



A Review on Psychological Impact of a World Threatening Catastrophe: (COVID-19)

* Mohamad Hanif ** Sherkhan Pathan

Abstract::

The origin of SARS-CoV-2 in December 2019 caused alarm in numerous parts of the world. The World Health Organization declared a pandemic in March 2020 due to its rapid spread. Leaders of several nations curtailed social activity in an effort to slow the spread of the virus, hoping to flatten the curve of contamination through social isolation. This review sought to examine how societal norms have evolved during this time. We also discussed the essential elements of the emotional response to the pandemic and how internal and external factors, including personality traits, gender, the media, the economy, and the government response, affect how the public views the pandemic and the psychological effects of the current situation.

Keywords: SARS-CoV-2, COVID-19, Restricting Measures, Psychological changes

1. Introduction:

A single-stranded RNA virus called Corona has been around for about 60 years, ever since it was first discovered in the late 1960s. Coronaviruses are members of the Nidovirales order's Coronaviridae family. The crown-shaped spikes on the exterior of the virus structure are what gave the Coronavirus its name (Varshney et al., 2020). The two additional coronavirus strains, known as Middle East Respiratory Syndrome

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21



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Comparative study of self-concept of Basketball and Volleyball Players

** Dr. Shaikh Mohammad Arif Yasin*

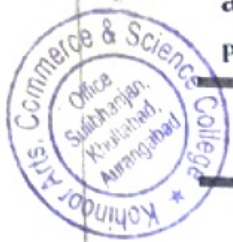
Introduction

Self-idea is a significant component in the development and formative procedure for singular individuals. Sportspersons regularly need help with testing their internal identities to have the option to push forward in their lives. What's more for giving a structure to conceptualizing singular contrasts in conduct styles and social adjustment, different models of self-idea propose progressively standardizing headings for human development and improvement. The identity of one's social/individual history is urgent in the developing self-idea. One must take a gander at one's history, relate it, and align it to the current encounters with which one is battling in the push to increase self-information, which can support him/her in accomplishing uncommon statures in their expert transporters. Equipped with an exact self-idea, the individual can discover selfactualization. As the sportsperson travels through life, he/she should confront different job requests. Every individual has some focal point of extreme worry that characterizes the focal point of self and gives the sorting out standard for all the different "reasons for living."

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STUDY OF BASIC ELEMENTS OF LOGIC AND SET THEORY IN DISCRETE MATHEMATICS

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Abstract:

The natural sciences are unavoidably led to incorporate numbers and therefore mathematics. Mathematics, in turn, is based upon the derivation or deduction of properties or propositions with respect to given objects or elements belonging to a given set. The process of derivation/deduction of properties/propositions is called logic. The general properties of elements and sets are called set theory. In this paper, I will present basic elements of logic and basic elements of set theory that we will be applying in the study of real numbers.

Introduction to Logic:

As stated above, logic is the process of derivation/deduction of properties/propositions. Within mathematical logic, we have propositional algebra and predicate logic, which we will review in the following subsections. For more detailed and thorough discussions of logic, the author directs the reader to the book, "Logic for Physicists".

Propositional algebra:

Propositional algebra is the sub branch of mathematical logic that studies propositions and logical operators. A proposition is any statement that clearly can be assigned a unique value of either "true" (T) or "false" (F). Propositions satisfy the following:

- The law of dichotomy: that is, a proposition must have a logical value of either true (T) or false (F);
- The law of excluded middle: that is, a proposition cannot be simultaneously true (T) and false (F).

In propositional algebra, two propositions are said to be equal if and only if they have the same logical value.

A logical operator defines a new proposition S, from one or more given propositions A, B, ..., such that the logical value of the new proposition S depends on and only on the logical values of the given propositions A, B, ..., and the corresponding logical value of S for each combination. A logical operator is thus uniquely determined by its truth table.

Following the discussion in "Logic for Physicists", we can begin with the BOTH-FALSE operator " \otimes ". Given two propositions A and B, the new proposition " $A \otimes B$ " is true (T) if and only if both A and B are false (F).

In turn, the NOT operator " \sim " can be defined by applying the " \otimes " operator through the equation

$$\sim A \equiv A \otimes A.$$

We can then define the OR operator " \vee " by

$$A \vee B \equiv \sim (A \otimes B).$$

The AND operator " \wedge " then may be defined through the equation

$$A \wedge B \equiv ((\sim A) \vee (\sim B))$$

In turn, we can define the IMPLIES operator " \Rightarrow " by

$$A \Rightarrow B \equiv \sim (A \wedge (\sim B));$$

and the EQUIVALENT operator " \Leftrightarrow " may be defined through the equation

$$A \Leftrightarrow B \equiv (A \Rightarrow B) \wedge (B \Rightarrow A).$$

To simplify the propositional expressions, one may introduce notational priority to reduce the necessity of parentheses and thus simplify the written expressions. From highest to lowest priority, for the five standard logical operators, we have $\sim, \vee, \Rightarrow, \Leftrightarrow$.

For example,

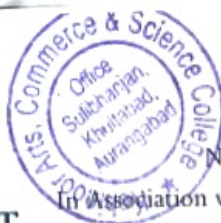
$$A \vee \sim B \wedge C \equiv A \vee ((\sim B) \wedge C);$$

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61

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Python Programming For Solving Mathematical First Order Differential Equations

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ABSTRACT

A differential equation is an equation involving an unknown function $y(t)$ and its derivatives y' , y'' , ..., and the order of a differential equation is the highest order derivative of $y(t)$ appearing in the equation. There are methods to solve first order equations which are separable and/or linear however most differential equations cannot be solved explicitly with elementary functions. We can always use graphical methods and numerical methods to approximate solutions of any first order differential equation.

Keywords: - Differential Equations, Euler's Method, Python Function and Python Programming.

I. INTRODUCTION

In mathematics, a **differential equation** is an equation that relates one or more unknown functions and their derivatives.^[1] In applications, the functions generally represent physical quantities, the derivatives represent their rates of change, and the differential equation defines a relationship between the two. Such relations are common; therefore, differential equations play a prominent role in many disciplines including engineering, physics economics, and biology.

Mainly the study of differential equations consists of the study of their solutions (the set of functions that satisfy each equation), and of the properties of their solutions. Only the simplest differential equations are solvable by explicit formulas; however, many properties of solutions of a given differential equation may be determined without computing them exactly.

Often when a closed-form expression for the solutions is not available, solutions may be approximated numerically using computers. The theory of dynamical systems puts emphasis on qualitative analysis of systems described by differential equations, while many numerical methods have been developed to determine solutions with a given degree of accuracy with Python Programming

```
import numpy as np
import matplotlib.pyplot as plt
```

II. LINEAR DIFFERENTIAL EQUATIONS

A first order differential equation is linear if it is of the form

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Study of Interrelation Between Maths and Music Under Sound of the Science:- Important of Human Life Style

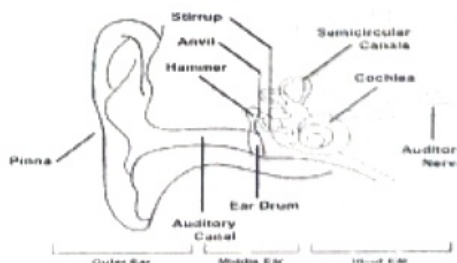
* *Dr. Shaikh Mohammed Sirajuddin Mohammed Salimuddin*

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Abstract:

Maths and music are two entirely different fields of study, but there is a strong correlation between them. At some point, they tend to overlap, and it is common for people good at math to be good at music. It may seem illogical to compare two, but there are more similarities between math and music than you would imagine and you can use numbers and mathematical principal to teach or learn music to help of mathematics

Introduction:- Sound is formed by changes in air pressure. Sound waves are caused by a vibrating object in some medium (e.g., air). Air molecules (sensitive to pressure changes) bounce against each other to create a sound wave. Note: The actual molecules move transverse to the wave (up and down at 500 m/s). Their combined movement creates the actual wave — think of the wave in a sports stadium. Sound travels through air at 343 m/s or 767 miles/hr. Sound needs a medium to travel through (e.g., air, water). In a vacuum (e.g., space), there is no sound!



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Python Programming For Solving Mathematical First Order Differential Equations

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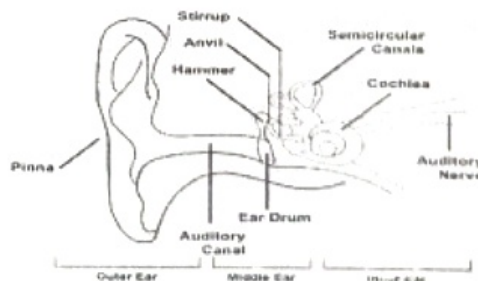
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Diversity of Phytoplankton in Different Seasons of Terna Dam, Osmanabad (MS) India

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ABSTRACT

This research work is compiled with the phytoplankton study of Terna dam. There are three families of phytoplankton in the fresh water i.e. Bacillariophyceae, Chlorophyceae and Myxophyceae. This study provides a basic knowledge on the phytoplankton diversity and productivity to help the management measures for the productivity improvement.

KEYWORDS: Terna Dam, Phytoplankton Diversity.

I. INTRODUCTION

The Phytoplanktons varies a different shapes, sizes, colours and types. They are generally important as they liberate Oxygen during the photosynthesis process that's why they are called as important component of the ecosystem. They are utilized in the energy exchange process(Khan2003).Phytoplankton community , structure, composition and species diversity in aquatic ecosystem are determined by several physic-chemical parameters (Sin et.al; 1990) .The phytoplanktons mitigate the climate change and global warming ,thereby record the global carbon di oxide levels (Santosh Kumar and Perumal,2009).

All the aquatic chemical and physical parameters affects on phytoplankton's productivity and growth like temperature, nitrate, nitrite, Ph, salinity, ammonia, silicates etc. The influence of these substances on phytoplankton community alters species composition and their diversity in the marine ecosystem. (Duarte et.al; 2006, Madhu et.al; 2007).It is due to the fact of planktonic organisms play a key role in the turnover of organic matter and energy through the ecosystem.

II. MATERIAL AND METHODS

The samples were collected in various seasons and month wise from the four different sampling stations e.i. A, B, C and D. Took a conical net with a bottle cached at its lower end for sample dilution. The net efficiency is also affected by the cloth used to construct the net, avoidance of target organism, escape of sampled organisms and clogging.

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The Study of Cat Behaviour and Cat-Human Relationship in Different Moods and Situations

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Abstract:

Since the evolution of human civilization many animals are useful to them in different ways. Cow, bullock, buffalo, cats, dogs, horses are some of the examples. In ancient scriptures and paintings also these animals are found along with humans. Animals cannot speak but they communicate with human beings in the different ways. They can listen well and understand the body languages. Cats have special privilege over others due to their mystic behaviour as well as beautiful appearance. A cat is the nice example of a communicable animal. Behaviour of cat is manifested in different moods and we can understand what it wants. These moods show the psychology of an animal.

Keywords: A pet cat, cat's behaviour, human-cat interactions, mood changing reasons, observations on behavioural psychology of cat.

Introduction:

From time immemorial cats are domestic animals living with human beings. There are scriptures found in Egyptian monuments that show drawings of cats with humans. For centuries stories of cats are being told. There are many fiction stories written about good and bad events involving cats.

A cat is a very social animal. It is very playful and enjoys a lot with people. It likes to play with toys and children at home friendly. Cats are loyal and loving companions of

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20
18

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Study On Idol Immersion and Its Impact on Water Quality

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ABSTRACT

India is a multicultural country with many festivals. Some of these celebrations end with an annual "idol immersion" in adjacent bodies of water. The toxic paints used to embellish the idols contribute significantly to environmental pollution because they include paints like varnish, water colours, and others that could significantly affect the quality of the water. Numerous toxic elements, including zinc, chromium, and lead, are present in the paints used to colour these statues which even have the potential to cause cancer. On the other hand Heavy metals harm the aquatic ecosystem. This points to a serious environmental issue, and protecting water bodies from this threat will require widespread public knowledge. Employing idols made of environmentally friendly natural biodegradable materials rather than organic pollutants.

Keywords: Idol immersion, Water pollution, Physico-chemical analysis, Deterioration.

I. INTRODUCTION

India is a diverse nation with numerous festivities. Some of these festivals culminate in a "idol immersion" in water. However, during the festivities, individuals frequently forget the negative consequences of the custom. Immersion in idols has a very negative effect on the environment including water. By contaminating the water and negatively harming the flora and animals, it upsets the natural equilibrium. We cannot live without water. However, water contamination is a significant global problem today.

Industrial waste water and urban sewage entering aquatic bodies cause water contamination. Furthermore, religious activities close to water bodies' banks endanger the ecosystem. India is a ritualistic nation, and idol immersion is a significant anthropogenic activity that pollutes various bodies of water, including lakes, reservoirs, ponds, rivers, canals, and seas.¹ These idols are typically made of clay, textiles, bamboo, and non-biodegradable materials like plastic, cement, plaster of Paris (PoP), paints, varnishes, and toxic dyes. They are also embellished with different polishes, ornaments, and beauty products.^{2,3}

II. SCIENTIFIC EVIDENCE

Lead, cadmium, copper, iron, manganese, mercury, and zinc are among the heavy elements found in the chemical paints used to decorate these idols. Arsenic, chromium, and other inorganic and organic materials, changing the quality of the water. Heavy metal bioaccumulation causes a health risk for consumers by

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113



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Application of Music Therapy in Treatment

* Dr. Pathan T.D.

Introduction:

Music therapy is the clinical application of music to achieve particular objectives such as stress reduction, mood enhancement, and self-expression. It is a well-known, evidence-based treatment in the medical field. Experiences with music therapy may involve listening, singing, playing an instrument etc. During it's application, it is not necessary to have musical abilities or skills to participate. Such treatment is required for many medical and surgical patients with pre-existing psychiatric disorders as well as those that develop while they are in the hospital.

In recent years, there has been an increase in the use of music in medical settings, necessitating a distinction between medical music therapy and music medicine. Listening to music is the clinical application of music to achieve specific objectives including

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Psychological Status through Yasmina Khadra's Novel 'The Attack'

* Dr. Shaikh Laikh Shaikh Mahemood

Abstract :

In today's post colonial world the matter of identity and psychological status is one among the burning issues. The identity crisis has demonstrated its power together of the most thematic concerns in literature. Psychological status is one among the foremost crucial also as comprehensively controversial topics within the field of literary and cultural studies. The difficulty of mental status has been powerfully discussed in social theory. Hence, the matter is that the old identities which were stabilized the social world for therefore long are decrease and new identities are emerging and fragmenting the fashionable person because the integrated subject.

*The novel **The Attack** tells the story of Israeli-Arab doctor Amin who unearths the truth about his wife and his picture perfect life is turned upside down when a suicide bombing in a restaurant leaves nineteen dead and the Israel police informs him that his wife Sihem who also died in the explosion was responsible. The novel '**The Attack**' is international bestseller and written by Yasmina Khadra's, originally published in 2005; the novel has been translated into more than 40 languages and*

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he had to fight for every right. But he got all these rights from the constitution of his country. At least from here, women should do the work of preserving human value, keeping religion aside, they said existence is grounded. Similarly, their true liberation efforts are also based on this.

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The Voice and the status of the Women Writers to English Literature: A Critical Study

Dr. Shaikh Laikh Shaikh Mahemood
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Abstract

The concept of feminism has been controversial in India and other developing countries for a number of reasons. On the one hand traditionalists argue that it alienates women from their culture, religion and family responsibilities; while some on the left see it as a diversion from the more important class struggle against Western cultural and economic imperialism. Feminism is a social movement that purposes the equal rights and opportunities for women in society. The feminist ideologies began to influence the English literature in India. The word feminism refers to the advocacy of women's right seeking to remove restrictions that discriminate against women. It relates to the belief that women should have the same social, economic and political rights as men. The very meaning of the term 'feminism' is continually being contested. The Oxford English Dictionary defines it as 'advocacy of the right of women based on the theory of equality of the sexes'. The aim of the paper is to identify the particular feminist concerns of Indian women novelists writing in English and to examine the ways in which they are handled in their fiction. **Keywords:** feminist ideologies, class struggle, advocacy, gender issues, right of women.

Globally speaking, the image of new Woman is the outcome of the growth of femi-



**A CRITICAL STUDY OF THE ECO-FEMINISTIC APPROACH IN MARGARET
ATWOOD'S AND VANDANA SHIVA'S WORKS**

Shaikh Laikh Mahemood

*Asst. Professor in English, Dept. of English, Kohinoor Arts, Comm. & Sci. College, Khuldabad, Dist.
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Abstract

Nature does not need us to rule over it, but runs itself very well and better without humans. We are the parasites on the food chain of life, consuming more and more, and putting too little back to restore and maintain the life system that support us. This paper throws a light on a short biography of Margaret Atwood and Vandana Shiva. These authors are influenced by the green fuse and eco-feminism perceptions. Their novels are not only providing us great pleasure in evoking all our five senses, but also induce our spirit to safeguard the nature of our forthcoming generations. This paper attempts to explain Margaret Atwood's famous novel *The Handmaid's Tale* in terms of Eco-feminism. Women and Nature are always identified with each other and wherever the role of women and nature is neglected, the sterility of that society begins. By taking the females as the leading characters and environmental crisis in its background Atwood expertly combines the dual oppression of nature and women. Dr. Vandana Shiva is a woman whose work is focused on embracing not only the principles of feminism but also the principles of ecology. In fact as the eco-feminist she sees as the two movements as interconnected and believes that the worldview that causes environmental degradation and injustice.

Keywords: Eco-feminism, women, nature, environmental crisis, environmental degradation and injustice. Early texts of Carolyn Merchant (1980) and Susan Griffin (1978) documented how modern Western culture associated women and nature. In pre-16C Europe, the connection between women and nature rested on two divergent images;

1. Organic conceptions of nature and gender, whereby the earth was seen as a nurturing mother.
2. Nature as wild and uncontrollable (Storms, droughts etc.)

In Pre-modern Europe the former of these two images dominated. Segar (19) notes that work, culture, nature and daily life were interwoven into a seamless web, and a nurturing female identified earth was considered to be the root of all life.

She explained that some Historians of science argue that this:

"Constrain the abuse of nature: as long as the earth was considered to be alive and sentient, it could be considered a breach of human ethical behavior to carry out destructive acts against it."

As Carolyn Merchant says, "one does not readily slay a mother, dig into her entrails for gold or mutilate her body"

Ecology and Feminism, Ecology- The branch of biology that deals with relations of organisms to one another and to their physical surroundings. The branch of biology that deals with relations of organisms to one another and to their physical surroundings. (Oxford Dictionary) What is Feminism? The advocacy of women's rights on the ground of the equality of the sexes. (Oxford Dictionary) What is Eco-feminism? Eco feminism links ecology with feminism. The term eco-feminism was first used by French feminist Francoise D'Eaubonne in 1974. Eco-feminism emerged in 1970s with an increasing consciousness of the connections between women and nature.

Definitions of Eco-feminism

Oxford Dictionary

A philosophical and political theory and movement which combines ecological concerns with feminist ones, regard both as resulting from male domination of society.

Karl Marx

Major social transformations are impossible without ferment among the women.

Rio Declaration Principle 20

Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development. To live a peaceful and balanced human life on this earth, preservation of environment is necessary. Throughout history nature is portrayed as feminine-their reproductive capacities make women closer to nature than men. Both women and nature are life sustaining and resource giving but their role is always neglected and sidelined in society. Oppression has



8. Feministic Theory from Margin to Centre: A Critical Analysis

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Abstract

Women are an integral part of human civilization. No society or country can ever progress without active Participation of women in its overall development. Although the place women in society has differed from culture to culture and from age to age, yet one thing that is common to almost all societies is that woman has never been considered the equal of man. An increasing awareness of injustice done to them slowly made women raise their voice against inequality and oppression. This female consciousness against male domination led to the birth of women's liberation movement which is a serious reform movement aiming at a raise of women in society. The journey of women from margin to the center of human experience constitutes an important feature of the socio-cultural history of mankind.

Women who for long were relegated to the position of unpaid servant, silent slave, child bearer and almost a beast of burden remained on the periphery of human society, despite being the prime life giving force. But twentieth century witnessed a sharp change in the social status of woman all over the world. With the rapid increase in woman's education, professional women emerged in all fields of human activity. Women no longer remain within the domain of secured home but opted to face the world outside with independent mind and a sense of self assertion. This is sustained by a strong current of intellectual thought results the emergence of feminism as an organized movement.

Keywords: Male domination, women's liberation, margin to the center and emergence of feminism.

The current concerns of feminism extend from the overt oppression that male domination social order imposes on an uneducated and conventionally religious woman to the subtle strain experienced by the educated independent women the so called civilized and developed societies. 'The basic idea of feminism is that woman is a free being, a person, whose value or worth

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DIVERSITY OF BIRD FAUNA

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Abstract

Birds are formally classified as members of the class Aves, subphylum Vertebrata, phylum Chordata, Kingdom of Animalia. They are characterized as being generally small vertebrates with feathers, scaly legs and no teeth (except in few fossil forms). They have well developed air breathing lungs, a four chambered heart and maintain a constant body temperature of about 38°C - 44°C. Birds reproduce by laying comparatively large, hard-shelled eggs. Amongst all other factors, the bird is a very important factor, which helps in maintaining the nature's balance. The French writer Michele said that, birds might live on this earth even if there were no men, but men couldn't live without birds." What he said is no more than the bare factual truth. Birds are an integral part of the whole system of life on this earth. Their importance is in no way less than of plants and animals (Reena and Abhijit, 2005).

Introduction:

The use of birds are so important that, nearly all birds feed on insects and worms, thus birds helps by keeping down the number of pests without disturbing ecological balance, e.g. White stork. Some birds are very good scavengers which not only clean the environment but also release the locked up nutrients in the dead organic matter. e.g. Kites, Vultures, Crows. Many of beautiful flowering trees are pollinated by birds, e.g. sunbirds, flower packers. Vermin's do enormous damage to crop and agriculture products; also carry diseases often fatal to the man. Many of the birds feed largely on these and help to farmers, e.g. owls, kites. They play predominant part in the dispersal of seed and distribution of plant life, e.g. bulbul, white-eye, koel. The fish eating birds have their own way of helping farmers

and agriculturist, e.g. Cormorant (Reena and Abhijit, 2005).

Natural population of birds are simultaneously affected by so many factors of the environment, that their effect can be determined only by long term studies. Changes in weather, vegetation, pathogens, predators, competitors, they all affect the well being of a population, and it requires many years of study and census work to determine the relative importance of each of these factors (Reena and Abhijit, 2005).

Analysis of current avian distribution and geography is essentially concerned with two populations, the resident and the migrant. Thus, migrant birds seen in the Oriental Region in winter are dependent on the status of habitat in their summer habitat and vice versa. Resident birds in the Oriental region are related to Ethiopian, Malayan and

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233

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Review on Molecular Docking Computational Methods for the Molecular Dynamics and Simulations Research

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ABSTRACT

Molecular docking is a method for simulating molecule complexes. Docking predicts three-dimensional structures. Drug-improvement software based on docking. This critical mechanism allows access to molecular and structural databases. Molecular Docking provides tools for drug design and analysis. Simple molecular prediction and structural databases are required by medicinal chemists. The primary application of docking is virtual screening. Docking programmes visualise the molecule's 3-D structure, and docking gain can be computed. Molecular docking is used in structural molecular biology and drug design. Docking can be used to conduct virtual screening on large compound libraries, rank the results, and propose structural hypotheses for how ligands reduce the target. Computer-aided drug design and discovery has proven to be effective.

Keywords: - Computer aided drug design and discovery (CADD), Molecular docking, ADMET, Binding, Conformations, ADMET: Absorption, Distribution, Metabolism, Excretion and Toxicity; PDB: Protein Data Bank; 3D: Three Dimensional; SBDD: Structure-Based Drug Design; SBVS: Structure-Based Virtual.

