

PREFACE

All naturally occurring processes involving physical and chemical changes proceed irreversibly. The irreversible changes in non-reactive systems involve essentially transport processes. The study of the transport processes under the influence of magnetic field is of paramount importance. In medical sciences magneto-therapy is one of the important techniques, which is used to detect and cure the diseases of different kind. Also the technological development of artificial membranes is continually uncovering the new ways to replace decaying or dead biological membranes.

The present work is done to see the effect of magnetic field on membrane transport. For this purpose, a sintered disc impregnated with cellulose acetate have been used. The various parameters have been estimated and discussed from the view-point of various thermodynamic and non-thermodynamic theories. The first chapter gives a brief introduction to membranes of different kind, transport phenomena, types of magnetism and a review of transport studies through membranes with and without magnetic field. Hydrodynamic permeability studies and the effect of magnetic field on them have been given and discussed in Chapter II. In Chapter III electro-osmotic studies and the effect of magnetic field are reported and discussed. Chapter-IV gives a brief summary of the work presented in the thesis.