Preface

This thesis entitled "Coordination Chemistry of Molybdenum" mainly embodies the work done on (i) isolation of new oxohalomolybdates(V), (ii) study of new reactions of oxohalomolybdates(V) to show that the nature of products depend both on the nature of halogen and the organic base and (iii) mechanistic study of the hydrolytic equilibria of molybdenyl cation. All the new products, for the first time by the present author have been characterised by analysis and various other physicochemical methods.

Chapter I: Mainly deals with a short critical survey of the chemistry of molybdenum mainly in oxidation state five, theories of bonding and molecular orbital description of oxohalomolybdate(V) and \( \beta \)-diketo-oxotrihalomolybdate(V) anions.

Chapter II: Includes the summary of the present work.

Chapter III: (a) Describes the methods of analysis of molybdenum, halogen, nitrogen in these compounds and preparation of new compounds, 
(b) Determination of oxidation states of the metal, 
(c) Conductance measurement, 
(d) Magnetic susceptibility measurements, 
(e) Infra-red Spectra, and 
(f) Electronic spectra of these compounds.