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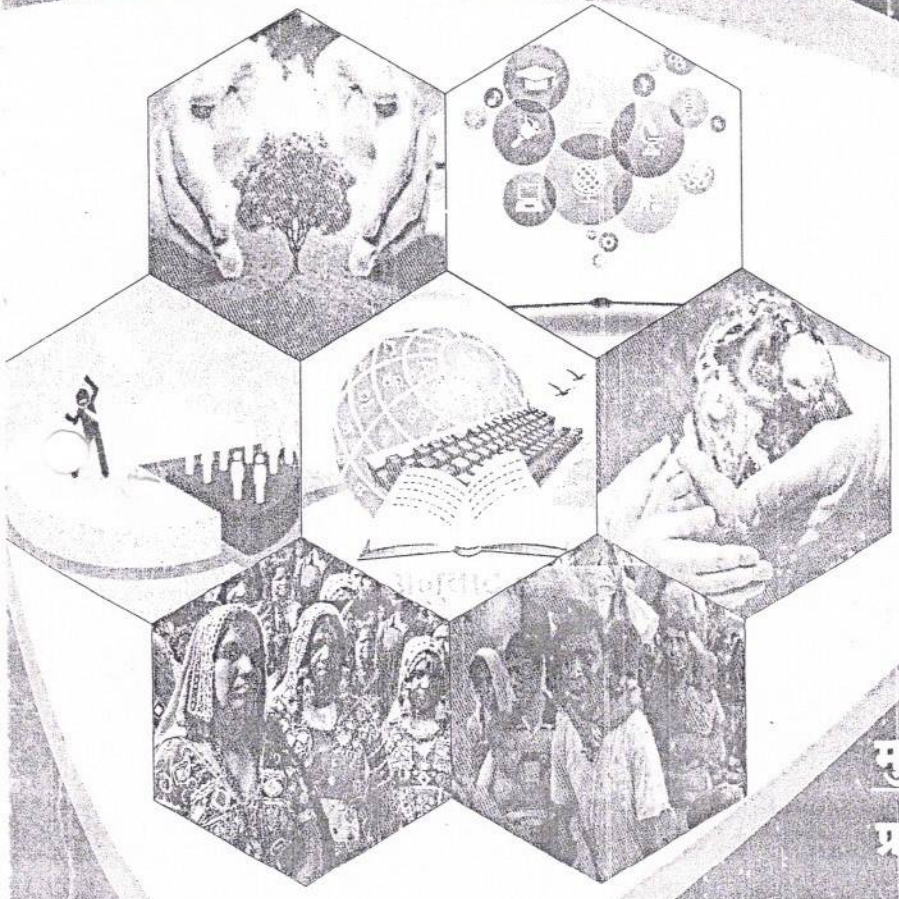

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सारांश

काळाच्या ओघात समाजात आणि साहित्यात नव—नवे असे विचार प्रवाह उदयास येत असतात. मराठी साहित्यामध्येही पर्यावरणवादी साहित्य, अनुवादीत साहित्य, विज्ञानवादी साहित्य, उपेक्षितांचे साहित्य, स्त्रीवादी साहित्य, विस्थापितांचे साहित्य, ग्रामीण साहित्य, दलित साहित्य, अल्पसंख्यांक समुदायाचे साहित्य, प्रादेशिक साहित्य अशासारखे नवे विचार प्रवाह पाहावयास मिळतात. मराठी साहित्यामध्येही या स्वतंत्र विचार प्रवाहाने आपले अस्तीत्व विविध साहित्यकृतींच्या माध्यमातुन आधोरेखीत केले आहे.

कथा, कविता, नाटक, कादंबरी अशा सारख्या विविध साहित्य प्रकाराच्या माध्यमातून प्रादेशिक साहित्याने आपले वेगळेपण जपलं आहे. प्रादेशिक साहित्या मध्ये मराठी प्रादेशिक कादंबरीने विविध कादंबऱ्यांच्या माध्यमातून आपले प्रादेशिकतेचे मुल्य जपल्याचे दिसून येते. समाजजीवन, लोकसंस्कृती भाषा, बोलीभाषा, त्याची शैली, विविध प्रादेशिक विभागातील समस्या, प्रत्ययकारी असे समाजवास्तव अशा सारख्या विविध बाबींचे चित्रण आपणास विविध मराठी प्रादेशिक कादंबऱ्यांच्या माध्यमातून अनुभवयास मिळते.

प्रस्तावना

१९२० नंतर गांधीवादाचा ग्रामजीवनावरील प्रभाव, राष्ट्रवादी विचारसरणी, महाराष्ट्र राज्याच्या स्थापनेनंतर खेडोपाडयात निर्माण झालेल्या शिक्षण सुविधा, त्यातून नव्या पिढीला आलेले आत्मभान, विविधि साहित्यकृतीचा व साहित्य प्रकारांचा झालेला परिचय, आपली संस्कश्ती, आपल्या प्रथा—परंपरा, आपला इतिहास, आपली जीवनशैली आशा सारख्या विविध बांबी विषयी नवसाक्षरांच्या मनात निर्माण झालेला अभिमानकृकृ अशा सारख्या विविध बाबींच्या पाठबळावर स्वातंत्र्योत्तर काळात साहित्यकारांची एक चळवळ उदयास आली. या साहित्यकारांनी आपल्या विविध साहित्यकृतींच्या माध्यमातून आपल्या मनातील विविध भावनांना

