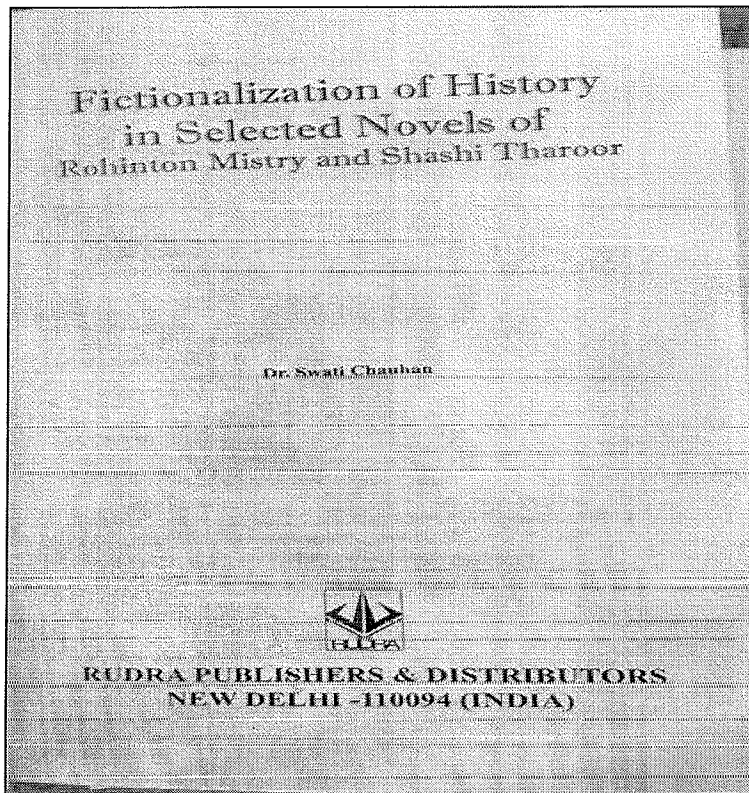
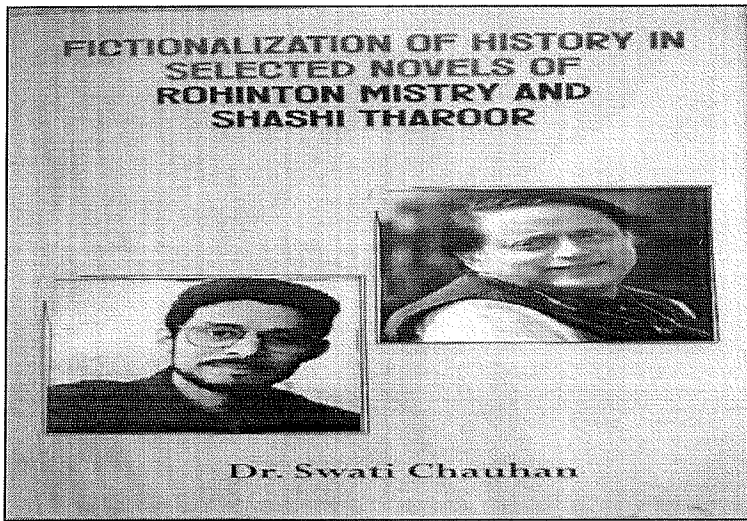

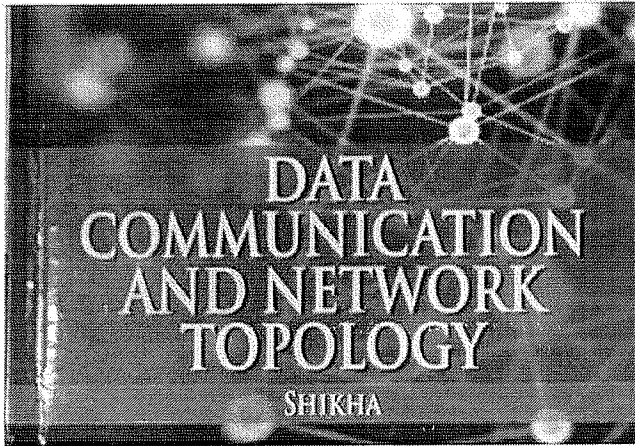


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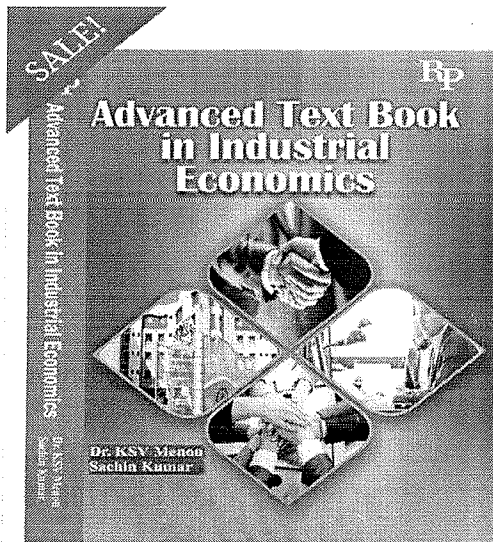
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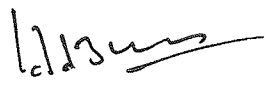
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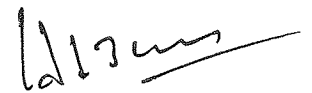
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**Volume - 12**

**Chief Editor**

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Associate Professor, Department of Soil Science and Agricultural Chemistry,  
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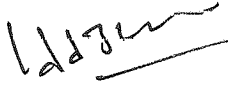
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2-Dr.Amita singh- Phytoconstituents, Bioactive and  
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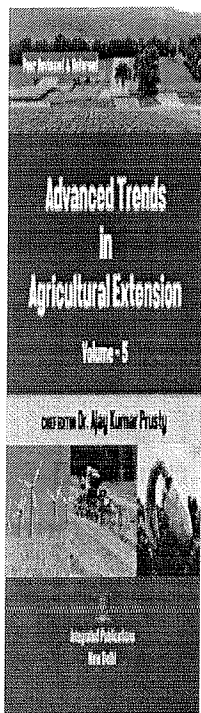
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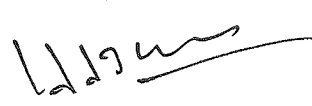
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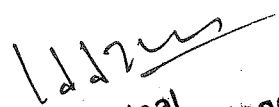
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### Yamuna River Pollution and Sustainable Solutions for the Future

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#### **Abstract**

Water pollution may be defined as the presence of one or more contaminants or combinations thereof in such quantities and of such durations in the water tend to be injurious to human, animal or plant life, (aquatic life) or property, or which unreasonably interferes with the comfortable enjoyment of life or property. In easier words, it is the contamination of water bodies like lakes, rivers, ponds, seas, oceans and even groundwater. This is due to discharge of environmental pollutants or effluents into water bodies without treatment. Water pollution affect the entire biosphere, including not only the individual species but also their natural biological communities. It results in the death of much of the aquatic life residing inside the contaminated water body. It also leads to various diseases like cholera, dysentery, diarrhea, malaria, dengue, chikungunya, etc. and even fatal in some cases if that water is consumed without treatment.

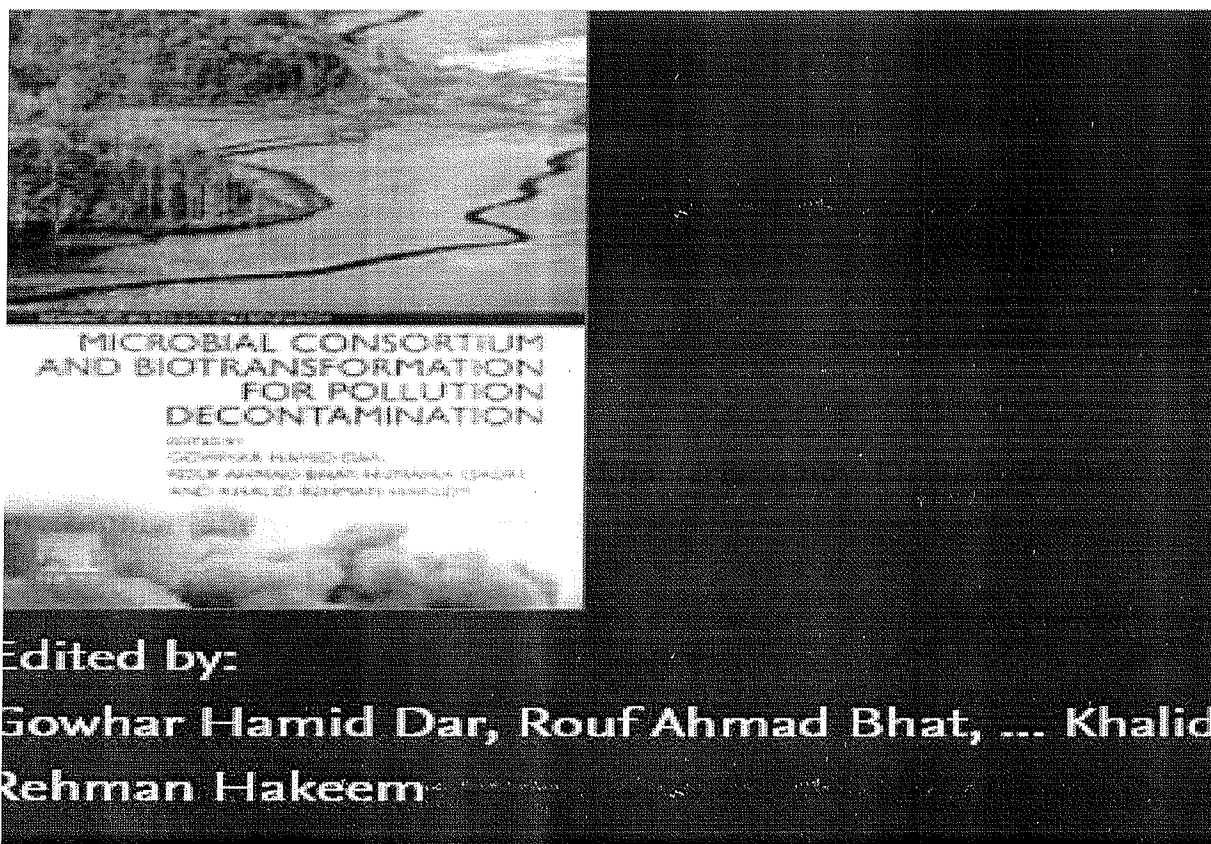
Water pollution drastically affects aquatic life. It affects their metabolism, and behaviour, and causes illness and eventual death. Dioxin is a chemical that causes a lot of problems from reproduction to uncontrolled cell growth or cancer. This chemical is bioaccumulated in fish, chicken and meat. Chemicals such as this travel up the food chain before entering the human body.

  
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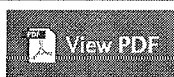
  
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# Microbial Consortium and Biotransformation for Pollution Decontamination



Advances in Environmental Pollution Research

2022, Pages 181-208

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Environmental contaminants

Genetically engineered bacteria and their construction

Genetically engineered bacteria for a sustainable environment

Factors affecting bioremediation from genetically engineered bacteria

Limitations and challenges of in-field release of genetically engineered bacteria

Survivability and sustenance of genetically engineered bacteria

Conclusion

Acknowledgments

Abbreviations

## Chapter 9 - Genetically engineered bacteria: a novel technique for environmental decontamination

Tarun Kumar Kumawat<sup>1</sup>, Nalinee Kumari<sup>2</sup>, Vishnu Sharma<sup>1</sup>, Varsha Kumawat<sup>3</sup>, Manish Biyani<sup>4</sup>

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6-- Dr. Amita Singh- Nitrogen Fixation Enhancement in Pulses under Moisture Stress Condition by Foliar Application of KNO<sub>3</sub>.


# Current Research in Soil Fertility

Volume - 5

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### Chapter - 6

## Nitrogen Fixation Enhancement in Pulses under Moisture Stress Condition by Foliar Application of $KNO_3$

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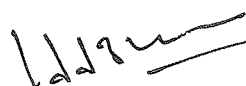
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# 7- Dr. Shefali, Heavy metals in agro-ecosystems and their impact on human health, 2019.

**Contaminants in Agriculture and Environment Health Risks and Remediation**

**Dr. Jogendra Singh**

This book is a large guide to the students and researchers working in the field of agricultural pollution and seeking to get relevant material to understand the current trends of generation, impacts and remediation of pollutants affecting agricultural systems. The book provides the collection of most pertinent material about themes to the readers. The book is helpful in understanding the basic concepts of agricultural pollution as well as the sources of pollutants in agricultural system. The management of agricultural productivity by various environmental friendly methods and their limitations is also mentioned. Furthermore, the book comprises the information about impact of pollutants on growth and productivity of agricultural crops followed by various diseases and impacts of agricultural pollutants on human health as well as to other components of ecosystem. The case studies of some countries showing impacts on its population which is caused by such pollutants. The current status of generation of agricultural wastes and its best utilization by means of environmental friendly approaches is the emergence used in this book.

**Dr. Vinod Kumar**

Dr. Vinod Kumar, M.Sc., Ph.D., Ph.D., Ph.D. is working as Assistant Professor of Environmental Science in Department of Zoology and Environmental Science, Gurukul Kangri University, Haridwar (Uttarakhand), India. He has an academic experience of more than 10 years and received a number of awards for his services. He is also a member of various professional bodies. He has published more than 100 research papers in national and international journals. He is also a member of various professional bodies. He has published more than 100 research papers in national and international journals. He is also a member of various professional bodies.

**Dr. Shefali**

Dr. Shefali is a young researcher who is working in the field of environmental science. She has a Ph.D. in Environmental Science from Gurukul Kangri University, Haridwar. She is currently working as an Assistant Professor in the Department of Zoology and Environmental Science, Gurukul Kangri University, Haridwar. She has published several research papers in national and international journals. She is also a member of various professional bodies.