I. INTRODUCTION

Academic institutions and pharmaceutical companies both use computerised drug lead discovery. Proteomics, genomics, and structure informatics are all used in contemporary drug discovery. A virtual screening method called molecular docking uses structure to place small molecules in a target structure. Docking has a wide range of uses. Structure-based drug design, lead optimization, and evaluation recognition are common strategies. There are drug docks. New molecular modelling methods have benefited computer-assisted drug design. Three docking applications are covered in this article. First, we use molecular and quantum mechanics to look into the enzymatic mechanism of a flavoprotein. We will then examine the synthesis of anti-infective agents with structural motivation. We conclude by talking about the implications of drug design for protein-

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200


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Heavy metal content in sediment of Godavari river basin

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Abstract:

Wastewater is the source of aquatic pollution, which contains toxic substances in the form of pesticide residues, heavy metal salts, oil, radioactive substances etc. The introduction of these innumerable pollutants individually or in combination in natural water causes ecological abnormalities. Sediment in aquatic environment plays a very important role. The benthic organisms are most likely members to be affected by metals in sediments, because, the benthic environment is the main repository of particulate materials that wash into aquatic system. Invariably sediment near sewer outfall contains high metal concentration because of discharge of municipal and industrial wastes. The importance of metals in sediment under appropriate conditions could leach out of the sediment for many years. Sediments are important sources for the assessment of man-made contamination in aquatic systems. Moreover, sediments contamination causes very noxious effects to the whole ecosystem. The conservation of dam is in the interest of man as it's ecological, cultural and tourist value is immense. The study indicated that increase in toxic waste day by day in dam reservoir produced biological magnification in food chain, which is a challenge to scientists, policy makers, administrators and all those involved in the conservation of the environment.

Keywords: Godavari River, Pollution, Sediments, Toxic substances & Conservation.

Introduction:

The problem of water pollution by trace metal is now well known to be crucial all over the world and especially in a developing country like India, everybody is facing the problem of ever widening threat of water pollution due to modern technology, industrialization and civilization. A continuous and indiscriminate massive discharge of industrial, domestic and agricultural waste is bound to deteriorate its quality. Thus, there is a need for biological monitoring studies to evaluate the toxic concentrations of various chemical compounds so that some preventive measure can be taken to ensure the safety of the environment (Trivedi et.al.,1995). Wastewater is the source of aquatic pollution, which contains toxic substances in the form of pesticide residues, heavy metal salts, oil, radioactive substances etc. The introduction of these innumerable pollutants individually or in combination in natural water causes ecological abnormalities. The indiscriminate and widespread use of these chemicals for various purposes has caused irreparable environmental damage and ecological crisis. Sediment in aquatic environment plays a very important role. The benthic organisms are most likely members to be affected by metals in sediments, because, the benthic environment is the main repository of particulate materials that wash into aquatic system. Invariably sediment near sewer outfall contains high metal concentration because of discharge of municipal and industrial wastes. The importance of metals in sediment under appropriate

conditions could leach out of the sediment for many years. The concentration of heavy metals in water and sediment has been estimated by many workers (Sengupta et.al., 1978; Koch et.al., 1980 and Inza et.al., 1997). The release of pollutants and metals from sediment and their effect on aquatic environment and humanbeing have been documented by Copeland and Ayres (1972). Satynarayan et.al.,(1994) found that the metal pollution in harbor and coast of Vishakhapatnam and Tuticorin are due to untreated domestic sewage, industrial effluent and land runoff. This was confirmed by Ganeshan and Kannan (1995). Metal pollution in harbor sediments of Paradip port East coast of India was reported by Mahapatra (1996). Seasonal variations in the metals like mercury, cadmium, chromium, zinc, lead and many other trace metals in estuarine water, sediment and soft tissue of estuarine animals are reported by Sastri, et. al., (1981). Many workers demonstrated that urban and industrial activities increased metal content in polluted areas and they are potential source of contamination of the aquatic environment (Nriagu, 1979; Ayyadurai et.al., 1989; Yousuf 1986). Metal concentrations in aquatic organism are typically several orders of magnitude higher than that in the water, this is because they are progressively concentrated at higher trophic levels.

Sediments are important sources for the assessment of man-made contamination in aquatic systems (Gaur et.al.2004). Moreover, sediments contamination causes very noxious effects to the

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Infrastructural Problems of Tourism Services

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Research Guide KKM College Manwat



ABSTRACT

Infrastructure is a broad term, it includes various aspects like premises, flooring of the premises, space and so on. Infrastructure has a direct relationship with office lay out. The sitting arrangements, customer lobbies, safe custodies and record rooms form the part of infrastructure. Infrastructure before and after globalization has changed a lot.

The paper aims to analyse various infrastructural problems faced by tourism industry operators in Marathwada. Tourist operators in Marathwada are facing various infrastructural problems and there is no significant difference between the satisfaction level of Religious Tourism, Nature Tourism, Adventure Tourism the problem of infrastructure facilities i.e. Problems regarding Premises & Space, Parking Space, Accommodation Space, Type of Vehicles, and Service Facilities. The paper is geographically limited to Marathwada Region. The paper is limited to Tourism Industry only. This is a descriptive study. It is an empirical survey. It is a field study concerned with the various aspects of tourism. The researcher has adopted a suitable model of research. The researcher has selected 340 tourists in Marathwada. The conclusions are drawn on the basis of primary survey.

Keywords : Tourism, Religious Tourism, Nature Tourism, Adventure Tourism, Infrastructure.

Introduction:

A socio-economic phenomenon, tourism has become one of world's largest and the fastest growing industries. Travel for holiday is a way of life with more and more people. It is a solution to frantic industrialization, sprawling cities and pillaged environments. Never before in the history of mankind have so many people travelled at home and abroad. Tourism industry in India has a sea

Opportunities in Tourism Marketing

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Research Guide KKM College Manwat



ABSTRACT

Culture & civilization in any country is intimately related to the history of trade, commerce and industry. Culture in all times follows the wake of commerce. This is more true of ancient times than of the modern. The caravans of the olden times were not only the carriers of wars but also of civilization. Because of this tourism has developed in India right from the ancient times. But, with the advent of computers development in the means of transportation and information technology (IT) tourism marketing has been facing a number of challenges yet they are not without opportunities.

The objective of this paper is to present an analytic study of opportunities in tourism marketing. This paper is limited to tourism industry, particularly in the function of marketing. Tourism industry in India has to face a number of challenges which are not without opportunities.

The researcher has selected the field survey method of research. The researcher has further selected the sample of 160 tourist operators in Nanded district working in various tourist segments (Religious, Nature, Adventure etc.). The sample has been selected on the basis of No. of Talukas in Nanded district. There are 16 talukas in Nanded district. The researcher has selected 10 Tourist Operators from each Talukas in Nanded district.

Keywords : Opportunities, Promotion, Public Relation, Customer Satisfaction.

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GC-MS Analysis of *Phyla Nodiflora*(L.) Greene

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ABSTRACT

Phyla nodiflora, belongs to family Verbenaceae native of south of America. GC MS analysis of methanolic extract results revealed that the presence of 2Furancarboxaldehyde,5-(hydroxymethyl) 2,7-dioxatricyclo [4.3.1.0(3,8)] decan-4-one, Cyclobuta-[1,2,3,4]-dicyclocotene, hexadecahydro, 1,6dihydro-5-(2-hydroxyethyl)-4-methyl-6-oxopyrimidine, octopamine.

KEY WORDS: *Phyla nodiflora*, verbenaceae, Cyclobuta-[1,2,3,4]-dicyclocotene.

I. INTRODUCTION

Phyla nodiflora, plant in the family verbenaceae native of south of America. Commonly known as frog fruit. It is a small perennial creeping herb found commonly in grassy places along of irrigation channels, wet sandy canal edges and river banks almost found all part of India and up to 900 m on the hills. vernacular name is in English- *Frog Fruit*, *Turkey tangle*, Hindi-*Jalbuti*, *Jalpapli*, Marathi -*Jalapimpali* Tamil -*Podutalei*, Malayalam -*Nirtippali*, Telugu -*Bokkena*, Kannada-*Nelahippali*, Konkani -*Adali*. The aerial parts are used as antibacterial, diuretic, emmenagogue, parasiticide, refrigerant, febrifuge and cooling (Agrawal, 1997), the plant is acrid, hot and diuretic, maturant, useful in fevers and cold, astringent to bowels, stomachic, used in lack of bowel movements, pain in knee joints and in lithiasis (Kirtikar and Basu, 1935; Nadkarni, 1954; Anonymous, 1962). It shows antispasmodic property (Bhakuni *et al.*, 1969). It is Hair afflictions (Pannichamy *et al.*, 1989), antioxidant (Durairaj *et al.*, 2008). Infusion of leaves and tender stalks are used in indigestion in children and also after delivery in women. It is also used in lithiasis. (Akhtar, 1993).

II. DESCRIPTION

Prostrate, perennial herbs; stem much-branched, sub quadrangular creeping, glabrous, rooting at the nodes. Leaves opposite subsessile, spatulate, 1.5-3.5 × 1-2 cm, cuneate at base, margin deeply serrate, obtuse at apex, appressed pubescent on both the surface. Flowers minute, sessile, packed in long peduncle axillary spike; peduncles 4-6 cm long; bracts elliptic, 2.4 mm long, mucronate, glabrous. Calyx spathaceous, 1.5 mm long,

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34

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“साहित्यातील मानसशास्त्रीय समीक्षा”

* स.प्रा.गायकवाड शांतीलाल सांडू

GAIKWAD SHANTILAL SANDU

DEPT. OF MARATHI

प्रस्तावना--

मराठी साहित्यामध्ये 'मानसशास्त्रीय समीक्षेला फार' महत्व आहे. कारण कोणताही लेखक लिखाण करतांना त्यांच्या मानसशास्त्रीय विचाराचा प्रभाव त्या साहित्यावर पडतो. त्यामध्ये लेखक कोणत्या प्रांताचा आहे. त्या प्रांताची भाषीक शैली, वातावर, भौगोलिक दृष्टीकोन यांचा प्रभाव त्यांच्या मनावर होतो. म्हणून असे म्हटले जाते की, साहित्य ही मानवी मनाची निर्मिती आहे. अर्थात या निर्मितीचा मनाच्या संज्ञ किंवा चेतन स्तराशी जसा संबंध आहे तसा तो त्यांच्या अबोध स्तराशी आहे. सौंदर्याच्या उद्दिष्टासाठी साहित्य निर्माण झाले. नसून मानसिक निकडीतून निर्माण झाले.

जुगच्या मते आपला अबोध मनातील अनुभवकारांना देशकालाच्या वर्तमान संदर्भात अर्थपूर्ण करीत, चेतन मनाशी त्यांचा मेळ साधीत कलावंत कलानिर्मिती करत असतो. आणि त्याद्वारा स्वतःमधून एक संपूर्णता मिळवण्याची त्यां धडपड असते.

वेसाव्या शतकातील या नव्या, मानव केंद्री अभ्यासात मानसशास्त्राची प्रगती फार नक्षणीय आहे. माणूस काय आहे हे जाणून घेण्याचा प्रयत्न मानसशास्त्राने केला आहे. तसे तर मानवी मन हे अनादि कालापासून कुतूहलाचा विषय आहे. तेच मानवी वर्तनाचे नियंत्रक आहे. मानवी मनाचा विचार प्रामुख्याने माणसाच्या चेतन मनाशी म्हणजे जाणिवेशी संबंधित होता असे समझ फ्रॉइड यांना वाटत होते.

समझ फ्रॉइड या ज्यू मानसशास्त्रज्ञाने मानसशास्त्रीय अभ्यासाला नवी दिशा देणारे

एकेक सिद्धांत मांडले. केवळ मानसशास्त्राच्या प्रांतातच नव्हे, तर मानवशास्त्र, समाजशास्त्र,

न्यायशास्त्र आणि साहित्य काळांच्या प्रांतातरी मोठीच उलथा-पालथ केली. मानसिक जीवनाचा प्राध्यापक मराठी विभाग, कोहिनूर कला, वाणिज्य व विज्ञान महाविद्यालय खुलताबाद, जि.औरंगाबाद

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आरक्षण और निजी क्षेत्र

Dr. madhukar Laxman Hiwale



डॉ. हिवाळे मधुकर लक्ष्मण

सहयोगी प्राध्यापक एवं राज्यशास्त्र विभागाध्यक्ष,
कोहिनूर कला, वाणिज्य एवं विज्ञान महाविद्यालय, खुलताबाद
तहासिल- खुलताबाद, जि औरंगाबाद (महाराष्ट्र)

प्रस्तावना:

आधुनिक युग में राजशाही, हुकुमशाही और सामंतवाद को खारिज कर दिया गया और सरकार का एक प्रतिनिधि रूप यानी लोकशाही स्वीकार कर लिया गया। सरकार का यह प्रतिनिधि रूप लोगों को राजनीतिक स्वतंत्रता और राजनीतिक समानता प्रदान करता है। एक व्यक्ति एक वोट की नीति भी आम लोगों की राय को महत्व देती है। लेकिन राजनीतिक एकाधिकार का अंत पुरानी व्यवस्था की सामाजिक, आर्थिक और सांस्कृतिक विविधता को नष्ट नहीं करता है। लोगों द्वारा प्राप्त राजनीतिक स्वतंत्रता का उद्देश्य न केवल राष्ट्रीय स्वतंत्रता प्राप्त करना है, बल्कि उस स्वतंत्रता को प्राप्त करना है, बल्कि उस स्वतंत्रता के अनुसार प्रगति करना है। लेकिन समाज में मौजूदा आर्थिक, सामाजिक, सांस्कृतिक असमानताओं का, क्या? यदि उस असमानता को बनाए रखते हुए सभी को समान अवसर दिया जाए, तो सामाजिक व्यवस्था में मजबूत मजबूत हो जाएगा और कमजोर, कमजोर रहेगा। जब तक समाज में आर्थिक और सामाजिक समानता स्थापित नहीं होगी, समाज के कमजोर वर्गों को न्याय नहीं मिलेगा।

➤ अनुसंधान का उद्देश्य:

1. आरक्षण के अर्थ को जानना।
2. भारत में आरक्षण की स्थिति को जानना।
3. आरक्षण की निजी क्षेत्र में स्थिति को जानना।

➤ अनुसंधान की पद्धति:

मूल रूप में अध्ययन पद्धति वर्णनात्मक और विश्लेषणात्मक है। द्वितीय स्रोतों से जानकारी एकत्र की गई है जिसमें किताबें, पत्रिकाएं, समाचार पत्र और इंटरनेट आदि शामिल हैं।

आरक्षण का अर्थ (Meaning Of Reservation)

आरक्षण का अर्थ है अपना जगह सुरक्षित करना। प्रत्येक व्यक्ति की इच्छा हर स्थान पर अपनी जगह सुरक्षित करने या रखने की होती है, चाहे वह ट्रेन में यात्रा करने के लिए हो या किसी

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राजनीति और समाज के संबंध की बदलती तस्वीर

Dr. Madhukar Laxman Niwale

डॉ. हिवाळे मधुकर लक्ष्मण

सहयोगी प्राध्यापक एवं राज्यशास्त्र विभागाध्यक्ष,
कोहिनूर कला, वाणिज्य एवं विज्ञान महाविद्यालय, खुलताबाद
तहासिल- खुलताबाद, जि औरंगाबाद (महाराष्ट्र)



प्रस्तावना:

भारतीय राजनीति राजसत्ता की राजनीति में सिमटती चली गई है, जबकि इसका मूल स्वर समाज बदलने की राजनीति से जुड़ा रहा है। आजादी की लड़ाई के वक्त से राष्ट्र निर्माण की राजनीति समाज निर्माण की राजनीति से गहराई से जुड़ी रही। महात्मा गांधी, जवाहरलाल नेहरू, सरदार पटेल, मौलाना आजाद, डॉ. राममनोहर लोहिया अपनी राजनीति को सदा से ही सामाजिक राजनीति का रूप देते रहे। महात्मा गांधी की आजादी की लड़ाई की संकल्पना अछूतों, नारियों एवं गरीबों की मुक्ति से भी जुड़ी थी। आजादी के बाद भी यदि आप 70 के दशक तक की राजनीति का स्वरूप देखें तो पाएंगे कि हमारे कई राष्ट्रीय स्तर के नेता जैसे-इंदिरा गांधी, चंद्रशेखर, कामराज, चौधरी चरण सिंह, दीनदयाल उपाध्याय अपनी राजनीति को सामाजिक राजनीति से जोड़ते रहे। इन नेताओं का राजनीतिक प्रभाव उनकी सामाजिक शक्ति से ही जुड़ा रहा। 70 के दशक के बाद हालांकि भारतीय राजनीति में अपराधी, माफिया, पूंजीपति आदि बड़े पैमाने पर सक्रिय हुए, किंतु वे कभी भी भारतीय राजनीति की मुख्यधारा नहीं बन पाए।

➤ अनुसंधान का उद्देश्य:

1. राजनीति और समाज के अर्थ को जानना।
2. राजनीति के बदलते स्वरूप को जानना।
3. राजनीति और समाज के संबंध को जानना।

➤ अनुसंधान की पद्धति:

मूल रूप में अध्ययन पद्धति वर्णनात्मक और विश्लेषणात्मक है। द्वितीय स्रोतों से जानकारी एकत्र की गई है जिसमें किताबें, पत्रिकाएं, समाचार पत्र और इंटरनेट आदि शामिल हैं।

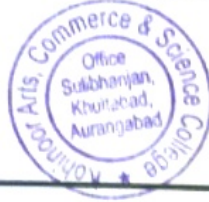
राजनीति का अर्थ :

राजनीति का अर्थ 'राजनीति' शब्द 'राज' और 'नीति' दो शब्द के योग से बना है। प्रायः 'राज' से राज्य व शासन तथा 'नीति' से नियम का अर्थ लगाया जाता है अर्थात् किसी भी राज्य को चलाने के लिए जो नीतियाँ बनाई जाती हैं वे सब राजनीति के अन्तर्गत आती हैं। राजनीति का अर्थ राजनीति शब्द- 'राज' और 'नीति' दो शब्दों से मिलकर बना है। राज से राज्य तथा नीति से नियम, अर्थ लगाया जा सकता है। 'नीति' शब्द 'नी' धातु से बना है। 'नी' का अर्थ है किसी को किसी ओर ले जाना या मार्ग-प्रदर्शन करना।

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अमर्त्य सेन यांच्या आर्थिक विचारांचा आढावा



Dr. Sayyad A. M. - 01

डॉ. सय्यद ए.एम. (अर्थशास्त्र विभाग प्रमुख)
कोहिनूर कला, वाणिज्य व विज्ञान
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प्रस्तावना :-

अमर्त्य सेन हे जागतिक कीर्तीचे मानवतावादी बुद्धिप्रामाण्यवादी भारतीय अर्थशास्त्रज्ञ आणि अर्थशास्त्रातील नोबेल पुरस्काराचे मानकरी त्यामुळे "अमर्त्य सेन" यांच्या आर्थिक विचारांचा आढावा घेण्यासाठी संशोधनात्मक पद्धतीने हा विषय निवडला आहे. कारण कल्याणकारी अर्थशास्त्र, सामाजिक निवडीचा सिध्दांत तसेच दारिद्र्याच्या प्रश्नावर केलेल्या संशोधनाबद्दल त्यांना १९९८ मध्ये अर्थशास्त्रातला नोबेल पुरस्कार देण्यात आला.

अमर्त्य सेनचा पूर्व इतिहास :-

भारतीय आर्थिक विचारवंत म्हणून त्यांची जागतिक पोतळीवर सुपरिचित अशी ख्याती आहे. त्यांचा जन्म दि. ३ नोव्हेंबर १९३३ रोजी शांती निकेतन येथे एका सुशिक्षित आणि सुसंस्कृत कुटुंबात झाला. त्यांची आई उच्चशिक्षित असून ती कवियित्री व साहित्यिक होती. त्यांचे वडील आशुतोष हे डाक्का विद्यापीठात रसायनशास्त्राचे प्राध्यापक होते. अमर्त्य सेन वयाच्या तिसऱ्या वर्षापासून ते सहाव्या वर्षापर्यंतचे बालपण त्यांचे ब्रम्हादेशात गेले, ब्रम्हादेशातून परत आल्यानंतर सेंट ग्रेगोरी या शाळेत काहीसे प्राथमिक शिक्षण घेतले.

शांतीनिकेतन येथे त्यांचे शालेय शिक्षण पूर्ण झाले. सेन मुळातच लहानपणापासूनच हुशार मुलगा म्हणून वर्गामध्ये ओळखले जायचे. अमर्त्य सेन यांनी वयाच्या चौदाव्या वर्षीच त्यांनी "संथाल" या आदिवासी जमातीच्या निरीक्षणांवरून लेख लिहिला होता. जागतिक अर्थतज्ञ जोन रॉबिन्सन यांच्या मार्गदर्शनाखाली त्यांनी पीएच.डी. ही पदवी संपादन केली. तसेच प्रो.मॉरिस डॉब यांनी अमर्त्य सेनला फार महत्वाचे व मोलाचे सहकार्य व मार्गदर्शन केले. त्यांनी प्रोफेसर म्हणून अध्यापन केलेले आहे. वेगवेगळ्या आंतरराष्ट्रीय संस्थांचे त्यांनी अध्यक्षपद भूषविलेले आहेत.

संशोधन साहित्याचा आढावा :-

अमर्त्य सेन यांचा मोठ्या प्रमाणात अर्थशास्त्रीय दृष्टीकोनातून संशोधनात्मक लिखाण उपलब्ध आहे. त्यांचे वीस महत्वाचे ग्रंथ प्रकाशित झाले आहेत. आणि २३० च्यावर शोधनिबंध प्रकाशित आहेत. त्यांनी संपादित केलेले पारिपोषीके असे - अँडम स्मिथ पारितोषीक, स्टीव्हनसन पारितोषीक, महालनोबिस पारितोषीक, तसेच संशोधन केलेले महत्वपूर्ण विषय जसे की, सामाजिक निवड, अविकसित देशांचे प्रश्न, उत्पन्नाचे वाटप, आर्थिक विषमता, दुष्काळ, दारिद्र्याचे मापन, कल्याणकारी अर्थशास्त्र, मानवी विकास, शिक्षण, आयुर्मान, आरोग्य, आहार, सामाजिक क्षमतांचा विकास इत्यादी.

समाजाला विचारांचा आणि विवेकाचा आधार देऊ शकणारे विचारवंत अतिशय दुर्मिळ असतात. वाणी आणि लेखणी यांतून वर्तमानाचा अन्वय घेऊन भविष्यासाठी कृती आराखडा देणार प्रो. सेन यासारखे तत्त्वज्ञ दुर्लभ असतात. महान कलावंत प्रदीर्घ कालखंडभर एखाद्या संकल्पनेचा विस्तार करत जातात. निरनिराळ्या पद्धतीने ती समजावून सांगतात यातून रागमालिका चित्रमालिका व वास्तुसंकुल निर्माण होतात. मागील ४५ वर्षांपासून प्रो. सेन दारिद्र्यामागील अनेक कारणांचा सखोल मागोवा घेत नवीन पद्धतीने विश्लेषण करत आहेत. त्यामुळे महाकाय व्यवस्थेचे आकलन होते. प्रस्तुत लेखामध्ये अमर्त्य सेन यांच्या आर्थिक विचारांमुळे जागतिक स्तरावरील व विकसनशील राष्ट्रांमध्ये विकासासाठी फार महत्वाचे योगदान दिले आहे.

