PREFACE

The main scope of the study was to determine the metal ions using the new organic analytical reagents by the direct and derivative spectrophotometric methods. In this point of view the author interest to synthesize new chromogenic organic reagents like thiosemicarbazones and to develop some simple, sensitive and easily adoptable methods for the determination of various metal ions like cobalt(II), copper(II) and nickel(II).

A comprehensive summary of work entitled “Spectrophotometric determination of metal ions using organic compounds” has been described as under.

Chapter-1

Introduction, this chapter describes the importance of the different chromogenic organic reagents and their use in the spectrophotometric determination of metal ions.

Chapter-2

This chapter includes a detailed literature survey of the present investigation of metal ions using different chromogenic organic reagents.

Chapter-3

Theoretical analysis of present investigation was incorporated in this chapter. Preparation of reagent solutions, buffer solutions, solutions of various interference ions, brief description of instruments employed in the present study and general experimental procedures of the present investigation are incorporated.
Chapter-4

Experimental investigation of present study was incorporated in this chapter. It includes synthesis and characterization of new organic reagents 2-acetylfuran-4-methyl-3-thiosemicarbazone (2-AFMT) and 3–acetylpyridinethiosemicarbazone (3-APT). Direct and derivative spectrophotometric determination of Co(II), Cu(II) and Ni(II) metal ions with the above two new reagents was incorporated in this chapter.

Chapter-5

This chapter includes the experimental results of each investigation of the present study.

Chapter-6

This chapter includes the discussion of results of the present investigation.

Chapter-7

This chapter includes the summary, conclusion and recommendations of the present investigation.