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**Contaminants in Agriculture and Environment Health Risks and Remediation**

**Volume 1**

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Vinod Kumar | Rohitashw Kumar  
Jogendra Singh | Pankaj Kumar

**Dr. Vinod Kumar**

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**Chapter 5**  
**Heavy metals in agro-ecosystems and their impacts on human health**

**Shefali<sup>1\*</sup>, Sudhanshu Bala Nayak<sup>2</sup> and R.K. Gupta<sup>3</sup>**

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**Abstract**

Heavy metals are proved to be a major threat and their toxic effects have various effects on living organisms including health risks in humans. Even though the heavy metals do not have any biological role but they are present in some form which is harmful for humans and impairs with the proper functioning. Most of the times heavy metals interfere with the metabolic processes for example some heavy metals get accumulated in the food chain and do not undergo degradation exhibiting a chronic nature. Heavy metals toxicity is largely dependent upon the absorbed dose, the route of exposure and the time duration of exposure whether it is acute or chronic which can


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## Biofilms in Human Diseases: Treatment and Control

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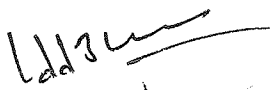
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Chapter

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## Abstract

Biofilms formed by microbes are the aggregates of bacterial masses that are fixed in the matrix produced by itself comprising of extracellular polymeric substances (EPS). Microbial biofilms pose serious threat to the hospital-based infections as well as other types of infections. This is because biofilm provides highly enhanced protection and tolerance to the pathogens towards antimicrobial compounds. Moreover, the pathogen also survives the immune response of the host. This leads to extremely intractable, prolonged infections resulting in high tolls of morbidity and mortality. The fact that around 80% of human diseases are biofilm-based; the scientists have started to explore effective remedies to precisely aim at the disruption of biofilm, thus, diffusing the cells of

  
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**In Vitro Propagation, Genetic Transformation and Germplasm Conservation**



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Role of Secondary Metabolites for the Mitigation of Cadmium Toxicity in Sorghum Grown Under Mycorrhizal Inoculated Hazardous Waste Site

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Ocimum gratissimum: A Review on Ethnomedicinal Properties, Phytochemical Constituents, and Pharmacological Profile

Chaudhary Priyanka, Sharma Shivika, Sharma Vikas  
Pages 251-270



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## Chapter 11

# *Ocimum gratissimum*: A Review on Ethnomedicinal Properties, Phytochemical Constituents, and Pharmacological Profile



Chaudhary Priyanka, Sharma Shivika, and Sharma Vikas

**Abstract** In the present chapter, an effort was made to compile the ethnomedicinal, phytochemical, and pharmacological properties of *Ocimum gratissimum* commonly known as Camphor basil or Ram Tulsi. It is a herbaceous plant that belongs to family Lamiaceae. The plant is about 1–2 feet long, and its leaves have cloves-like flavor that leads to its use in vegetables seasoning. This plant has immense therapeutic uses. *O. gratissimum* have chemopreventive, ant carcinogenic, free radical scavenging, radio defensive, and various other pharmacological uses. Plants like *O. gratissimum* deliver different bioactive constituents that are utilized generally as sustenance added substances, nourishment colorants, pharmaceuticals, pesticides, and aromas. Biotechnology acquired plant cell culture innovations and has been considered for long, an alluring option for the extraction and utilization of their important secondary metabolites. In vitro culture methods provide an attractive alternative for the protection of uncommon, debilitated, or imperiled therapeutic plants as well as effective means of their rapid clonal micropropagation of critical plants and also permit the creation of hereditarily steady and consistent source. The present chapter underlines the conventional utilizations and clinical possibilities of *O. gratissimum*.

**Keywords** Bioactives · Ethnomedicinal · Lamiaceae · Micropropagation · *Ocimum gratissimum* · Pharmaceuticals

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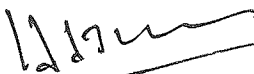
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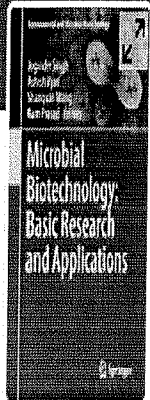
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# New and Advanced Technologies in Aquaculture to Support Environmentally Sustainable Development


[Mahipal Singh Sankhla](#), [Rajeev Kumar](#) & [Shefali](#)

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# Chapter 11 New and Advanced Technologies in Aquaculture to Support Environmentally Sustainable Development



Mahipal Singh Sankhla, Rajeev Kumar, and Shefali

**Abstract** Marine and freshwater organisms have a great purpose in agricultural life: providing nutritional resources and nutritional status within many developing and developed countries. Despite the unquestionable benefits of fish farming, such as providing good-quality food to the population over generations, it is condemned worldwide because of its negative environmental impacts. Aquaculture must push toward expanding to meet the increasing requirements of the present generation without compromising the ability of future generations to meet their own needs and to participate more effectively in the reduction of poverty and malnutrition. The main challenge to aquaculture planners is to attain ecologically safe development, which requires an authority agenda that can easily account for the environmental effects in social and economic terms.

**Keywords** Aquaculture · Fishery · Environmental · Algaculture · Fish farming · Food web · Aquaponics

## 11.1 Introduction

In both the established and the emerging countries of the world, interest in and requests for fish as food are continually increasing. Current advances in development, our increasing population, and rising profits in the emerging world are probably responsible for continuing this scenario. Aquaculture production has significantly increased during the past 20 years, with additional cultivated fish per unit of water and land, and decreasing proportions of fishmeal and fish oil in numerous aquaculture feedstuffs (Jena et al. 2017). Within the food subdivision,

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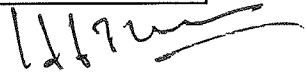
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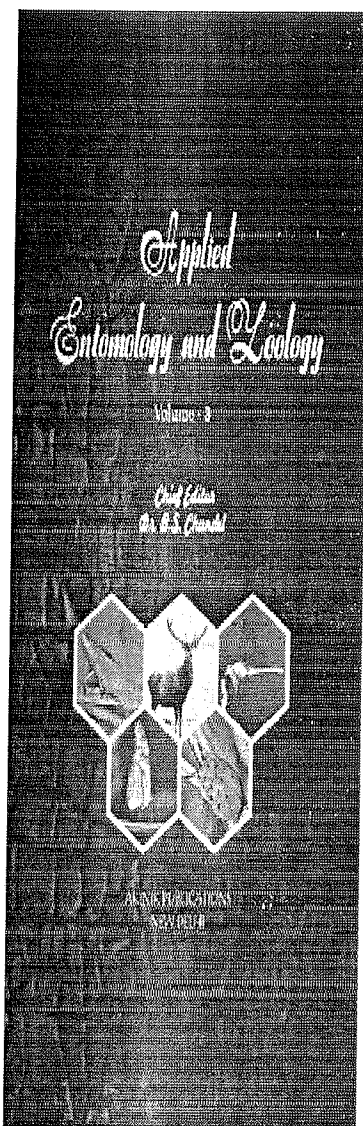
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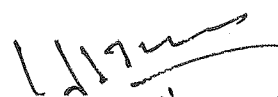
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# Chapter - 4

## Earthworms: The Intestines of Earth

Shafali and R.K. Gupta

### Abstract

Earthworms are referred as the indicators of soil health; they feed on detritus and play an important role in organic matter decomposition and soil metabolism. Earthworms are known to enhance the soil fertility by the breakdown of organic matter and mixing it with mucous and microbial gut flora which is added to the soil in the form of earthworm casts and contributes in increasing the soil porosity by formation of drilosphere. The significance of earthworm has resulted in development of vermitechnology that involves the use of surface and subsurface local varieties of earthworms in composting and soil management. Thus the organic waste can be excellently recycled by vermicomposting process thereby resulting in the production of vermicompost and vermishash that have been proved to be essential component in plant growth and productivity.

**Keywords:** earthworms, vermitechnology, vermicomposting, vermicast.

### 1. Introduction

Earthworms are considered as the farmer's friend as they contribute a major role in the biodiversity and are responsible for increasing the nutrient content of soil through various processes such as aggregates formation and nutrient cycling processes which involves nitrogen cycles, phosphorus and carbon<sup>1,2</sup> which ultimately helps in agriculture. The feeding, burrowing and other activities of earthworm are known to influence the soil fertility by undergoing several physio-chemical and microbial changes<sup>3</sup>. When the soil passes through the gut of the earthworm the plant nutrient availability is increased by the activity of the gut microflora<sup>4</sup>. Interactions between earthworms and micro-organisms are seemed to be complex. Specific phylogenetic groups of bacteria such as *Aeromonas hydrophila* in *E. fetida*, fluorescent *pseudomonas* in *L. terrestris*, and *Actinobacteria* in *L. rubellus* have been found in higher numbers in earthworm guts, casts, or burrows<sup>5</sup>.

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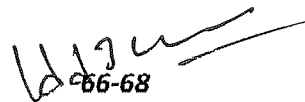
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## ANEMIA IN WOMEN OF REPRODUCTIVE AGE

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### ABSTRACT

Iron deficiency anemia is a worldwide health condition that affects a large number of people of various age grouping but is most frequent in females in their reproductive phase. The symptoms to suffer exhaustion, heart palpitations, headache, dizziness, brittle nails, chest pain, pale color of skin, anxiety, etc. It varies from person to person. The Lack of an iron-rich diet and blood loss is the major cause of IDA. Anemia means iron deficiency in the body leading to decreased haemoglobin levels which causes IDA. Choosing iron-rich food, and vitamin food and avoiding fast food, tea, and coffee. Proper diagnosis and treatment as soon as possible should be performed. Anemia is going to be a severe disease if it is not treated. A complete blood test, diagnosis other CBC, and RCT test can be performed. Treatment varies on the severity of IDA it can range from oral supplements to IV. The most focusing part is the type, symptoms, diagnosis, and treatment of IDA

### INTRODUCTION

High quantities of saturated fats and carbohydrates are common in fast foods. Sugar surges, weight gain, and an increased risk of diabetes are all possible outcomes. Anemia is one of the most common health conditions associated with malnutrition, impacting a large percentage of the population. It affects people of all ages, but it is a chance in a huge number of positive pregnant women. A pathological deficit in blood oxygen-carrying capacity haemoglobin concentration, measured in the number of red blood cells. Blood contains two

## PHOTOPHYSICAL PROPERTIES IN TRIVALENT RARE EARTHS (EU, TB, GD, ND) DOPED ZNO NANOSTRUCTURES

*Deepika Mithal*

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In this review paper photophysical properties of ZnO are discussed. ZnO have been of interest as of its various surface morphologies. Different surface provides various defects with its concentrations. The defects are having their specific emissions. Rare earth ions Eu, Tb, Gd and Nd are doped in the various nanostructures. Excitonic and surface emissions of ZnO along with the rare earth emissions are discussed in this review paper for various concentrations. These rare earth doped ZnO nanostructures are of interest as wide tunable emission of defects oriented is obtained. These emissions are used in further numerous optoelectronic applications.

### INTRODUCTION

ZnO a promising material have been of interest from past years [1]. It is having many applications for photonic and optoelectronic applications [2,3,4] Rare earths ions are also interesting having sharp emissions of f-f transitions [5,6]. ZnO is having excitonic UV and defect induced visible emissions in its various structures. Interaction via various energy transfer mechanisms with dopants effecting and tuning its emissions [7,8,9]. In

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## THEORETICAL HIGH PRESSURE STUDIES ON TRANSPARENT OXIDE SEMICONDUCTORS

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### ABSTRACT

Oxide semiconductors like zinc oxide, cadmium oxide etc. have large band gap and so they are of technical importance being transparent in the visible range. This paper presents results of theoretical computational studies of such oxide transparent semiconductors under pressure. This computational work has been carried out using the density functional theory (DFT) based approach to study the structural & electronic properties of oxide transparent semiconductors under ambient and high pressure. Initially, the electronic band structure has been carried out using structural parameters for both the ambient and high pressure phases which are compared with earlier obtained similar results. Final using these electronic structural parameters, other electronics structural properties (like partial & total density of states, Fermi energy, Band width, band gap etc.) have been carried out. The calculated parameters are compared and discussed with the available experimental and other theoretical results.

### INTRODUCTION

Oxide semiconductors have got attention due to their technological importance particularly for applications in electronics, renewable energy (like fabrication of optoelectronics devices, solar cell etc.), spintronic, optical, photo-conducting properties [1-10]. Out of oxide semiconductors, binary transparent oxide semiconductors, such as Zinc Oxide, Cadmium Oxide etc. have been of interest because of its application as transparent conducting oxides (TCOs) films (by highly doping) for photovoltaic and flat panel displays, in optoelectronic devices, solar cells, IR detectors and lasers light emitting devices etc. Although the structural, electronic and

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## THYROID DYSFUNCTION: CAUSE OF SECONDARY HYPERTENSION

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Pressure of blood which is high in the arteries is serious worldwide health worry, which affects more than a quarter of people of the world. Although the fundamental etiology of these disease is not known in great majority of cases, 12% of these have a secondary reason. Endocrine disorders are prevalent conditions that can cause high blood pressure. Thyroid problems are among the most common and often disregarded, especially in mild instances. Hypertension can be caused by both subclinical and unconcealed hyperthyroidism & hypothyroidism; however, the underlying processes are still poorly known.

Clinical research findings are frequently contentious. Some genes alterations in HPT (hypothalamus-pituitary-thyroid) Axis with blood-vascular implications have been discovered in recent decades. The vasculature is affected by atherosclerotic alterations caused by lipid abnormalities caused by thyroid dysfunction, which can lead to high blood pressure. The review summarizes current understanding of how thyroid hormone metabolism and thyroid disorders affect blood-vascular system & participate in hypertension development.

**Keywords:** High blood pressure, hypothyroidism, hyperthyroidism, stiffness of arteries, blood-vascular risk, thyroid, pressure of blood etc.

### Thyroid Gland

It's a gland with no ducts in vertebrates that pours its secretions directly into the blood. It mainly secretes 3 hormones: T4- thyroxine, T3-triiodothyronine, and calcitonin (Peptide hormone). In humans, this gland is present within the neck region and it's separated into two lobes -Right lobe and left lobe. The left lobe and the

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## HYDROLOGICAL CYCLE AND ITS INFLUENCE ON CLIMATE CHANGE

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### ABSTRACT

The importance of water on earth cannot be underestimated. Water is transported throughout the whole Earth's climate system and affects every constituent along the way. Energy balance of the earth is affected by clouds and water vapours in the atmosphere and snow and ice reflects a sufficient amount of the sun's radiation back to the space. Water in terms of groundwater or streamflow, plays an important role in the maintenance of living organisms and human societies.