संशोधनाची उद्दिष्टे (Objectives of the study) :-

अमर्त्य सेन हे उत्कृष्ट व विद्वान अर्थशास्त्रज्ञ आहेत. त्यांच्या आर्थिक विचारांमध्ये मानवतावादी व बौद्ध तत्त्वज्ञानाचा प्रभाव पडलेला दिसून येतो कारण त्याने केलेले महत्वपूर्ण संशोधनाचे विषय जसे की, सामाजिक क्षमतांचा विकास,

25

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85

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“Influence of Music in Improving Mental Health”

* **Utkarsha Dadasaheb Gaikwad** ** **Dr. Charulata S. Pradhan**

Abstract:

Music has shaped many cultures and societies in the world, passed down from generation to generation. Music has the power to change perceptions, inspire change and alter one's mood. Music is one of the most Universal ways of expression in human life. Music is present in everyday lives of people of all ages and from all cultures around the world. Music represents an enjoyable activity in and of itself, but its influence goes beyond simple amusement. Listening to music, singing, playing, composing, and improvising are very common activities for many people. They not only allow one to express personal inner states and feelings, but also brings many positive effects to people engaged in them. This Research paper covers many aspects of Music that influence in Improving Mental Health.

Introduction-

Music has a powerful influence on human beings. It can lighten your mood, boost memory, build task endurance, reduce anxiety and depression and help you work more effectively. The impact that musical activity has on human life can be found in different processes. Music can help in improving various aspects such as Psychological, Cognitive, Social And Emotional Health. Few of the aspects are Discussed below.

1. **Music Makes You Happier-** Research proves that when you listen to music you like,

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Music as a Stress Management Tool

* Khaja Moinoddin ** Dr. Charulata Pradhan

Abstract:

Listening to music for contentment and relaxation is evident in around the world. Listening to music after exposure to stressor should result in significant reduction of anxiety, stress anger and arousal in a sympathetic nervous system. Music is stimulating for a person and it is through intrinsic motivation. Music provides you to enroute in to a better mode. Research has shown that music has a better impact on your body and psyche. This paper reviews various researches about music and its therapeutic impacts, using music as a stress management tool.

Keywords: Contentment, Arousal, Better mood, reduces anxiety, intrinsic motivation

Introduction

From ancient times stories are part of human attractions. Evolution of human development is full of so many stories and music. After doing all the rigorous work in fields, or in different areas of life human beings were always in search of some sort of recreation. Maybe it is drama, stories or even the evening gossips with friends. As time changes there is change in sources of the recreation and contentment. From stories and dramas music became essential part of life. For any mood swing there is option for

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Effect of Music on Stress

* Vijay Vitthalrao Sonone ** Dr. Charulata Pradhan

Abstract:

Stress is a feeling of emotional or physical tension. Any event or thought that makes you feel dissatisfied, angry, or anxious can trigger you. The body's response to a challenge or demand is known as stress. The importance of developing cost-effective interventions to reduce stress is of great importance given the difficulty of reducing or preventing stress without professional help and the high demand for non-pharmacological interventions to reduce stress. Music therapy is the clinical application of music therapies to improve a client's quality of life based on scientific evidence. therapists use Music combines both active and receptive musical experiences to help clients improve their health in the cognitive, motor, emotional, communicative, social, sensory, and educational domains using music and its many facets, spanning the physical, emotional, mental, social, aesthetic, and spiritual domains. Nowadays, stress is increasingly prevalent among all individuals around the world, and people are more aware of it than ever before. This chapter may help the general public gain a broader understanding of the role of music therapy in managing stress, as well as assisting individuals in self-healing.

Introduction:

"Stress" is a term used to describe the effects of anything that upsets a

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A Developmental Perspective of Reliance Digital in India

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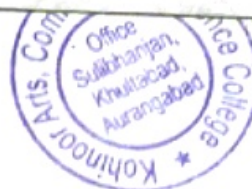
Introduction: The Few men in history have made as dramatic a contribution to their country's economic fortunes as did the founder of Reliance, ShriDhirubhai H Ambani. Fewer still have left behind a legacy that is more enduring and timeless. As with all great pioneers, there is more than one unique way of describing the true genius of ShriDhirubhai H Ambani: the corporate visionary, the unmatched strategist, the proud patriot, the leader of men, the architect of India's capital markets, the champion of shareholder interest. But the role ShriDhirubhai H Ambani cherished most was perhaps that of India's greatest wealth creator. In one lifetime, he built, starting from the proverbial scratch, India's largest private sector enterprise. When ShriDhirubhai H Ambani embarked on his first business venture, he had a seed capital of barely US\$ 300 (around Rs 14,000). Over the next three and a half decades, he converted this fledgling enterprise into a Rs 60,000 crore colossus - an achievement which earned Reliance a place on the global Fortune 500 list, the first ever Indian private company to do so. ShriDhirubhai H Ambani is widely regarded as the father of India's capital markets. In 1977, when Reliance Textile Industries Limited first went public, the Indian stock market was a place patronised by a small club of elite investors which dabbled in a handful of stocks. Undaunted, ShriDhirubhai H Ambani managed to convince a large number of first-time retail investors to participate in the unfolding Reliance story and put their hard-earned money in the Reliance Textile IPO, promising them, in exchange for their trust, substantial return on their investments. It was to be the start of one of great stories of mutual respect and reciprocal gain in the Indian markets. Under ShriDhirubhai H Ambani's extraordinary vision and leadership, Reliance scripted one of the greatest growth stories in corporate history anywhere in the world, and went on to become India's largest private sector enterprise. Through out this amazing journey, ShriDhirubhai H Ambani always kept the interests of the ordinary shareholder uppermost in mind, in the process making millionaires out of many of the initial investors in the Reliance stock, and creating one of the world's largest shareholder families.

About Reliance Industries Limited: Reliance Industries Limited (RIL) is one of India's largest conglomerates, currently headquartered in Mumbai, Maharashtra is run under the guidance of Mukesh Ambani, who is currently the Chairman and Managing Director (MD) of the company. It has its presence in a variety of sectors such as Oil Refinery, Telecommunications, Textiles, Retail, Media & Entertainment, Financial Services and the Software sector. Given that it has a presence in various sectors; it has about 94 subsidiaries in total. It is one of India's most profitable companies and is known for its stints into exploring and expanding into new ventures. Reliance's business culture can be summed up with its tagline "Growth is Life". It is also one of the companies that constantly work on Corporate Social Responsibility (CSR) to empower the lives of millions of people in India. In March 2012, the American Chemistry Council accredited Reliance Industries as a 'Responsible Care Company'. Reliance Industries Limited is slated as one of the key driving engines that will help India reach its GDP projections in the years to come. Now that you know about the company, let's start understanding its marketing efforts by first knowing its target audience.

History of Reliance Company: Reliance Commercial Corporation was founded by Dhirubhai Ambani in 1966 as a polyester firm. It was renamed to Reliance Industries on 8 May 1973. Reliance later entered into financial services, petroleum refining, power sector. By 2002 Reliance had grown into a US\$15 billion conglomerate.

What is the Reliance Digital? Reliance Digital is India's largest electronics retailer, Network of 400+ stores nationally, housing over 200 brands and 5000 products. From in-depth, expert buying advice to personal after-sales care tailored to each customer, we commit to our promise of 'Personalizing Technology' every day.

Cracking the Marketing Strategy of Reliance: In this case study, we would go through the marketing strategies of one of the most successful companies of India and it's none other than Reliance Industries Limited. In 1960, Dhirubhai Ambani formed Reliance Industries Limited in Mumbai, Maharashtra with a dream of making it the largest company in India. Since then, the organization has grown and diversified



World Mental Health and Nutrition

* Dr. Manisha Pandurang Wanjari

ABSTRACT:

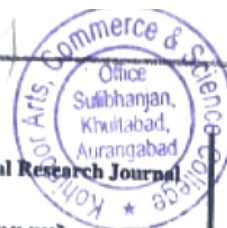
Both malnutrition and poor mental health are leading sources of world mortality, disease, and disability. The fields of world food security and nutrition and mental health have historically been seen as separate fields of research. Each has undergone substantial transformation, especially from clinical, primary care orientations to wider, sociopolitical approaches to achieve Sustainable Development Goals. In recent years, the trajectories of research on mental health and food security and nutrition are further evolving into an intersection of evidence. Food security and nutrition impacts mental health through various pathways such as food insecurity and nutrients important for neurotransmission. Mental health drives food security and nutrition outcomes, for example through loss of motivation and caregiving capacities. They are also linked through a complex and interrelated set of determinants. However, the heterogeneity of the evidence base limits inferences about these important dynamics. Furthermore, interdisciplinary projects and programmes are gaining ground in methodology and impact, but further guidance in integration is much needed. An evidence-driven conceptual framework should inform hypothesis testing and programme implementation. The intersection of mental health and food security and nutrition can be an opportunity to invest holistically in advancing thinking in both fields.

Keywords: malnutrition, common mental disorders, food security, interdisciplinary,

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Importance Of Parents Role In The Education Of Children

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Abstract

The term "home education" refers to the educational impact of the family on children. It has been demonstrated that children in various family environments acquire a variety of experiences through various activities and are constantly exposed to a range of influence and expectations from the people with whom he or she cohabits. Parental involvement has always been an important component of any teacher-student educational endeavour. Parents, who are considered stakeholders in the school community, play significant roles in the educational and environmental transformation of their children; thus, the intensity or extent of participation that parents have in their child's education and school must be recognised more frequently. In this paper, we will examine the influence of parents on their children's education within the context of the family. It will concentrate on the reasons why each family's educational potential varies. In today's social circumstances, the family bears a large and difficult responsibility for the child's health, physical development, overall education, the development of their intellectual affinities, as well as the formation of better moral values and convictions and attitudes, habits to a firm and well-behaved cultural relations in the family as well as in the society in which the child lives. On the other hand, the family as an institution must create conditions for the development of positive relationships with work, which is a predisposition towards a better establishment of a realistic approach for the better development of the children's personalities..

Keywords: Children, Education, Family Relationship, Father's Role, Mother's Role

Introduction

It is undeniable that parents are the ones who brought their children into the world; it is simply their marriage. They are the ones who reproduce the human species in a given society, contributing to the advancement of human history. Parents or the family as a whole are direct holders of educational work. Emerllahu and Dali (1998) The term "parent" should be understood as a collection of ideas such as:

1. First, their planning and decision to have children, as well as the overall nativity rate.
2. Second, their concern for and contribution to their children's upbringing.
3. Third, the parents' actions and activities toward achieving a priori set parental goals.

The family, as a cell, acts only with love and respect, and it dominates understanding, affection, and affectionate behaviour. Childcare and sacrifice So, in this way, we build a family environment in which we live, laugh, play, and develop children (Emerllahu, Dali, 2001). (Claudia&Eberhard Muhlan. 2008) The modern concept of their role and contribution in this regard rejects the so-called single direction of influence of parents over their children's development, replacing it with an intense interaction of three factors such as the child, the parent, and the larger social environment. This interaction is constantly viewed as a mutual influence and process moving from the parent to the child and the other way around, which as such triggers a variety of factors that may impact the children's development and education in both positive and negative ways. When it comes to their children's development and education, parents play a critical role because they are the ones who are responsible for the overall physical and intellectual development of their children until the point at which they are independent and ready to face the challenges of the society in which they live. Parents are aware of the work on child development, but they also require pedagogical information on their children's right to education. Tatjana Mojsovsja Koteva (Mojsovsja Koteva, 2006)

For these reasons, educators, psychologists, and other researchers argue that parents play an important role in their children's overall development, focusing on the development of their personality in the family and beyond. It has been stated that the so-called "children's development

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A Study on the Impact of Mobile Phone Addiction Amongst the Youth

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Abstract - The goal of the current project was to research the effects of youth cell phone addiction. On the sample, the Problematic Mobile Phone Use Questionnaire (Billieux, et al. 2008) was used. It has been shown that smartphone dependence is a growing public health issue. Early detection is crucial for raising awareness and planning educational and therapeutic measures. To avoid unnecessarily excessive mobile phone exposure, precautionary precautions must be adopted.

Key Words: - mobile phone addiction, youth, dysfunctional mobile phone usage.

INTRODUCTION

Technological marvels abound in today's globe. The use of information and communication technologies (ICT) has become essential to our daily life (Salehan & Negahban, 2013). Numerous devices and applications have shaped and influenced every part of our life. Almost every element of our life and our surroundings have been impacted by and changed by technology. It permeates practically every aspect of what we do on a daily basis, including how we work and interact with one another. Without the advantages that technology has brought into our daily lives, many of us would be unable to operate. We now live in a mobile age where mobile ICTs are common due to the proliferation of affordable mobile devices. (Oulasvirta, Rattenbury, Ma, & Raita, 2012) Smartphones are the most recent iteration of mobile ICTs in this mobile era (Oulasvirta et al., 2012). Mobile phone usage is now so pervasive that in some nations, the population outnumbers the number of phone subscriptions. Today's kids use a variety of social media platforms to communicate with their peers, including Facebook, Instagram, Snapchat, and Twitter. While these apps let users connect with people around the world and access news and information, they can also result in problematic and compulsive cell phone use, sexting, cyberbullying, and Facebook depression—a term researchers came up with to describe the depression brought on by excessive social media use.

What is an addiction to mobile phones? The following traits and symptoms are associated with mobile phone addiction, which is harmful, dysfunctional use of the device: a strong urge to use a phone, make calls, or send texts that manifests as a persistent obsession with those activities, repeatedly fruitless attempts to

stop or limit the volume of calls and texts sent, signs of withdrawal such as agitation, anxiety, and despair linked to attempts to cut back on or lessen the frequency and duration of phone calls and text messages; problems with finances, careers, families, and social life brought on by mobile phone use, lying to family and friends to hide the time and money spent on phone conversations and sending text messages

Psychological effects of mobile phone addiction: People could constantly check their phones out of habit or compulsion, but doing so could be a way to avoid engaging with others. When they are away from their mobile phones, some children may experience withdrawal symptoms like despair, restlessness, insomnia, and anxiety that are typically linked to abuse. According to a recent Columbia University study, text message use in both early and late adolescent groups "seems to be negatively influencing communication, responsibility, and relationships." (V., 2011) Young people's stress levels, sleep issues, and depressive symptoms have all been linked to heavy mobile phone use (Thomée1.S, 2011).

Biological effects of mobile phone addiction: In order to analyse the scientific literature on the biological effects of EMFs and undertake a comprehensive risk assessment of all examined health consequences from exposure to RF fields by 2012, the World Health Organization (WHO) formed the International EMF Project in 1996. The majority of studies exploring the consequences of cell phone radiation on physical and mental health have focused on the possibility that mobile technologies could result in cancer, nervous system diseases, and unfavourable impacts on reproduction. Because of the similar symptomatology, biological dysfunction, genetic susceptibility, and treatment strategy, the most



THE FUNDAMENTAL CHALLENGES IN SOCIAL SCIENCE RESEARCH IN INDIA

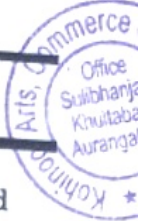
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Abstract

In India, the history of social science research has been turbulent. According to the most recent numbers from India's HRD ministry's website, social science research in India has grown in recent years. In 2018, there were 200 institutions in India with more than 300 social science departments. Although the majority of NGOs and policy research initiatives do not have a long-term interest in research and the quality of their work is not yet established, some have produced specific development-focused research outputs. As a result, the focus of this paper is on recognising the major challenges that social science research faces in India.

Keywords: Social Science, Social Science Research.

Introduction:

In India, the history of social science research has been turbulent. Throughout the colonial period, the processes of modern education, the construction of universities, and the academic interests of Indian intellectuals in writing about issues affecting the people of the country directly led to the development of social science research in India.

Prior to India's independence, the majority of social science research took place at universities. However, after India attained independence, a slew of new research institutes sprouted up, contributing to the progress of social science research. According to the most recent numbers from India's HRD ministry's website, social science research in India has grown in recent years.

In 2018, there were 200 institutions in India with more than 300 social science departments. Although the majority of NGOs and policy research initiatives do not have a long-term interest in research and the quality of their work is not yet established, some have produced specific development-focused research outputs. The purpose of this essay is to identify the major challenges that social science researchers in India encounter.

Social Science and Social Science Research:

Before we can define social science research, we must first define social science. The social sciences are the study of individuals and their social and behavioural environments. According to the first chapter of the Encyclopedia of Social Sciences, social sciences are "those mental and cultural disciplines that deal with the behaviours of the individual as a member of a group," according to Edwin, R. A. Selegian.

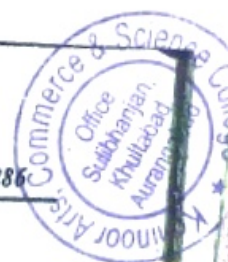
Social sciences, as we know them now, are still in their infancy. Philosophy, like many other branches of study, was the genesis of the concept for social sciences. What is now known as social sciences was previously known as "social discipline," but as time passed and the impact of the scientific method on our way of life became clearer, the term "social discipline" was replaced with "social sciences".

In general, it is impossible to create clearly defined boundaries for the Social Sciences such as Sociology, Economics, Anthropology, History, Psychology, Political Science, and so on. This is because every human endeavour has several sides.

PRINCIPAL

87

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Role of Communication in Personality Development

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ABSTRACT

It is necessary to understand personality in order to develop it. Essentially, a person's personality is the way they think, feel, and behave that distinguishes them. Everyone aspires to be attractive in this world. It is a fallacy that if you are attractive, you must also be intelligent. When we say that someone has a 'good personality' because they have good communication, we mean that they are liked, fascinating, and nice to be around. The author also attempts to stress the usefulness of communication skills in the development of personality, as well as many ideas for enhancing both our personality and communication skills at the same time. A positive personality contributes to the creation of a harmonious family, society, country, and globe. A good person who understands how to sustain social, economic, religious, and political diversity can smile sweetly and wave goodbye to bitter circumstances, establishing his or her dynamic identity.

Personality, happiness, thinking, communication, and so on are all keywords.

INTRODUCTION

Character refers to a person's characteristics, style, conduct, mindset, disposition, and his own unique way of seeing things and seeing the world. Genetic elements, family history, other cultures, the environment, and present circumstances all play an important influence in creating one's personality. Your personality is reflected in how you interact with others. Everyone admires and respects someone with an open personality. Effective communication skills are essential for developing one's personality. Communication enables people to express themselves simply and convincingly. Your thoughts, feelings, and knowledge are to be handed on in the most appealing way possible, so that successful relational talents can be advanced. A person should communicate unequivocally in order to leave his or her mark. Remember, no one will take you seriously unless you master the art of revealing yourself clearly and convincingly.

Communication

Effective communication skills are essential for developing one's personality.

Communication enables people to express themselves in the most compelling way possible. Your views, feelings, and information should be communicated in the best way possible, and excellent communication skills can help you do so. To build a name for oneself, one must be able to communicate effectively. Remember, no one will take you seriously unless you learn the ability of expressing oneself clearly and convincingly. Not everyone is born with strong communication abilities; they can be learned with time and practise. People with strong communication skills have a more remarkable personality than those who struggle to communicate since connecting with others comes naturally to them. Individuals with strong

B7 → Dr. Ashok Pawar → 02



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87

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Probiotics: As a Psychobiotics in Mental Health

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Abstract:

Probiotics are those helpful bacteria that give people numerous health advantages when included in diets in sufficient quantities. They include essential metabolites with medicinal and nutritional qualities that offer countless health benefits. Scientific research has shown that these living microbial consortiums may have an effect on stress reactions, behaviors, sadness, anxiety, and cognitive functions. Psychobiotics are those probiotics that regulate the central nervous system's (CNS) functionality or actions as they relate to the gut-brain axis (GBA) through neuronal, humoral, and metabolic pathways to improve gastrointestinal activity as well as their anti-depressant and anxiolytic properties. Therefore, the therapeutic use of psychobiotics is potential future directions for research.

Keywords : Probiotics, Psychobiotics, Depression, cognitive etc.

Introduction :

Probiotics have been used to maintain a person's immune system and to enhance the properties of their natural gut flora (FAO/WHO 2002). Probiotics are "live microorganisms which, when administered in adequate amounts, confer a health benefit on the host." It is well recognized that diet can influence intestinal health, and that probiotic supplements or prebiotics can be used to influence the microbiota in the gut (Sharma and Bajwa 2021a, b). Probiotics are obtained from fermented foods, dairy

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Methylotroph : Isolation and Identification from Lonar Lake

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ABSTRACT

The Buldhana district of the geographical area state has Lonar Soda Lake. It is one of the largest craters, and it is the only one created by a high-speed meteoroid impacting volcanic rock about 50,000 years ago. Methylotrophic microorganisms are unique in that they can use methanol as their only source of carbon and energy. By using a minimum salt medium with a 2% methanol source of carbon and energy, the methylotrophic strain was identified. More detailed morphological, biochemical, and 16S rRNA sequencing descriptions of this strain were obtained. Sequencing results revealed that the strain belongs to the phylum proteobacteria and is an instance of the *Achromobacter* *Xyloporidans* species. By using spectrophotometric techniques, this *Achromobacter* species was further examined for its capacity to consume methanol. The *Achromobacter* *Xyloporidans* were discovered to be exceptionally efficient methanol users and will be used for bioremediation of methanol-contaminated locations, according to the results. This work is beneficial for controlling global warming and reducing methane and other C1 compound pollutants.

Key words: Lonar Lake, Methylotrophs, *Achromobacter*.

1. INTRODUCTION

Lonar crater, which can be found in the village of Lonar, Buldhana district, region, India, is a straightforward, concave, nearly circular crater that was created by a meteor impact (Fredriksson et al., 1973) around 52 000 years ago (Sengupta et al., 1997). The crater's mean rim diameter is 1830 metres, and its apparent depth from rim to bottom is about 150 metres (Fredriksson et al., 1973). This has salinity (NaCl 0.9%) and alkalinity (pH 10) that together forms a severe environment for the growth of halophilic and alkaliphilic organisms. Rain, spring water oozing, and springs located at the lake's edge all contribute to the lake's water supply. Because of the lake's high salt concentration and resulting pH scale, it was previously exploited as a source of sodium carbonate (Thakker and Ranade, 2002; Tambekar et al., 2010). Throughout the year, Lonar Lake's water appears green due to cyanobacterial blooms that are in abundance (Surakasi et al., 2007). The methylotrophs' observation of cyanobacterial biomass decomposition in soda lakes may be moving to high concentrations of methane, methanol, methylamine, and dimethylsulfide (Jones et al., 1998). Methanotrophic microorganisms are a distinct group that only use methanol as a source of carbon and energy (Trotsenko and Murrell, 2008; Olivier et al., 2005). Methane oxidising bacteria (MOB) include species from the Gamma and Alpha proteobacteria (types I and II, respectively) (Bowman, 2000). Methanotrophs, also known as aerobic methane

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25

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प्रगतीशील चेतना का विकास परिवेश और उत्प्रेरक तत्व :- मानसशास्त्रीय दृष्टीकोन भारतीय समाज की परंपरागत व्यवस्था का विघटन

* प्रो. डॉ. पाटील पी.एस.