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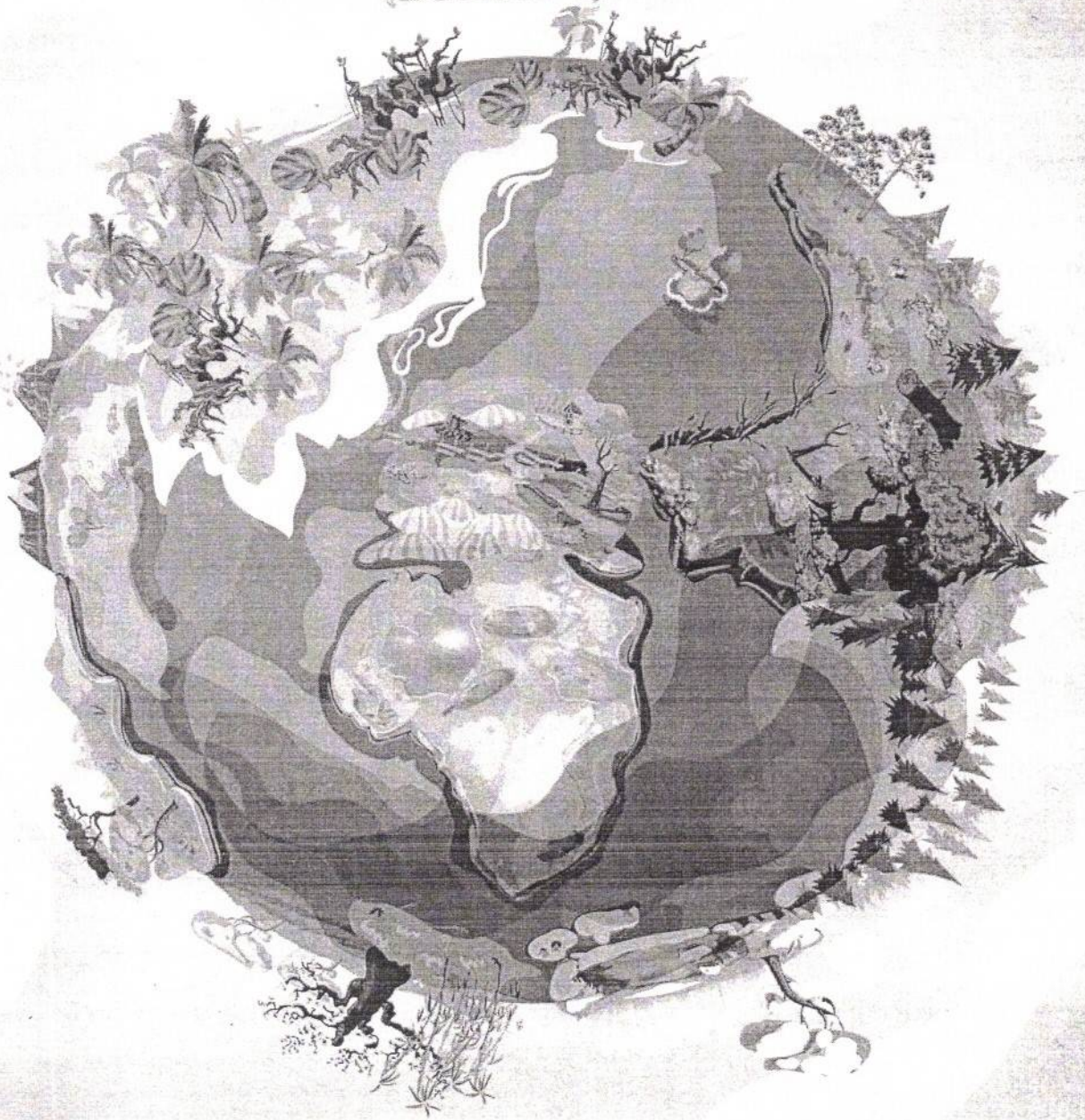

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GREEN CHEMISTRY AND ITS ROLE TO PREVENT ENVIRONMENTAL POLLUTION

DR. BABASAHEB SONYABAPU ZINE
Assistant Professor
Bhagwan Mahavidyalaya, Ashti.
Dist. Beed- 414203 (MAHARASHTRA)

❖ INTRODUCTION

Green Chemistry is defined as environmentally benign chemistry. As on today, maximum pollution to the environment is caused by numerous chemical industries. Therefore, attempts have been made to design synthesis for manufacturing processes in such a way that the waste products are low, they have no effect on the environment and their disposal is convenient. For carrying out reactions it is necessary that the starting materials, solvents and catalysts should be carefully chosen. If possible, it is best to carry out reactions in the aqueous phase. With this view in mind, synthesis methods should be designed in such a way that the starting materials are consumed to the maximum extent in the final product. The reaction should not generate any toxic by-products.

There are many useful products like medicines, antibiotics, synthetic polymers, plastics, fertilizers, pesticides etc on which we are dependent. They are prepared from different chemicals using various processes. Almost all chemicals are toxic to less or greater extent. Many processes generates waste products and cause environmental pollution. There are also other hazards like accidents in chemical plants like Bhopal in India in which 4000 peoples killed because of release of methyl isocyanine gas in 1984. Hence to address this problem, it has necessary for the chemists to review and modify all the chemical processes used to make above things. Thus use of green chemistry or Clean Chemistry in manufacturing processes has gain importance today.

Green chemistry, also called sustainable chemistry, is an area of chemistry and chemical engineering focused on the designing of products and processes that minimize or eliminate the use and generation of hazardous substances. While environmental chemistry focuses on the effects of polluting chemicals on nature. Green chemistry focuses on the environmental impact of chemistry, including reducing consumption of non-renewable resources and technological approaches for preventing pollution. Chemistry brought about medical revolution till about the middle of twentieth century in which drugs and antibiotics were discovered. The world's food supply also increased enormously due to the discovery of hybrid varieties, improved methods of farming, better seeds, and use of insecticides, herbicides and fertilizers. The quality of life on earth became much better due to the discovery of dyes, plastics, cosmetics and other materials. Soon, the side effects of chemistry also became pronounced, main among them being the pollution of land, water and atmosphere. This is caused mainly due to the effects of by-products of chemical industries, which are being discharged into the air, rivers/ oceans and the land. The use of toxic reactants and reagents also make the situation difficult. The pollution reached such levels that different governments made laws to minimize it. This marked the beginning of Green Chemistry in the synthesis of chemical reactions.