However, water is important for all of us but its hazardous effects can be seen if its quality and flow become much high and it can destroy living organisms also. To resolve these hardships, humans have been created dams, urbanization, straining of swamplands and in some cases degradation has done.

**Keywords:** Hydrological cycle; infiltration; hydrology; runoff; groundwater.

### 1. INTRODUCTION

Global hydrologic cycle is produced by water exchanging between the land and the oceans. Water is stored in the oceans, the transfer of water between all these constituents plays a important role in Earth's climate. Water evaporates from the oceans into the atmosphere, where it is advected across the face of the earth in form of water vapour[1]. This water vapour condenses within clouds and precipitates in the form of rain, snow or hail back to the Earth's surface. This precipitation can fall on water bodies, be captured and transpire by vegetation

## PHYTOMEDICINAL IMPORTANCE OF SARACA ASOCA (ASHOKA): A PROMISING FUTURE

*Dr. Amita singh and Ms Manju*

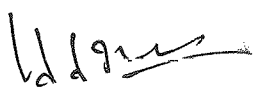
*DPG College Gurgaon*

### ABSTRACT

The most ancient tree of India, Medicinal herbs are moving from fringe to mainstream use with a great number of people seeking remedies approaches free from side effects caused by sythetic chemicals.and health. The Ashoka is a rain-forest tree. Its original distribution was in the central areas of the Deccan plateau, as well as the middle section of the Western Ghats in the western coastal zone of the Indian subcontinent. Ayurveda is a traditional system of medicine in which herbal therapies were used systematically. Ashoka.e.Saraca asoca (Roxb.) Wilde belonging to Caesalpinaceae subfamily of the Legume is one of the indigenous plants with lots of traditional significance. The all parts of this plant are considered pharmacologically important and has especially been used to manage various gynecological disorders like menorrhagia, leucorrhoea, dysfunctional uterine bleeding. Saraca asoca is reported to contain glycoside, flavanoids, tannins and saponins. It is used as spasmogenic, oxytocic, uteronic, anti-bacterial, anti-implantation, anti-tumour, anti-progestational, antiestrogenic activity against menorrhagia and anti-cancer. This review contains the Pharmacognostical account of various parts of plant, Phytochemical constituent and different reported pharmacological activity.

### INTRODUCTION

*Saraca asoca* refers to the legume family. Odhisha is the state of *Saraca asoca*. bark of *ashoka* tree is used to treat fever, diabetes, kidney problems, sore eyes, haemorrhaging and mainly beneficial for women related issues such as menstrual problems, dysmenorrhea, abdominal pain, and uterine spasms. found the presence of

  
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## SECONDARY METABOLITES OF IMPORTANT MEDICINAL PLANT: *HIBISCUS ROSA SINENSIS*

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<sup>1,2</sup>Assistant Professor, Department of Botany, D.P.G. Degree College, Gurugram

### ABSTRACT

There are about 320,000 species of plants of which the majority 260-290 thousand produce seeds. Green plants provide a substantial proportion of the world's molecular oxygen and are the basis of earth's most ecosystems. The scientific study of plants is known as Botany, a branch of biology. *Hibiscus rosa-sinensis* is an important traditional plant with immense therapeutic value. To evaluate the scientific basis for the use of this plant, the phytochemical screening was experimentally carried out. **carried out.**

The aqueous crude extract of *Hibiscus rosinensis* leaves were screened for its phytoconstituents and this extract revealed for the presence of saponins, phenols, alkaloids, proteins/amino acids, tannins, flavonoids, carbohydrates/reducing sugars and resins.

### INTRODUCTION

Plants are predominantly photosynthetic eukaryotes. They belong to the kingdom Plantae. Primarily the plant kingdom includes all living things other than animals and included algae and fungi; however current definitions of Plantae exclude the fungi and some algae as well as the prokaryotes. Generally, plants can be differentiated into Herbs, Shrubs and Trees.

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## BACTERIAL LIPOPEPTIDES INDUCED BRAIN DYSFUNCTION: ALTERED NEURONAL ACTIVITY AND NETWORK

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### ABSTRACT

Various immunopathological brain states induced by bacterial lipoproteins are well studied using various biochemical and histological assays. There are limitations regarding the particular functional states of damaged brains comprising synaptic activity and network, making diagnoses of brain disorders related to bacterial infections, difficult. *In vivo* tissue experimentation, analyzed synaptic and dendritic alterations in limbic system using PET imaging. PAM declined the number of presynapses in case of *in vitro* neuron cultures suggests damaging effect of PAM exclusively on neuronal function via presynapses. It's seen that PAM causes synapse aggregations around dendrites, which may have no damaging effects on synaptic protein expression levels, while loss of synaptic number and function occurred by PAM. This provides us with a useful diagnosis and treatment method for various brain disorders specific to bacterial infection.

### INTRODUCTION

Central nervous system infections are among the most morbid forms of infectious disease because they are associated with challenges like early diagnosis and neurological complications. Studies in humans have reported

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## महिलाएं एवं सशक्तिकरण : महात्मा गांधी के सदभाम हवचारों के हवशष

डा. ज्योहत

अहसस.टे.ेंट प्रोफे.सर, राजनीहत हवसन, कला  
हवभाग

महिला सशक्तिकरण को बेहद आसान शब्दों में परभाषित किया जा सकता है।  
एक यह महिलाओं  
को सशक्ति बनाने से संबंधित है। इससे महिलाएं शक्तिशाली बनती हैं। जिससे वह  
अपने जीवन से

जुड़े सभी फैसले स्वयं ले सकती हैं तथा पररवार व समाज में अपनी एक अलग पहचान बन सकती  
है। समाज में उनके वास्तविक अधिकार को प्राप्त करने के लिए उन्हें सक्षम बनाना  
ही महिला

सशक्तिी सशक्तिकरण में एक ऐसी ताकत है। वह तथा में  
करण है। पररवार, समाज, दश हवदश

बहुत कुछ बदल सकता है। इस शक्ति के द्वारा महिलाएं समाज में एकरी  
करिनाइयो की पुरुषों से

बेहतर ढंग से समझ तथा हनपट सकती हैं। महात्मा गांधी की महिलाओं के हवषय में  
जी सोच है।

उसे उनकी आत्मकथा 'सत्य के साथ मेरे प्रयोग' में मुख्य रूप से देखा गया  
है। कई साल पहले उनकी सोच महिला सशक्तिकरण को लेकर हजतनी

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## INTRODUCTION OF CLOUD COMPUTING: A REVIEW

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### ABSTRACT

Cloud computing technology has arrived in the IT industry. The most advanced computational architecture is seen in cloud computing, which is based on the internet. It uses a collection of networked, integrated, and software and hardware-based systems. On top of grid computing and other computers, it offers many benefits. I have reviewed over 30 papers on cloud computing to provide a concise assessment of the technology in this essay. The results of this review indicate how the IT sector has changed over time, both before and after cloud computing.

**KEYWORDS:** Cloud SaaS, PaaS, IaaS, Cloud Computing.

### I. INTRODUCTION

In cloud computing the phrase -cloud refers to a collection of networks, which, like real clouds, are a collection of water molecules. The user has unlimited access to cloud computing capabilities whenever required. Users generally prefer an intermediary provider rather than setting up their own physical infrastructure for internet service in cloud computing. Users only need to pay for the services they actually use [2]. In cloud computing workload can be shifted to reduce the workload. Since the networks that make up the cloud handle a lot of service traffic, running applications on local computers does not put a lot of strain on them [1]. As a result, the user requirement for hardware and software comes down. To use cloud computing, we only need to have a web

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## WOMEN ENTREPRENEURSHIP: CONCEPT & CHALLENGES FACED BY WOMEN

*Gazal Kundu<sup>1</sup>, Jatinder Kaur<sup>2</sup>, Preeti Sharma<sup>3</sup>*

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*assistant Professor (Commerce)*

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### ABSTRACT

Women performs various roles in their life at the same time. Apart from it, women play a key role in the socio-economic development of the society by giving contribution as a women entrepreneur. Business owned by women are playing a noticeable role in society by generating employment opportunities in the country. Women brings a different outlook to the problems that can magnify the quality of the solution. The term women entrepreneur deals with that section of female population who came out into industrial activities. In the 1900s, the rise of feminism and as the society is stepping forward, women entrepreneur became more influential and widely accepted term. The objective of this paper is to generate awareness and to understand the meaning of what women entrepreneurship is and the challenges faced by Indian women as an entrepreneur.]

Keywords: Women entrepreneurship, factors responsible for women entrepreneurship, challenges faced by women.

### INTRODUCTION OF WOMEN ENTREPRENEURSHIP

When we speak about the harmonious development of our country, we cannot miss out the women

## CHANGING ROLE OF LIBRARIANS IN DIGITAL ERA

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### ABSTRACT

This paper presents the changing role of librarians in the digital era. In today's fast changing environment, we are becoming more and more dependent on internet technologies. We can access internet from anywhere through Wi-Fi, hotspot, modem from everywhere. It's very easy now-a-days. If we talk about library, digitization of library collection, automation, acquisition, circulation, cataloguing, referencing technology, and open-source software have the potential to free up both librarian's time and library space to be devoted to new initiatives. Currently, library professionals are also known as key evolving specialties in modern librarianship: digital librarians, system librarians, repository managers, digital curators, information managers and knowledge managers. The digital librarian plays a new dynamic role to easily accessing of ICT infrastructures and ICT enable services which held digital information including abstracts, indexes, full-text databases, sound and video recording in the digital formats. The various role and responsibilities of a digital librarian have also been discussed in support of high quality academic and research facilities in the digital environment.

Keywords: Librarians, Digital librarians, Library Professionals, Digitization, Digital library services.

### INTRODUCTION

As time is changing we have seen changes in libraries and librarians. In the 21st century

## SPECTROSCOPIC ASPECTS OF HYDROXY SCHIFF BASE COMPOUNDS

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### ABSTRACT:

The review covers the study of chemical shifts and coupling constants in the description of Schiff bases. The o-Hydroxy Schiff bases show tautomerism and this feature make Schiff bases more attracted towards the study of spectral data. The nuclei we are discussing here are <sup>1</sup>H, <sup>13</sup>C and <sup>15</sup>N. In this article, chemical shifts of <sup>1</sup>H, <sup>13</sup>C and <sup>15</sup>N nuclei are studied which have been measured at variable temperatures, in different solvents as well as in the solid state. Although, there is abundant literature on NMR spectroscopy and about the NMR spectrum interpretations of various Schiff bases, this review article focuses on the aspects related to hydroxy Schiff bases.

**Keywords:** Hydroxyl Schiff bases; Benzylidene; NMR; Spectral data.

### INTRODUCTION

Schiff bases are derivatives of aldehydes or ketones and aliphatic or aromatic amines. Among all the Schiff bases, the Schiff bases that are derivatives of aromatic o-hydroxy aldehydes and ketones (known as hydroxy Schiff bases) have greater importance due to their role in intramolecular hydrogen bonding. Nowadays, macrocyclic and chiral Schiff bases are the topics of great interest due to their possible application as catalysts and enantio-catalysts in organic reactions. The main content of this division is the utilization of NMR spectroscopy in studies of hydroxyl Schiff bases. From the first progressive works in 60s up to present NMR spectroscopy has been widely used for exploring structures of accomplished Schiff bases ranging from small

## PHYTOCHEMICAL INVESTIGATION OF LEAVES OF *AMARANTHUS VIRIDIS* PLANT AND ESTIMATION OF PROTEINS AND CARBOHYDRATES OF ITS SEED

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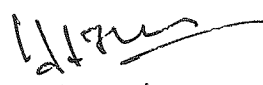
### ABSTRACT

*Amaranthus viridis* (Amaranthaceae) widely spread all over the world, increasing under a wide range of climatic conditions and has been used as a medicinal herb in traditional Ayurvedic medicine as antipyretic agents, also or the treatment of inflammation, ulcer, diabetic, asthma. The aim of the study was designed to evaluate the chemical composition of different fractions found from *A. viridis*. The extract yields of active components, produced using pure and aqueous methanol, from the leaves and seeds. Phytochemistry activity of *Amaranthus viridis* (Green leaf and seed) were undertaken with standard methods. The leaf sample after being screening for phytochemicals, contained tannins, saponins, flavonoids, alkaloids, steroids, phenolic compounds, proteins at different concentration and seed contain excessive number of proteins and carbohydrates along with the secondary metabolites.

**Keywords:** *Amaranthus viridis*; phytochemistry; antipyretic agents; screening.

### INTRODUCTION

*Amaranthus* species, local to the southwest United States of America, are one of the maximum noxious and competitive weed species. Due to agricultural seed and gadget transport, *Amaranthus* species slowly turn out to

  
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## LINEAR PROGRAMMING AND IT'S APPLICATIONS: A REVIEW

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### ABSTRACT

In this paper, we provide an overview of the history, trends and perspectives on linear programming and its applications. Different methods such as simplex method, Big-M method, two phase method, degeneracy, duality etc used to solve linear programming problems are briefly explained. Several applications of linear programming are also presented. We analyse and summarize the studies done on the topic, the recent developments that have taken place and its application in recent years to give an idea about the scope of further research and its future directions.

Keywords: LPP, graphical method, simplex method, Big-M method, two-phase method, degeneracy, duality

### 1. INTRODUCTION

Operations Research (O.R.) is a discipline which provides scientific methods to solve real life problems helping in determining the best utilization of limited resources. It is a study about optimization techniques. In our daily life, we come across many situations of optimization around us. For example, if we want to maximize the profit or minimize the cost then it is called optimization of profit/cost. In O.R., we obtain the optimal solution for decision making problems with the help of optimization techniques. OR is a very powerful method of getting the best out of limited resources. It finds applications in almost every field.