** स.प्रा. प्रकाश आनंदा लहाने

प्रस्तावना -

आदिम समाजवादी व्यवस्था के भंग होने के पश्चात मानव समाज दाययुग, सामन्त युग एवं पूँजीवादी युग से गुजरता है। दासयुगीन समाज में निर्धन की अवस्था बहुत ही शोचनिय थी। जमींदार एवं उच्चवर्ग आदी दास-दासी का प्रहार करते थे। पाश्चात्य रचनाओं में दास प्रथा पर बहुत अधिक दृष्टि डाली गयी है।

मध्ययुगीन समाज व्यवस्था सामन्त और कृषक इन दोनों प्रधान वर्ग में विभाजीत थी। सामन्त का उद्देश्य या अपनी सत्ता बनाये रखना, इसमें प्रजाहीन और जनकल्याण की भावना का सर्वथा आभाव था। इसमें सिमीत विनिमय की व्यवस्था थी। इसलिए कृषक वर्ग संपूर्ण रूप में सामंत वर्ग पर आश्रित था उसके पास पूँजी न होने की वजह से उसकी श्रमशक्ती पर सामंतो का पूरा अधिकार था। कृषक भूमी कार्य में तल्लीन होकर सामंतो की सेवा करते थे। प्रो. रामशरण शर्मा ने इस विषयपर आलोचना करते हुए भारत के सामन्तवाद को सबसे प्राचीन माना है। उन्होंने पुरोहीतो को भूमीदान को सामंतवाद की परंपरा के ज्वलंत उदाहरण के रूप में स्विकार किया है। १० वी शताब्दी में सार्वजनिक सेवा हेतु वृत्ती स्वरूप भूमीदान किया जाता था। जो भारतीय सामन्तवाद का एक गुण है। इसके आलावा मुगल कालीन भारत में थी सामंती वर्ग ने अपना अधिपत्य कृषक वर्ग पर जमाया, इसमा प्रमाण कबीर के हिंदू और मुसलमानों की रुढ़ियों

*हिंदी विभाग इंदिराजी महाविद्यालय, सिल्लोड ** हिंदी विभाग कोहिनूर महाविद्यालय, खुलताबाद

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The importance of physical education and sports from the perspective of India

Dr. Aslam Shaikh

Abstract

Physical education and sports are the main parts of our program of study for so many years. In spite of being having its relevant aspect in our life it was ignored by the each part of the society like administration, professionals and students. In physical education, we deal with the theoretical and practical aspects as well. General concept of society regarding physical education is not so good. People think that playing is just a wasting of time that is ironically wrong. We use our time when we are under game situations and that must be considered fullest utilization of time devoted to that task. Swami Vivekananda once said, "Sound mind in a sound body" which means a lot. It's hard to get optimum result of mind without the collaboration of our body. Awareness about health need to be spread to get maximum output from physical education and sports. So hurdle on the way of sports must be removed so that to enlighten the society with the brightest light of sports.

Introduction

Now that being the part of total education process physical education and sports have great impact on the physical as well as mental development of children. Many contemplate that physical education is less significant field in whole curriculum but it is as important as other subjects such as science and math. Curriculum is supposed to be designed in such a way that physical activities become a part of daily lesson plan. Sports are among the highlights of media these days and it is turning to be a big industry in the world. In spite of being ignored by majority of people in society, sports have noteworthy influence on most of them, directly or indirectly. Lots of issues which adversely affect the sports need to be settled. Cooperation with the advanced countries is required in this regard because we are not up to mark in sports field so far. We must set up an agenda of action plan for the encouragement and expansion of physical education and sport.

Latest scenario of sports and physical education in society

The matter of concern is the declining status of physical education and sports. It is a key challenge for world's developing countries to set up a connection with other developed nations to get guidance from their coaches and authorities. Consequently, developing countries can gain knowledge about the world-class infrastructure and technological equipment's related to sports. Physical education in the educational institutes is the area to be targeted for the upliftment of sports. Cricket which turns to be a religion in India is media-friendly game and raises the monetary status of players. Cricket needs not to be disregarded but other games should be given attention. The brief finding of world summit of physical education and sports at Mangling are as below:

- 1) Development of quality standards and benchmarks for physical education which are based on scientific evidence and add particularly to personal and community development;
- 2) The development of effective and modular strategies to secure and further develop physical education as an essential component of education;

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16

स्वा. सावरकरांचे लंडनमधील केलेल्या कार्याचा आढावा

Dr. Bhau Sahab Jadhav

डॉ. भाऊसाहेब यशवंता जाधव

इतिहास विभाग,

कोहीनूर कला, वाणिज्य व विज्ञान महाविद्यालय,
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प्रस्तावना :

भारताच्या संदर्भात विसाव्या शतकातील राजकीय, सामाजिक परिस्थितीचे विवेचन जेव्हा एकविसाव्या शतकात होते, तेव्हा त्यात न्या. रानडे, दादाभाई नौरोजी, नामदार गोखले, लो. टिळक, महात्मा गांधी, पं. त्रेहर्, सरदार वल्लभभाई पटेल या नेत्यांचा त्या दशकावर विशिष्ट ठसा उमटलेला दिसतो. त्यात असेही दिसते की, स्वातंत्र्य चळवळीत साहित्य, सामाजिक सुधारणा, क्रांतिकार्य, भाषाशुद्धी राजकारण अशा अनेक क्षेत्रांत प्रभावी ठसा उमटवणारी एक व्यक्ती होती ती म्हणजे स्वा. विनायक दामोदर सावरकर. या व्यक्तीने आपल्या कार्य आणि कर्तृत्वाने त्या दशकावर आपले नाव कोरून ठेवले आहे. स्वा. सावरकर महान देशभक्त, लेखक, कवी, साहित्यिक, समाजसुधारक, कार्यदर्पण, विद्वान, प्रथम श्रेणीचे क्रांतिकारक आणि नव्या समाजाचे स्मृतिकार होते. या लेखामध्ये स्वा. सावरकरांनी लंडनमध्ये केलेल्या कार्याचा आढावा घेतला आहे.

स्वा. सावरकरांचे लंडनमधील कार्य :-

स्वा.सावरकर दि. २ किंवा ३ जुलै १९०६ ला लंडनला पोहचले. श्यामजी कृष्ण वर्मा यांच्या 'इंडिया हाऊस'मध्ये राहण्याची त्यांची व्यवस्था होती. ब्रेज इन मध्ये त्यांना प्रवेश मिळाला. तेथे एक वर्षाच्या आतच त्यांच्या कार्याने वातावरण बदलत गेले. 'शांततामय क्रांती' ही हिंदुस्थानसारख्या देशामध्ये 'वदंतोव्याख्याता' सारखी आहे. १ असा प्रसार करीत सावरकरांनी श्री इंडीया सोसायटी या नावाची एक संस्था स्थापन केली. यामध्ये त्यांनी क्रांतिकारकांना एकत्र करून प्रेरक आणि उत्तेजक भाषणे दिली. आपला मार्ग बरोबर आहे आणि सशस्त्र क्रांतीनेच



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महाराष्ट्रातील संत चळवळीचा ऐतिहासिक मागोवा

डॉ. भाऊसाहेब यशवंता जाधव Dr. Bhausaheb Y. Jadhav

इतिहास विभाग

कोहिनूर महाविद्यालय खुलताबाद जि. औरंगाबाद

प्रस्तावना

महाराष्ट्रातील संत परंपरा व सांस्कृतिक चळवळीचे ऐतिहासिक अध्ययन हा विषय समाजासाठी दिशादर्शक ठरणारा असा आहे. हा विषय अत्यंत महत्वाचा असून तो महाराष्ट्राच्या धार्मिक व सामाजिक विचार-जागृतीशी निगडित आहे. या अभ्यासासाठी महाराष्ट्रातील संत परंपरा व सांस्कृतिक चळवळीचे ऐतिहासिक आढावा घेण्यात आला आहे. महाराष्ट्रातील या संत परंपरा व सांस्कृतिक चळवळीच्या माध्यमातून तत्कालीन महाराष्ट्रात मोठ्या प्रमाणात तत्त्वमंथन झाले व अपूर्व अशी धार्मिक, सामाजिक आणि सांस्कृतिक जागृती निर्माण झाली. या संत परंपरा व सांस्कृतिक चळवळीच्या माध्यमातून आधुनिक विचारांची महाराष्ट्राला ओळख झाली. त्यांचा तसेच या संत परंपरा व सांस्कृतिक चळवळीच्या मध्यमातून आधुनिक महाराष्ट्रात सामाजिक, धार्मिक व सांस्कृतिक दृष्टीने घडून आलेल्या परिवर्तनाचा आढावा घेण्याच्या दृष्टीने उद्देशाने हा शोध निबंध प्रस्तुत करण्यात आला आहे.

महाराष्ट्रास संत महात्म्यांच्या भुमिने नटलेला प्रदेश म्हणून ओळखला जातो. महाराष्ट्रामील संत चळवळीचा पाया मुळात रचला गेला तो म्हणजे सामाजिक दृष्टिकोणातून होय. समाजातील भेद भाव, उच्च - निचता या विरुद्ध संत चळवळीने प्रथमतः आवाज उठवला. संत साहीत्यातून त्याचे प्रकषण दर्शन घडते. संत तुकाराम महाराज - म्हणतात.

जे का रंजले गांजले । त्यासी म्हणे जो आपुले ॥

तोची साधु ओळखावा । देव तेथेची जाणावा ॥

या वरून संत साहित्यात मानवी जिवनास महत्वपूर्ण स्थान देण्यात येऊन जाती पाती, श्रेष्ठ कनिष्ठत्वास गौण स्थान दिल्याचे दिसून येते. संत साहित्यातून आसेही दिसून येते कि जाती - पाती या मानव निर्मीत आहेत. इश्वराने निर्माण केली ती केवळ मानवजात होय. या मानवजातीची सेवा करणे हीच खरी इश्वरसेवा होय. असे संत चळवळीतून जे प्रबोधन करण्यात आले. त्याद्वारे आपण सर्व एकाच इश्वराची लेकरे आहोत. हा संदेश देण्यात येऊन भक्ती या एकाच धाग्यात सर्वजातीय समाजाला गुंफण्याचा प्रयत्न या चळवळीने केला. संत चळवळीतील संतांचे साहीत्य, संतांचे प्रबोधन हे समाजासाठी दिशादर्शक ठरू पाहणारे होते. संतान मध्ये देखील आठरापगड जातीचे संत होवून गेले. त्या सर्वांनी एकाच विठ्ठलाची भक्ती केली आणि एकच तत्वज्ञान समाजा समोर मांडले. त्यातूनच सामाजिक समता प्रस्थापित करण्याचा प्रमुख प्रयत्न करण्यात आला.

शोध निबंधाचे उद्देश :

1. महाराष्ट्रातील संत चळवळीचा आढावा घेणे.
2. महाराष्ट्रातील संत परंपरा व सांस्कृतिक चळवळीच्या निमित्ताने झालेल्या धार्मिक, सामाजिक जागृतीचा महाराष्ट्राच्या प्रगतीसाठी कितपत लाभ झाला याचा चिकित्सक अभ्यास करणे.
3. महाराष्ट्रातील संत परंपरा व सांस्कृतिक चळवळीमुळे महाराष्ट्राच्या सामाजिक, धार्मिक आणि सांस्कृतिक जडणपडणीमध्ये असलेले योगदान स्पष्ट करणे.

Dr. More Tukaram Surybhanrao

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“संगीत उपचार पद्धतीचा मानसशास्त्रात उपयोग”

* डॉ. मोरे तुकाराम सुर्यभानराव

प्रस्तावना--

जेव्हा कोरानासारखी संसर्गजन्य महामारी येते तेव्हा सर्व लोकांना घरातच वेळ घालवावा लागतो. त्यामुळे अतिफुरसतीच्या वेळेचा सदुपयोग संगीताला देऊन आपले मन, शरीर प्रसन्न राहण्यासाठी ज्याप्रमाणे आपल्या वस्त्र, अन्न, निवारा या मूलभूत गरजा आहेत. त्याप्रमाणे आपल्याला संगीताशिवाय मानवी जीवन परिपूर्ण होऊ शकत नाही. “साहित्य संगीत कला विहीनः। साक्षात् पशुः पुच्छ विशाणहीनः।” ज्याप्रमाणे साहित्य, कला, संगीत शिवाय मानव हा शेपटी विना पशु असतो म्हणजेच अपूर्ण आहे. ‘संगीतेन जीवनम्’ वरील दोन्ही संस्कृत सुभाषितांनी संगीत उपचार पद्धतीचा मानसशास्त्रातील उपयोग अधोरेखित होतो.

प्राचीन काळापासून भारतात संगीत उपचार पद्धतीचा उपयोग करून मानसिक आजारावर उपचार केले जातात याचे संदर्भ मिळतात. संगीत हे हृदयाला भिडते हे भारतीय हिंदू दर्शनाचे अंतिम लक्ष्य आहे. मधुर लय भारतीय संगीताचे प्रधान तत्व आहे. ‘राग’ चा आधार मधुर लय आहे. मानसाचे मन चंचल असते या चंचल मनाला एकाग्र करण्याचे सामर्थ्य संगीतातच आहे. अनेक रागामुळे अनेक मानसिक आजार बरे होतात. भारतीय शास्त्रीय संगीताच्या स्वर, ताल, लयीमुळे मनाला शांती मिळते. चार वेदामध्ये संगीताला मोक्षप्राप्तीचे सर्वोत्कृष्ट साधन मानले आहे. ऋषी, महर्षी संगीताच्या विशिष्ट स्वर, तंरगाद्वारे, मंत्रोच्चारण किंवा वाद्याद्वारे उत्पन्न ध्वनीद्वारे

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स्वाधीनता आंदोलन में विमर्षमुलक साहित्य

* डॉ. सुभाष सोनाजी जिते

प्रस्तावना -

साहित्य की सत्ता मुलतः अखंड और अतिच्छेद सत्ता है। वह जीवन और जिवनेत्तर सब कुछ को अपने दायरे में समाहित कर लेता है। इसलिए उसे किसी स्थिर सौध्दांतीकी की सीमा में बाँधना प्रायः असंभव रहा है। साहित्य को देखने के लिए नजरिये भिन्न-भिन्न हो सकती है। जो हमारी जीवनदृष्टीपर निर्भर करते हैं। एक ही कृती को देखने पढ़ने की कोई दृष्टीयाँ होकर भी वह समाज तथा समाज को योग्य दिशा दर्शती है। उसके बीच से रचना की समझ को विकसीत करने के प्रयास लगभग साहित्य सृजन की शुरुवात के साथ ही हो गए थे। आदी कवी वाल्मीकी जब क्रौंच युगल के बिचो के शोक से अनायास श्लोक की रचना कर देते हैं। जब उन्हें स्वयं आश्चर्य होता है की यह क्या रचा गया? इक्कीसवी सदी के दुसरे दशक तक आते-आते साहित्य से जुड़े क्या, क्यों और कैसे जैसे प्रश्न अब भी ताजा बने हुए लगते तो यह आकस्मिक नहीं है।

आज का दौर भुंमडेलीकरण और उसे वैचारिक आधार देनेवाले उत्तर आधुनिक विमर्ष और मिडिया की विस्मयकारी प्रगतीकारी प्रगती का दौर है। इस दौर में साहित्य और उसके मुल ने निहीत संवेदनाओं के छीजते जाने की चुनौती अपनी जगह ही है। साहित्य और सामाजिक कर्म के बीच का रीश्ता भी निस्तेज किया जा रहा है। वस्तुतः कोई भी प्रतिमान प्रतिमेय से ही निकलता और उसी प्रतिमान प्रतिमेय से निस्पृतः प्रतिमान दुसरे नव निर्मित प्रतिमेय पर लागू

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32



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Studies on Fungal Biodegradation of Benzonitrile

* Dr. Ajane Vaishali H.

Abstract:

Nitrile is that contain an R-CN group to the corresponding carboxylic acids ammonia. Several nitriles have been found in different plants and microorganism. In view of this by adaptation and acclimatization 31 different fungi were isolated on minimal media containing 0.2% benzonitrile. Fungi were found to utilize benzonitrile as a sole source of carbon & nitrogen. Further 11 isolates were screened based on high efficiency of benzonitrile hydrolysis in terms of ammonia production. Out of 11 isolates, strain F-12 was showing maximum benzonitrile transformation at a pH - 7 (23.96 μ mole), strain F-18 at pH-4 (24.22 μ mole) and strain F-19 at pH - 9 (24.43 μ mole). Strain F-12 & F-18 exhibited maximum benzonitrile degradation at temperature 300C (28.36 μ mole & 33.93 μ mole) and F-19 at 600C (23.25 μ mole). High rate of degradation was observed at 72 hrs of incubation. These isolates were found to tolerate benzonitrile up to 0.2% the presence of meat extract as a nitrogen source & maltose as a carbon source were found to enhance the benzonitrile hydrolysis. In both strain the enzyme activity was found to be maximum in cell supernatant (F-12: 18.09 μ mole/min, F18: 14.21 μ mole/min & F19: 31.72 μ mole/min) as compared to cell lysate.

Key words: Benzonitrile, Benzamide, Biodegradation, Benzonitrilase, Fungi.

INTRODUCTION

Biodegradation is important for natural and industrial cycling of environmental chemicals.

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کرشن چندر کے افسانہ ”خمیازہ“ کا نفسیاتی تجزیہ

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Kohinoor Arts, Commerce
& Science College Khultabad

کرشن چندر نے ممبئی اور پونہ میں بہت وقت گزارا ہے۔ وہ انہوں نے قلمبازوں پر ”ان دانی“ کے عنوان سے افسانہ لکھا۔ یہیں ”مہا کشمی کا پل“ ”مونی“ ”آجے کے گھر کا گھر“ ”سری موت“ ”پتے افسانے“ ”کرشن چندر نے ہماری تہذیب ثقافت اور سماجی زندگی کے کتنے ہی نقوش اجاگر کئے ہیں۔ اور اصل کرشن چندر وہاں کی روایت حقیقت کی طرف آئے ہیں۔ اس لئے ان کے افسانے اور نثر کے حامل افسانوں میں بھی روایتی رنگ موجود ہے۔ اس رنگ میں وہ اپنا اپنے کسے سے بے نیاز ہو جاتے ہیں۔ ان کے افسانے زندگی کے موڑ پر ”مہا کشمی کا پل“ ”ان دانی“ ”کاوشی“ ”پارہیزے چنے کے قابل ہیں۔

کرشن چندر کے مشہور افسانوی مجموعے ہیں:-

- (1) ”ان دانی“ 1933ء
- (2) ”مہا کشمی کا پل“ 1938ء
- (3) ”پتے آجے“ 1938ء
- (4) ”دل کسی کا دوست نہیں“ 1959ء
- (5) ”زندگی کے موڑ پر“ 1963ء

کرشن چندر نے پہلا افسانہ ”ان دانی“ کے عنوان سے لکھا تھا۔ ان کا پہلا افسانوی مجموعہ ”عصر میل“ 1939ء میں شائع ہوا۔ کرشن چندر ایک زہر تو نہیں تحقیق کا رہے۔ ان کے افسانوں کے (31) افسانے مجموعے شائع ہو چکے ہیں۔ ان کا آخری افسانہ ”پگل پگل“ ہے جو فروری 1963ء کے ماہنامہ شمع دہلی میں شائع ہوا تھا۔

”خمیازہ“ نفسیاتی نقطہ نظر کا افسانہ ہے۔ یہاں افسانے کا مرکزی کردار اکرام علی شاہی ہے۔ ان کا قومی شہرت یافتہ فنون گروہ ہے۔ یہیں اور مضامین بھی ہیں۔ ان کے بارے میں تصاویر بنانے میں مصروف ہے۔ ایک دن یہیں کی مشہور مصروف ایٹلر اس سہارا کو دیکھ کر حیرت زدہ رہ جاتا ہے اور اس سے قریبی تعلقات کے ساتھ محبت کے مسائل سے کرنا چاہتا ہے۔ اکرام علی شاہی کو اس کی ملکیت ہے جس سے حسین و جمیل لڑکیاں متاثر ہوتی ہیں۔ وہ سہارا کو کافی کی دعوت دیتا ہے اور اس کے ساتھ وقت گزارنا چاہتا ہے۔ سہارا اکرام علی سے محبت کا دم بھرنے کی ادکاری کرتی ہے۔ اکرام کو ”انی“ ”مہا کشمی“ ہے اسے یہ یاد کرنا ہے کہ ہم انہوں پر چلے ہیں میں ملکیت کا ساز و سامان ساتھ لے لیتی ہوں۔ آپ بھی ایسا ساز و سامان لے لیتے ہیں۔

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NCICST-2022

Role of Library and Information Science Research

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ABSTRACT

In this paper highlight the research is primary purpose is to help teach the skills necessary for a librarian to conduct, basic research, the methods, techniques and basic research are relevant for applied research. The librarians wishing to carry out a cost study evaluate the performance of his or her library.

Keywords: Library and information science, Research, Basic research.

I. INTRODUCTION

There are many ways of defining a profession all agree that it should form paid occupation, General acceptance that research statist these requirements only come in the decades around medicine is a typical example of a profession some of its practionners were famous research long before that time , similarly, surveying was a well regarded profession in North America fro the early days pr European settlement, and some of its members contributed to early American research the different German states competed to obtain the nineteenth century . This student needed some certificate of their research ability and so grew up the process of awarding PhD.

II. BASIC RESEARCH

Research is best conceived as the process of arriving at dependable solutions to problems through the planned and systematic collection analysis, and interpretation of data. Quantities research methods involve a problem solving approach that is highly structured in nature and that relies on the qualification of concepts, where possible, for purposes of measurement that evaluations.

In other words, it well be necessity to decide that methodology and data collection techniques, among other procedures, to utilize in the investigation. The librarian could elect to conduct an experiment during which a particular type of library instruction would be given, and after which the student's library skills would be post tested. This activity is particularly crucial during the data collection and analysis. Mouly (p.15)

Library and Information Science: Growth of Basic Research

One of the major purposes of basic research to create new knowledge. It is purposes of science (Scientific Research) to go experience and common sense, which frequently are quite limited.

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23

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Academic Libraries: Preservation of Resources in digital Environment

*** Dr. Sarika Rengunthwar**

Abstract:

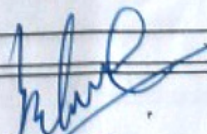
The paper focus on the preservation of digital resources in the modern world. It discuss about the need of preservation of digital resources in the digital environment. Digital preservation comprises an extensive range of activities which takes initiatives from storage to revolution, depending on the nature of the resources and diverse methods for sustaining digital information dynamic for future purposes.

Keywords:Digital preservation,Digital resources, Digital environment, Digital technology.

Introduction:

Digital preservation is speedily becoming a standard medium to produce, dispense and store content. Digital preservation is nothing but the managing of digital information over the time. Due to the growth of information technology even it can be distributed all over the world. In these process there are some issues raised on owning of digital information and also preservation is the mission of ensuring long term access to information and cultural resources of value to a large degree the safe guarding the collection of the organization. In the world of digital imaging and digital resources preservation is no longer just the result of a program but an ongoing progression. Digital preservation will need practical preservation metadata.

*** Librarian, Kohinoor Arts, Commerce & Science College Khultabad**


PRINCIPAL
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An Overview: Application on Web- based Services in Academic Libraries

Sarika Bhagwanrao Rengunthwar

Librarian

Kohinoor Arts, Commerce & Science College, Khultabad
Tq. Khultabad Dist. Aurangabad.



Abstract:

Library services provided by using web technology are referred as web based library services. In the present paper mainly discuss that what are the web based library services, their features advantages and disadvantages.

Web based library services means web portal, blog, web OPAC, Ask-a-Librarian, email have been highlighted. In 21st century web serve people believe that one day everything Ever created by humans will be available online, with the emergence of the internet and information communication technologies, in particular the World Wide Web has opened up an entirely new providing improved information services and resources for the users.

Keywords: Library Services, Web based Services, Web OPAC, ICT and Web services.

Introduction:

It has a major impact on the publishing and information delivery system in 21st century (Arora, 2001) libraries are mainly entrusted with a host of predator minded tasks like acquiring, organizing, preserving, retrieving and disseminating information to the users. They are undergoing significant changes today not only in outlook but also in function, services, methods and techniques for collection development processing and dissemination of information (Singh & Kirshna, 2004) with the advancement in technology and its direct application to libraries, business and management libraries are becoming loan and agile libraries that streamline information supply. The pervasive nature of the internet, coupled with platform independent database connectivity is turning library portals more and more effective.

