Preface

Ferrite has become an important subject to-day because it finds wide applications in computer and television. The simultaneous twin requirements of optimal electrical and magnetic properties in the advanced electronics, microwave and computer technology, have attracted the attention of research workers on ferrites.

Substitutents have modulated various properties of ferrites and paved a new way to tailormaking new devices to suit industrial requirements.

In this volume an attempt is made to see how electrical and magnetic properties are modulated when zirconium is added in small amount to magnesium-zinc ferrite.

The first chapter opens with the historical background of the subject. After this the classification of ferrites and types of ferrites are pointed out. This follows the discussion of electrical and magnetic properties of ferrites and the meaning of ferrimagnetism is explained. In the pages following this Neel's theory of ferrimagnetism is discussed. The orientation of the problem is stated at the end of this chapter.

Method of preparation of ferrite, X-ray diffraction studies of the samples and determination of Curie temperatures of the samples have been reported in the Second chapter.

Study of electrical properties of the samples, dielectric constant and thermo -emf measurements are reported in the Third chapter.

Studies on susceptibility and magnetisation are discussed in the Fourth Chapter.

Summary and conclusions are reported in the Fifth chapter.

The theoritical as well as experimental results are illustrated with appropriate figures. A list of references is given at the end of each chapter. Only in the case of a few references it was not possible to refer to the original work.