## A REVIEW ON MIGRATORY AVIAN FAUNA OVER WETLANDS

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### ABSTRACT

Wetlands are areas which are usually filled with water permanently or seasonally and also provides and ecosystem for various organisms but are special site for migratory birds. These wetlands provide a breeding, feeding and resting ground for various migratory birds. Migration is movement of animals, birds or humans from one place to another, either permanently or temporarily. Various types of migrations have been studied like latitudinal, longitudinal, loop, altitudinal, diurnal or nocturnal and many others. In India, many areas are famous as the stop over sites of these migratory birds like Bharatpur National Park and others. Recently, two sites from Haryana, Sultanpur National Park and Bhindawas wildlife sanctuary are accredited as Ramsar sites. These wetlands are of immense ecological importance but many human factors are leading to the degradation of these sites. Many conservation and awareness programs need to be made and implemented to safeguard these sites.

### INTRODUCTION

Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil and play an important role in avian survival as they provide breeding, feeding, nesting and resting ground to resident as well as to migratory birds (Stewart 2001). Migration is a seasonal phenomenon of migratory birds by providing them

## TOTAL ENERGY CALCULATION PACKAGES: AN OVERVIEW

*Nalini Sharma*

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### ABSTRACT

The present work consists of a review of theoretical description of ab initio calculations in Condensed Matter Physics. We also discussed various approximations, to solve the many bodies Schrodinger equation. To study the behaviour of interacting electrons Density Functional Theory is the most widely applied ab initio method used for "real materials". Two different codes are discussed CASTEP and SIESTA. SIESTA comes out to be more efficient for study of solid-state materials.

### INTRODUCTION

The development of accurate electronic structure calculations based on density functional theory (DFT) is the best approach for electronic structure calculations is in the handling the many electron calculations. The decomposition of full electronic wave function into single electron functions leads to additional terms in Hamiltonian, namely the exchange term of Hartree-Fock method, and the correlation energy which sweeps up the remaining effect. The difficulty in DFT is that these two terms are not traceable and therefore an approximation is required. The first approximation that we used is local density approximation (LDA), in which it is used assumed that the exchange correlation energies at a point can be represented by the energy of a

## EFFECT OF ANTIOXIDANT ASCORBIC ACID OF AMLA (*EMBLICA OFFICINALIS*) ON CORONA VIRUS

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*Department of Biotechnology, Agra College, Agra*

### ABSTRACT

The progression of the Corona Virus (COVID-19) pandemic caused numerous problems for whole world population. Antioxidant Ascorbic acid or Vitamin C tablets or Amla powder are used worldwide during this pandemic. Prevention and treatment are well known strategies in medicines. Amla is the rich source of Vitamin C, iron, calcium and several other minerals.

Ascorbic acid or Vitamin C is a water-soluble vitamin having anti-inflammatory, immune modulator anti oxidative, antithrombotic and antiviral properties. It is thought to have beneficial effects in patients with COVID-19. Humans require more vitamin C in states of oxidative stress, serious infections and sepsis. Because corona virus infections cause sepsis and acute respiratory distress syndrome, Vitamin C plays an important role to prevent this disease.

Keywords: Vitamin C, Ascorbic acid, Anti-inflammatory, Antioxidative, Antithrombotic, Antiviral

In December 2019, Wuhan, China, experiences a pandemic of acute respiratory distress syndromes; preliminary data suggests this may be related to exposure to regional sea foods in China [1]. The pathogen was identified as severe acute respiratory syndrome corona virus 2 after being isolated from Chinese patients (SARS-COV-2). On March 11, 2020, WHO declares this a global pandemic. COVID-19 mostly affects the lungs, causing respiratory symptoms as fever, coughing, influenza, and dyspnea. More than 100 distinct virus strains, some of which are

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## A NOVEL ALGORITHM FOR INTRUSION DETECTION USING WEB USAGE MINING TECHNIQUE

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### ABSTRACT

Intrusion detection is one of the applications of web usage mining. In this application, we find the intrusive or not useful data through mining techniques, also determine the user behaviour, i.e., new user or existing user, and labelled data according to user requirement and also detect network known and unknown attacks. There are various models of detection of intrusion. Misuse and anomaly detection are types of intrusion. In anomaly detection intrusion is unknown and in misuse detection intrusion is known. There are various techniques that we discuss in this paper.

We proposed a novel algorithm for intrusion detection using mining techniques, which is based on the medoids and means clustering algorithm. We also compared the proposed algorithm with the existing algorithms with high detection rate and low false alarm rate and detect known and unknown attacks.

**Keywords-** Detection Rate (DR), False Alarm Rate (FAR), TP, FP, TN, FN.

### 1. INTRODUCTION

Intrusion means unauthorized access. Intrusion detection identifies computer attacks by observing various records processed on the network.

An intrusion detection system (IDS) may be active or passive. Active IDS helps to block suspected attacks automatically based on predefined existing conditions. This type of IDS involves no detection and prevention

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## FUTURE PROSPECTS OF ECO-FRIENDLY PLASTICS: BIODEGRADABLE AND BIO-BASED POLYMERS

*Reena*

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### ABSTRACT

Plastics are particularly significant materials because of their vast range of applications in areas including food packaging, clothing, shelter, communication, transportation, construction, health care, and the leisure sectors. Most of the plastics that are utilized today come from petrochemical sources. However, in order to create a more sustainable society and address major environmental and waste management issues, there is an increasing demand for eco-friendly plastics, specifically bio-based plastics, which are made from renewable resources, and biodegradable plastics, which degrade in the environment.

As a result, these materials have undergone extensive research, and this essay discusses both their current applications and their potential for the future.

**Keywords:** Sustainable, ecofriendly, Biodegradable

### INTRODUCTION

#### 1. Green Plastics

Biodegradable plastics were initially investigated as potential environmental conservation products. ISO/TC61/SC5/WG22 standardised the term "biodegradable plastics" (ISO 472/DAM3). Accordingly, since biodegradable polymers are environmentally favourable from a biodegradability perspective, it is irrelevant whether non-renewable fossil resources or renewable biomass resources are employed as the raw materials.

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## STATUS OF WOMEN IN ANCIENT INDIA

*Rectu*

*Assistant Professor, DPG Degree College Gurugram, Haryana*

### ABSTRACT

In ancient times, women were regarded with respect and dignity. During this period, female rishis existed and were held in high esteem. In royal households, women were given respect and even played a significant role in decision-making and administrative functions. They were informed in all areas and played an important role in politics as well. While among the economically weaker sections of society, the birth of girls was not appreciated and males were preferred. The main areas that have been considered in this research work include the status of women in ancient India, the status of women in Hindu dharma, the concept of female infanticide and female feticide in ancient India, adverse male to female ratio, ancient women and education and Ancient Women and Politics.

Keywords- Ancient India, Women, Education, condition, Society, Marriage, Family.

### INTRODUCTION

During ancient India, women were revered and contributed significantly to the well-being of the family and society. Women gained a high status in the society and felt satisfying and satisfied. They were given the opportunity to reach high intellectual and spiritual standards. There were many women rishis during this period. The wealthier classes believed in polygamy, but monogamy prevailed. The system of sati and child marriage was not prevalent. In Rig Vedic society, women were worshiped and valued, but in the later Vedic period they

illegible

## A FACILE SYNTHESIS OF NiFe<sub>2</sub>O<sub>4</sub>-ZnO COMPOSITE HOLLOW NANOSPHERES AND ITS USE IN PHOTOCATALYSIS

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### ABSTRACT

We report herein, synthesis of NiFe<sub>2</sub>O<sub>4</sub>-ZnO composite by glucose assisted hydrothermal approach using Fe (NO<sub>3</sub>)<sub>2</sub>·9H<sub>2</sub>O, Ni (NO<sub>3</sub>)<sub>2</sub>·6H<sub>2</sub>O, Zn (CH<sub>3</sub>COO)<sub>2</sub> and glucose as starting materials followed by calcination process. Samples were characterized by X-ray diffraction in which peaks confirm the formation of composite without any extra phase. The utility of NiFe<sub>2</sub>O<sub>4</sub>-ZnO hetrostructure was demonstrated for the photocatalytic degradation of methylene blue under stimulated solar light irradiation. It is further expected that NiFe<sub>2</sub>O<sub>4</sub>-ZnO composite hollow nanospheres have promising application in gas sensors, biomedical, microwave absorption and lithium-ion batteries.

Keywords: Ferrite, Composite Nanosphere, Methylene Blue, Photocatalysis.

### INTRODUCTION

Dyes are widely used in textiles, printing, dyeing, dyestuff manufacturing and food plants, which are major

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## SUSCEPTIBILITY OF ABO BLOOD GROUP TO SARS-COV-2 VIRUS: A LITERATURE REVIEW

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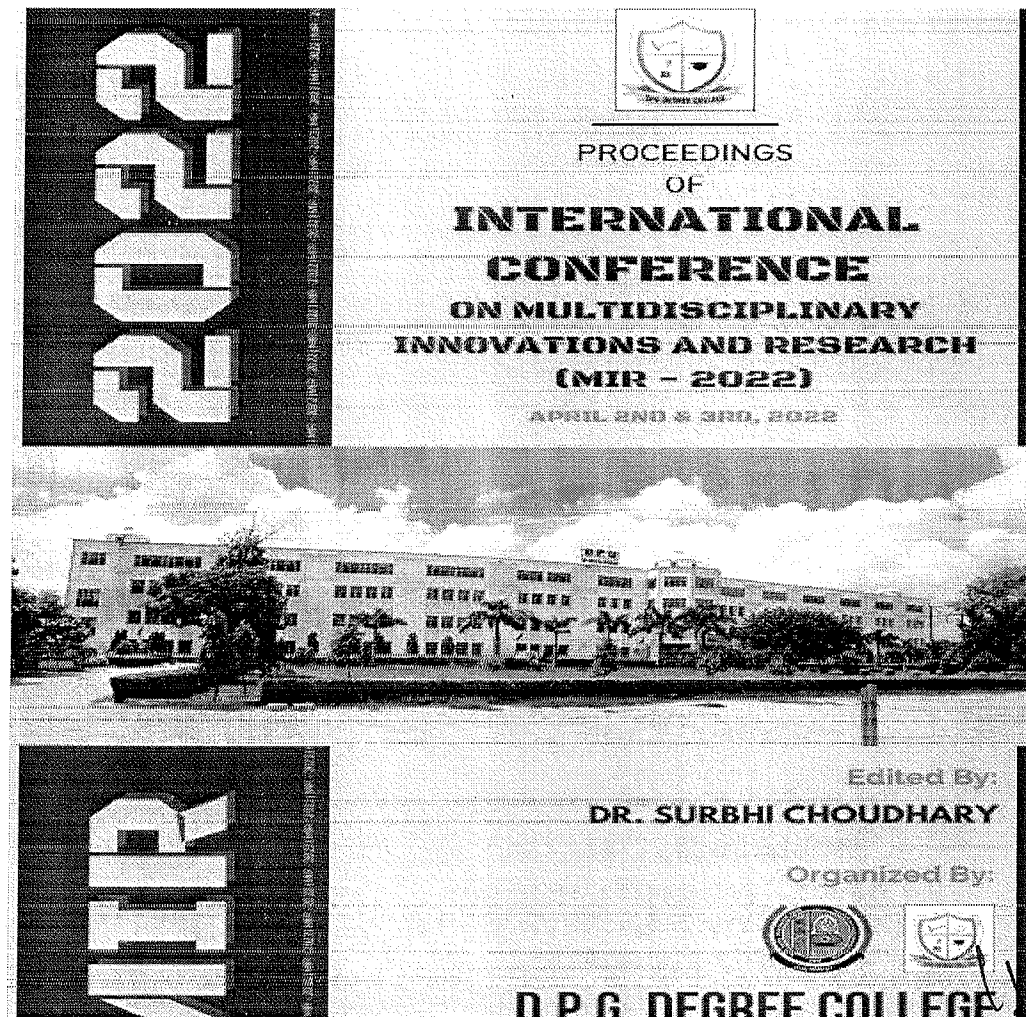
### ABSTRACT

Coronavirus disease 2019 (COVID-19) is a unique respiratory disease that has wreaked devastation around the world. Patients' COVID-19 illness intensity largely depends on shifting symptoms. The disease spreads mostly by airborne droplets and coughing. The degree of infection varies from asymptomatic to mild, with moderate to severe symptoms leading to multiple organ damage and fatality. The severity of an infection is mostly determined by the individual's immune response, age, and other pathological disorders. This literature review aims at finding susceptibility of COVID-19 with ABO Blood Group types. It has been noticed that individuals with Blood Group O are least susceptible to the virus as compared to the individuals with Blood group A. Some possible mechanisms for the association are also mentioned. Out of which, the major ones are interaction between ACE2 receptors of Host cells with S protein of SARS-CoV-2; different isotypes of anti-A and anti-B immunoglobulins and presence of lower vWF in Blood group O as compare to other non-blood group O leading to higher risk of thromboembolic disorders in non-blood group O individuals. These possible mechanisms in future will help us to determine whether or not, this association can be used to develop disease management and preventive methods.

Keywords: SARS-CoV-2; COVID-19; Susceptibility; ABO Blood Group; Blood type; Antibodies;

### 1. INTRODUCTION

In the month of December, 2019, some cases of respiratory illness and pneumonia were reported in the city of China, Wuhan. Later the cause of these cases was confirmed to be the SARS-CoV-2 Virus. The disease caused



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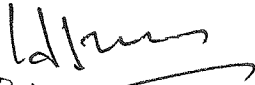
**MULTIDISCIPLINARY  
INNOVATIONS  
AND  
RESEARCH**

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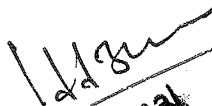
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## PLANTS AS NATURAL ANTIOXIDANTS - A REVIEW

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### ABSTRACT

Plants have developed a wide variety of active substances, includes many plants derived antioxidants present in nature. Plant derived antioxidants are ecofriendly some plants such as ginkgo leaves, cinnamon, savoury, rosemary, mango leaves, sage, clove, green tea, indian gooseberry etc. An antioxidant present in all of these plants is more potent and plays a significant function in food preservation development. This review focuses on the research of ROS and the scavenging mechanism of the antioxidant system in detail. The in-depth investigation of ROS generation and cellular locations. Aerobic metabolism's hazardous consequences of ROS were first identified in the scientific community. It regulates a wide range of activities, including the processes of growth and development. As a secondary messenger, they're involved in a variety of plant processes. They promotes cellular dysfunction and damaged the cells in the form of breakdown some biomolecules and oxidative degradation of proteins, DNA and some pigments. The natural antioxidants especially carotenoids & polyphenols exhibits a wide range of biological effects. ROS generation in plants is concentrated in the chloroplast, mitochondria, and peroxisomal compartments. Role of reactive oxygen species (ROS) in regulating cellular activity is critical in many physiological and developmental processes. ROS signals in Arabidopsis mutant and wound response in cereals such as wheat & corn. The group of natural antioxidants such as vitamins like (A, E, C).

