

P R E F A C E

This dissertation comprises four chapters in which attempt has been made to present the work carried out on the subject consistent with the development of the topic concerned. In chapter one the introduction on ferrites, where in their structural and magnetic properties, Neel's theory, Yafet-Kittel theory, applications of ferrites and orientation of the problem are briefly reviewed.

Chapter two is divided in three parts. Part A deals with the preparation conditions and preparation of materials and part B deals with X-ray diffraction of the samples and part C deals with microstructure studies. In chapter three studies on A.C. Susceptibility in part A, magnetic hysteresis in part B and initial permeability in part C are discussed. In chapter four summary and conclusions are reported.

The theoretical as well as experimental results are illustrated with appropriate figures and tables. A list of references is given at the end of each chapter.