The Green Chemistry revolution provides an enormous number of opportunity to discover and apply new synthetic approaches using alternative feedstock; Eco friendly reaction conditions, energy minimization and the design of less toxic and inherently safer chemicals. The origin and basis of Green Chemistry for achieving environmental and economic prosperity is essential in a sustainable world. One important element of sustainable chemistry is commonly defined as the chemical research aiming at the optimization of chemical processes and products with respect to energy and material consumption, inherent safety, toxicity, environmental degradability While considering progress has been made in environmental chemistry, Green Chemistry, and the environmental assessment of chemical products, however, the aspect of sustainable

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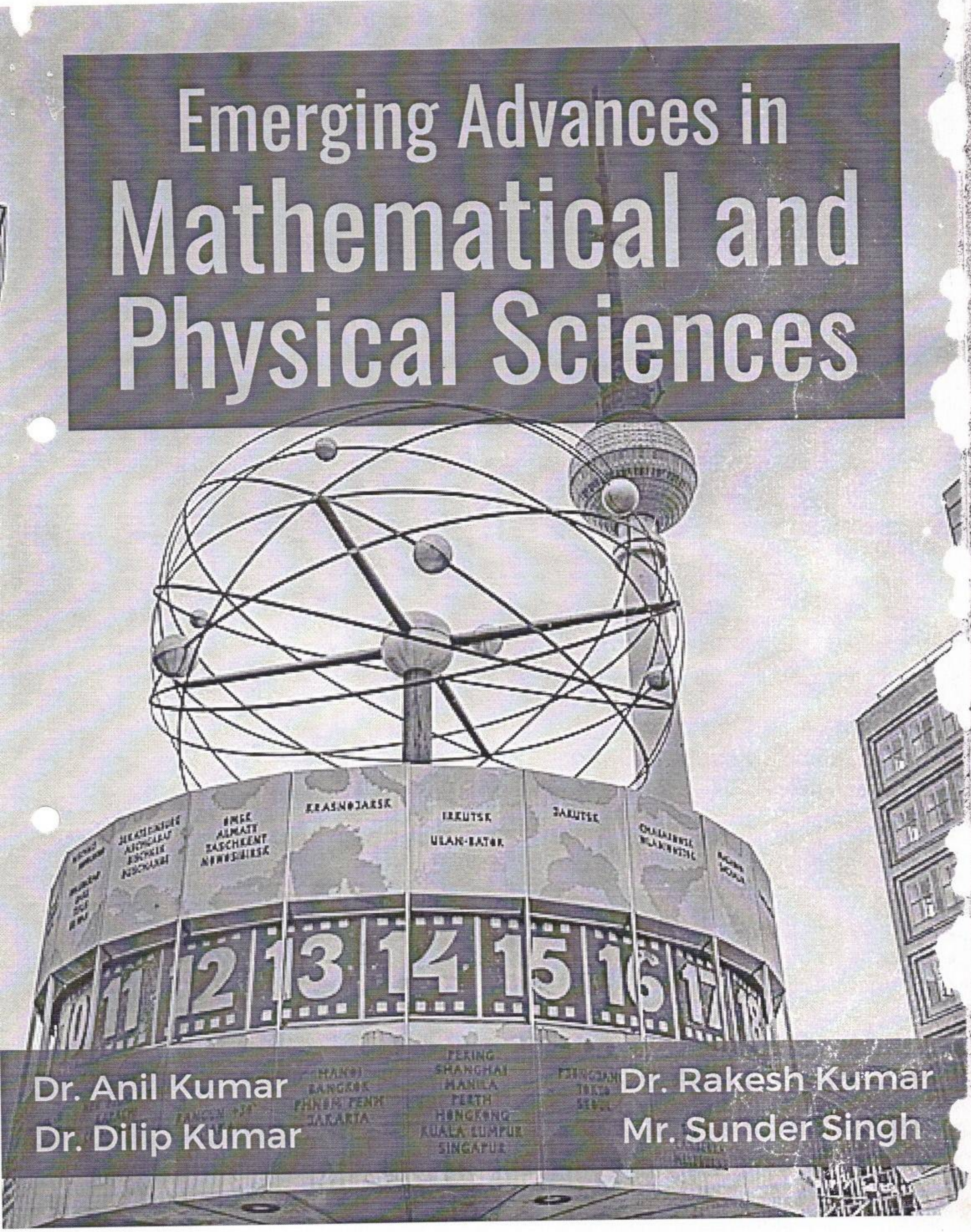

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Chapter – 9

Dielectric Properties of X ($Comn_{0.2}Zn_{0.2}Fe_{1.6}O_4$) +(1-X) $Batio_3$ Composites

N.N. Waghule[1], D.R. Shengule[2], K.M. Jadhav[3]
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Phone: +919421349085, E-mail: nnwagule@gmail.com
[2]Vivekanand Art's, Sardar Dalip singh Comm., Science College, Aurangabad. (M.S) India.
[3]Dept. of Physics, Dr Babasaheb Ambedkar Marathwada University, Aurangabad. (M.S) India.

Abstract: *Ferromagnetic-piezoelectric particulate composites of $xCoMn_{0.2}Zn_{0.2}Fe_{1.6}O_4$ + (1-x) $BaTiO_3$ (x=0.0, 0.25, 0.50, 0.75, 1.00) were prepared by conventional ceramic method using AR grade oxides of relative ions. The presence of two phases in composites was confirmed by X-ray diffraction (XRD) technique. The results of XRD pattern shows cubic spinel structure for ferrite phase and tetragonal perovskite structure for ferroelectric phase. Study of the variations of dielectric constant (ε") with frequency in the range of 20Hz–1MHz at room temperature was carried out for all compositions. As frequency increases, the dielectric constant (ε') is found to decrease. The decrease in dielectric constants is exponential in nature. At higher frequency, the dielectric constant remains almost constant. At fixed frequency dielectric constant decreases as ferrite content(x) increases. The decrease in dielectric constants is exponential in nature. At higher frequency, the dielectric constant remains almost constant. At fixed frequency dielectric constant decreases as ferrite content(x) increases. It was noticed that the dispersion in ε' is similar to Maxwell-Wagner interfacial polarization in agreement with Koop's phenomenological theory.*

KEYWORDS: *Ferrite, ferroelectric, Magneto electric-composite, Dielectric constant, Dielectric loss,*

