ICP 406: INORGANIC CHEMISTRY PRACTICALS-I

Objectives

- To establish broad knowledge of Inorganic Chemistry.
- To impart the basic analytical and technical skills to work effectively in different fields of chemistry.
- To perform accurate quantitative measurements with an understanding of the theory and use of contemporary chemical instrumentation, interpret experimental results, perform calculations on these results and draw reasonable, accurate conclusion.
- To gain practical training in volumetric and gravimetric analysis and statistical analysis of data.

1. Analysis of Haematite-insoluble residue by gravimetry & Iron by volumetric method.
2. Analysis of Dolomite-insoluble residue by gravimetry & Ca, Mg bycomplexometric method.
3. Pyrolusite-Insoluble residue by gravimetry and Manganese content by oxalate method.
4. Estimation of percentage of copper in brass.
5. Determination of iron using potassium dichromate.
6. Preparation of pure sample of ferrousammoniumsulphate(Mohr'ssalt)[$FeSO_4.NH_4)_2SO_4.6H_2O$]
7. Preparation of pure sample of potash alum (Fitkari)[$K_2SO_4.Al_2(SO_4)_3.24H_2O$]
8. Complexometric determination of Mn, Cu, Ni and Fe-Crmixture
9. Determination of Hardness of water.
10. Analysis of Halide Mixture - Iodide by KIO_3 and total halide bygravimetrically.
11. Colorimetric Determination of Iron by thiocyanate and Cu by aqueousammonia.
12. Gravimetric Determinations of Mn, Ni, Mo, Pb/Cr, sulphide, thiocyanate.
13. Spot test for the detection of inorganic ions (any ten cations).
14. Statistical analysis of data.

Course Outcome:

Students will have the ability to:

- Think critically and analyze chemical problems.
- Present scientific and technical information resulting from laboratory experimentation in both written and oral formats.
- Describe the principle, instrumentation and applications colorimetric analysis.
- Gravimetric determination of metal ions.
- Analysis of water samples.

References

1. G.H.Jeffrey, J.Bassette, J.Mendham and R.C.Denny, Vogel's TextBook of QuantitativeChemical Analysis ,5th Edition, Longman, 1999.
2. Vogel, "Textbook of Qualitative Inorganic Analysis", 3 Edition, ELBS. 1976.
3. D.A.Skoog and D.M.West, Fundamentals of Analytical Chemistry, IV Edition, Old Reinhord& Winston, Publication, 1982.
4. B.K. Sharma, Instrumental methods of Chemical analysis, Goel Publishing House, 24th Edition, 2005.
5. Gurdeep R. Chatwal, Sham K. Anand, Instrumental Methods of Chemical Analysis, Himalaya Publication, 1979.