The main purpose of this study is to study the availability of websites at management institutes and the extent of library information hosted on it. The study also aims to examine the reasons behind why websites have failed get the attention of majority of users and to identify the library services, electronic library services are the terms used interchangeably web based library services. According to (Bhatnagar, 2005) there are four generations have passed from traditional online services to days that assist users in searching the World Wide Web. The first generation of information retrieval tools was designed for use with bibliographic databases. The second generation of tools attempts to collect and index resources as an automation

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Academic Libraries: Preservation of Resources in digital Environment

** Dr. Sarika Rengunthwar*

Abstract:

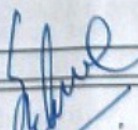
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** Librarian, Kohinoor Arts, Commerce & Science College Khultabad*


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Library Professionals in Digital Environment Effect on Stress Management.

* Dr. Sarika Bhagwanrao Rengunthwar

Abstract:

In this paper define stress in highlight of library and information science professionals describe about type of stress in libraries and its reasons. It has been stress in libraries and its reasons. It has been integral part of our daily life science. Prehistoric times and library & Information science. Stress is the changes which our bodies experience as we adjust to our changing life also critical analysis the best ways to manage the stress of LIS professionals in digital library environment.

Introduction:

The library & information science professionals experience stress, as they read just their lives with the changing library environment, job rotation, job promotion etc, the in adjusting to such changing library digital environment stress will help. It has both physical and negative feelings. As a negative influence, it can result in a new awareness and an exciting new perspective, generally stress is the changes, which our bodies experience as one, adjust to the continually digital environment.

Various types of stress in library digital environment.

1. Information Communication Technological Stress :
Information Communication Technology due to change in computer hardware & software

* Librarian Kohinoor Arts, Commerce & Science College Khultabad

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Hydrological Parameters of Groundwater of Daulatabad, Tq. Dist. Aurangabad, Maharashtra

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Maharashtra, India

²P.G. Department of Chemistry, Sir Sayyed College of Arts, Commerce & Science, Aurangabad, Maharashtra,
India



ABSTRACT

In this study we tried to study the present condition of ground water of Daulatabad, Tq. Dist. Aurangabad considering its hydrological parameters. The hydrological parameters studied are temperature, pH, total hardness, total dissolved solids, total alkalinity, calcium, turbidity, magnesium, chloride, sulphate, fluoride, nitrate. The results obtained are mentioned in the table 1 and are discussed to derive conclusion. On the basis of results suggestions are also given.

Keywords: Hydrological, Groundwater, Parameters. Daulatabad

I. INTRODUCTION

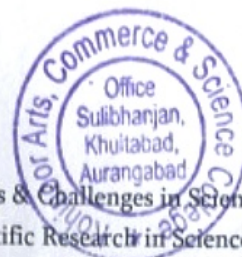
The nature has provided us abundant source of water which is not available uniformly around the world during the all seasons or from time to time. Number of times it happens that water remains unavailable in the area where we need it or not in required amounts and vice versa there is too much water at some other places where there is no need. The freshwater resources are surface water, under river flow, frozen water and ground water. All these resources are playing important role in maintaining the water table of the earth. Surface water resources are rivers, lakes, dams, etc which are used to supply water for irrigation, drinking, hydropower, etc. In India the major source of water used to meet the domestic, agricultural and industrial needs is the ground water [1]. Pollution level of ground water is less compared to surface water as it is less exposed to the environment. But nowadays the quality of ground water is deteriorating due to solid waste disposal, use of more chemicals and fertilizers in agriculture and effluent of pharma and chemical industries. The hydrological parameters of water are highly important with respect to occurrence and abundance of species [2]. Daulatabad is a village of Aurangabad taluka, Maharashtra. It is famous for its Deogiri fort. It was a capital of Yadava's and Moghals. As it is a tourist place thousands of tourists visit the fort everyday including foreign tourists. The water quality is an very important aspect with respect to the health of humans as well as animals. As per World Health Organization the good quality drinking water is the human right. In this paper we tried to study the hydrological parameters of ground water of Daulatabad of Aurangabad district. The

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63


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Oxidation of Mefenamic Acid by Potassium Dichromate in Acid Medium: A Kinetic Study

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ABSTRACT

Using potassium dichromate we studied the kinetic study of oxidation of mefenamic acid under acidic conditions using UV visible spectrophotometer. The results show the oxidation of mefenamic acid was first order with respect to potassium dichromate and mefenamic acid. The rate was found to be not depending on concentration of acid medium. The reaction product is found to be mefenamic acid N-oxide. It is found that the stoichiometry is one mole of potassium dichromate is required for oxidizing three moles of mefenamic acid. We on the basis of results obtained proposed probable mechanism. For thermodynamic study enthalpy and Gibbs free energy are calculated.

KEYWORDS: Oxidation, Kinetics, Mefenamic Acid, Potassium Dichromate

I. INTRODUCTION

Mefenamic acid is derivative of anthranilic acid and it is a non steroidal anti-inflammatory drug. It is used generally in the treatment of mild to moderate pain due to various conditions. It is also helpful in reducing the risk of Alzheimer disease [1, 2, 3]. The kinetic study of oxidation of mefenamic acid using potassium dichromate as oxidizing agent is studied in acid medium. Chromium, chromate, dichromate, manganite and permanganate ions are used as strong oxidizing agent in oxidation of organic and inorganic substances in ionic medium [4]. Chromium is used as an oxidizing agent for preparation and analytical techniques as an important tool [5,6]. Chromic acid, chromate, dichromate, chromyl chloride, chromyl acetate and other substituted chromates are used frequently for oxidation of different compounds in different media [7,8,9]. Such an interesting chemistry of potassium dichromate have attracted many more to work with using these types of reagents. Literature survey reveals that no work is reported on oxidation of mefenamic acid with any potassium dichromate

II. MATERIALS AND METHODS

All the chemicals used are of AR grade supplied by a local trader i.e. Lab Trading. The stock solution of potassium dichromate is prepared by dissolving a known weight of it in double distilled water. The standard solution of mefenamic acid is prepared with double distilled water. The reaction of oxidation of mefenamic

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236

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Electrical Resistivity of the $\text{Cu}_{0.7+x}\text{Cd}_{0.3}\text{Zr}_x\text{Fe}_{2-2x}\text{O}_4$ Spinel System

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ABSTRACT

The physical and chemical properties of solids have some sort of relation with the mechanism of charge transport, which can be understood from the measurement of electrical conductivity which is the inverse of electrical resistivity has been studied by snoek [1]. The electrical conductivity of ferrite depends much upon the amount of iron present in the lattice in the ferrous state. The conductivity increases with increase of ferrous ions. The activation energy (ΔE) is the energy needed to release the electron from the ion for a jump of neighboring ion.

Keywords: Electrical resistivity, Activation Energy, Spinel ferrite, Ferromagnetism, Paramagnetism and Curie temperature.

INTRODUCTION

In ferrites, the substitution of a cation that tends to remain in lower valence state leads to p-type conduction and substitution of cation that tends to remain in higher valence state leads to n-type conduction [2,3,4]

Apart from inherent properties of the material conductivity will also depend upon i) porosity ii) grain size [5] iii) chemical in-homogeneity caused during preparation heat treatment etc. Klinger [6] reported the conduction mechanism in ferrites and stated that the hopping of polaron is the main conduction mechanism in ferrites. Many authors have reported the d.c. electrical properties of ferrites [7-9].

Ferrites have a wide Spread role in many technological Applications due to their magnetic properties, high electrical resistivity, low eddy currents and dialectic loss. Ferrites are

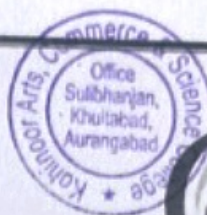
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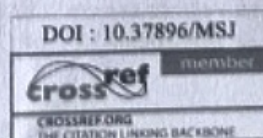
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LIMNOLOGICAL CHARACTERISTICS OF TRIVENI LAKE IN AMRAVATI
DISTRICT OF MAHARASHTRA

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Studies on algal flora in relation to water quality of Triveni lake has been performed from December 2016. The present study deals with abundance and diversity of algae and physicochemical parameters of Trivenilake. Algal samples and water samples were collected at monthly intervals. During present study, genera belonged to Chlorophyceae, Bacillariophyceae, Cyanophyceae and Euglenophyceae were recorded. Algal genera *Cosmarium*, *Spirogyra*, *Zygnema*, *Chlorella*, *Oscillatoria*, *Phormidium*, *Nitzschia*, *Synedra ulna* and *Euglena* were dominant. The physico-chemical parameters such as temperature, total alkalinity, air temperature, pH, humidity, conductivity, free CO_2 , total solids, dissolved hardness, CaCO_3 , Ca^{++} , Mg^{++} were studied. Physicochemical analysis of lake water reveals that lake is polluted. Local domestic waste and agricultural discharges are responsible for water pollution of Trivenilake, algal flora, limnology, physicochemical parameters.

The district Amravati of Maharashtra is the historical lake. The lake provides the moisture nearby side by percolation of the water from rocks, it flows from the monsoon water much in rainy season towards summer season. Biological production in any aquatic body gives direct correlation with its chemical status which can be used as trophic status and fisheries resources potential. Life in aquatic is largely governed by physico-chemical characteristics and their stability.

The study was undertaken to record of phytoplankton diversity in Trivenilake. Which is located at village near Morshi taluka dist. Amravati. Phytoplankton plays a key role in the ecosystem of the lake but over the years the condition of the lake water as well as the surrounding area got deteriorated due to the increase in human usage. Studies on limnology of Trivenilake have been made covering various aspects. (Vyas, 1968; Sharma vipulet. al. 2009; Sharma riddhiet. al. 2009).

The objectives of the present study is to understand the seasonal change of environment and physico-chemical characteristics of water in relation to phytoplanktons. Some notable studies on phytoplanktons and diversity have been made by Ariyadejet. al. 2004; Mishra et. al. 2010 and Joseph et. al. 2011. Limnological investigation in lakes and ponds of Maharashtra have been carried out by Trivedy and Goel (1986). The abundance of benthic flora purely depends on physicochemical parameters of water benthic micro flora can be used as a barometer of overall diversity in aquatic ecosystem.

Materials and Methods

Water samples were collected from the Trivenilake. The water samples were collected for physico-chemical analysis at monthly intervals between 10:30am to 12:30pm. In two litre capacity plastic bottles. Water temperature, Air temperature, pH and Humidity recorded at sampling station. Collected water samples were immediately to the laboratory for the estimation of various physicochemical parameters like,

Total solid, Dissolved oxygen, Total Alkalinity, Total hardness, CaCO_3 , Ca^{++} , Mg^{++} . Chemical parameters were analyzed as per standard methods (Trivedy and Goel 1986, Saxena 1990, Diwakar 1995 and Gupta 2007). The taxonomic identification of algae was done qualitative and quantitative with the help of standard literature and monographs.

Local people are facing many domestic problems and water in one of them. Algae are specific in their distributional pattern, ecology, periodicity, quantitative and qualitative occurrence.

Results and Discussion

Results on water quality are summarized in table 1. The physicochemical features of Triveni lake water are due to the discharge of domestic waste and agriculture at discharges. The atmosphere temperature recorded between 22 °C to 31 °C. The temperature is one of the important factors in aquatic environment.

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Benefits of Indoor Plants and Human Health

*** Rafiullah M. Khan**

ABSTRACT

Plants are essential for our survival. Plants also replace carbon dioxide with fresh oxygen. Plants also produce intangible benefits for people, such as improving our health. A houseplant known as a pot plant, potted plant, or an indoor plant, is an ornamental plant that is grown indoors. As such, they are found in places like residences and offices, mainly for decorative purposes. Plants indoors have many benefits. Physically, they contribute to cleaner, healthier air for us to breathe, thus improving our well-being and comfort. They make our surroundings more pleasant, and they make us feel calmer. Interior plants have been associated with reduced stress, increased pain tolerance, and improved productivity in people. Research studies documenting some of the benefits associated with interior plants are discussed. Studies indicate that people have learned and innate responses to plants. Some of these responses appear to have genetic components. Specific studies are summarized, and potential applications of the results of these studies are presented.

Keywords: Human health, Interior plants, people-plant interaction.

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Algal Flora of Lonar Lake : An Overview

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²Department of Botany, Sir Sayyed College, Roshan Gate, Aurangabad -431001, Maharashtra, India

ABSTRACT

Lonar lake is a meteoritic impact crater, situated in Buldhana district of Maharashtra in India. It is a natural water body with alkaline and saline water. Present paper deals with a thorough discussion on ecological study, physicochemical analysis, diversity and abundance of algae of Lonarlake. Algal flora of Lonarlake is rich and it is found in diverse form. Alkaline and saline water of Lonar lake favours growth of particular algae especially Cyanophycean algae. Species of *Arthrospira*, *Spirulina*, *Oscillatoria*, *Gloeocystis*, *Chlorella*, *Fragilaria* and *Nitzschia* were found abundant in Lonarlake. Seasonal variation study of algal flora reveals that winter and summer season are found more suitable for luxuriant growth of algae.

Key words: Algal flora, Lonarlake, alkaline and saline water, Cyanophycean algae. Seasonal variation.

I. INTRODUCTION

Lonar lake is a natural water body with alkaline and saline water. It is situated (North Latitude 19° 55' 45" and East Longitude 76° 34' 00") in Buldhana district of Maharashtra State in India. It is the biggest meteoritic impact crater in the world which is originated about 50,000 to 60,000 years ago (Bealset.al. 1960, Nayak 1972 and Hagerty and Newson 2001). The presence of alkaline and saline water having pH 9 to 11 around to is a unique feature of this ecosystem. The Lonar lake water appears to be saline due to high concentration of dissolved solids and total suspended solids. Many microecosystems are found in this lake (Dabhade et.al. 1998, Mahajan 2005 and Kanekar et.al. 2007). Alkaline and saline water of Lonar lake supports growth of particular algae especially Cyanophycean algae (Jadhav et.al. 2007). The lake water is observed blue green in colour throughout the year due to dominance of blue green algae especially *Arthrospira*, *Spirulina*, *Oscillatoria* and *Phormidium*. Dominance of Cyanophycean algae in Lonarlake reveals that alkaline saline water of lake favours luxuriant growth of Cyanophycean algae.

II. ECOLOGICAL STUDIES ON LONAR LAKE WATER

Earlier many research workers have conducted ecological experiments on Lonar lake water. Jhingran and Rao (1954) studied saline nature of Lonar lake water. Chaudhary and Handa (1978) worked on some aspects of geochemistry of Lonar lake water. Dabhade et.al. (1998) and Dabhade (2006, 2013) worked on limnological,

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225

PRINCIPAL

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Bark algal flora of Khultabad region in Aurangabad district of Maharashtra, India

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Abstract

Bark of trees provides humus and suitable substratum for algal growth. Algae growing on barks are subaerial in habitat. They are also called epiphloeophytes. As algae inhibiting bark of tree are also known as corticolous. In present research work algae growing on barks of *Gliricidia sepium* (Jacq.) Kunth, *Alstonia scholaris* (L.) R. BR. and *Delonix regia* (Boj ex Hook) Raf. were observed from Khultabad region of Aurangabad district of Maharashtra. Collection of bark algal samples were made in the month of July and August 2022. A total of 31 species under 20 genera belonged to Chlorophyceae, Bacillariophyceae and Cyanophyceae were identified and recorded. Cyanophyceae algae dominated bark-algal flora. *Chlorella vulgaris*, *Myxosarcina burmensis*, *Phormidium abronema*, *Microcoleus accutissimus*, *Nostoc microscopium*, *Nostoc punctiforme* and *Tolypothrix campylonemoides* were found dominant. Maximum number of algal taxa were found on the bark of *Gliricidia sepium* and *Alstonia scholaris*. Blue green alga *Tolypothrix campylonemoides* found specifically abundant on the bark of *Alstonia scholaris*. Present study is significant in diversity study of subaerial algae of selected study area.

Keywords: Bark algae, subaerial habitat and Khultabad

Introduction

Bark is a protective corky tissue on outside of stem of tree which protects the plant from insect and attacks of pathogens. It harbours number of microbes, insects, worms, lichens and algae. Bark provides humus and suitable substratum for algal growth. Algae growing on the bark are subaerial in habitat and called as epiphloeophytes. As these algae inhabiting bark of trees are also known as corticolous. They receive moisture either solely from the atmosphere or fairly steady source of water seeping through the moss mats. Algal propagules brought through wind and rain water flowing through the bark colonizes on bark with the help of favourable climatic conditions. For the development of bark algae particular climatic conditions are required such as high relative humidity, high and evenly distributed rainfall, low temperature and low to high photon irradiance. Bark properties such texture, fissuring, dust deposition regulate the composition of bark algal flora.

Julia Snow (1899) [26] collected bark algal samples and observed abundance of *Pleurococcus*. Islam (1960) [12] recorded that very heavy rainfall and prevailing humidity provides ideal conditions for growth of subaerial algae. Marion (1969) [20] conducted survey on bark algae of different trees located in Charleston-Illinois and reported widely distribution of *Protococcus*, *Nanochloris*, *Stichococcus* and *Ulothrix*. Cox and Hightower (1972) [7], Wylie and Schlichting (1973) [27] and Handa and Nakeno (1998) [11] worked extensively on corticolous algae. Katharina et al. (2008) [15] systematically studied role of bark algae in monitoring airborne pollutants such as ozone and particulate matter. Neustupu and Skaloud (2008 and 2010) [22, 23] and Neustupu and Anna (2013) [24] extensively studied diversity and distribution of bark algae from tropical region. Lemes et al. (2008 and 2012) [18, 19] collected

corticolous cyanobacteria and green algae from forests of Brazil. Sarim et al. (2011) [25] recorded 40 taxa of bark algae from Pakistan. Alwi et al. (2015) [11] studied effects of bark pH on diversity and density of bark algal composition. They observed that alkaline pH of bark help in the alteration of microalgal composition.

In India except few reports not much more attention has been paid towards bark algae. Bruhl and Biswas (1923) [5] studied bark algae from Kerala. Kamat and Harankhedkar (1976) [14] and Ashtekar (1980) [3] reported bark algae from Nagpur and Aurangabad Maharashtra. Biswas (1984) [4] studied role of aerophilous algae in producing colour effect on bark of tree. Kumar and Paliwad (2006) [17] observed distributional pattern of cyanobacteria on bark of different trees. Mikter et al. (2006) [21] worked on bark algal flora of some selected trees of Arunachal Pradesh. Chandra and Krishnamurthy (2006) [6] reported species of diatoms from tree trunk. Ghosh (2013) [9] reviewed work on bark algal flora. Kharkongor and Ramanujan (2014) [16] recorded 85 taxa of algae from tree barks of closed undisturbed sacred groves, mixed plantation and open disturbed forest of Meghalaya. Ambika and Krishnamurthy (2019) [2] studied diversity of algae and cyanobacteria on tree barks of tropical forest. Recently Jadhav (2022) [13] worked on bark algae of Daultabad region of Aurangabad district in Maharashtra. He observed dominance of *Chlorella vulgaris*, *Chlorococcum huicola*, *Pinularia* sp. *Aphanothece nidulans*, *Myxosarcina burmensis*, *Phormidium molle* and *Lyngbya major*. In present research work algae growing on barks of *Gliricidia sepium* (Jacq.) kunth., *Alstonia scholaris* (L.) R.BR. and *Delonix regia* (Bojex Hook) Raf. Were observed from Khultabad region of Aurangabad district in Maharashtra.

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A Preliminary Survey - Medicinal Trees in Khuldabad, District Aurangabad, (M.S.), India

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ABSTRACT

Khuldabad is a great historical heritage, hilly station and also known to harbor a rich diversity of higher plants species and larger trees. Medicinal plants still play a vital role in the primary healthcare of this local community. Till now, a preliminary survey exists on the Khuldabad's flora in general and medicinal species found within its limit in particular. Traditional medicine has its own great importance in Indian society. The paper deals with the preliminary investigation of 43 species of medicinal trees used by peoples of Khuldabad taluka of Aurangabad district in Maharashtra (India).

Keywords: Traditional, Khuldabad, medicinal trees.

I. INTRODUCTION

Traditional medicine depend on herbal remedies has always played a key role in the primary health care system in India. In our country the native people are exploiting a variety of herbals for effective curing of various diseases. Medicinal trees are considered as a rich resources of ingredients which can be used in drug development either pharmacopoeial, non- pharmacopoeial or synthetic drugs. it was used as tonic, decoction, gum and even as a treating urinary problems, prostate condition, diarrhea, dysentery and many other symptoms. A part from that, these trees play a critical role in the development of human culture around the whole world.

Khuldabad is a harbors a rich diversity of ethnic botanical species, which generate considerable benefits from social and economic perspectives. Until now, people are preparing medicines from their available species of higher plants, which were used to treat common diseases. However, due to population pressure, accelerated urbanization, recurring drought, and deforestation, most of the medicinal trees are either destroyed or on the verge of extinction.

The native people are exploiting a variety of herbals for effective curing of various diseases. From the earliest days mankind has turned to plants for healing and various other uses. It is estimated that 61-85% of world's population depends on tradition medicine Hooker (1989) has worked on the flora of British

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103

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Dielectric and Magnetic Studies of $\text{Ni}_{0.25}\text{Cu}_{0.75}\text{Fe}_2\text{O}_4$ - NiO Composites

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Abstract.

Transitional metal oxide (NiO) doped $\text{Ni}_{0.25}\text{Cu}_{0.75}\text{Fe}_2\text{O}_4$ ferrite composites with the basic composition $(1-x) \text{Ni}_{0.25}\text{Cu}_{0.75}\text{Fe}_2\text{O}_4 + (x) \text{NiO}$ (here, $x=0, 0.05, 0.1, 0.15$) were synthesized mechanical grinding and for ferrites using nitrate-citrate method. Synthesized samples, were sintered at 950°C , were investigated for various properties through its structural, dielectric and magnetic studies. Use of the synthesized samples were probed by X-ray diffraction (XRD) studies. Peaks observed in the XRD spectrum confirms single phase spinel cubic structure for the $\text{Ni}_{0.25}\text{Cu}_{0.75}\text{Fe}_2\text{O}_4$ and for NiO face centered cubic structure and both the phases are present in the powder composite samples. Using SEM, surface morphology of the samples has been investigated. Using LCR Hi-Tester 3250, various dielectric parameters such as dielectric permittivity (ϵ'), dielectric loss tangent ($\tan \delta$) were investigated as a function of frequency and NiO concentration at room temperature, over the frequency range 100 Hz to 1 MHz. Frequency dependence of ϵ' and $\tan \delta$ is in accordance with the Maxwell-Wagner type interfacial polarization. Electrical conductivity (σ_{ac}) is deduced from the measured dielectric data, and found that the conduction mechanism in ferrite and their composite samples are in conformity with the electron hopping model. Magnetic studies were completed using vibrating sample magnetometer (VSM), for the proposed ferrites, and their composites.

Keywords: Mechanical, Ferrites; Composites; permittivity.

INTRODUCTION

Magnetic oxides at nano regime are the ferrite spinels with excellent and tunable properties, such as its dielectric, magnetic properties and can be easily modified just by varying various synthesis methods. Extensive applications of composite materials led their imperative technological applications and can be employed in numerous electronic and technological devices [1-4]. Ferrites are the oxide materials, mainly consisting of Fe_2O_3 , have spinel cubic structure. Ferrites exhibit magnetic hysteresis (M-H loop) and also exhibit spontaneous magnetization. Various properties of magnetic spinel is because of distribution of divalent and trivalent metal ions among the available tetrahedral (A) and octahedral (B) sites [5]. For any materials of interest, its properties are highly dependent on preparation technique adopted, type of synthesis environment such as in inert or in open air atmosphere, type of organic fuel used, sintering time and temperature, etc.