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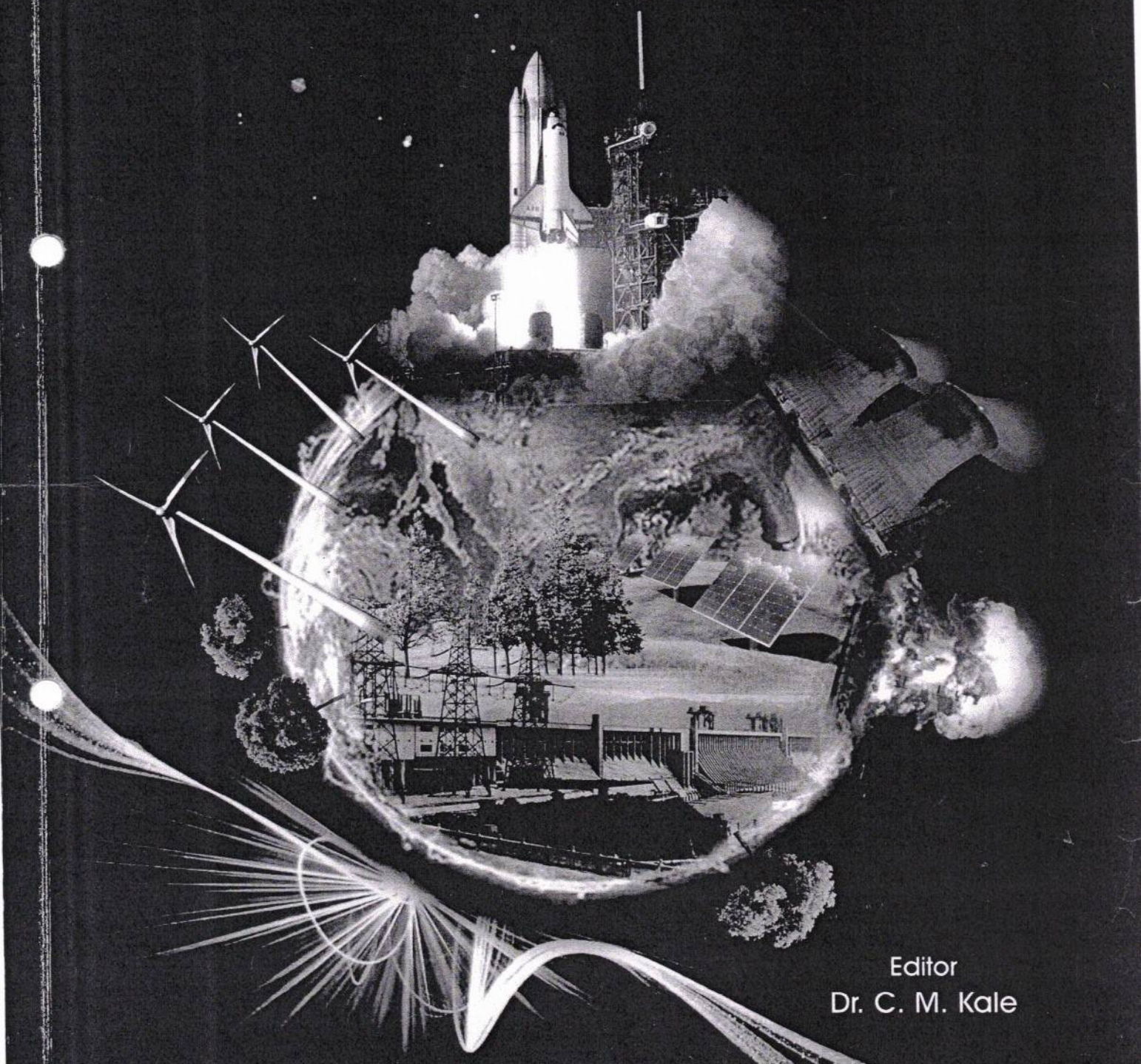

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CHAPTER.12

SOUND ENERGY

12.1. INTRODUCTION

Every day we hear sounds from various sources like humans, birds, bells, machines, vehicles, televisions, radios, etc. A sound is a form of energy that produces a sensation of hearing in our ears. There are also other forms of energy like mechanical energy, heat energy, light energy, etc. The principle of conservation of energy, states that we can neither create nor destroy energy. We can just change it from one form to another. In our daily activity, we hear and produce sound from different sources.

A sound is a form of energy that is produced when an object vibrates. The sound vibrations cause waves of pressure that travel through a medium, such as air, water, wood, or metal. Sound energy travels out like waves in all directions. Sound energy is a form of mechanical energy. Sound waves are longitudinal waves. Sound energy is typically not used for electrical power or for other human energy needs because the amount of energy that can be gained from the sound is quite small. We can use sound energy to learn about our surroundings. The simplest and most obvious use of sound energy is for hearing. Humans can hear frequencies between about 20 Hz to 20,000 Hz. Sound energy is usually measured by its pressure and intensity, in special units called pascal and decibels. Sometimes, loud noise can cause pain to people. This is called the threshold of pain. This threshold is different from

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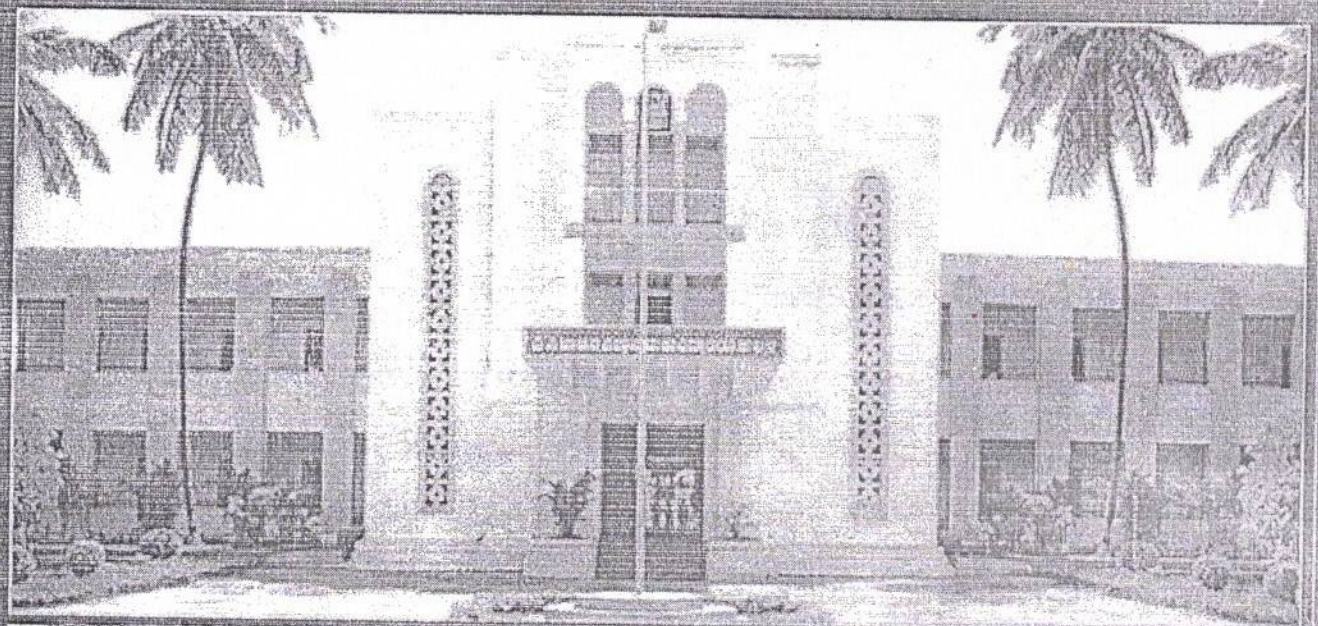