## A REVIEW ON ROLE OF LEPTIN IN THE REGULATION OF ENERGY BALANCE

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### ABSTRACT

Leptin is a peptide and satiety hormone which is a 16-kDa protein of 167 amino acids produced from white adipocytes. Leptin acts as a vital regulator of body weight. The amount of leptin secreted mainly depends on body fat mass and adipocyte size. Leptin level indicates overall fasting or feeding state over many days. A single meal has little effect on leptin levels. By degradation of fat, increasing energy consumption, and thermogenesis promotes emaciation and independent dietary consumption. Leptin relays the signal to the hypothalamus, inhibiting hunger and influencing energy consumption. Leptin hormone is also included in the coordination of the physiological process – of homeostasis. Leptin maintains homeostasis in response to high-fat levels through the following effect- food intake decreases, metabolic rate increases, activity level increases, temperature increases, and inhibition of insulin synthesis and release. Leptin gene expression reduces due to food scarcity (12 to 48 h). Leptin behaves as a negative feedback regulator of corpulence. The effect of leptin is carried out by a neurotransmitter that is neuropeptide Y (NPY).

Keywords: Leptin, Satiety hormone, Thermogenesis, Emaciation, Hypothalamus, Leptin

  
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## REPERCUSSION OF STRESS ON HEART RATE

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### ABSTRACT

*Here, we'll take a look at how stress affects the heart rate. Stress, according to Kenneth Hambley, is a condition in which the sympathetic nervous system overreacts. Stress cannot be measured or assessed at this time since there are no accepted criteria. The purpose of this review is to examine the research that support the use of heart rate variability (HRV) as a physiological stress indicator. It is possible to evaluate psychological stress using HRV, which measures the autonomic nervous system. Physiological and environmental cues may affect the heart's capacity to react to changes in HRV. Stress reported as heart rate variability negatively affects HRV at a rate of 63%. Overall, 60% of the time people experience stress increases their resting heart rate. Chronic stress and loneliness can cause an imbalance in the autonomic nervous system, spending too much time idle or recovering and lowering HRV. In summary, stress causes changes in HRV variables. Low parasympathetic activity was the most often discovered factor affecting HRV values (high frequency band is decreased and low frequency band is increased). There is a relationship between HRV and stress-related cortical areas, as neuroimaging studies have shown. Sympathetic nervous system, stressor, heart rate variability (HRV), autonomic nervous system, chronic stress.*

## EFFECT OF WATER STRESS ON POLLEN DEVELOPMENT AND SEED SET IN FIELD VIGNA MUNGO (L.) HEPPER

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### Abstract

*[Vigna mungo (L.) Hepper], Black Gram (Urd) is an important plant with 24 -28% protein and rich in phosphate. Low rainfall and high temperatures and Plants in many tropical places face a lack of water owing to increased solar radiation caused by less cloud cover. leading to a shortage of black gram worldwide. The effect of production is the result of the response of various bodily processes to the pressure zone. The objectives of this study were to evaluate pollen responses and components of seed yield to water pressure during anthesis in Vigna mungo. The number of pods and the weight of the seeds, both wet and dry, were clearly influenced by water pressure throughout the reproductive stage. Therefore, a small number of pods per plant are also seen in plants that are stressed in the blooming stage while the plants are under controlled conditions. Water stress during fertilization causes shrinking of seeds with incomplete grains. Evaluation of pollen performance and germination capacity are two important aspects of pollen separation. The study was designed to test the pollen level of black gram. Two color experiments of 2,3,5-triphenyl tetrazolium chloride (TTC) and acetocarmine were used to measure pollen performance. The results showed that high pollen efficiency (84%) was obtained by TTC testing in the control area. For some depressed plants it did not pass 50% in these two trials. The highest percentage of germination (72%) in controlled plants*

## SIGMA RECEPTOR - EXAMINING THIRE LIGAND AND POTENTIAL FOR CLINICAL DIAGNOSTICS

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### Abstract

Since they are involved in a wide range of cellular functions, biological processes, and illnesses, including cancer, sigma ( $\sigma$ ) receptors have drawn considerable interest. Sigma-1 ( $\sigma_1$ ) and sigma-2 ( $2\sigma$ ) are the two receptor subtypes. Some research shows that their unique ligands (agonist and antagonist) have anti-proliferative and cytotoxic properties. Both receptors and their ligands' particular mechanisms of action are still unclear and need more investigation. The motivation behind this study was to think about the degrees of articulation of both receptor subtypes in an assortment of human malignant growth cell lines. Moreover, the gem construction of the human sigma 1 receptor and data on the sigma 2 receptor have been created. This study focused toward the effect of sigma receptors in cancer as well as other cell lines and their therapeutic use in the future.

**Keyword:** Signal transduction, Gene expression, Ligands, Cancer, Breast neoplasms, Cell line, Sigma, Diagnosis, Antagonists, Epithelial cells, Malignant.

### Introduction

The sigma receptors have been the subject of much pharmacological research since they were

## CORAL REEF: ECOSYSTEM AND MANAGEMENT

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### ABSTRACT

The term 'Coral' has been used to depict diversification among invertebrates (inverse) from phylum 'Cnidaria' including hard-soft corals, precious and hydro corals, Jellyfish, anemones, Portuguese man of war, and a variety of other gelatinous and stinging marine invertebrates are among the gelatinous and stinging marine invertebrates. Polyps are allocated to each individual of coral. A coral reef ecosystem is a community made of A wide range of animals interact with coral reefs, including a variety of types of coral and mollusks, fish, turtles, and other marine creatures. The world's coral reefs are predicted to cover 284,300 square kilometres. As a consequence of rising CO<sub>2</sub> emissions, the oceans are warming and acidifying, putting coral reefs at risk. The outcomes of environmental change on coral reef creatures, biological systems, and networks are surveyed in this audit, concentrate on the interactions between local anthropogenic stresses and the many components of climate change. In addition, it investigates the current coral reef ecosystem's constraints.

**Keywords:** Climate change, coral reef ecology, marine protected areas, ecosystem-based management etc.

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## YOGA AND MEDICINAL HERBS - AN ANCIENT SOLUTION TO MODERN PANDEMIC

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### ABSTRACT

It has been labelled a global pandemic by the Globe Health Organization because of the alarming number of fatalities, particularly among vulnerable populations, in 209 countries across the world originate from SARS-CoV-2. Practicing yoga asanas and pranayamas may aid those who are unsure of how to increase their immune system and enhance their mental health. A variety of traditional herbal remedies show promising outcomes when administered either alone or in conjunction with mainstream pharmaceuticals to cure diseased people. People with weakened immune systems, mainly elders, children have a far higher mortality risk when exposed to COVID-19. As possible therapeutic agents, medicinal herbs may be able to aid in the battle against this illness and strengthen the immune system. Yoga as 'samarvam yogah uchchayate' is defined in Bhagavad Gita as -highest state of mental equilibrium, pleasure mind that is not influenced by the dualities of existence. The word yoga has diverse translations and it comes from the root "yug" (to join), or "yoke" (to bind together) the goal of which is to achieve harmony in one's physical, mental, and spiritual selves. NHS says on its website that yogic exercises may treat a wide range of health conditions, including obesity, diabetes, disc dislocation, respiratory issues, different forms of arthritis and a variety of spine-

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## EFFECT OF GROWTH HORMONES ON SEED GERMINATION OF ANDROGRAPHIS PANICULATA WALL. EX NEES

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### Abstract

Medicinal vegetation are crucial in the issue in their medicinal properties. Medicinal houses boom their price and intake. but because of their overuse, they arrive to the verge of extinction. *Andrographis paniculata* is one of the crucial medicinal plant lives. This observe was conducted to increase its germination percent. the prevailing investigation become achieved to study the impact of plant increuse hormones viz: Germination of indole-acetic acid (IAA), indole-butyric acid (IBA), naphthalene-acetic acid (NAA), and gibberellic acid (GA3) seeds produces the aforementioned substances. Seeds are treated with a variety of plant growth hormones prior to planting (IAA, IBA, NAA, and GA3) at precise concentrations (5ppm, 10ppm, 20ppm, 40 ppm, 60ppm, 80 ppm, 100 ppm). Germination remember become taken day by day and seedlings had been later transferred to an open nursery. The parameters measured had been subjected to assessment of variance (ANOVA). The chemical impact changed into studied on seeds.

Keywords: Plant boom Hormones, medicinal residences, germination percentage, exploitation, etc.

  
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## A REVIEW ON COMMON HEALTH PROBLEM: IRON DEFICIENCY ANAEMIA

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### ABSTRACT

*Iron deficiency anemia being a global health condition affects a large number of people of various age groups. Billions of people are fighting with IDA globally with women and growing children being the ones at greater risk than others. From being asymptomatic to suffer exhaustion, heart palpitations, headache, dizziness, brittle nails, chest pains, etc. it varies from person to person. Pica is also noticed in IDA patients often. Poor diet and blood loss being the major causes, IDA is simply an iron deficiency in the body leading to decreased hemoglobin level thus causing anemia. Choosing iron-rich food and vitamin C can help prevent IDA, also we can avoid certain foods like tea and coffee as they affect the body's iron absorption negatively. Delayed growth in children and premature labor are some of the complications associated with iron deficiency anemia. Proper diagnosis and treatment as soon as possible should be performed, if left untreated for a long time it may lead to other serious complications in the future. Initial diagnosis of IDA includes a physical examination and a complete blood test, after that, some other tests like the Reticulocyte count test and peripheral smear tests can be conducted to find the root cause. Treatment varies depending on the severity of the IDA, it can range from oral supplement recommendations to intravenous iron therapy. Some cases*

## VERMICOMPOSTING: AN ECO-TECHNIQUE FOR ORGANIC WASTE MANAGEMENT


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### ABSTRACT

*With increasing population, civilization, agriculture and urbanization, there is a constant boost in the generation of solid waste on the Earth. Since the beginning of the creation of these solid waste numerous techniques and methods had come into action. This waste is heterogeneous so one technique is not completely suitable for its management. But among these solid wastes, organic waste particularly can be used for certain feedstock for various biological processes such as composting and vermicomposting and in return, they produce value-added products. Among these processes, vermicomposting has been stated as the most practicable and fruitful technique for Organic waste management. This review paper summarizes the General information about vermicomposting as an eco-technique for organic waste management. To turn organic waste into humus, worms are used in the vermicomposting process. Organisms such as Eiseniafetida (red wigglers) are the main characters in vermicomposting. Moisture pH temperature feeding stocking density CN ratio a ration. Ammonia and salt content are some of the factors that influence vermicomposting. Furthermore, the value-added products that are formed at the end of the vermicomposting can be used for soil enrichment. These end products are usually referred to as vermicompost and contain water-soluble nutrients that enrich the*

  
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## ROLE OF COVISHIELD VACCINE IN COVID-19

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### ABSTRACT

The novel coronavirus is a pandemic. The novel coronavirus is a new strain of coronaviruses and it spread rapidly. This pandemic changes the health care system throughout the world. It is a respiratory infection. The novel coronavirus is also called severe acute respiratory syndrome 2 because the genome of the novel coronavirus is similar to SARS-CoV. The contamination of coronavirus is started in Wuhan, China. The novel coronavirus is originated by the bat and it is transmitted from human to humans. Many people lost their lives due to this pandemic. According to WHO the coronavirus is spread by droplets of an infected person and by others. This infection is mild in some people and in some cases, the mild form of coronavirus is converted to a moderate form with symptoms include cough, fever, breathlessness, pneumonia, etc. This pandemic changes the health care system throughout the world. In India, COVISHIELD vaccine are manufactured against SARS-CoV-2. COVISHIELD is developed by Oxford Astra Zeneca or manufactured by the Serum Institute of India (SII). This vaccine is intramuscular and administrated in two doses.

Keywords: COVID-19, COVISHIELD, SARS-CoV-2, SII, WHO, etc.

### 1. INTRODUCTION

## INTERACTIVE EFFECTS OF THE HEAVY METAL UPTAKE BY PLANTS THROUGH PHYTOREMEDIATION

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### ABSTRACT

The most important defilement in the environment are the heavy metals. Nowadays, many well developed techniques are available for removal of these contaminants but they are very costly and difficult to approach. The technological method used to take out the inactive pollutants and metals from polluted soil and water is phytoremediation. The aim of this article is to assemble data about some heavy metals (As, Pb and Hg), sources, effects and their treatment.

Keywords: heavy metals, phytoremediation.

### 1. INTRODUCTION

During the past decades a good deal of heavy metals in the environment has increased due to upgrowth of industrialization and urbanization [1]. There are a number of common heavy metals, such as arsenic (As) and mercury (Hg) (Hg). These are arise hfrom either phylogenesis source such as phosphate fertilizers in agriculture and water generated [2] and burning of fossil fuels [3]. Many essential heavy metals such as copper(Cu), iron(Fe), manganese (Mn), nickel (Ni), zinc(Zn) are necessary for the physiological and biochemical processes during the growth of plant [4]. Unnecessary heavy metals similar as arsemic (As), lead(Pb), mercury

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## SODIUM PUMP: ROLE IN BIOLOGICAL SYSTEM

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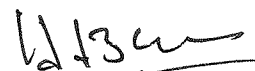
### ABSTRACT

The sodium pump or  $\text{Na}^+ / \text{K}^+$  pump or  $\text{Na}^+ / \text{K}^+ \text{-ATPase}$  (Sodium / Potassium Adenosine Triphosphatase) carry the active transport of  $\text{Na}^+$  and  $\text{K}^+$  into the cell membrane and are found in almost all eukaryotic cells. This membrane binding enzyme,  $\text{Na}^+ / \text{K}^+ \text{ATPase}$  stores  $\text{Na}^+$  and  $\text{K}^+$  gradients throughout the cell membranes in animal cells. Because of its importance in animal cells, it has been studied for some years and we have found that that gradient enables some of the most important cellular functions. The goal of this article is to provide an overview of the landmark sodium pump research. Covered topics include sodium pump functions such as controlling cell volume, regulating neural functions, fluid strength and pH homeostasis, etc.

