUSIONS:

As have been discussed in the beginning (Chapter I) that transition metals of 'd' sub-shells are more reactive than the inner transition metals i.e. lanthanides. Therefore, interaction of metals of 'd' sub-shells with the ligands in solution state is more conveniently studies.

In Chapter I of this thesis the extensive survey of literature on the Cu(II), Ni(II), Co(II) and Fe(II) complexes and their chemistry have been compiled with object and intention of the present investigations. In Chapter II, III and IV the methods of determination of the presence of complexation, preparation of ligand and actual procedure for experimentation, have been discussed, respectively. On the basis of the studies made by several other workers the pH-meteric method has been chosen for the present studies. The mediums of interaction for metal-ligand complexation have been selected on the basis of dielectric constants.

In Chapter V, the results are evaluated from the experimental data of Chapter IV. At the time of evaluation of the results all the necessary attention and aspects have been
considered before final discussion of the results. In Chapter VI, the results obtained in Chapter V have been taken for discussion. In this chapter, it is observed that viscosity of the solvents i.e., dielectric constant has significant role and the effect is clearly observed during present investigations. It is also observed that if the dielectric constant of the medium are varied by rise of temperature than to annul this effect the stability constant decreases.

The metal-ligand stability constant of the metals in different solvents and at different temperature shows the well established Irving-Williams Rule i.e.,

\[ \text{Cu(II)} > \text{Ni(II)} > \text{Co(II)} > \text{Fe(II)}. \]