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Investigation of Structural and Magnetic Parameters of Ni-Cu Spinel Ferrites

R. B. Kavade[1], R. G. Vidhate[2], J. M. Bhandari[3], D. R. Sapate[4], K. M. Jadhav[5]

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Corresponding author email id: kavade.ramdas@mail.com, rgvidhate@rediffmail.com, jmbhandari_1969@yahoo.co.in dilipsapate@gmail.com, drjadhavkm@gmail.com

Abstract: The polycrystalline samples of ferrite having the general formula Ni1-XCuXFe2O4 with x = 0.0, 0.5, 1.0 were synthesized using solid state reaction technique. The X-ray diffraction patterns revealed the formation of single phase cubic spinel structure for x =0.0 and x =0.5. The lattice constant increases with copper content and shows tetragonal structure for x = 1.0 (CuFe2O4) with lattice constant a = 5.8489 Å and c = 8.6385 Å, X-ray intensity ratios were calculated for selected planes (220), (311), (440), (422), (333) were compared with the observed intensity ratios in order to obtain cation distribution. The results of the cation distribution indicate that Cu2+ and Fe3+ occupy both sites whereas Ni2+ occupy octahedral B site. The saturation magnetization (Ms) and magneton number (nB) both decreases with copper substitution. The behaviour of magnetic properties was also studied using Neel's collinear model.

Keywords: X-ray diffraction, cation distribution, magneton number

Introduction:

Spinel ferrites are commercially important materials because of their excellent electrical and magnetic properties. Interesting physical and chemical properties of ferrites arises from ability of these compounds to distribute cations amongst the available tetrahedral A-site and octahedral B-site and magnetic A-A, B-B and A-B interactions. Ferrites fulfill the wide range of applications from microwave to radio frequencies and are of importance from both fundamental and applied research point of view. [1,2]. The twin property of electrical insulator and magnetic conductor makes ferrites useful in many devices such as transformer cores, antenna rod, and memory chips, microwave devices, magnetic recording etc. Compared to other magnetic materials ferrites can be easily prepared, low cost and highly stable. The important electrical and magnetic properties of

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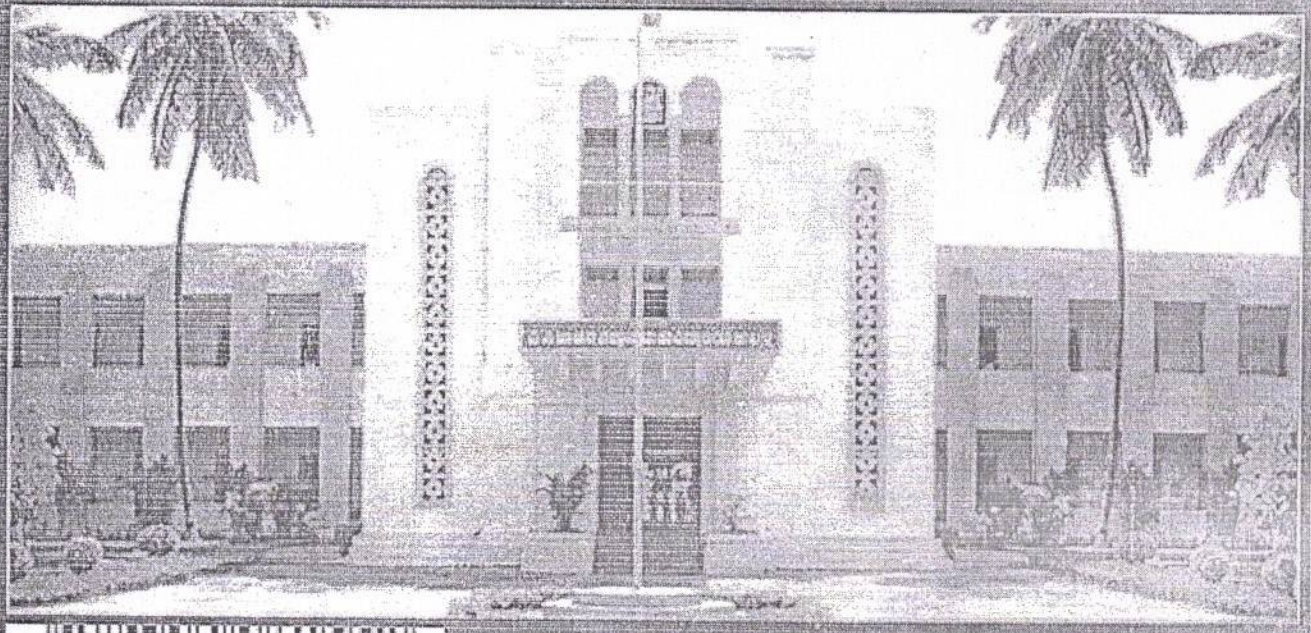

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Study of Structural and Magnetic Properties of Copper Substituted Nickel ferrite

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Abstract: In this present work, compositions of copper substituted nickel spinel ferrites samples with the general formula $Ni_{1-x}Cu_xFe_2O_4$ (with x = 0.0, 0.4, and 0.8) prepared by standard ceramic technique is investigated. The structural properties of these ferrite samples have been studied using X-ray diffraction technique. X-ray diffraction studies of compositions revealed the formation of single phase cubic structure. Magnetization measurements were carried out using pulse-field hysteresis loop technique at room temperature. The saturation magnetization (Ms), magneton number (n_B), and coercivity (Hc) obtained from pulse field magnetization technique decreases with Cu substitution x.