Nickel ferrite belongs to inverse spinel with Ni^{2+} at octahedral (B-site) and Fe^{3+} ions distributed equally in both, tetrahedral (A-site) and octahedral sites (B-site). Nickel ferrites are used in numerous electronic device applications because of their high permeability, high electrical resistivity, mechanical hardness, and chemical stability [6-7].

Among metal oxides of technological importance, NiO is a transitional metal oxide which is antiferromagnetic in nature below 523 kelvin and is an excellent material for catalysis, energy conversion, in storage devices, gas sensors and electro-chromic films [8-10].

Composites of mixed ferrites of $\text{Ni}_{0.25}\text{Cu}_{0.75}\text{Fe}_2\text{O}_4$ and Metal oxides such as NiO are the technologically important materials which are used in functional devices such as in field sensors, heterogeneous catalysis, and in various sensors [11].

In our present study, composite samples made up of ferrite phase and metal oxide (NiO) with the basic composition $(1-x) \text{Ni}_{0.25}\text{Cu}_{0.75}\text{Fe}_2\text{O}_4 + (x) \text{NiO}$ ($x=0, 0.05, 0.15, 0.15$) were prepared using hybrid mechano synthesis for preparing composite materials and for synthesis of ferrite phase used nitrate-citrate auto-combustion method. Auto-combustion method is a self-propagating thermally-induced reaction of a gel, obtained from aqueous solutions containing metallic nitrates which acts as oxidizer and an organic fuel. Stoichiometric proportions between fuel and metallic nitrates are calculated according to the stoichiometry of the reacting elements so as to provide the relation of oxidizer/fuel equal to one [12]. Here, metallic nitrates are preferred as starting materials which are also known as precursors, because of their water-soluble nature, have low ignition temperatures and are easy to prepare.

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109

Vol.7 No.6 (June, 2022)

Structural and Magnetic Studies of Mg^{+2} doped $NiFe_2O_4$ using Citrate Precursor Method

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et.

$Mg_xNi_{1-x}Fe_2O_4$ ferrite nano-particles with the basic composition $Mg_xNi_{1-x}Fe_2O_4$ ($x=0, 0.25, 0.5, 0.75, 1$) were synthesized using nitrate-citrate method, which is also known as auto-combustion method. Synthesized samples, sintered at $900^\circ C$ were investigated for various properties through its structural, dielectric and magnetic studies. Phase of the synthesized samples probed by X-ray diffraction (XRD) studies. Peaks observed in the PXRD spectrum confirms the single phase spinel cubic structure for the pure and Mg^{+2} doped $NiFe_2O_4$ samples. Using FESEM, surface morphology of the samples has been investigated. Hioki make LCR Hi-Tester 3250, various dielectric parameters such as dielectric permittivity (ϵ'), dielectric loss tangent were investigated as a function of frequency and Mg^{+2} concentration at room temperature, over the frequency range 100 kHz to 1 MHz. Frequency dependence of ϵ' and $\tan \delta$ is in accordance with the Maxwell-Wagner type interfacial polarization. AC conductivity (σ_{ac}) is deduced from the measured dielectric data, and found that the conduction mechanism in $Mg_xNi_{1-x}Fe_2O_4$ nanoferrites are in conformity with the electron hopping model. Using vibrating sample magnetometer (VSM), for the doped ferrites, magnetic properties were investigated.

Keywords: Combustion; Ferrites; Magnetic properties; Hopping Model.

INTRODUCTION

Crystalline spinel ferrites are the magnetic oxides with excellent electrical and magnetic properties, can be easily tuned by varying the size of synthesized particles using various preparation techniques. Because of their imperative technological and medical applications they are employed in numerous devices like radiofrequency circuits, ferro-fluids, hyperthermia, cores of transformer, microwave antennas, magnetic recording [1-4].

Magnetic materials, mainly consisting of ferric oxide (Fe_2O_3) are known as ferrites and have spinel cubic structure. Ferrites show magnetic hysteresis (M-H curve) and also exhibit spontaneous magnetization. Electrical and magnetic properties of spinel ferrites is because of distribution of cations among the available crystallographic lattice sites such as tetrahedral (A) and octahedral (B) sites [5]. For any ferrites, its properties depends upon the various parameters such as preparation technique adopted, if organic fuel used, sintering temperature and sintering time, the type of environment such as in air, or inert gas in which the ferrites were synthesized, etc.

$NiFe_2O_4$ ferrite belongs to inverse spinel with Ni^{+2} at octahedral (B-site) and Fe^{+3} ions distributed equally in both, tetrahedral (A) and octahedral sites (B-site) [6]. Nickel and Magnesium ferrites are used in numerous electronic device applications because of their high permeability, high electrical resistivity, mechanical hardness, and chemical stability [7].

Magnesium ferrite is among the technologically important ferrites with spinel cubic structure, which is used in number of applications oriented devices such as in field sensors, heterogeneous catalysis, and in gas sensors [8-10].

In the present study, samples with the basic composition $Mg_xNi_{1-x}Fe_2O_4$ ($x=0, 0.25, 0.5, 0.75, 1$) were prepared using nitrate-citrate auto-combustion method, which involves exothermic and self-propagating thermally-induced reaction of a xerogel, formed from aqueous solutions containing metallic nitrates which acts as oxidizer and an organic fuel. Stoichiometric ratios between fuel and metallic nitrates are calculated according to the valencies of the reacting elements so as to provide a balanced equation of oxidizer/fuel equal to one [11-12]. Here, metallic nitrates are preferred as starting materials which are also known as precursors, because of their water-soluble nature, have low ignition temperatures and are easy to prepare.

MATERIALS AND METHODS

$Mg_xNi_{1-x}Fe_2O_4$ nano ferrite (where $x=0.0, 0.25, 0.5, 0.75, 1.0$) powders were prepared using auto-combustion method. Precursors used during the materials synthesis are Nickel Nitrate ($Ni(NO_3)_2 \cdot 6H_2O$), Ferric Nitrate ($Fe(NO_3)_3 \cdot 9H_2O$), Magnesium Nitrate ($Mg(NO_3)_2 \cdot 6H_2O$), Citric acid ($C_6H_8O_7 \cdot H_2O$), all chemicals are of AR Grade with purity more than 99%.

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International Journal of Mechanical Engineering

119

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Principal
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and Opportunities of Solar Energy: Indian Perspective

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There is a huge potential for solar energy production. The country's location geographically favours the production of solar energy. India, a tropical nation, receives 3,000 hours of sunshine annually and receives radiation virtually all year round. This is more than 5,000 trillion kWh. Nearly everything in India receives 7 kWh of sun radiation per square metre. 2,300-3,200 hours of sunshine are the equal in a year. Due to its geographic location, states like West Bengal, Andhra Pradesh, Bihar, Gujarat, Haryana, Madhya Pradesh, Maharashtra, Orissa, Punjab, and Rajasthan have a significant deal of potential for harnessing solar energy. As the vast majority of people reside in rural areas, there is a lot of potential for solar energy to be harnessed there. Rural households may consume less firewood and dung cakes if they use solar energy. In India, there have been numerous large-scale projects proposed, some of which include: The best solar energy project in India's Thar Desert and are expected to produce 700 to 2,100 GW, respectively. By 2022, the Indian government's Nehru National Solar Mission (JNNSM), an initiative of the Centre, aims to generate 20,000 MW of solar power. Gujarat's innovative solar power programme intends to generate 1,000 MW of solar energy. India's 130 billion solar power plan that anticipated to generate 20 GW of solar power by 2020 was launched in July 2009. In addition to the aforementioned, around 66 MW is installed for a variety of uses in rural areas, including solar water pumps, street lighting systems, and lanterns. As a result, India has a large potential for solar energy generation that may not only fill the gap in power generation but also significantly reduce the production of green energy, which would assist to slow down world climatic change.

Keywords: Solar Mission, Solar energy, Solar radiation, Solar power projects, Green Energy Production

1. INTRODUCTION

According to a senior government source who asked to remain anonymous, the per-person electricity consumption peaked at 1010 kWh some time ago. However, experts are not very encouraged by the rising electricity consumption statistic. "Crossing the 1,000-unit threshold for annual per-person electricity use is undoubtedly a milestone, but it is not particularly significant. In several East and North East states, less than 30% of the population have access to electricity, meaning that one-fourth of all households in the nation still do not have it." According to Debasish Mishra, senior director, consulting, Deloitte Touche Tohmatsu India Pvt. Ltd., the most important milestone that the country must reach is 100% of households having a reliable 24x7 energy supply.

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155

Hardware Trojan Detection System for Smart City network: HTDS

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Abstract

The IoTs has become an indispensable part of our lives at work and in our home application to the need for a huge number of IoT devices, IoT manufacturers are least concerned about security vulnerabilities during designing and developing these devices. Because of which it becomes easy for adversaries to manipulate the hardware and insert Trojans or Remote File Inclusion to control remotely. In this research we aim to build a model to identify hardware Trojans in IoT devices using Deep learning. We chose distinctive features that can detect the presence of Trojan in these devices. The proposed system is tested using existing and real-time dataset generated using smart city test bed.

Introduction

Internet of Things (IoT) devices are widely used in the smart city network due to its defined resources. Millions of devices are interconnected through the internet around the world. Smart cities integrate infrastructure of the different domains and cyber-physical technologies to improve the efficiency and the quality of life by reducing the power waste and smart management of the transportation [1]. Smart cities are also known as intelligent or digital cities, where extensive Internet communication (ICT) applications are used to collect the information from various Internet of Things devices, sensors and actuators to augment an innovation which leads to reduction in cost and resources of the system. Furthermore, it strengthens the link between government and citizen cities are truly dependent on IoT devices, that is characterized by a large attacking surface. Smart cities are supposed to help improve services for people, but being irresponsible with data storage could lead to privacy violations and poorly implemented security could allow cyber attackers to interfere with systems people need. Security of IoT systems has been identified as one of the most challenging tasks for the smart cities [2]. Sensors and internet-connected devices may improve urban services but could also be used by hackers and foreign states to disrupt or spy. In addition, attacks on the Integrated circuit (IC) of an IoT device have been exponentially increased after integration of devices in different domains (such as healthcare, transportation, Radar and CCTV surveillance) result in multiple attacks targeting the security of the IoT devices that includes confidentiality, availability, authentication, and privacy [3]. According to BBC report attackers perform 'gridlock' to compromise the traffic control system of the 21st century city that affects the people's lives. In the year 2018, city of Atlanta was under ransomware attack, the attacker targeted application customers to pay the bill. In precaution to this attack Hartsfield-Jackson Airport shutdown network and 8,000 people unplugged their system from the smart infrastructure [5]. To defend against attack traditional security mechanisms cannot be deployed, due to its computational cost and processing power to enable such a mechanism and contradicts with the resource constraint IoT. Improved technology should counter the new threats and ensure the security of the IoT system. Around the world, security specialists and the researchers pay attention towards the smart cities to strengthen the security of the IoT system, proposing various frameworks and Hardware Trojan Detection System (HTDS) mechanisms to avoid such types of cyber attacks. Hence, requirement to study and analyse using predictive Machine Learning (ML) to detect anomalous malicious patterns of the IoT network. Smart cities generate enormous amounts of data from devices, which poses challenges to the HTDS namely huge computational storage, unnecessary redundant data that adversely affect the detection mechanism which results in high false positives and negatives. The assessment of the IoT system vulnerabilities is perspective using pyramid-of-potential [9].

The Figure. 1 describes the PoP, it has six different levels. At the top most layer consists of actuator, this layer provides an potential attacking surface due to its heterogeneous environment.

PRINCIPAL

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Sufi Qawwali Drifting Towards Extinction, New Generation Sans Interest In Traditional Art

* Dr. Sayed Irfan G.

Introduction:

Khuldabad town is known all over the world owing to the shrines of Sufi saints. When we try to know the life style of the Sufi saints it was the most simple one. Sufi saints used to wear woolen clothes and spent hours in mediating to connect heart with the Almighty. They stressed that all the human beings are equal and tried to unite divided people. Hazrat Nizamuddin (Rh) of Delhi was the teacher of Sufi saints who had come to Khuldabad. Their contribution for religious harmony is praiseworthy as people from all faiths were their followers.

Many Sufi saints including poet Amir Khusro created awareness among people with the help of his poetry. Khusro was the disciple of Hazrat Nizamuddin (Rh) and friend of great poet Hasan Sajzi. Poet Hasan had come to Khuldabad with the Sufi saints and his grave is in the town. Amir Khusro had also visited Khuldabad to meet his friend.

Few scholars claimed that Qawwali was used as a medium to spread their teachings among the common people.

Around 1400 saints had come here and spread in the region later on. Sufi saints who had come here in Khuldabad in two groups one by one after a gap of few years as per the instructions of great Sufi saint Hazrat Nizamuddin of Delhi. They used to stay in the Khanqah, a building for staying and learning.

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प्रा. संदीप भीमराव अवसरमोल

सहाय्यक प्राध्यापक व विभागप्रमुख

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राजीव गांधी महाविद्यालय, करमाड, जि. औरंगाबाद

प्रस्तावना :

मानवी आरोग्यास आधुनिक काळात विशेष महत्व प्राप्त झाले आहे. देशाच्या दृष्टीने देखील ही महत्वाची बाब मानली जाते. याच दृष्टीकोनातून शासकीय पातळीवर सार्वजनिक आरोग्यास प्राधान्य देण्यात येत आहे. या दृष्टीने आरोग्य प्रशासनातील सर्वच मानवी घटकांना महत्त्वपूर्ण स्थान असते. त्यातही रुग्णांची देखभाल, सुश्रुषा करणारा एक महत्त्वपूर्ण घटक म्हणून परिचारीकांकडे पहिले जाते. रुग्णाच्या सर्व गरजा तत्परतेने, काळजीपूर्वक व शास्त्राधारित पद्धतीने पूर्ण करण्याला 'रुग्णपरिचर्या' म्हणतात. रुग्णाची सुश्रुषा करणाऱ्या स्त्रीला नर्स हा इंग्रजी भाषेतील शब्द रूढ झालेला आहे. अनादिकालापासून प्रत्येक स्त्रीला तिच्या कुटुंबातील कुणातरी आजारी व्यक्तीची परिचर्या करण्याचा प्रसंग आलेलाच असतो. आजारी व्यक्तीची योग्य ती काळजी घेऊन, वैद्याने योजिलेल्या उपचारांचा त्याला सर्व प्रकारे फायदा मिळवून देणे हा रुग्णपरिचर्येचा प्रमुख उद्देश असतो. सार्वजनिक आरोग्य परिचारिका ही आरोग्य सेवा संघातील एक महत्वाचा घटक आहे.

रुग्णपरिचर्याची पार्श्वभूमी

भारतात 17 व्या शतकापर्यंत तरी 'परिचारिका' या शब्दाचा परिचय नव्हता. बहुतेक खेड्यांमध्ये एखादी अनुभवी महिला वैयक्तिक पातळीवर औषधपाणी देणे, प्रसूती करणे, बाळंतपणात आई-बाळांची काळजी घेणे वा अपघातात सापडलेल्यांवर उपचार करणे इत्यादी काम करत असे. त्यापासून काही तुरळक बिदागीही तिला मिळत असावे. मुळात हे एक पुण्यकर्म असून दीन-दुबळ्यांची सेवा केल्यामुळे परमेश्वरी कृपा होऊन तिच्या कुटुंबाला सुख-शांती मिळेल, एवढीच धारणा त्यामागे होती. इतिहास काळातील आदिमानवापासून आजपर्यंतच्या प्रगत मानवापर्यंतच्या एकूण एक सर्व पिढ्या कुठल्या ना कुठल्या तरी भूकंप, ज्वालामुखी, महायुद्ध, सांसारिक साथीसारख्या भयंकर संकटांचा सामना करत-करत आताच्या अवस्थेपर्यंत पोचल्या आहेत. दुःख पचविण्याची त्यांची ताकद फार मोठी आहे. परंतु जेव्हा-जेव्हा संकट कोसळली, तेव्हा-तेव्हा महिला- आई, बहीण वा नर्स या स्वरूपात - समाजाला एकत्रित ठेवण्यास धावून आल्या. आजच्या कोरोना महामारीच्या साथीतसुद्धा परिचारिका हेच काम करतात. या महामारीच्या काळातील त्यांचे कार्य विशेष उल्लेखनीय स्वरूपाचे होते.

रुग्णपरिचर्या हा वैद्यकाचा महत्वाचा घटक असल्याने अनादिकालापासून ज्ञात असल्याची नोंद भारतीय इतिहासात आढळते. सुश्रुतांनी वैद्यकाचे चार आधारस्तंभ सांगितले आहेत : (१) वैद्य, (२) रुग्ण, (३) औषधे व (४) रुग्णपरिचारिका. चरकांनी रुग्णपरिचारिकेची अभिलक्षण अशी सांगितली आहेत : 'औषधे तयार करण्याचे किंवा त्यांचे मिश्रण तयार करता येण्याचे ज्ञान असावे हुषार, रुग्णसमर्पित व कायावाचामने करून शुद्ध असावी'.



Sandip B. Awasarmol.

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भारतातील आरोग्य योजना व कार्यक्रम : एक दृष्टीक्षेप

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सहयोगी प्राध्यापक व विभागप्रमुख
राजीव गांधी महाविद्यालय, करमाड, जि. औरंगाबाद.
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सहाय्यक प्राध्यापक व विभागप्रमुख
कोहिनूर महाविद्यालय, खुलताबाद, जि. औरंगाबाद.

प्रस्तावना:

आरोग्य ही प्रत्येक व्यक्तीची निरोगी जीवनासाठी असलेली मूलभूत गरज आहे. चांगल्या आरोग्याशिवाय कोणतीही व्यक्ती जीवनाचा आनंद घेऊ शकत नाही. कोणत्याही देशाच्या सामाजिक व आर्थिक विकासात व्यक्तीचे आरोग्य हे महत्वाचा घटक आहे. त्यासाठी देशातील व्यक्ती हा निरोगी असणे आवश्यक असते. निरोगी व्यक्ती हा केवळ शारीरिक आणि मानसिक दृष्टिकोनातून तंदुरुस्त नसावा तो सामाजिक दृष्टीनेही तंदुरुस्त असावा. आरोग्य म्हणजे केवळ रोगाचा अभाव नव्हे भोवतालच्या परिस्थितीनुसार शरीर व मन कार्यक्षम असणे, मनाला उत्साह व शरीरात जोम असून जीवन सुखी असणे या गोष्टींचा आरोग्य या संज्ञेत अंतर्भाव होतो, या दृष्टीने 'आरोग्य' या संज्ञेपेक्षा 'स्वास्थ्य' हा शब्द अधिक अर्थपूर्ण आहे. 'आरोग्य' ही कल्पना केवळ अभावात्मक नाही आरोग्याच्या कल्पनेत शरीर आणि मन यांची सर्व दृष्टीने सुदृढता अंतर्भूत आहे. परंतु ही सुदृढता सापेक्ष आहे. सभोवताली जी परिस्थिती असते त्यापासून व्यक्तीचा निरोगीपणा वेगळा काढता येणार नाही त्या परिस्थितीप्रमाणे एखाद्याचे आरोग्य चांगले वा वाईट ठरत असते, तेव्हा परिस्थितीचा शारीरिक, आर्थिक, सामाजिक, सांस्कृतिक, भौतिक इत्यादी सदर्भ लक्षात घेऊन शरीर व मन यांची सुदृढ अवस्था म्हणजेच आरोग्य होय. अर्थात आरोग्य म्हणजे व्यक्तीचे शरीर आणि मन यांची सुदृढता होय. आरोग्य ही केवळ रोग, आजार, बरे न वाटणे दवाखान्यात भरती न होणे एवढेच नसून वाईट मार्गापासून वळणे, पूर्ण शक्तीनिशी सामाजिक कार्य करणे, उत्पादक कार्यास वाहून घेणे, मन प्रसन्न ठेवणे, उत्साहित राहणे या सर्वांचा एकत्रित परिणाम म्हणजेच आरोग्य होय.

भारतात आरोग्य सेवांची सुरुवात भारतातील ब्रिटिश शासनाकडून अठराव्या शतकात झाली. सन 1921 पासून देशातील आरोग्य सेवा सुविधांचा विकास झाला. आहे. भारतातील ब्रिटिश सैनिकांची आरोग्याचे संरक्षण करणे हा आरोग्य सेवांचा सुरुवातीचा प्राथमिक हेतू होता. तत्कालीन भारत सरकारने त्या वेळच्या विभागीय अथवा परगना सरकारांना आताचे राज्य सरकारने समाजाला वैद्यकीय सेवा आणि सार्वजनिक आरोग्य बाबतचे सुविधा पुरवण्याबाबत अधिकार बहाल केले होते. यासाठी स्वतंत्रपणे वैद्यकीय तसेच सार्वजनिक आरोग्य विभागाची स्थापना केली होती. देशातील नागरिकांची आरोग्यविषयक गरजा लक्षात घेऊन आरोग्यसेवांचा अर्थपूर्ण आणि वास्तव विकासाला चालना देण्याचे काम ब्रिटिश काळातील भारत सरकारने केले. देशातील आरोग्य सेवांच्या विकासाला खरी सुरुवात भारत स्वातंत्र्य नंतरच झाली. भारत स्वातंत्र्य झाल्यानंतर देशातील आरोग्य सेवा सुविधांचा विकास व सुसूत्रीकरण यासाठी वेगवेगळे आरोग्य विषयक समित्या निर्माण करण्यात आल्या, त्या समितीच्या अहवालाच्या आधारावर देशात राष्ट्रीय आरोग्य धोरण ठरवण्यात आले आहे. केंद्र शासनाने आजपर्यंत देशातील नागरिकांना चांगले आरोग्य उपलब्ध करून देण्यासाठी अनेक योजना व कार्यक्रम राबविले आहेत, त्यांचा उद्देश जाणून घेण्याच्या उद्देशाने हा संशोधन पेपर लिहिला आहे.

भारतातील आरोग्य योजना व कार्यक्रम :

केंद्र व राज्य शासनाच्या आरोग्य विभागा द्वारे नागरिकांना आरोग्य सुविधा अधिक सुलभ होण्यासाठी वेगवेगळ्या प्रकारच्या आरोग्यविषयक योजना राबवल्या जातात. या योजनेचा मुख्य उद्देश नागरिकांना आरोग्यविषयक सुविधा मुबलक प्रमाणात व गुणात्मक प्रमाणात उपलब्ध करून प्रतिबंधात्मक व रोगनिवारक आरोग्यविषयक देखभाल सेवा देणे. तसेच माता व अर्भक मृत्यूदर कमी करण्याच्या उद्देशाने माता व बालकांचे आरोग्य सुधारणे पायाभूत सेवा या दृष्टीने रुग्णालय सेवा सुधारणे आरोग्यसेवेच्या गरजा पूर्ण करण्यासाठी डॉक्टर, परिचारिका व इतर निम्न वैद्यकीय कर्मचाऱ्यांची कौशल्य व ज्ञान अद्ययावत करून त्यांना प्रशिक्षित करणे,



Overview on Waistline of Inflation

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Abstract-

Din haisuhanaaajpelhi Tarikh hai the lines of this song seemed to be soothing every month. But now that pay day comes the exercise of how to meet the monthly budget seems like an unpleasant task due to rising inflation, along with savings call expenses have to be cut. The challenge of barely making ends meet in the budget is common to the citizens of all economic sectors. This is a review of how expenses are increasing from household expenses tourism , shopping, education in Maharashtra state.

Key words- Inflation, Business, Common people.