**Keywords:** Nerve impulses, Afterhyperpolarization (AHP), Digitalis activated signal, EGFR / Src, P13Ks (P13K1A, P13K1B).

### INTRODUCTION

For his 1957 discovery of sodium-potassium, Jens Christian Skou was awarded the Nobel Prize in 1997. It helped us to understand the transport of ions inside and outside the cell, which was an important step. It contains interesting cells that are as important as the nerve cells. Sodium



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## NANOMEDICINE: BASED ON NATURAL PRODUCTS

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### Abstract

Nanomedicine is the software program of nano era, this is especially withinside the development of new drug substances and product. Nanomedicine consists of the advent and use of materials and devices on the volume of molecules and atom particles. Nowadays more hobby is paid to the era of drug transport nanoscale material. A giant variety of vitro & vivo had long-established the protection of nanomedicine founded totally mostly on natural products of numerous diseases. In this review, we concise the accomplishments of nanomaterial in enlightening natural products.

**Keywords:** nano era, nanomedicine, nanomaterials

### Introduction

Lead compound is found to address several human ailment, natural products from living and non-living things. Most natural products show robust herbal activity, pinnacle supply and removal trends which is probably more alike to drug complex with synthetic complexes. For multifactorial and multifaceted diseases, first-rate natural products motive sort of signal transduction paths to address diseases through manner of manner of regulating a couple of target, which has more recovery functionality than pills geared in the direction of a solo position

## LIGNOCELLULOSE RELATED WASTE VALORIZATION: AN EVALUATIVE REVIEW

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### ABSTRACT

Lignocellulose waste management necessitate economic, environmental and social costs that may increase within the future, as it causes greenhouse emissions, organic waste disposal. Several methods are studied to exchange authorized landfill with environment friendly processes supported the actual fact that lignocellulose related waste can be converted into high-value-added products, and be a source of energy and chemicals. These include recycling as a by-product by incorporating it into materials as a biocomposite, cement, adsorbent or absorbent. It also can be recycled for land applications in agriculture, also used for energetic valorization by combustion, anaerobic digestion, pyrolysis, bioethanol, biomethane, hydrogen production or direct liquefaction. Hydrolysis to get glucose and other high-value-added products, and synthesis of biopolymers, biocomposites, nanofibers and nanoparticles from cellulose based waste, are other methods which will also be taken into account in this short evaluative review, presenting all possibilities, taking into consideration the initial treatments that are required in order to take benefit of cellulose related waste.

**Keywords:** Lignocellulose waste, Recycling, Energetic valorization, Biomaterial, Biomass

  
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## CHRONIC ASTHMA: TYPES, DIAGNOSIS AND TREATMENT

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### ABSTRACT

*An asthma attack is a long-term, often debilitating condition of the lungs that is caused by a variety of different conditions in the lower airways. People of all ages are affected by this significant worldwide health issue. Wheezing, shortness of breath, chest tightness, and coughing are all symptoms of asthmatic airways swelling and narrowing. Asthma attacks cause the mucus membranes of the airways to expand, making it difficult to breathe. Consequently, this lowers the quantity of air that can move through the airways. By suitable pharmacological inventions and protective measures, the control can be achieved in most patients. In addition to asthma treatment, other therapies that Target immunoglobulin-E or interleukin-5 are developed.*

*Keywords: Chronic; Heterogenous; Pharmacological; Immunoglobulin E; Interleukin -5.*

### 1. INTRODUCTION:

Asthma is most popular chronic respiratory ailment in Canada, touching approximately 10% populaion[1]. Asthmatic patients are those who have this long-term (chronic) illness. A patient's airways are enlarged or inflamed on the inside. An increase in the tolerance for an allergic response is a result of this swelling, which renders the airways very sensitive to

## RADIOPHARMACEUTICALS: THE STUDY OF CURRENT APPROACHES

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### ABSTRACT

*Radiopharmaceuticals are unique medicinal formulations that are used in diagnosis and therapy as part of nuclear medicine. Even after its widespread use in diagnostics, developing optimal radiopharmaceuticals remains a problem. Using new technology in the disciplines of biology and chemistry, several solutions to solve this difficulty have emerged throughout time. The usage of a few methodologies for radiopharmaceutical design and synthesis is discussed in this study. Improved selectivity and sensitivity may be achieved by lipidization, which is explained.*

*Keywords: radiopharmaceuticals, multivalent ligands, surface modification.*

### INTRODUCTION

For more than half a century, radiopharmaceuticals have been employed in important therapeutic fields for diagnosis and therapy. They're commonly employed in neurodegenerative disease imaging, cardiac imaging and diagnostics, and cancer therapy. The creation of an optimal radiopharmaceutical remains a key issue on the nuclear medicine research horizon due to its vast use. The development of lieands with high specific activity that can overcome

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## DESALINATION OF SEA WATER

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### ABSTRACT

Water covers 71 of the Earth's face, with main lands and islets counting for the remaining 29. Swab water makes up 96.5 percent of the total amount of water on Earth; brackish lakes and frozen water in glaciers and polar ice caps make up the remaining 3 percent. Freshwater is nearly entirely firm. Groundwater, gutters, lakes, and aqueducts together make up little over 10.6 million km<sup>3</sup> of freshwater. The finite and precious character of freshwater is made veritably apparent by this data analysis. The main disadvantage of saltwater is its extremely high saltiness, which makes it infelicitous for drinking and limits its operation in diurnal life. Pollution is a result of urbanization, overpopulation and subterranean water cofferers are being overexploited as a result of industrialization and mortal mercenariness. As a result, we must apply ways to desalinate ocean water in order to fulfil our unborn demands. This study offers an overview of several ocean water desalination technologies.

*Keywords: Water; Seawater; Methods of Desalination*

### INTRODUCTION

Life is water. The lack of water on numerous globes makes life insolvable. Water makes about 34 of the earth's face, giving it its blue tinge. The tinge is due to water's entire internal reflection. Freshwater shortages affect one-third of the world's population, according to the United



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## THE FUTURE OF ARTIFICIAL ORGAN TRANSPLANTS

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### ABSTRACT

*Artificial organs is a human made organ that is used to replace the function of a defected organ in the human body. Nowadays, it has become a widely used option in medical field. But still now, not all the organs are constructed that is to be replaceable – few are too complex. Scientists are locating newer, less expensive and more secure pathways to create synthetic organs – that is the pathway that might reduce the wait for organ transplant and rework the surgical treatment as we already knew it. In 1982- Jarvik-7, the primary functioning synthetic coronary heart to be successfully implanted in human. After that many organs are successfully created with a good efficiency.*

*Keywords: Synthetic organs; Bioprinting; Three-dimensional; Transplant.*

### 1. INTRODUCTION

Approx 40 years of research on various types of organs, artificial organs once considered to be not possible however it has currently became realities. Scientists have been successfully created artificial hearts, livers, lungs, urethrae and a lot of these organs in the laboratory. Although technology need to triumph over many limitations earlier than those synthetic organs enter ordinary hospitals. Science has conjointly created it attainable to provide artificial organ's

## USE OF GREEN SOLVENTS FOR GREENER FUTURE

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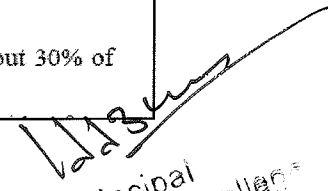
### ABSTRACT

*Generally, most of the industrial processes, harmful organic solvents and petrochemical solvents (that are highly volatile, flammable, non-biodegradable and toxic in nature) are used for various reaction processes. These can have many harmful effects on living organisms and on the environment too. For overcoming and reducing the harmful effects of such conventional organic solvents, many researches have been done and some safer and environmental-friendly solvents are developed called green solvents. Use of these green solvents have also been included in the principle of green chemistry. Green solvents are generally derived from the processing of agricultural crops. Some parts of the class of green solvents are ionic liquids, water, supercritical fluids and non-toxic liquid polymers. Through this review paper, it is aimed to provide some useful information regarding the utilization of green solvents in analytical chemistry.*

*Keywords: Green chemistry, green solvents, Ionic liquids, subcritical water, ecosystem, subcritical carbon-dioxide, non-toxic liquid polymers.*

### INTRODUCTION

In industrial processes, almost 60% of industrial harmful gases emission and about 30% of volatile organic compound emission worldwide is due to solvents.

  
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## STRUCTURAL ASPECTS OF HYDROXY SCHIFF BASE COMPOUNDS AND THEIR NMR STUDIES

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### ABSTRACT

The review covers the study of chemical shifts and coupling constants in the description of Schiff bases. The o-Hydroxy Schiff bases show tautomerism and this feature make Schiff bases more attracted towards the study of spectral data. The nuclei we are discussing here are  $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{15}\text{N}$ . In this article, chemical shifts of  $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{15}\text{N}$  nuclei are studied which have been measured at variable temperatures, in different solvents as well as in the solid state. Although, there is abundant literature on NMR spectroscopy and about the NMR spectrum interpretations of various Schiff bases, this review article focuses on the aspects related to hydroxy Schiff bases.

**KEYWORDS:** Hydroxyl Schiff bases; Benzylidene; NMR; Spectral data etc.

### INTRODUCTION

Schiff bases are derivatives of aldehydes or ketones and aliphatic or aromatic amines. Among all the Schiff bases, the Schiff bases that are derivatives of aromatic o-hydroxy aldehydes and ketones (known as hydroxy Schiff bases) have greater importance due to their role in intramolecular hydrogen bonding. Nowadays, macrocyclic and chiral Schiff bases are the

## ISOLATION OF SIDEROPHORES AND THEIR BIO-CONTROL POTENTIAL

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### ABSTRACT

Siderophores are low molecular masses organic materials and they are produce by Bio micro-organisms and plant at low iron condition. The main function of the siderophores are the chelate Fe (iii) by land and water habitat to make it suitable for organisms and plant cells, Currently, they are receiving greater attention as a result of their wide range of applications in the EVS research domain. Since siderophores may connect a wider variety of metal types than iron complexes alone, they're particularly effective in those kinds of situations. Their chemical bonds and structures are diverse, and each has unique features. The purpose of this review is to analyse siderophores in various environmental contexts and their roles within.

**Keywords:** Bio-green micro-organisms, Aquatic habitats, Bio-controls, Bio-sensors, Bio-remediation, Terrestrial areas.

### INTRODUCTION

Siderophores are important element for the growth of various human living micro-organisms; it would work like catalyst in enzymatic reactions i.e. Fe, metabolism, electron transfer, also RNA and DNA re-productivity. Fe element is also important for biofilm because iron controls

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## IMPOSITION OF GREEN CHEMISTRY IN PHARMACEUTICAL INDUSTRY

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### ABSTRACT

The concept of Green Chemistry has been around since the early 1990s, but the concept itself is not fully understood and used in modern chemistry. However, Modern chemists and pharmacists strive to reduce the environmental burden by embracing the principles of green chemistry. Although it is difficult to timeline the introduction of this concept in the chemical industries, scientists, pharmacists and environmentalists are constantly forwarding the 'Green Chemistry' agenda at the industrial level for the better. The pharmaceutical roundtable hosted by ACS and GCI in 2005 promotes a greener approach in the pharmaceutical industry to reduce the negative impact on the environment caused by chemical-based industries, particularly Pharmaceutical Industries. As a result, green chemistry technologies like C-H activation, flow chemistry, biocatalysis, novel catalytic transformations, base metal catalysis, and solvent substitution have been thoroughly researched and used in industries. Pharmacists advocate that green chemistry is not only sustainable but also boosts the economy in the chemical industries. But the implementation of industrial green chemistry is still insufficient due to various factors. Pharmaceutical green chemistry is focused on finding the important research areas for raw chemical research green in the pharmaceutical industries. In addition, it is collaborative efforts of green engineering and green chemistry to carry the environmental

## BIO-POLYMERS: FOR CLEAN AND GREEN FUTURE

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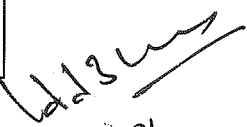
### ABSTRACT

The environmental impact of residual plastic waste has sparked widespread world-wide outrage, with four, restriction on disposal. An ever-increasing general interest in this issue is fueling interest in recovery studies for biodegradable natural polymers. Biopolymers (polysaccharides) have a variety of applications in medicine, tissue engineering, drug delivery, the food industry, and the petroleum industry. Microorganisms can produce and release large amounts of polysaccharides in simple but costly production conditions. Many microbially produced polysaccharides have been obtained through sale or have commercial potential. The modern biotechnology has fundamentally changed the way scientists view organisms and the materials they produce. A major drawback limiting the development of these polysaccharides is the lack of a systematic process for their derivation and polishing. However, new applications in cultivation, nutrition, replacement and restoration may draw attention to research findings in the near future. Therefore, this review focuses on the various beneficial polysaccharides isolated from microorganisms and their applications in other areas.

Keywords: biopolymers; plastic waste; polysaccharides; biological activity.

