PREFACE

The work embodied in the thesis deals with Physico Chemical Studies on the Interaction of Selected Cationic Dyes with Aluminosilicates. For this purpose two Xanthene dyes, viz., Rhodamine 6G and Rhodamine B having similar structure differing in shape and postion of alkyl substituents and one Oxazine dye viz., Brilliant Cresyl Blue obviously differing in size and structure from the other two have been chosen as adsorbates. Two natural exchangers viz. montmorillonite and kaolinite and one synthetic exchanger viz. laponite (hectorite) have been selected as adsorbents. Attempts have also been made to understand the sorption behaviour in the light of the structure of the adsorbate as well as adsorbent.

In order to understand physico chemical aspects of exchange equilibrium considerable attention has been devoted to studies on desorption of Rhodamine $6G^{+}$ and Rhodamine B^{+} ions from their respective exchangers. Monovalent and divalent inorganic Cations as well as alkyl quaternary ammonium ions and long chain surface active ions of varying size and shape have been used as desorbing ions.

A systematic attempt has been made to interpret the data of both sorption and desorption in the light of prevalent approach and model and also to express the data in qualitative and quantitative terms.

Attempts has been made to study the aggregation of the dyes on above mentioned exchangers. For this purpose above mentioned Cationic dyes belonging to different categories have been chosen.

The effect of temperature on the sorption of Xanthene dyes on the natural exchangers have also been investigated.

The present thesis embodies the results of research carried out by the candidate at the Department of Chemistry, University of North Bengal.