Introduction-

Due to inflation, many people lost their sleep due to the worry of how to run the house. Even to meet the needs of food, clothing, shelter, there is not enough in the pocket at all the end of the month and the calculation of how to meet the savings and expenses cannot be done. Even thinking about savings in this situation is fun! Common citizens are expressing such reactions. Most of the students living in hostels, daily wage workers, Company workers, Government employees, businessmen have deteriorated many people have a question that they have to pay their children's school fees, gas in running out in the house, leafy vegetables, pulses, milk are expensive, which items should be reduced. First lockdown, than the recession and now the inflation has directly affected the common people. The Russia- Ukraine was added fuel to the inflationary fire. Petrol & Diesel prices increased by ten rupees in just three and half months. From January 2022 were hiked ever day from 26 to 31May . This literally broke the back of common people.

Hotel, Trips also on hold

Traders could not escape from the onslaught of inflation. In Summer, the Price of Chillies for masala increased by Rs. 150 to 500. The prices of most of the food items, including the essential wheat, increased Banks also reduced interest rates on savings. AS a result, the source of income in the house holds of the upper middleclass and Small traders decreased. As a direct result of the rise in gas oil food prices the prices of menu cards in hotels have increased. Therefore, most peoples hoteling, which was done every eight- ten days before corona has now been postponed to fifteen- twenty days. Most of the people are interested in tourism. Such trips near and abroad are arranged in summer, However, all these have now gone on hold Children used to have two sets of school uniforms at a time now limited to one. In such a way the picture seems to be trying to reconcile in come and expenditure.

Example- Cooking gas has gone up to more Rs. 1000. How can the common man afford it?


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Facile Synthesis of Nanostructured Cobalt Ferrite Nanoparticles and X-ray Diffraction and Infrared Characterizations

ICNHMSN-P-74

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Abstract:

The cobalt ferrite (CoFe_2O_4) nanoparticles were prepared by sol-gel wet chemical approach using dextrose as a chelating agent. The dextrose to nitrate ratio were optimized as 3:1 using propellant chemistry approach. Further, the as-prepared nanopowder was sintered at 600°C for 4 h to get the pure phase formation. The sintered powder were further used for the structural, infrared and optical characterizations. The X-ray diffraction (XRD) analysis in the 2θ range of 20° to 80° at room temperature was employed to study the structural properties of prepared CoFe_2O_4 nanoparticles. The XRD diffraction shows the pure phase formation of nanoparticles with cubic spinel structure. Using XRD data, the different structural parameters such as lattice constant, crystallite size, X-ray density, unit cell volume, hopping lengths, interionic distances, interionic angles etc. were calculated and are found in the reported range. The Fourier transform infrared spectroscopy in the wavenumber range of 400 cm^{-1} to 400 cm^{-1} was employed to study the infrared properties of the prepared nanoparticles. FT-IR spectra revealed the stretching vibrational band belonging to the metal oxide stretching which confirmed the successful formation of nanocrystalline CoFe_2O_4 . Using FTIR data the different infrared parameters such as force constants, bond lengths etc. were calculated and are found in reported range. Keywords: CoFe_2O_4 , sol-gel synthesis, XRD, FTIR, UV-Vis.

ICNHMSN-P-75

Impedance Studies of Ni-Cu Ferrite by Citrate Precursor method

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Abstract Nickel ferrite nano-particles having the basic composition $\text{Ni}_{1-x}\text{Cu}_x\text{Fe}_2\text{O}_4$ ($x=0, 0.2, 0.4, 0.6, 0.8$ and 1.0) were prepared using Citrate Precursor method. Structural, dielectric and a.c conductivity of these samples, which were sintered at 1000°C were studied. Structures of the synthesized samples were probed by X-ray diffraction (XRD) studies. Peaks observed in the XRD spectrum indicated single phase spinel cubic structure for the synthesized samples. Surface morphology of the samples has been investigated using Field Emission Scanning Electron Microscope (FESEM). For Impedance studies, parameters like dielectric constant (ϵ') and dielectric loss tangent ($\tan \delta$) and as well as impedance parameters such as Z' and Z'' of the synthesized ferrites were investigated as a function of frequency at room temperature over the frequency range 100 Hz to 1 MHz using Hioki make Impedance analyzer with Model No. 3250-50. Dielectric dispersion was observed for the synthesized samples. Dependence of ϵ' and $\tan \delta$ with the frequency of the alternating applied electric field is in accordance with the Maxwell-Wagner type interfacial polarization.

Keywords: Impedance, Citrate Precursor, XRD spectrum, Nano-ferrites.

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Structural, dielectric and electrical properties of Ni (Mg, Zn) Fe₂O₄ by Auto Combustion method

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Abstract

Nickel ferrite nano-particles having the basic composition Ni_{0.75}M_{0.25}Fe₂O₄ (M=Mg+2, Zn+2) were prepared using auto combustion method. Structural, dielectric and a.c conductivity of these samples, which were sintered at 1000 °C were studied. Structures of the synthesized samples were probed by X-ray diffraction (XRD) studies. Peaks observed in the XRD spectrum indicated single phase spinel cubic structure for the synthesized samples. Surface morphology of the samples has been investigated using Field Emission Scanning Electron Microscope (FESEM). Dielectric constant (ϵ') and dielectric loss tangent ($\tan \delta$) of doped nano-crystalline nickel ferrites were investigated as a function of frequency at room temperature over the frequency range 100 Hz to 1 MHz using Hioki make LCR Hi-Tester 3250. Dielectric dispersion was observed for the synthesized samples. Dependence of ϵ' and $\tan \delta$ with the frequency of the alternating applied electric field is in accordance with the Maxwell-Wagner type interfacial polarization. The electrical conductivity (σ_{ac}) deduced from the measured dielectric data has been thoroughly analyzed and found that the conduction mechanism in Mg+2 and Zn+2 doped NiFe₂O₄ nanoferrite are in conformity with the electron hopping model.

Keywords: Auto combustion, Polarization, Nano-ferrite, Dielectric.

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OP- 100

Impedance Studies of Ni-Cu mixed Ferrite by Auto Combustion method

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Abstract -

Nickel ferrite nano-particles having the basic composition $\text{Ni}_{1-x}\text{Cu}_x\text{Fe}_2\text{O}_4$ ($x=0, 0.2, 0.4, 0.6, 0.8$ and 1.0) were prepared using auto combustion method. Structural, dielectric and a.c conductivity of these samples, which were sintered at 1000°C were studied. Structures of the synthesized samples were probed by X-ray diffraction (XRD) studies. Peaks observed in the XRD spectrum indicated single phase spinel cubic structure for the synthesized samples. Surface morphology of the samples has been investigated using Field Emission Scanning Electron Microscope (FESEM). For Impedance studies, parameters like dielectric constant (ϵ') and dielectric loss tangent ($\tan \delta$) and as well as impedance parameters such as Z' and Z'' of the synthesized ferrites were investigated as a function of frequency at room temperature over the frequency range 100 Hz to 1 MHz using Hioki make Impedance analyzer with Model No. 3250-50. Dielectric dispersion was observed for the synthesized samples. Dependence of ϵ' and $\tan \delta$ with the frequency of the alternating applied electric field is in accordance with the Maxwell-Wagner type interfacial polarization.

Key words: Impedance, Combustion, XRD spectrum, Nano-ferrites.


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Electric Vehicle- Today's Need to Reduce Carbon Emission

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Introduction

Humans are increasingly influencing the climate and the earth's temperature by burning fossil fuels through transportation and other purposes, cutting down forests and farming livestock such activities have been the main driver of climate change. Transportation is one of the remarkable reason for carbon emission into the atmosphere, increasing the greenhouse effect and global warming. If such green house gases once emitted in the atmosphere, it tends to stay there for a very long time. No doubt a portion of the carbon dioxide released through human activities is taken up by plants, and some is absorbed directly into the ocean, but roughly 50% of all carbon dioxide emitted by human activities today stays in the atmosphere and capable to remain there for hundreds of year and influencing the climate globally resulting global warming. To combat this situation its today's need to apply some eco-friendly strategies and sustainable development by reducing GHG emission.

Present scenario

There are many good strategies to promote sustainable development and reduce greenhouse gas emissions and other combustion emissions. The air quality in many urban environments is causing many premature deaths because of asthma, cardiovascular disease, chronic pulmonary disease, lung cancer, and dementia associated with combustion emissions. Better air quality in urban environments is one of the reasons for countries to work together to reduce greenhouse gas emissions through the Paris Agreement on Climate Change. There are many potential benefits associated with limiting climate change. As the effect of carbon emission, the average global temperature made new record highs in 2014, 2015, and 2016. To reduce greenhouse gas emissions, the transition to electric vehicles and electricity generation using renewable energy must take place in accord with the goals of the Paris Agreement on Climate Change.

Present study reviews recent research and commercial progress related to the electrification of transportation and the transition to the Electric vehical Globally. United Nations and the partner countries pass the approval of the Paris Agreement on Climate Change on December 12, 2015 to reduce the carbon emission.

Impacts and Challenges

The task of reducing greenhouse gas (GHG) emissions is a very significant global challenge. To accomplish this goal, it is necessary to electrify transportation which will play a key role to achieve the goal. The transition to conventional vehicle to electric vehical is a great challenge, and it will take many years. The goal to reduce GHG emissions by 80% by 2050 is considered to be reasonable². In current era there is arose recent progress with respect to the goal of reducing emissions³. It is fact that growth of GDP (Gross Domestic Product) is proportional to the increasing amount of GHG emission. But From year 2000 and 2014, total 21 countries reported increases in GDP while reducing GHG emissions⁴. There are so many impacts regarding to greenhouse gas emissions and the increase of their concentrations in the atmosphere⁵. Global average temperatures have been increasing and a new record was set in 2016. This is the third year in a row in which a new global average temperature was set, and the average global temperature across land and ocean was 0.94 degrees Celsius above the 20th century average temperature. Particulate matter in air has been found to be the sixth largest overall risk factor for global premature mortality⁶. There are many premature deaths associated with asthma, chronic obstructive pulmonary disease, and cardiovascular disease. Having diabetes increase the chances of harm from air pollution. Lung cancer risk is higher for those exposed to diesel particulates⁷.

Climate change impacts agriculture, flooding is a greater problem, sea level rise causes coastal problems, there are health and economic impacts, and human migration has increased⁸. If the average global temperature rises beyond 4°C. Air quality will be adversely impacted by wild fires and dust from drought conditions that are made worse by climate change⁹.

Paris agreement to combat situation of climate change

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Study on Agriculture pest in Khultabad of Aurangabad District of Maharashtra

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ABSTRACT: Field survey and farmers visit was conducted at some selected farm/fields of Khultabad region where some selected crops viz cotton, gram, Sorghum (jowar), maize, wheat, Pigeon pea grown during Kharif and Rabi season in view to study the incidences of insect pests on these crops. The observation of field study revealed that total 18 insect pests belong to 8 orders, out of 18 insects maximum 5 insects were recorded as from order hemiptera. The incidence of *Dysdercus cingulatus* (Red cotton Bug) was found to be the most common insect pest on most of the crops. Besides this presence of termite as a remarkable crop damaging pest observed in the underground field which has potency to damage various range of crops by destroying the root system of plants.

I. INTRODUCTION

India is one of the agricultural country in the world. Near about more than 68% Indian population inhabits in rural areas of the country. In other word majority of Indian populations are rural and depends on agriculture for their expenses and lives. However majority farmer set and perform their agro based industries along with agriculture such as apiculture, sericulture, lac culture, fish farming, emu farming, goat farming and poultry farming etc. It is fact that meanwhile occupation of agriculture is facing a very serious problem of attack of insect pests to the crops. The class Insecta of phylum Arthropoda is a largest group in the animal kingdom. They are cosmopolitan in distribution. These insects are serious pests in agriculture and attack on cultivated plants, some are veterinary and some medical pests too. These pests damage various agriculture crops and causing great economic losses and adversely affects on the yield. These insects are voracious feeder. During their larval stage they cause a heavy damage to agriculture crops. More than 10,000 species of insects damaged food plants worldwide¹. According to one of the study, an Indian agriculture field is suffering an annual loss of about 8, 63,884 Million due to attack of insect pests². Stored bulk grain and processed commodities also affects by insects responsible for big economic loss³. One of the study reveals that in India wheat is attacked by number of insect pests⁴. In other research Deshmukh and Ade have recorded 8 species of cotton pests in Akot area of District Akola of Vidhabha, Maharashtra⁵. Again in same study Pandey *et al* recorded 66%-100% losses in yield in cowpea due to insect pest⁶. The heavy crops are loss from insect pests, the farmers use large amounts of pesticides⁷. Sorghum is the fifth most important cereal crop in the world after wheat, rice, maize and barley. It is grown in the arid and semiarid parts of the world. About 150 insect species have been reported as pests on sorghum⁸. As per, still higher yield losses to the extent of 66 and 95% were incurred due to bollworms in *arborescens* and *hirsutum* cotton, respectively⁹. Again there is big problem of invasion of fall armyworm, *S. frugiperda* to India has further worsened the maize production making the farmers helpless. Fall armyworm reported to be feeding on more than 80 plant species from 23 families¹⁰. Many studies have been carried out in various regions of Maharashtra on various crops but not a specific study has been carried out on major crops grown in Khultabad. Therefore, in order to study the population dynamics of insect pests on some major crops including gram, jowar, maize, wheat and pigeon pea crops grown in some selected farms of Khultabad. A field survey was conducted during Kharif and Rabi seasons in the research area.

II. METHODOLOGY

Khultabad is located at 20.05°N 75.18°E. Throughout the year, in Khultabad, there are 124.8 rainfall days, and 680mm (26.77") of precipitation. A field survey of some selected farm of Khultabad was made during Kharif and Rabi season of year 2020-2021. Field survey was conducted on selected farm. Crop viz cotton, gram, Sorghum (jowar), maize, wheat, Pigeon pea etc were observed and recorded. The insect pests observed on the crop during the survey were noted down and photograph was captured using available camera. The insect pests observed were identified with the help of research papers of various researchers and internet sources.

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عزیز احمد کے افسانے گنڈنڈی میں کردار کی نفسیاتی کشش

By : Dr. Abdul Mujahid Ansari

Associate Professor in Urdu
Kohinoor Arts, Commerce
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عزیز احمد کی زندگی کا سفر مشہدات و تجربات کی نثر رہا۔ انھیں اوقات میں ریاست حیدرآباد کے دھڑلے پر انداز بنانا وہاں کی تہذیب و تمدن و معاشرت کا مشہدہ کرنا۔ جو تہذیب و تمدن کی معاشرت سے بالکل غائب تھی۔ ان دنوں سے واپسی پر چاندو خانہ میں استاد کے عہدے پر کام کرنے کا تجربہ ابتدائی مرحلہ میں ان کی قلم کاروں کی ہر چیز ادبی و رعبور کا سیریزری مقرر ہو چکا شرف حاصل ہوا۔ شاہی خانہ ان سے شغف ہونے کی وجہ سے انھیں شاہی خانہ ان کی تہذیب و ثقافت اور معاشرتی زندگی کو بہت قریب سے دیکھنے کا موقع ملا۔ جس کا نتیجہ ان کے فن پاروں میں دکھائی دیتا ہے۔ ان کے وسیع مطالعے مشاہدہ اور تجربات نے ان کے فن پاروں میں چار چاند لگا دیے۔ عزیز احمد کا اسلوب اپنے ہم معر افسانے نگاروں سے منفرد نظر آتا ہے۔

عزیز احمد نے ریاست مہاراشٹر کے شہر اورنگ آباد کے گورنمنٹ کالج سے ایم اے کیا ۱۹۴۹ء میں جامعہ عثمانیہ حیدرآباد سے ایم۔ اے کیا اور جامعہ عثمانیہ سے بی۔ اے کرنے کے بعد ریاست حیدرآباد کے دھڑلے پر واپسی حاصل کرنے کے لیے ان کے انگریزی ادب میں ان دنوں پانچ رکنی سے ۱۹۴۸ء میں بی۔ اے آنری کری۔

عزیز احمد نے ان دنوں پانچ رکنی سے فراغت کے بعد کچھ وقت یہ سیاست میں گزارا اسی عرصہ میں وہ فرانس کے سوربون یونیورسٹی سے بھی دیپلومہ لے کر ۱۹۴۲ء سے ۱۹۴۷ء تک کام آف حیدرآباد کی ہر چیز ادبی و رعبور کے سیریزری مقرر ہوئے۔ اور تقریباً چار سال تک منسلک رہے۔ ۱۹۴۹ء میں تقسیم ہونے والے بعد جامعہ عثمانیہ سے اشتغالی رہے سر پاکستان چلے گئے۔ وہاں حکومت پاکستان کے شعبہ فلم و موسیقی کے ڈائریکٹر مقرر ہوئے۔

عزیز احمد نے اپنے ادبی سفر کا آغاز شاعری سے کیا تھا بعد میں انھوں نے افسانے لکھے۔ "پینکٹ" افسانے کا ترجمہ "پنکٹیاں" کے زیر عنوان "پنکٹیاں" کے نام سے پانچ کتاب نیاں شائع ہوئیں ۱۹۵۳ء میں عزیز احمد طبعی آبادی کے نام سے نثر ابواب عزیز احمد نے ہاتھ دیکھا ۱۹۴۹ء سے شروع کیا ان کے پہلے افسانے کے بارے میں "مجموعہ ادبی تنقید"۔



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افسانہ بازی گری۔۔۔ سیاسی استحصال کا آئینہ

ڈاکٹر محمد علی محمد انصاری، ضلع آباد

افسانہ ”بازی گری“ وہ افسانہ ہے جس کے باعث نور الحسن نے کرشمیل رسالے سے نکل کر پہلی بار ادبی رسائل میں قدم رکھا تھا۔ یہ افسانہ اپنے وقت کے نہایت معتبر ادبی رسالے ”مجاز“ کے سطور جوبلی نمبر میں شائع ہوا تھا۔ یہ ایک تمثیلی علامتی افسانہ ہے لیکن اس کے باوجود اس کی علامتیں نہایت آسانی کے ساتھ قاری پر کھل جاتی ہیں۔

افسانہ بازی گری بظاہر سناپ پیڑھی کی بساط پر کھلا جانے والا وہ کھیل ہے جس کے باطن میں اکثریت اور اقلیت کو سیاسی بازیگری کی طرح آپس میں لڑوا کر اپنا وسیعہ حاصل کرتے ہیں اس کا بیان ہے۔ افسانے میں اس کے علامتی کردار اپنا تعارف اس طرح کرواتے ہیں:

”میں خدا بخش کا مہر انوں اس لیے میرا نام اللہ رکھا ہے اور میرا پس منظر بھی بھگوان داس کا اور محض اسی وجہ سے اس کا نام ام امتا رہے۔ ہم دونوں میں بڑی دوستی ہے، ہوتا بھی چاہیے آخر ہم دونوں اسی گول مرتبان میں ایک ساتھ قیام کرتے ہیں، لیکن مجھ پر نام دونوں کو ایک دوسرے کا متعلق بننا پڑتا ہے۔ یہاں بھگوان داس اور خدا بخش کی مرضی ہے۔“

افسانہ بازی گری کے یہ کردار اپنے آقاؤں کے حکم کے پابند ہیں۔ جہ ہندوستان کی سیاسی اور سماجی صورت حال کو پیش کرتے ہیں۔ جہاں افسانے کے مرکزی کردار خدا بخش اور بھگوان داس اپنے سیاسی وجود کی خاطر اپنے مہر کا استحصال کرتے ہیں۔ اپنی بازی جیتنے کی خاطر ان مہروں کو پریشانیتوں اور اذیتوں سے دوچار کرتے ہیں۔ یعنی اپنی سیاست کو چکانے کی خاطر سیاسی لیڈران

میں غیرتوں کی فضا قائم کر کے، نکلے فساد پیدا کرتے ہیں۔ ہندو اور مسلمانوں کو آپس میں ایک دوسرے کے متعلق کھڑا کر دیتے ہیں اور پھر خود ہی اس کی بنیادیں ہکا بکا کر دیتے ہیں۔ ان بات کو آپس میں گفتگو کرنے والے بھی اب سمجھ چکے ہیں۔ لیکن اپنے آقاؤں کی مرضی کی وجہ سے نہیں ہیں۔

ڈاکٹر محمد صفیر، قلمراز ہیں:

”بازی گری“ نور الحسن کا ایک اہم افسانہ ہے، جس میں

موجودہ سیاسی اور معاشرتی پس منظر کو ابھارا گیا ہے۔ اس افسانے میں اللہ رکھا اور ام امتا سناپ پیڑھی کے دو مہرے ہیں جو افسانہ نگاری کی مرضی پر نہیں بلکہ خدا بخش اور بھگوان داس کی مرضی سے بھی بنی حسیات پا کر ابھر پڑتے ہیں اور لیکن سناپ کے منہ میں دھل ہو کر نیچے کرتے ہیں۔ مذہب کو موضوع بن کر نور الحسن نے آج کے سماج پر طنز کیا ہے اور مذہبی رسم اور رواج جو صدیوں سے چلے آ رہے ہیں، کہانی کا رہنما ہے کہ اس سے انحراف کرنا مشکل کام ہے اور مذہب کے نام پر کوئی نہ کوئی مہر قربانی دیتا ہے۔ (ماہگیر ادیب، مئی ۸۵)

افسانہ نگار نے عوام کے ان رہنماؤں کو بازی گری کے خطاب سے نوازا ہے۔ بازی گری میں کھیلنے ہیں اور اپنا مقصد پورا کرتے ہیں۔ عوام کو یہ حق حاصل نہیں ہے کہ وہ اپنی مرضی کی زندگی بن سکیں۔ وہ عوام میں مذہبی جھوٹ پیدا کرتے ہیں اور اپنے اپنے حقوق کو اپنے قبضے میں رکھنا باتے ہیں۔ ان کی کوشش یہی ہوتی ہے کہ وہ آزادی کے ساتھ آپس میں کس جوں پیدا کر دیں، لیکن یہ مہر سے بھر چکی اپنی اس پے لسی کے خلاف سوچتے رہتے ہیں۔ نور الحسن لکھتے ہیں:

”آج جب ہم دونوں اس گول مرتبان میں بند تو رہے ام امتا کہہ رہا تھا، ہم دونوں اس دوزخ کی بازی سے نکل آ گئے ہیں۔ اپنی مرضی سے نہ کسی پیڑھی پر بیٹھ سکتے ہیں اور نہ ہی آرام کر سکتے ہیں۔۔۔ بس جب دیکھو یہ ہم دونوں کو کبھی کسی سناپ کا نشانہ بناتے ہیں اور کبھی کسی

نور الحسنین کے افسانوں کا تجزیاتی مطالعہ



رتبہ: ڈاکٹر قمر النساء

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(MIL Urdu-11)

اسلامی اور روحانی تصانیف پر مبنی خود کشیا کی معاد

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1



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2


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A Study of Psychology and Literature with Reference to some Selected Writers

* Dr. Pramod Machhindra Nile

Introduction:

English literature is literature written in the English language from United Kingdom, its crown dependencies, the Republic of Ireland, the United States, and the countries of the former British Empire. The English language has developed over the course of more than 1,400 years. But now the situation is changed. English Literature is not limited to England or English speaking country only but it is spread throughout world. Writers all over the world like India, Sri Lanka, Iran, Nigeria, Australia, America are contributing into it and it is becoming rich day by day.

Psychoanalytic criticism is a very widespread psychological type of literary criticism. It's premises and procedures are established by Sigmund Freud (1856-1939). The Psychoanalytic school of literary criticism began with the publication of Freud's Interpretation of Dreams (1900). In fact, psychoanalytic approach to literature is not a sovereign approach. No psychoanalytic critic today can claim any purity. Freud, Jones, Edmund Wilson, I.A. Richard, Robert Graves, are some of the notable exponents of psychoanalytical criticism.

Comparative literature is an interdisciplinary field whose practitioners study literature across national borders, across time periods, across languages, across genres, across boundaries between literature and the other arts (music, painting, dance, film, etc.).

