Preface

The present research work has been carried out in the Inorganic Chemistry Laboratory of the Department of Pure Chemistry, University of Calcutta under the guidance of Dr. P.C. Kundu, M.Sc., Ph.D.

The contents of the thesis have been placed in six chapters. In Chapter-I, a comprehensive survey of the properties of hexavalent uranium which generally exists in the form of uranyl ion, has been presented. The survey is, by no means, an exhaustive one, but every effort has been made to include all the important and relevant works done on the subject up to 1978. The remaining portion of the thesis contains forty three new uranyl complexes which have been prepared and characterised by the present author. Not only that, suitable conditions have been established for the gravimetric determination of silver, thallium(I) and barium taking sodium tris(neo-cupferronato) dioxouranium(VI) as an analytical reagent. In each chapter relevant tables and diagrams have been placed but references of all chapters have been compiled at the end.

Due to lack of instrumental facilities, DTA and NMR data of some compounds of Chapter-VI are not available. In future, the author will attempt to record the remaining data.

A portion of Chapter-II has been published as a paper in the Indian Journal of Chemistry, New Delhi, Vol. 16A, 865 (1978). Chapter-III has also been published in the same journal, Vol. 18A, 62 (1979). Rest of the work will be communicated for publication shortly.