Keywords: XRD, lattice constant, x-ray density, magnetization.

Introduction:

In recent years, nano-sized spinel ferrite particles have attracted considerable attention of scientists and technologists due to their interesting and unusual properties both from the fundamental and academic point of view which is altogether different from their bulk counterpart [1]-[3]. The ability to produce nano-sized particles has opened new applications for magnetic materials, such as magnetic media, high density recording, drug delivery, magneto caloric refrigeration etc. [4]-[6].

Among the different spinel ferrites, nickel ferrite ($NiFe_2O_4$) is a well-known soft magnetic material and having inverse spinel structure, whose degree of inversion depends on the thermal heat treatment. The high electrical resistivity and moderate magnetic properties makes nickel ferrite an excellent core material for various applications in electronic and telecommunication. Nickel ferrite has been successfully synthesized by various methods and studied for its structural

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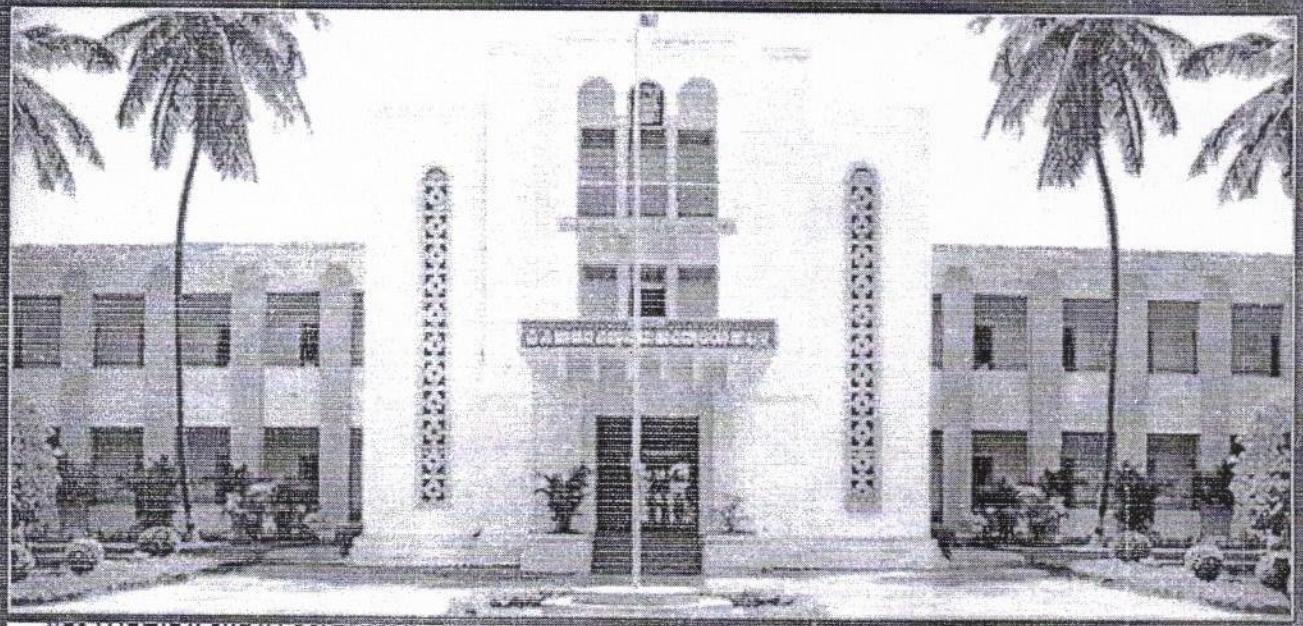

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Analysis of Structural, Electrical and Cure Temperature Measurements of In^{3+} Substituted Yttrium Iron Garnet

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Abstract: In^{3+} was added in to yttrium iron garnet (YIG). Samples, with a nominal composition of $Y_3In_xFe_{5-x}O_{12}$ with x= 0.0, 0.2 and 0.6 were prepared by a solid-state sintering method. The samples were characterized by X-ray diffraction technique. The X-ray diffraction studies of compositions revealed the formation of single phase cubic structure with lattice constant ranging from 12.37 to 12.44 Å.

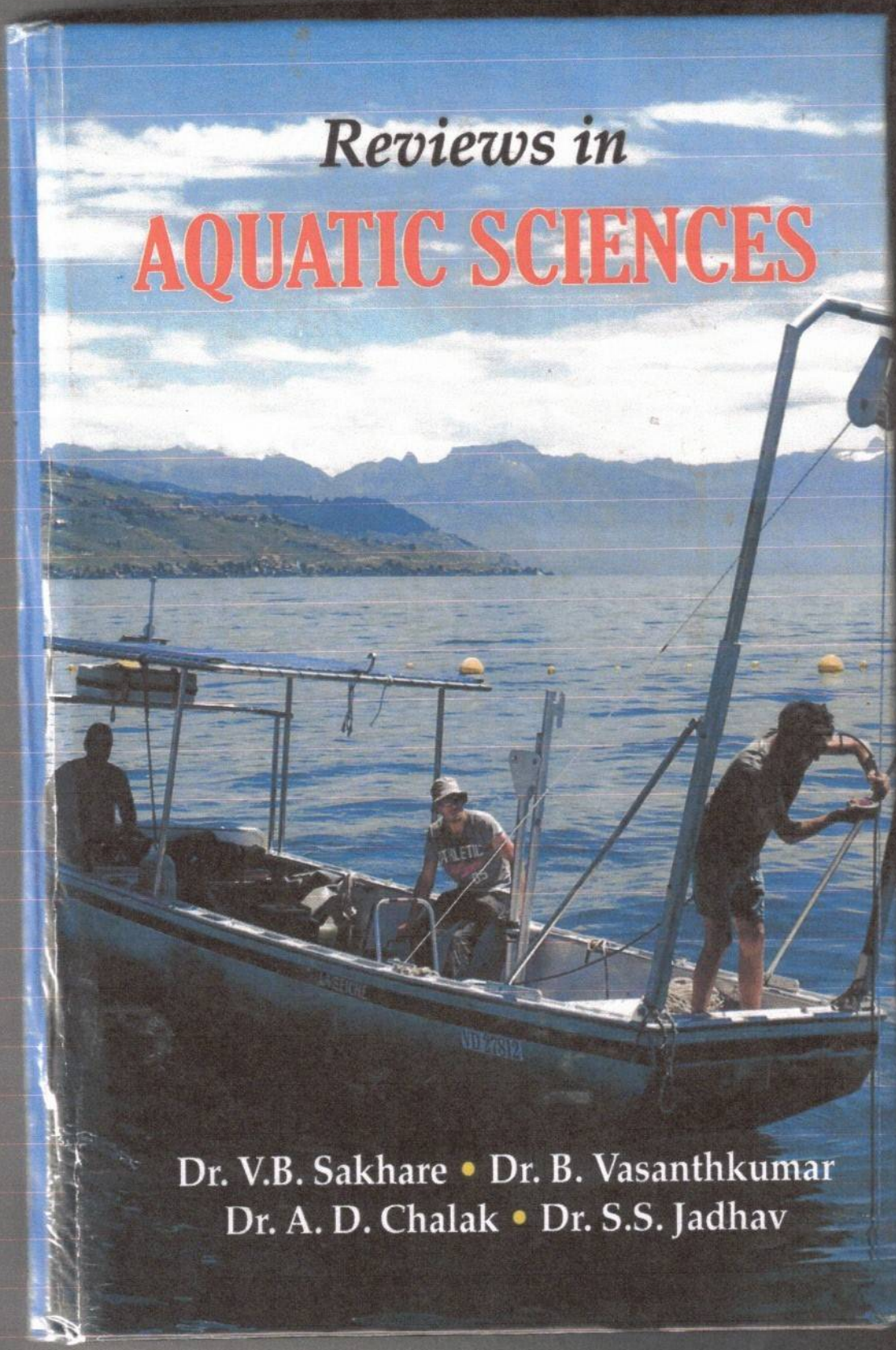
The FTIR spectra of typical samples are taken in the range of 500-4000cm^{-1}. IR spectra show typical absorption bands indicating the garnet nature of samples. The D.C. electrical resistivity $\rho_{d.c.}$ Was measured in the temperature range 300-725 K.