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AMBIENT AIR QUALITY MONITORING IN A POPULAR TOURIST DESTINATION IN MAHARASHTRA, AURANGABAD

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Abstract:

Numerous health problems in both people and animals have been linked to air pollution. The investigation of how air pollution impacts health is ongoing, some dangerous diseases like cardiovascular disease, diabetes, obesity, and abnormalities of the reproductive, respiratory nervous, immune systems and Cancer are currently among the public health concerns. In the current study, we are attempting to determine the Aurangabad city's air quality, which can be useful in reducing air pollution. The results demonstrate that SBES college station is the most polluted and has the worst Air Quality Index of all the tested stations. Low air quality indices are seen at the final three stations, Waluj MIDC, C.A.D.A., and Collector Office. The AQI results for each sampling station indicate that the number of pollutants in the air in Aurangabad is steadily increasing, which is lowering the city's air quality. The air quality in those locations is poor to very poor. The results of the current study may serve to awaken people who are complacent about air pollution.

Keywords: Pollution, Pollutants, Air Quality Index, Stations.

1. Introduction:

Today's world still has a serious problem with air pollution. Numerous elements have an impact on air quality. The majority of experts think that socioeconomic human activities have the most effects on the environment[1]. For the majority of the year, many industrialized and emerging cities experience poor air quality. Land-based transportation, industrial pollutants, and human-caused activities are the main sources of air pollution[2]. The people's quality of life is impacted by ambient air pollution in urban areas of both developed and developing nations. Around 1.5 billion people are exposed to higher ambient air pollutant concentrations of suspended particulate

matter (SPM), Sulphur dioxide (SO₂), and ozone, according to recent publications based on a study by Hong in 1995 (personal communication). The negative effects of ambient air pollution on health are well known in developed nations. The public is still not well informed about the negative effects of air pollution on health, especially in emerging nations where coal is heavily used for burning and the number of cars is rising. Only recently has ambient air pollution begun to receive the attention it deserves as a daily worry for everyone who lives in urban areas of emerging nations. However, due to the severity of the air pollutant concentrations observed in such areas, adverse health effects are anticipated for the local

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22-23

29

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A Brief Review on Recent Environmental Movements in India

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ABSTRACT

Environmental preservation and protection are major concerns in all nations, developed and developing alike, in the twenty-first century. The future will only be able to tell how far the measures India has already taken in this regard are still relevant, but there is no denying that environmental management rules and prescriptions have existed since antiquity. The environmental movements throughout India are the subject of the current investigation. Save the Sundarbans, Save the Aarey, Save Dehing-Patkai, Right to Breathe Protest, and Climate Action Strike are a few movements. Therefore, the current study addresses the topic of Environmental movements in India as part of the theoretical conceptual foundation. It seems that protecting land, water, livelihoods, and cultures is becoming more brutal with each passing year. This article seeks to analyse other overt and covert manifestations of violence in contrast to the rising number of killings of environmental activists or environmental defenders, which is the easiest way to identify violence.

Keywords: Environmental Movements, Sundarbans, Aarey, Dehing-Patkai, Protest

I. INTRODUCTION

"Social movements that encompass a variety of people, groups, and coalitions that see a shared interest in environmental protection and act to bring about changes in environmental policies and practises" are one sort of environmental movement[1].

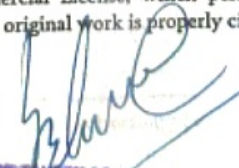
Environmental movements are an example of social movements, according to Tong, Yanki (2005). Social movements begin and grow as a result of the dynamic interaction of three sets of elements[2].

First, the political opportunities and limitations that are specific to the country context in which social movements originate affect those movements. The institutional framework and unofficial power structures of a nation's political system play a role in these opportunities and constraints. These factors include the degree of institutionalised political system openness or closure, the stability of the elite alliances supporting the polity, the existence or absence of elite allies for a given social movement, and the state's capacity and propensity for repression.

Second, there must be informal and formal organisational resources available to organise people into collective action and maintain a social movement. Along with organisations founded by the movement itself,

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49


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A Review on Psychological Impact of a World Threatening Catastrophe: (COVID-19)

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Abstract::

The origin of SARS-CoV-2 in December 2019 caused alarm in numerous parts of the world. The World Health Organization declared a pandemic in March 2020 due to its rapid spread. Leaders of several nations curtailed social activity in an effort to slow the spread of the virus, hoping to flatten the curve of contamination through social isolation. This review sought to examine how societal norms have evolved during this time. We also discussed the essential elements of the emotional response to the pandemic and how internal and external factors, including personality traits, gender, the media, the economy, and the government response, affect how the public views the pandemic and the psychological effects of the current situation.

Keywords: SARS-CoV-2, COVID-19, Restricting Measures, Psychological changes

1. Introduction:

A single-stranded RNA virus called Corona has been around for about 60 years, ever since it was first discovered in the late 1960s. Coronaviruses are members of the Nidovirales order's Coronaviridae family. The crown-shaped spikes on the exterior of the virus structure are what gave the Coronavirus its name (Varshney et al., 2020). The two additional coronavirus strains, known as Middle East Respiratory Syndrome

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Biological evaluation of some methyl 2-((4-acetylthiazol-2-yl)sulfanyl)-1,2,3,4-tetrahydro-6-methylpyrimidine-5-carboxylate derivatives as potential DHFR inhibitors to overcome antibiotic resistance

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Abstract

Multidrug-resistant bacteria are an increasing global threat. Current therapeutic medicines aren't enough to meet the demand. To address antibiotic resistance, new targets and inhibitors are needed. Dihydrofolate reductase (DHFR) is essential for bacterial development, hence DHFR inhibitors are helpful in treating bacterial infections. In the present work, we have designed some methyl 2-((4-acetylthiazol-2-yl)sulfanyl)-1,2,3,4-tetrahydro-6-methylpyrimidine-5-carboxylate as potential DHFR inhibitors through rational drug design approach. The designed derivatives were screened through Lipinski rule, Veber's rule, ADMET analysis, drug-likeness properties, and molecular docking. All of the compounds had action against gram-positive and gram-negative bacteria that was much more powerful than that of ampicillin. The majority of the compounds either had a higher potency than chloramphenicol or an equivalent potency to ciprofloxacin. Compound C7 was sensitive at 25 µg/mL against *Escherichia coli*, *Pseudomonas aeruginosa*, and *Staphylococcus aureus* whereas compound C20 was sensitive to all gram +ve and -ve bacteria at same concentration. Compound C16 was sensitive at 50 µg/mL against all the bacteria. In antifungal activity, compound C7 exhibited MFCs of 100 µg/mL against *Candida albicans*, *Aspergillus niger*, and *Aspergillus clavatus* which is same as Nystatin. Compound C16 and C20 were also sensitive to all the antifungal strains at 100 or 200 µg/mL concentration. Compound C20 is more potent than Greseofulvin against *Candida albicans*. As a result of our research, we came to the conclusion that compounds C7, C16, and C20 are the most effective and have the potential to be further developed into more promising molecules for the treatment of bacterial infections.

Keywords: DHFR, Biginelli reaction, Pyrimidines, Antibacterial, Molecular docking

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1. Introduction

The advent of pathogens that are resistant to the vast majority of the conventional medicines used in treatment is now one of the most significant threats to the general population's health (Baig et al., 2022; Murali et al., 2014; Sánchez-Sánchez et al., 2017). The treatment of nosocomial infections, which pose a significant risk to public health on a global scale as a result of drug-resistant bacteria such as methicillin-resistant *Staphylococcus aureus* (MRSA) and

multidrug-resistant *Escherichia coli*, is made extremely challenging as a result of these bacteria (Anwar et al., 2020; Jouhar et al., 2020; Loi et al., 2019). If we do nothing, a research commissioned by the United Kingdom Government estimates that "the cost in terms of lost global production between now and 2050 would be an astounding one hundred trillion USD." Infections caused by fungi may pose a significant threat to human health, and this is especially true for immunocompromised

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EFFICACY OF CHEMICAL WEED CONTROL IN MAIZE (*Zea mays*)

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ABSTRACT

A field experiment entitled "Efficacy of Chemical Herbicide for Weed Control in Maize" (*Zea mays* L.) was conducted on medium black soil at Instructional Farm, College of Agriculture, Loni during *Kharif* season of 2020-21 & 2021-22. To test the efficacy of herbicides at higher and lower rate against different species along with cultural methods treatments consists of Atrazine @ 700 & 1000 g a.i. ha⁻¹, Pendimethalin (PE) @ 900 & 1200 g a.i. ha⁻¹, Tembotrione (POE) 100 & 120 g a.i. ha⁻¹, 2HW and 2IC at 20 & 40 DAS and Unweeded control. Tembotrione (POE) @ 120 and 100 g a.i. ha⁻¹ was quite effective in reducing the count of monocot, dicot and sedges during 2020-21 and 2021-22. The results of the experiment indicated that significantly higher yield attributes and yield of maize in 2 HW and 2IC at 20 and 40 DAS and was followed by tembotrione @ 120 & 100 g a.i. ha⁻¹, Atrazine @ 1000 & 750 g a.i. ha⁻¹, Pendimethalin @ 1200 & 900 g a.i. ha⁻¹ during 2020-21 & 2021-22 respectively.

Key Word: Weeds, *Zea mays*, Tembotrione, Atrazine.

INTRODUCTION:

Maize (*Zea mays* L.) is the second most important cereal crop in the world in terms of production. Because of having highest genetic yield potential is known as queen of cereals. In India, it is the third most important food crop after rice and wheat. The maize is cultivated for grain, fodder, green cobs, sweet corn, baby corn and popcorn in peri-urban areas. In India, it is cultivated on an area of 8.69 million ha with a production of 21.81 million tones and the productivity of 2509 kg/ha contributing nearly 9.0 per cent of the total food-grains production in the country (Anonymous, 2016). Karnataka, Rajasthan, Andhra Pradesh, Bihar, Maharashtra and Uttar Pradesh, are the major maize producing states which comprises 60 % of area and 70 % of production in the country (Singh et al., 2017a and Trivedi et al., 2017). As a wide spaced crop maize crop composed of grasses, sedges and broad-leaved weeds. The weeds in maize has been traditionally controlled through pre-emergence applications based on atrazine because of its broad-controlled spectrum, superior residual activity, excellent crop tolerance, perceivable speed of efficacy and suitability as partner for other active ingredients (Scheulte et al. 2012; Rana et al. 1998; Kumar et al. 2011 & 2012). Weeds causes significant yield loss worldwide with an average of 12.8% when weed control methods are applied and 37% without any weed control (Oerke and Dehne, 2004). Dogan et al. (2006) reported that weeds reduced the corn yield by 43% when allowed to compete with crop from sowing to harvest.


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EFFICACY OF POST EMERGENCE APPLICATION OF TEMBOTRIONE FOR CONTROL OF WEEDS IN RAINY SEASON MAIZE (*Zea mays* L.)S. R. Mhaske¹ and S. P. Survey²¹Research Scholar, Department of Botany, Dr. Rafik Zakaria College for women, Aurangabad, Maharashtra, India²Assistant Professor, Department of Botany, Kohinor Arts, Com. and Science College Khultabad, Aurangabad, Maharashtra, India.

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(RESEARCH PAPER IN BOTANY)

**Abstract**

A field experiment entitled "Efficacy of Chemical Herbicide for Weed Control in Maize" (*Zea mays* L.) was conducted on medium black soil at Instructional Farm, College of Agriculture, Loni for post-emergence control of mixed weed flora in maize was evaluated during rainy seasons 2020 to 2021. Post-emergence application of tembotrione 120 g/ha at 2-4 leaf stage was found most effective against grassy and non-grassy weeds as compared to other herbicidal treatments either applied as pre- or post-emergence application of atrazine 750 & 1000, Pendimethalin 900 and 1200 g/ha resulting into the highest productivity (5841 & 5810 kg/ha) and profitability (B-C ratio 1.62-1.63) of maize during 2009-2010. On an average, grain yield of maize under tembotrione 120 g/ha (5841-5810 kg/ha) was also better than the atrazine 700-1000 g/ha (5138-5323 kg/ha) and unweeded control (4615-4565 kg/ha).

Keywords Grain yield Maize, Tembotrione, Atrazine, Pendimethalin, Weeds

Introduction

Maize (*Zea mays* L.) is the second most important cereal crop in the world in terms of production. Because of having highest genetic yield potential is known as queen of cereals. In India, it is the third most important food crop after rice and wheat. The maize is cultivated for grain, fodder, green cobs, sweet corn, baby corn and popcorn in peri-urban areas. In India, it is cultivated on an area of 8.69 million ha with a production of 21.81 million tones and the productivity of 2509 kg/ha contributing nearly 9.0 per cent of the total food-grains production in the country (Anonymous, 2016). In Maharashtra, maize area is only about 8,000- 10,000 ha during 2020-21 & 2021-22. Maize holds potential for diversification and livelihood security as reported elsewhere (Das et al. 2012). But weeds are a serious menace in rainy season maize due to congenial growth conditions primarily because of frequent rains, wide spacing and initial slow growth often inflicting huge losses ranging from 28 to 100% (Pandey et al. 2001, Das et al. 2012). Almost all types of weeds (Grassy, Broad-leaf weeds and sedges) infest the maize fields. Atrazine as pre-emergence is the most widely used herbicide in maize. It effectively controls broad-leaf weeds but control of sedges and some grasses remains a problem particularly in situation of variable soil moisture coupled with labour scarcity restricting the intercultural operations. Hence, there is a need for some post-emergence herbicide(s) for broad-spectrum weed control in maize. The post-emergence herbicide tembotrione

34.4% SC inhibits the enzyme hydroxyphenylpyruvate dioxygenase (HPPD) and is absorbed mainly by the leaves. It is co-formulated with the safener isoxadifen-ethyl as a liquid oil dispersion. It was evaluated against mixed weed flora in maize during 2020 and 2021.

Materials And Methods

A field experiment to evaluate the efficacy of tembotrione 34.4% SC w/w for post-emergence control of mixed weed flora in maize was conducted during rainy seasons 2020 and 2021 at College of Agriculture, Loni (Maharashtra). The soil of the experimental field was clay loam in texture, low in available N, medium in P₂O₅ and high in K₂O with slightly alkaline in reaction (pH 8.1). The treatments included tembotrione 100 and 120 g/ha each applied at 2-4 leaf stage (LS), atrazine 750 and 1000 g/ha applied as pre-emergence at 0-3 days after sowing (DAS), Pendimethalin 900 & 200 g/ha at 0-3 days after sowing (DAS), along with two hand weeding and two Inter culturing and unweeded control. The treatments were laid out in a randomized complete block design and replicated thrice. The herbicides were sprayed with knapsack sprayer fitted with flat-fan nozzle using water volume of 500 l/ha. Tembotrione was applied at 2-4 leaf stage of the weeds (10-15 DAS).

followed by irrigation up to half ridge on the next day. Density and dry weight of weeds were recorded at 30 days after treatment (DAT) and 45 DAT, respectively. Crop was raised according to package of practices of the Mahatma Phule Agricultural University and harvested on 26th September 2020 and 28th September 2021.

Results And Discussion**Effect on weeds**

Weed flora of the field consisted of mainly *Dactyloctenium aegyptium*, *Brachiaria* spp., *Digitaria sanguinalis*, *Leptochloa chinensis*, *Echinochloa colona* among grasses and *Euphorbia hirta* and *Amaranthus viridis* among broad-leaf weeds, and *Cyperus rotundus* as sedge.

Density of grassy, broad-leaf (BLW) and sedges (Table 1) and dry weight of weeds (Table 2) decreased with successive increase in dose of the tembotrione 34.4% SC from 100 to 120 g/ha. Application of Tembotrione reduces satisfactory efficacy; as the density and dry weight of weeds decreased significantly. Tembotrione also realized essential to achieve satisfactory weed control efficacy of tembotrione against mixed weed flora in maize earlier also (Singh et al. 2012). Tembotrione @ 100 & 120 g/ha provide effective control of all type of weeds including *Cyperus rotundus* with maximum efficacy at tembotrione 120 g/ha. Tembotrione 120 g/ha resulted in significantly lower density of *Dactyloctenium aegyptium*, *Brachiaria reptans*, *Digitaria sanguinalis*, total grassy weeds and *Cyperus rotundus* in comparison to 100 g/ha. Tembotrione 120 g/kg was superior to tembotrione 100 g/ha, in reducing the density of these weeds. However, the differences among the two doses of tembotrione when applied were not always significant in respect of density of grassy weeds *Leptochloa chinensis* and *Echinochloa colona*, and BLW. Tembotrione 120 g/ha resulted in significantly lower dry weight of grassy weeds and sedges as compared to 100 g/ha during both the years. However, the differences between 120 g/ha and 100 g/ha in respect of dry weight of grassy weeds and sedges were non-significant during 2020. Similarly tembotrione 120 g/ha was at par with 100 g/ha in respect of dry weight of grassy weeds and sedges. All the doses of tembotrione applied were similar to each other in respect of dry weight of BLW.

Pre emergence application of Atrazine also control of grassy and broad-leaf weeds during 2020 but it was less control of grassy weeds during 2021. It was not effective against sedges. Efficacy of atrazine increased with increase in its dose from 750 to 1000 g/ha (Tables 1). Tembotrione 120 g/ha was at par with atrazine 1000 g/ha during 2020 but superior during 2021 in respect of density and dry weight of grassy weeds, whereas it was superior to atrazine 750 g/ha during both the years. Tembotrione 100 & 120 g/ha was similar to atrazine 750-1000 g/ha in respect of density of BLW; but superior in respect

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Effect of Nutrient Management Practices for Growth and Yield of Kharif Groundnut

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ABSTRACT

To study the feasibility of nutrient management practices on growth and yield of *kharif* groundnut, an experiment was carried out at PGI, Farm M.P.K.V., Rahuri. The balanced nutrition through STCR equation proved its superiority by recording significantly maximum growth attributes viz., plant height (29.14 and 31.14 cm), number of branches/ plant (6.82 and 6.96), number of leaflets/ plant (55.19 and 57.78) and leaf area/ plant (10.18 and 10.74 dm²), days to flower initiation (30.67 and 30.85). Similar results recorded in yield attributes of groundnut like number of pods/ plant (23.76 and 30.64), number of developed pods/ plant (20.95 and 25.79), weight of pods/ plant (19.11 and 24.37 g) and weight of 100 karnels (37.31 and 37.49 g) during both years. Also Application of fertilizer to *kharif* groundnut as per STCR equation was recorded maximum and significantly higher dry pod yield (23.08 and 24.49 q/ ha) and creeper yield (42.21 and 40.64 q/ha) and harvest index (36.05 and 36.94 %) than rest of treatments during both the years. The control treatment recorded significantly lowest dry pod, creeper yield and harvest index. This indicates that, among the nutrient management practices, application of fertilizer dose as per soil test crop response (STCR) equation was recorded higher growth, yield attributes and achieved the yield target of 25 q/ ha in *kharif* groundnut.

Keywords: *Kharif* groundnut, Nutrient managements, pod yield and harvest index

I. INTRODUCTION

Groundnut (*Arachis hypogaea* L.) is the premier oilseed crop of India, occupies an area of 4.19 million ha and contributes 6.68 million tonnes production and average productivity of 1.59 t/ha in India (DGR, 2015). It is leguminous oilseed crop with high nutritive value of its kernels, containing 43.6 % edible oil and 25.3 % protein. Groundnut is energy rich crop and need sufficient amount of nutrients and moisture to meet their requirement for growth and development and high yields. Continuous cropping of cereal-cereal crop sequence over a long period of time reduces productivity and soil fertility. Sustainable groundnut production can be achieved by diversifying the groundnut cropping system and nutrient management (Das *et al*, 2017).

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143

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In Vitro Study and Micropropagation of Sugarcane (*Saccharum officinarum* L.)

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ABSTRACT

Sugarcane (*Saccharum officinarum* L.) is an important tropical and sub-tropical crop in India. Although sugarcane propagates vegetatively in its natural state, but propagation rate is too slow to meet demand of high-quality planting material for commercial cultivation. Micropropagation method using meristem as explant was standardized. Shoot cultures were initiated on MS medium containing 1.0 mg/l BAP+1.0 mg/l KIN+0.1 mg/l GA3. Maximum shoot proliferation was achieved on medium containing 0.2 mg/l BAP+0.1 mg/l KIN with 10 mg/l ADS within 5 weeks of culture. The regenerated shoots were rooted on half strength MS medium supplemented with IBA 2.0 mg/l+0.5 mg/l AC. Regenerated plants were transferred for hardening in greenhouse and they showed 97% survival.

Keywords: Sugarcane, Micropropagation, Plant Tissue Culture.

I. INTRODUCTION

Sugarcane (*Saccharum officinarum* L.) is an important agricultural cash crop in tropical and subtropical region of the world and is the major source of sugar with respect to export product in many developing countries that accounts for more than 60% of the world's sugar production. It is the only member of the family *Gramineae* belong to *genus saccharum* in which *in vitro* propagation are standardized and commercially viable *in vitro* multiplication of sugarcane has received considerable research attention because of its economic importance as a cash crop. Genetically, Sugarcane (*Saccharum officinarum* L.) originated from New Guinea. T. Venkatraman is father of Sugarcane breeding in India.

Sugarcane is C_4 plant with a high rate of photosynthesis. The main product of sugarcane is sucrose. They have stout jointed fibrous stalks that are rich in sugar. Sugarcane is tropical, perennial grass that forms lateral shoots at the base to produce multiple stems, typically three to four meter high and about five cm in diameter. The stem grows into cane stalk, which when mature constitutes approximately 75% of the entire plant. A mature stalk typically composed of 11-16% fiber, 12-16% soluble sugars, 2-3% non sugar and 63-73% water. Sugarcane is one of the most efficient converters of solar energy into sugars and other renewable forms of energy. The plant was domesticated by the Polynesians for its sweet stem, but presently it has emerged as a

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Micropropagation Studies In *Philodendron* (*Philodendron Bipinnatifidum*)

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ABSTRACT

Philodendron is of great interest due to their indoor and outdoor decorative value. This study was initiated to induce shoot from nodal explants of *Philodendron*. Multiple shoot formation was induced from excise nodal explants, on Murashige and Skoog medium with concentration of 6-benzylaminopurine (BAP) treatments. The maximum shoot length (3 ± 0.29 cm) was observed with 15 which contain 4mg/l concentration of BAP treatment with in 6 weeks were obtained in growth chamber at $24 \pm 2^\circ\text{C}$ with light source of 2500 lux for 16hr/day. When shoots were produced in vitro were subculture to multiply on fresh medium with different concentration of BAP & IAA. After about 6 weeks about (10 ± 0.70) shoots & max length (3.2 ± 0.16 cm) was obtained with media supplemented with M2 supplemented with 2.0 mg/l BAP along with 0.5 mg/l IAA. MS medium containing 1.0 mg/l concentration of IBA was found to be satisfactory for roots induction resulted in (3 ± 0.27 cm) root length and (4 ± 0.44) average no. of roots were observed.

Keywords: *Philodendron*; Micropropagation; Growth Regulator; In Vitro; BAP; IAA; IBA.

I. INTRODUCTION

Plant Tissue Culture and genetic engineering are the two most widely used methods for crop improvement in plant breeding. Plant tissue culture is an emerging tool for plant biotechnology and implied for the propagation of some economically important crops of agriculture, horticulture, forestry, endangered, rare and threatened plants.

Philodendron is large genus of flowering plants in the Araceae family consisting of about 900 species according to TROPICOS (a service of the Missouri Botanical Garden) other sources quote different number of species: S.J. Mayo reports about 350-400 formally recognised species whereas Thomas Croat lists about 700. Taxonomically, the genus *Philodendron* is still poorly known with many undescribed species. Many are grown ornamental and indoor plants. The name derives from the Greek words *philo* or love and *Dendron* or tree. They are commonly called by their generic name

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126