P R E F A C E

In modern age of technological progress, material science has came to assume a dominant position and fundamental research on different materials has now become a sustained process. The ferrite materials are being increasingly harnessed for diverse applications in communication and industrial technologies.

The present dissertation work comprises of five chapters. In the first chapter, historical background, crystal structure and relevant theories are discussed briefly. At the end of the chapter orientation of work is given. Second chapter includes the preparation of ferrites by standard ceramic method and their characterization by X-ray diffraction and I.R. Spectroscopy.

Chapter III covers the systematic study of d.c. resistivity and thermoelectric power. Both the theoretical background and experimental results are supported by appropriate data and are illustrated with necessary figures. Chapter IV has been devoted for the studies on magnetization, a.c. susceptibility and curie temperature.

List of references is given at the end of the each chapter. Only in case of few references, it was not possible to refer the original work.