CHAPTER III

9. The solubility data of hydrous oxide furnishes an evidence to show that the precipitated oxide corresponds to \( \beta \)-monohydrate which gradually changes with age to the \( \alpha \)-form. From the study of equilibria of molybdc oxide in dilute acid, the isoelectric point has been located at a pH 1.7 and the values of acid and base dissociation constants have been found to be \( 5.77 \times 10^{-2} \) and \( 7.56 \times 10^{-13} \) respectively.

CHAPTER IV

10. Many organic anions form stable complexes with molybdc oxide. The complex formation of molybdc oxide with oxalic, tartaric, malic, malonic and maleic acids has been investigated by electro-metric and spectrophotometric methods. The results show that the molybdc oxide forms a 1:1 complex with oxalic acid and both 1:1 and 1:2 complexes with all the other organic ligands. From the pH data of the neutralisation of the complex acids, their successive dissociation constants have been calculated. Based on a comparison of K values, the complex acids lie in the order Molybdo-tartaric > molybdo-oxalic > molybdo-maleic > molybdo-malic > molybdo-malonic acids so far as their acid strengths are concerned (table 4.45).

Keeping in view the atomic structure and coordinating capacity of molybdenum and the nature and ring size of the organic ligands, probable structures for these complexes have been suggested (pages 208 and 209).