### 1. INTRODUCTION

Synthetic polymers are produced in factories throughout the globe every year in quantities

  
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## SPECTROSCOPIC STUDIES OF RADIOACTIVE DECAY IN SOME UNCOMMON ISOTOPES

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### ABSTRACT

This article overviews the radioactive decay of rare isotopes. The study of exotic nuclei is an important topic in nuclear chemistry. Thus, the study of both proton-rich and neutron-rich species is actually a great research territory on the chart of nuclides. These studies give us knowledge regarding microscopic and macroscopic nucleon – nucleon correlation and charge in nuclear shapes. Radioactive decay results from the interaction between different nuclides. Examples of such interactions are neutron – neutron interaction, proton – proton interaction and neutron-proton interactions. Thus, the unbalanced ration of neutron to proton in a nuclear is responsible for such radioactive decay. The study of exotic nuclei also enables us to have a better insight of the development of new theories of nuclear structure. Radioactive decay of rare isotopes is actually a topic of immense significance in nuclear chemistry. The stability of a nuclear can also be governed through these studies. Various nuclear reactions are based on the stability of such radioactive nuclei and hence their reactions in a better way.

**Keywords:** Radioactivity; Neutron; Proton; Nuclear Chemistry

### 1. INTRODUCTION

The discovery of radioactivity is considered a revolution in nuclear chemistry. It took place around the end of the 19<sup>th</sup> century. It occurred with uronium by becquerel [1] and with thorium

## PSEUDOPOTENTIALS: FROM MODEL TO AB-INITIO

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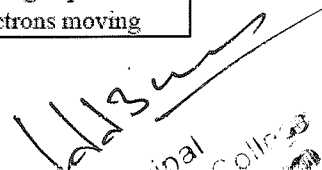
### ABSTRACT

*Pseudopotentials plays important role in all electronic properties' calculations. Model pseudopotentials are based on certain physical mechanisms, while parameters entering into analytical expressions are treated as fitting parameters. While ab-initio pseudopotentials are more accurate and transferable. In paper, we discuss model and ab-initio pseudopotentials.*

**Keywords:** Born-Oppenheimer approximation, Dft, the Kohn sham scheme, pseudopotential

### INTRODUCTION

In order to use DFT for practical calculation on real systems, Kohn-Sham equations is to be solved numerically with a computer. And the solution of Kohn-Sham equations completely depends on treatment of electron-nuclear treatment. But there are two classes of electrons: valence electrons and core electrons which can be treated as frozen electrons. An imaginary potential, operating on the balancing electrons, replaces the impact of core electrons and the potential of the naked nuclear charge. This is the basis of pseudo potential. Thus, the basic idea of it i.e. pseudo potential is the substitution of one problem with other. By eliminating the core electron from the equation and decreasing the number of Kohn Sham orbitals, the computation cost is lowered. This we only treat balance electrons in our calculation by using a pseudo potential. The pseudo potential module describes a solid as a see off balance electrons moving

  
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## TITANIUM DIOXIDE NANOPARTICLES: GREEN SYNTHESIS FOR ELECTRONIC DEVICE APPLICATIONS

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### Abstract

In this study, a green approach is adopted for the synthesis of Titanium dioxide nanoparticles ( $TiO_2$  NPs). Green synthesis methods having many advantages cost effective, eco-friendly, sustainable, reliable, and facile over other conventional methods. Tulsi (*Ocimum tenuiflorum*) leaf extract has been taken as the precursor for preparation of  $TiO_2$  NPs. Different characterization techniques such as scanning Electron Microscope (SEM), has been utilized for confirmation of  $TiO_2$  NP. The size and morphology of  $TiO_2$  NPs has been examined by SEM. For electronic device application field emission properties of  $TiO_2$  NPs has been carried out in diode configuration. Field emission parameters turn on field, current density and field enhancement factor have been studied and analyzed for next generation field emitters.

**Keywords:** Titanium Dioxide, Nanoparticles, Green Synthesis, Field emitters, turn on field, current density.

### 1. INTRODUCTION

Nanotechnology opens the door for researchers and technologists in materials science. As its Nanotechnology opens the door for researchers and technologists in materials science

## A NEW APPROACH FOR OPTIMALITY IN TRANSPORTATION PROBLEMS

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### ABSTRACT

Transportation problems are the exceptional arrangement of linear programming problems with extensive applications in operation research. In this paper, we proposed a new approach to solve a Transportation problem and a comparative study has been conducted to obtain the optimum solution with different existing methods. Numerical illustration is also produced to validate the proposed method.

**Keywords:** Transportation problem, Optimum solution, Basic feasible Solution.

### INTRODUCTION

The Transportation problem is a meticulous class of linear programming that is associated with day-to-day activities in our real life. Transportation models accept a critical part in techniques and supply chains. Such Transportation problems, plan to limit the transportation cost (ITC) of movement of things from certain sources to destinations. This paper presents a mathematical outline for generating algorithms for fixing Transportation problems to limit the whole transportation cost (TTC). The Transportation problems are used for finding an optimal distribution plan for supplying a single commodity from different sources to several destinations. The complication is to locate the most effective distribution plan for transporting

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## A STUDY OF APPLICATIONS OF RIEMANN - STIELTJES INTEGRAL IN VARIOUS FIELDS: AN OVERVIEW

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### Abstract

When it comes to the Riemann integral, there is a Riemann–Stieltjes integral, which is a generalisation. In this publication, a review is given, to the theory of Riemann–Stieltjes integration and worked on applications of Riemann–Stieltjes integration in research. As a result, we may prove the Riesz Representation Theorem by showing how the fact that continuous functions on a closed interval are Riemann–Stieltjes Integrable with respect to any function with limited variation can be exploited. To demonstrate the Riemann–Stieltjes Integral's adaptability, we will discuss applications in Probability Theory, where the integral gives a formula for the Expectation, independent of the distribution of the data. Other applications covered are population growth, Mechanics, Mathematical Finance, Ordinary differential; Equations etc.

**Keywords:** Riemann integral, Riemann–Stieltjes integral, bounded variation, Mechanics, Mathematical Finance

### Introduction

Bernhard Riemann and Thomas Joannes Stieltjes are the names of the Riemann–Stieltjes

## APPLICATIONS OF MATRIX THEORY IN DECISION SCIENCES

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### ABSTRACT

Matrix theory fulfills a cardinal capacity in Mathematics and solving mathematical problems. Swotting the theory of matrix can help researchers and academicians to unravel numerous glitches in Optimization, Engineering, Economics, Econometrics, Finance, Decision Sciences, and many other areas. In this paper, a transitory depiction of some mathematical, financial, economic, and statistical models along with extensive applications of matrix theory in Decision Sciences have been discussed.

**Keywords:** Matrix, Decision Sciences, Optimization, Statistical Models.

### Introduction

The matrix hypothesis assumes a vital part in showing Mathematics and tackling numerical issues. Concentrating on the hypothesis of the grid can help scholastics, experts, and understudies taking care of numerous issues in Engineering, Econometrics, Finance, Economics, Optimization, Decision Sciences, and numerous different regions. Subsequently, numerous researchers have been concentrating on the hypothesis of grid hypothesis with its application. The framework hypothesis is valuable in various fields. For instance, it has been applied in a wide range of areas of material science like old-style mechanics, optics, and quantum mechanics. Grids have additionally been used in concentrating on numerous actual

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## APPLICATIONS OF SYLOW'S THEOREMS: A REVIEW

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### ABSTRACT

*Sylow's theorems have a major impact on the principle of finite groups. Using the Sylow  $p$ -subgroups of each group and a few data on their features, we may derive a partial converse of Lagrange's theorem. The present paper focuses on the three Sylow theorems and their eclectic assortment of applications in classifying finite groups in algebra.*

*Keywords: Groups, finite group, cyclic group, normal subgroup, simple group,  $p$  group  $p$  Sylow subgroup.*

### INTRODUCTION

The improvement of finite group principle has 4 predominant roots: the principle of algebraic equations, variety principle, geometrical principle, and analysis. The finite group theory is explained by these four ideas. The credit score for the restrained bunch speculation is goes to following: Lagrange, Poincare, Klein, Lie, Galois and Gauss. In 1770, Joseph Louis Lagrange composed a paper, that is presently referred to as the essential of organization principle. His paintings become additionally explored with the aid of using Vondermont in 1770. Ruffini also attempted to demonstrate the difficulty of dealing with quintic and better-order abilities in 1799, laying the notion of unpolished groupings in his following cycle. His work was further investigated by Everiste Galois and he discovered the permutations of better-order capacities.

## COMPARATIVE ANALYSIS OF BREAST CANCER DETECTION USING MACHINE LEARNING CLASSIFIERS – A REVIEW

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### ABSTRACT

*Breast Cancer is one of the most fatal diseases of modern days and it came of thousands of deaths in women every year. Although it is a female disease however few causes are also prevalent in men. In women, the likely reasons for this disease are obesity, alcohol consumption, smoking; family history and genetics, radiation exposure, etc. This is mainly due to the abnormal growth of cells in the breast and they multiply. However, by early detection, breast cancer can be easily cured. Various Machine learning techniques provide early detection of this disease with greater accuracy. The main aim of this paper is to present a comparison of different techniques used for breast cancer prediction, such as Support Vector,  $K$  NN, Logistic regression, Naïve Bayes, Decision Tree, Random Forest Classifier, XG Boost Classifier applied on Wisconsin Diagnosis Breast cancer data set was used as a training set to compare the performance of different machine learning techniques in terms of Key parameters such as accuracy and precision. The results received from the XG Boost classifier give (98.24%) accuracy and could be used for early detection.*

*Keywords: Machine learning, Classification, Breast cancer Wisconsin.*

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## LOGISTIC REGRESSION BASED MODELLING WITH GENETIC ALGORITHM

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### ABSTRACT

Charles Darwin's notion of natural selection and evolution is the inspiration for the explanatory search known as a Genetic Algorithm. Using this procedure, the strongest individuals are chosen to be copied and used to produce children for the next generation. These algorithms are widely used to provide optimal solutions to the search problems which are formulated using biologically operators like crossover, selection and mutation, without the using mathematical processes such as continuity, differentiability, convexity, etc. In the present paper, we proposed a multivariate Logistic Regression approach towards GA's (LRGA) using information measure of complexity (ICOMP), as a measure of model quality. We also compare the result obtained with our previously proposed estimator, Multivariate linear regression with GA.

**Keywords:** Genetic algorithms; Logistic Regression; Linear Regression; Multivariate Functions; ICOMP.

**INTRODUCTION:** Hereditary calculations or Genetic algorithms (GA) broadly use the

## A STUDY OF LAPLACE TRANSFORM AND ITS APPLICATIONS

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### ABSTRACT

Laplace change (LT) changes over direct differential or fundamental conditions into arithmetical conditions and convolution into duplication without any sweat. It changes over the capacity  $f(t)$  from its time area to Frequency space  $F(s)$ . The extensive option of application makes Laplace Transform a substantial tool in Mathematics, Science, and Engineering. In the current paper, we present the theory of Laplace transformation, its properties, and applications. This study allows us to advocate the use of Laplace Transforms (LT) in various research problems.

**Keywords:** Laplace Transform; Differential equation; Convolution; Frequency domain; Time domain.

### INTRODUCTION

Transforms in mathematics are utilized to make an equation simpler by changing the variables from one form to other. Laplace transform transforms higher-order differential equations into

  
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## MAIN FEATURES OF THE SAMUDERGUPTA COINS

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### ABSTRACT

Coins have played a crucial role throughout history. They support the findings of previous research. They come in a variety of metals, including gold, silver, copper, and alloy, and some have inscriptions, while others are just punched. Reconstructing ancient Indian history is made possible in large part because to the coinage. A portion of the archaeological record. In terms of Indian chronology, the dates on these coins are likely quite valuable. Coins are essentially our only proof that the Indo Scythian, Indo Bactrian, and Kushana kings ever existed. Ancient Indian texts were deciphered by the use of bilingual coins called Rosetta Stones. The Gupta Empire's economic situation is reflected in the metal's purity. The area governed by the rulers is shown on the coins' inscriptions. Some coins provide information on historical figures' lives and accomplishments. Ancient Indian kingdoms and their borders may be more precisely determined by finding similar coins in a variety of locations.

*Keywords:* Types, Punch marked coins, Sannudragupta, Gupta empire, Ancient India, Metals.

### INTRODUCTION

Throughout India's lengthy history, the Gupta Empire (c. 319–550 CE) is regarded as a time of great cultural achievement. The Gupta dynasty created a flood of exquisite gold Dinaras - coins

## A COMPARATIVE STUDY OF THE ATTITUDE OF PHYSICAL EDUCATION STUDENTS TOWARDS COMPUTER IN RELATION TO THEIR SOCIO-ECONOMIC STATUS

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### ABSTRACT

Physical fitness is the first prerequisite for the survival, growth, and advancement of human beings. Therefore, it needs to impart knowledge about physical education among students for their physical fitness. This fact has also been recognised by the Government and hence this subject is included in the school curriculum upto secondary classes as an optional subject by CBSE New Delhi as well as several state Boards. Present study is an attempt to measure the attitude of 12th class students (affiliated to CBSE located in Bahadurgarh) towards the physical education in relation to certain independent variables via socio economic status. Socioeconomic status scale questionnaire by Dr Bhardwaj et al. was used to assess the social and economic background of the student's family, that is material possession of the family, the role of members in the community, their education etc. The main aim to use this scale is for equating the student of different status.

*Keywords:* Socio-Economic status; Physical fitness; Computer; Physical Education; Attitude towards Computer.