Keywords: Yttrium iron garnet, indium, structural and electrical study.

Introduction:

Mixed metal oxides with iron (III) oxides as their main component are known as ferrites. Historically ferrites represent an important category of materials, which are in great demands due to their numerous applications in many fields. The electrical and magnetic properties of ferrites are strongly dependent on their chemical composition and their method of preparation [1, 2]. It is important to optimize the electrical and magnetic properties of ferrites, for desired applications. Due to their interesting properties scientists, researchers and engineers are still interested in designing the various types of ferries material substituted with different cations with different valencies and prepared by different techniques.

In the various types of ferrites rare earth garnet especially yttrium iron garnet (YIG) is of great importance for scientist and technologist because of their applications in microwave communication devices such as circulators, oscillators, gyrators and phase shifters because of its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Rate of Ammonia Excretion in *Lamellidens Marginalis* Due to Neuro-Endocrine Manipulation During Summer Season

-D. T. Wagh

ABSTRACT

The mechanism by which the hypothalamus regulates the release of gonadotropins from the pituitary gland and the use of drugs and releasing hormones to stimulate gonadotropins are now well known in case of fishes. Relatively very little is known on such aspects of neuro-endocrine control in bivalve shellfishes from India and abroad. Since, the pioneering work of M. Gabe, P.Lubet, I. J. Antheunisse, R. Nagabhushanam and U. H. Mane it has been established that their occurs endogenous regulation from central ganglia, Particularly the cerebral ganglia, on the general metabolism and reproduction in bivalve molluscs. There had been some controversies on such type of regulation in these animals. The experimental work by surgical operation of ganglia and injections of ganglionic extract as developed by P. Lubet proved that the

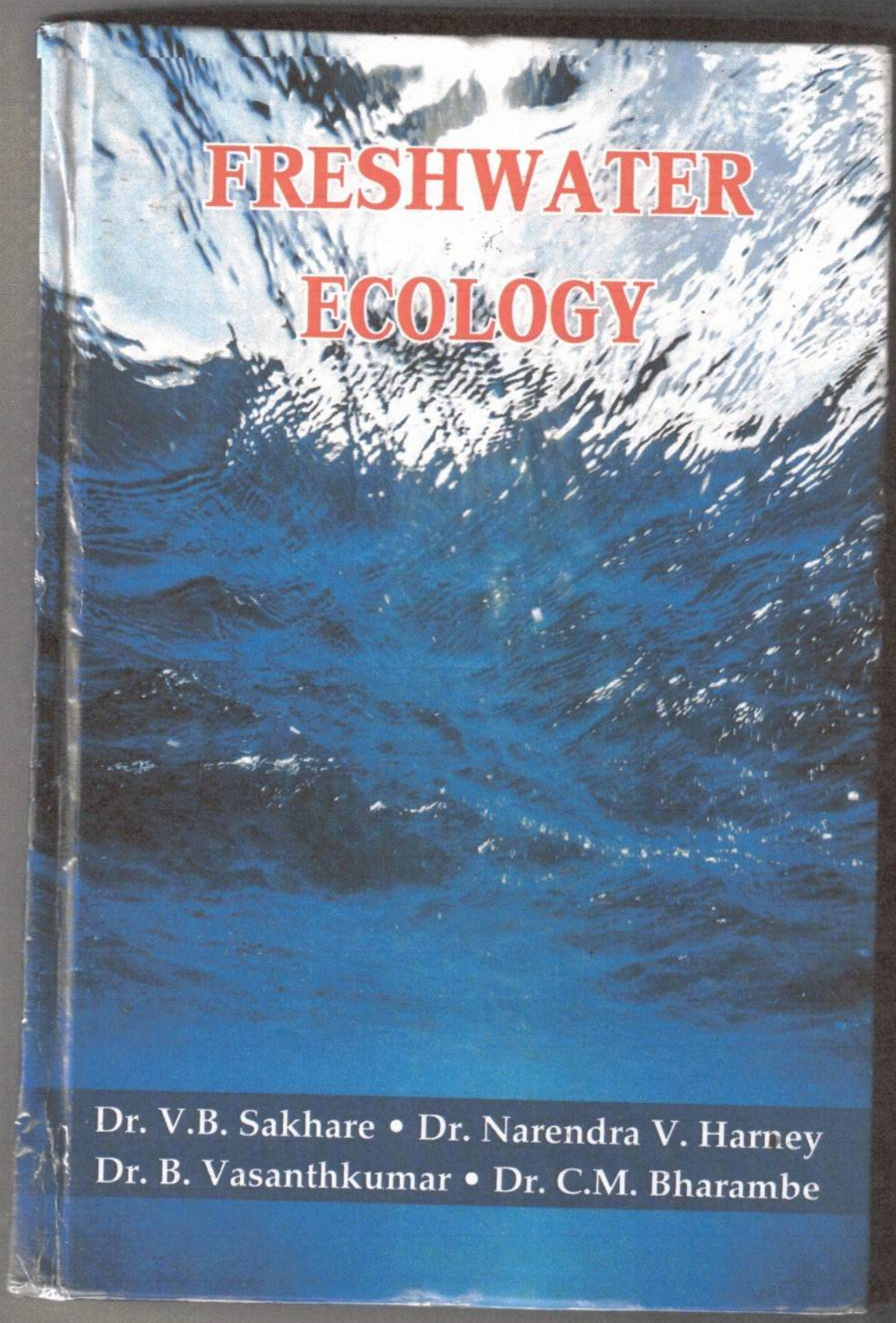
cerebral and visceral ganglia do passes factors which controlling metabolic events during reproductive phases of bivalve molluscs.

Considering the paucity of information on such neuro-endocrine manipulation on general physiology, breeding and reproduction in Indian freshwater bivalve molluscs. The present study has been undertaken on freshwater bivalve molluscs. *Lamellidens Marginalis* to understand the effect of cerebral ganglia in changes in the rate of oxygen consumption, ammonia excretion, O:N rate and change in the organic constitutions from different soft body parts develops and maturation of gonads, spawning and neuro-endocrine centers during different seasons.

Key Words: *Hypothalamus, gonadotrópins, Soft body parts, Pituitary Gland Cerebral Ganglia, Lamellidens Marginalis.*

Introduction

In aquatic animals, regulation of the chemical compositions of the body fluid an important function of ionic and osmotic regulation and of excretion which helps in the elimination of wastes and the conservation of useful metabolites for growth, maintenance and reproduction. In bivalve molluscs several workers have studied nitrogenous excretory products and their report show that although ammonia is the dominant product large amount of amino-nitrogen are lost and there is small but significant amount of urea also excreted by same species (Bayne, 1976). The rate of nitrogen excretion by bivalve molluscs are extremely variable, which is not surprising in view of the marked seasonal changes in nutrient storage and utilization of reserves (Bayne, 1976). However, few workers attempted to understand the factors influencing the rate of excretion, despite the voluminous literature on the rate of oxygen uptake in relation to the environment (Bayne, 1976) protein ingested through food are hydrolyzed in the digestive system to their constitutive amino acids by protolytic enzymes. These amino acids are then accumulated for carbon and nitrogen catabolism. A number of investigators have studied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Preface

The present book entitled *'Freshwater Ecology'* comprises chapters by well-known experts and research workers in their respective fields. We are thankful to all the contributors who responded promptly by making available their articles. With its application oriented and interdisciplinary approach, we hope that the students, teachers, researchers, scientists, policy makers and environmental lawyers in India and abroad will find this volume much more useful. The articles in the book have been contributed by eminent scientists/academicians.

We are grateful to the following under mentioned distinguished scientists and other fellow colleagues for their constant encouragements, suggestions, valuable guidelines and necessary help. These respected, distinguished, beloved scientists and well-wishers are Dr. A. S. Dhamani, Gramin Mahavidyalaya, Chimur (Maharashtra), Dr. N. M. Luharia, N. H. College, Bramhapuri (Maharashtra), Dr. A. K. Singh, Jay Prakash University, Chapra (Bihar), Chandra Bhushan Tiwary, Vidya Bhawan Mahila Mahavidyalaya, Siwan (Bihar) and Dr. D. T. Wagh, Bhagwan Mahavidyalaya, Ashti (Maharashtra)

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Contents

REFERENCES

Ambasht, R.S.2005.Macrophytes limnology in the Indian subcontinent.Ukaaz Publication, Hyderabad. pp.58-174.

Joshi, G., A.D. AdoniI and A.K. Vaishya.1987. Ecology of Sagar Lake, Hyderabad IV (29): 151-155.

Kodarkar, M.S.1996.Conservation of Lakes, IAAB Publication No. 3, IAAB, Hyderabad.

Kodarkar, M.S.1994. Conservation of Saroornagar lake. Hyderabad Bachao.3 (9) : 21.

Majid, F. Z. 1986.Aquatic weeds-utility and development.*Agro Botanical Publishers, India.*

Raut, N. and Pejaver, M. 2005. Survey of diversity of plankton attached to macrophytes from weed infested lake in Thane, Maharashtra. *J. Aqua. Biol.* 20(1): 1-7.

Sitre,S.R.2013. Biodiversity of Benthic Macroinvertebrates in a Polluted Urban Lake of Nagpur City (M.S.), *India. Bionano Frontier.* pp.44-45.

Wetzel, R.G. and Likens, G.E.1979.*Limnological Analysis,* Philadelphia, W.B. Saunders, 357.

Wetzel, R.G.1975.*Limnology,* W.B. Saunders Co. Philadelphia, 743.

Yadav, S. R. and Sardesai, M.M.2002.Flora of Kolhapur District *Published by Shivaji University Kolhapur (India).*

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Oocytes Development in *Lamellidens Marginalis* Due to Neuro-Endocrine Manipulation During Summer Season

- D.T. Wagh

ABSTRACT

The aquaculture of bivalve mollusks has started recently in India, the processing in cultural aspects are wholly dependent upon the natural supply of seed of animals. In some species of fishes, induced reproduction has been successful only in one season. While in other spawning can be induced at any time. The mechanism of hypothalamus regulates the release of gonadotropin from the pituitary gland and the use of drugs and releasing hormones to stimulates release of gonadotropin are well known in case of fishes. Relatively, very little is known in such aspects of neuro-endocrine control in bivalve shell fishes from India and abroad. Since the pioneering work M. Gabe, P. Lubet, L.J. Antheunisse, Nagabhushanm and Mane, it has been established that their occurs endogenous regulation from central ganglia, particularly the central ganglia