  
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## **A STUDY ON IMPACT OF BLOCKCHAIN ON HEALTHCARE INDUSTRY**

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### **Abstract**

*A blockchain is a new innovation in the field of science & technology and with the help of this pharma research from a time-consuming, labor-intensive process to a data-driven one that is more efficient. Block chain is data base management system where data stored electronically in digital format. We can use blockchain to store patient data digitally and provide the control, ownership and access of data to the data owners i.e This move would have a significant impact on how firms access and utilise patient data, whether or not it is identifiable or not. A Blockchain collects information together in groups, Information is stored in what are referred to as "Blocks," which are hierarchical groupings. When a block reaches its storage capacity, it closes. It is this chain of data that is known as the block-chain, and new blocks are connected to the preceding blocks. Once a block is full, any further information is connected to the previous block and a new one is created. As its name suggests, a block chain database management system organises its data in blocks, which are then linked together in a chain. Using this new data format in a distributed and decentralised manner creates a time-stamped,*

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## THE ECONOMIC IMPACT OF THE 2022 RUSSIAN INVASION OF UKRAINE

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### Abstract

*The impact of Russian invasion of Ukraine will be not only on Ukraine's economy but on Russia itself also. Even its impact will be seen on whole world's economy. It was 24<sup>th</sup> Feb when Indian stock market was dip by highest margin after covid-19 pandemic. Whole world's economy was already in its patch-up stage due to covid-19 pandemic where it has another shocked by Russian invasion of Ukraine. In Today's time, whatever Russia had ready stock from military point of view to take over Ukraine but it cost huge approx million trillion dollars. Addition to this, imposing of sanctions by world top countries on Russia will leave other shortfalls for them. Even though Ukraine isn't a large trade partner for any major economy, Russia's main import partners include China as well as the US, Germany, France, and Italy. Among the goods supplied by the Ukrainian and Russian economies is titanium, palladium, wheat and maize. More than 90% of raw material to make electronic chip is also provided by Ukraine and Russia due to which world saw a large scale of electronic components shortage and hence price hike in electronics commodities (including car, Smartphone, and aircraft makers). Russia had an idea of taking over Ukraine within 4 days but it is not ended even after two and half*

## WOMEN ENTREPRENEURSHIP - A KEY TO EMPOWERMENT

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### ABSTRACT

*A female is sort of a tea bag – you can't inform how sturdy she is till you location her in quandary. In conventional Indian society they had been constrained to family chores however in cutting-edge society they arrive out to take part in all forms of sports which include entrepreneurship. Women marketers are gambling a critical position and that they have turn out to be a vital part of enterprise surroundings and play a key position for sustained financial improvement and social progress. In India though ladies are gaining a key position in society however nevertheless entrepreneurial potential has now no longer been nicely jabbed because of decrease reputation of ladies withinside the society. The predominant motive of this paper is to give an explanation for the idea of ladies' entrepreneurship, possibilities of marketers for growing economies like India, troubles confronted with the aid of using ladies' marketers their viable answers and position of presidency to boost ladies' entrepreneurship.*

*Keywords: Women Entrepreneurship, opportunities, challenges and possible solutions, government schemes, economic development.*

### INTRODUCTION

"To awaken the people, it is the women who must be awakened. Once she is on the move, the

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# EFFECT OF MERGERS AND ACQUISITIONS OF BANKS ON THE BIDDER AND TARGET BANK'S PERFORMANCE IN INDIA IN THE RECENT YEARS

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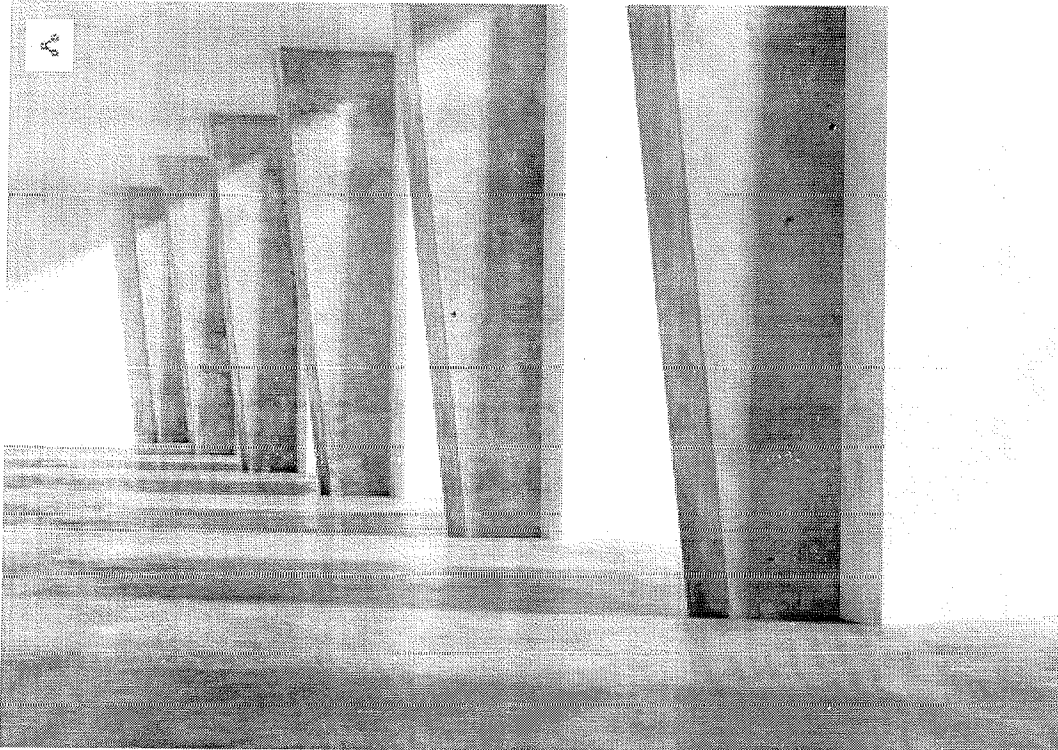
## ABSTRACT

*Since the economic reforms of 1991, there have been various banks mergers in India both voluntary and market driven in nature. There is a need for big banks in India to support its high economic growth. M&A is one of the ways in which this demand can be met but does it truly create value? This study is to analyze the pre- and post-merger performance of the bidder and target bank, for select banks, to determine performance in terms of the change in accounting ratios which give an insight on the effect of merger on profitability of the banks. The required data for modeling is taken either from the annual report of the banks which is taken from the respective bank's website or it is taken from the database CAPITALINE. It is observed that for a few acquiring banks there is an improvement in ROE but as far as bank's profitability is concerned it has not improved for most of the banks after the merger. Success is more likely in the case of market driven merger than non-market driven merger. The acquisition activity did not lead to addition in value for target banks as well. An argument is also made on need and counter effects of bank mergers.*

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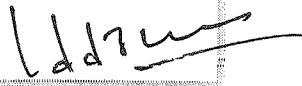
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*The Medicinal Effect of Aloe Vera*

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**Abstract**

A juicy and moist plant that grows in dusty and subtropical climates. It is commonly known as Barbados or Cereus Aloe. The aloe Vera plant is cultivated for agricultural and medicinal uses. Generally, it is used in Ayurvedic, Homeopathic and allopathic streams of medicines. It acts as a natural medicine for many infections like it helps in treating all gastrointestinal related problems, oral dosing for diabetes, asthma, cancer, AIDS, Stress, kidney-stone, skin-burn, rheumatism pain. The low toxicity of the plant makes it a safe remedy for heartburn. Aloe Vera is widely known to relieve sunburn and help wounds. Plant parts like leaves is used in cosmetics industries for the preparation of beauty products. The leaves of plant aloe Vera contain numerous minerals, vitamins, amino acids, natural sugars, enzymes etc. It is considered as a natural laxative. Aloe Vera is used to keep skin clear and hydrated. Recently studies showed that it shows potential in slowing the growth of breast cancer.

**Key-Words:** Aloe Vera, Medicinal Uses, Cosmetic Applications.

**Introduction**

Aloe Vera belonging to the family 'Alliaceae' grows to a height of 60-100 cm, matures in 4-6 years survives for a periods of nearly 50 years under favorable conditions. It is considered to be native only to the south-west Arabian Peninsula, it is widely cultivated in North Africa, as well as Sudan and neighbouring countries, along with the Canary Islands, Cape Verde, and Madeira Islands. Aloe Vera is used to treat many skin conditions like cuts, burns. Aloe Vera is a medicinal plant which play a good role in today's life. It have great value in different culture. It acts as an antimicrobial agent that reduce or inhibit the growth of microorganism. Like fungus, bacteria, protozoa etc. The plant leaves contains

numerous vitamins, minerals, enzymes, amino acids, natural sugars etc. In today's life it is widely used as a food, it is approved by the FDA as a flavoring agent and a food supplements. The cleaning of eyes with aloe Vera protects eyes from UV rays when coming in the sunlight. Now days it is also used in juices, drinks and cosmetics products. It is also acts as a natural food preservative.

**History**

Aloe vera is a succulent plant species of the genus Aloe. It is originates from the Arabian Peninsula, but now grows in tropical, semi-tropical, and arid climates

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### *Radiation Damage in Japan: Black Days*

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#### **Abstract**

This article deals with the radiation damage due to nuclear bomb and necessary actions which should be taken for the betterment of life. In the history of the world, 6th and 9th August 1945 are considered as Black days, when USA bombarded nuclear bomb in Nagasaki and Hiroshima during World War II. This results into a huge loss in human life where chronic disease prevail from one generation to another due to the blast, thermal radiations and prompt ionizing radiation which impact drastically on environment, body organs and on DNA of human beings due to excessive exposure to these radiations. There are numerous diseases like prodromal syndrome, bone marrow death, central nervous system that and gastrointestinal death occurs. There is a serious need to impose restrictions and governing laws to take care of these destructive bombs as we cannot afford another Nagasaki and Hiroshima.

#### **Introduction**

Although these are not accurate number of death in Hiroshima, the United Nation

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### *Squalene: Miraculous Triterpene*

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#### **Abstract**

Squalene (C<sub>30</sub>H<sub>50</sub>), an intermediate of cholesterol biosynthesis in plants, animals and humans; widely spread in animal and vegetal kingdom. It is a naturally occurring unsaturated triterpenic hydrocarbon compound that forms exclusively through the mevalonic acid (MVA) or 2-C-methyl-D-erythritol 4-phosphate (MEP) pathways. Squalene [SQ] is also obtained from the oil extracted from *Amaranthus* species. The major supply of SQ was the liver of marine animals rich in lipids and unsaponifiable matter (50–80%), whose SQ content may consist of 79% of the total oil. SQ is also found in the human body, is secreted by the sebaceous glands for skin protection and on internal organs such as the liver and small intestine. It is used as a precursor to thousands of phytoconstituents such as steroids and hopanoids, hormones or vitamins. Squalene possesses miscellaneous biological roles as an anti-oxidant, anti-cancer agent, chemopreventive agent, anti-bacterial agent, adjuvant for vaccines and drug carrier and detoxifier. Squalene is used broadly in the food and cosmetic industries. SQ is considered

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*In-vitro Pollen Viability and Pollen Germination in Hibiscus Plant*

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**Abstract**

Pollen grain is important for help in growers and breeders a new plant. Pollen grains of Hibiscus are used to study the pollen viability and pollen germination. Two pollen viability tests are uses like 2, 3, 5-triphenyl tetrazolium chloride (TTC) and Aniline blue (AB). Pollen grain germinates are studying by using a nutrient medium which containing sucrose (5%, 10%, 15%, 20% and 25%) and to define as the best concentrations of sucrose for the pollen germination. After that, the germinated pollen was counted 24 hours later until there was no more germination. The rate of pollen viability depends upon the time, provided conditions and tests used (TTC and AB). TTC staining test was better result than that of the AB staining test and the rates recorded for 24 hours in all the sucrose concentration (5%, 10%, 15%, 20% and 25%) and we saw that, at the 20% sucrose concentration are gives the more germinated pollen and the pollen germinated after 5 hours and the most germinating period after the 8 hours.

**Keywords:** Aniline blue, Pollen grain, Pollen viability and germination, Sucrose, Tetrazolium

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*Medicinal Value of Metal Complexes*

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**Abstract**

The application of metal complexes to medicine is a rapidly growing field and metal complexes are now having an impact on medical practice. With the discovery of cisplatin by Barnett Rosenberg in 1960, a milestone in the history of metal based compounds used in the treatment of cancers was witnessed. Carboplatin and oxaliplatin are also other Platinum complexes which have also dominated the treatment of various cancers by chemical agents. Such complexes are mostly used for the treatment of cervical, ovarian, testicular, head and neck, breast, bladder, stomach, prostate and lung cancers. Significant side effects and drug resistance, however, have limited its clinical applications. However the toxic adverse effects such as nephrotoxicity, neuropathy, nausea, myelosuppression are the main concern among the various drawbacks of platinum based chemotherapy. This review focuses on recent advances in developing platinum anticancer agents with emphasis on platinum coordination complexes.

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*The Effect of Different Water Regimes on Yield, Nodulation and Nitrate Reductase Activity in Black Gram*

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**Abstract**

Effect of water stress on the phenological and biochemical parameter during flowering and grain filling stages in Blackgram. The objective of these studies were to evaluate the effect of different water regimes on nodulation, nitrogen fixation and yield of Black gram inoculated with *Rhizobium phaseoli*. Three set of experiment were conducted by different water regimes (50 ml, 100ml, 200ml & 400 ml), the first was designed to evaluate nodulation and second for Nitrate reductase activity, third for yield observation. Results of these experiment revealed that ineffective nodulation (more in number and minute in size) were observed in low moisture regimes (50 & 100 ml) and in higher moisture regimes (400ml) nodule are fused with root gives tuberous appearance, which affect nitrogen fixing ability. Nitrate reductase activity increased in vegetative stages but decreased in flowering stages in less moisture condition, which affects

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*A Review on Medicinal Benefits of Silver*

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**Abstract**

In the human body, silver is a xenobiotic metal. It is available in the human environment as a white lustrous transitional metallic element. Silver one of the biologically active compounds on getting dispersed into its monatomic ionic state. It is being used for medicinal purposes from ancient times because it has anti-bacterial, anti-viral, anti-fungal, and anti-inflammatory activities etc. Silver is available in a variety of products such as clinical and medical usage, personal care products, domestic products, agricultural and industrial products which shows the antimicrobial activity. When silver gets oxidized, it releases silver ion and destroys germs with antimicrobial activity. It is useful for treating bacterial colonization (rashes, acne outbreaks, body odors, and eczema). These ions can invade into bacterial cells leading disruption in its metabolic pathways, stops cellular respiration and attack on DNA which results in breakage of the replication cycle. Medical devices are coated with silver ions and in

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*Medicinal plants: A Substitute for Cancer Treatment*

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**Abstract**

Cancer, the globally affecting human beings leading to death due to the abnormal growth of cells. It's the second largest cause of death after cardiovascular disease. The advent of modern drug targeted therapies has undeniably improved cancer patient's care but also have serious side effects. Hence, treatment is clearly needed for improvement of efficiency, for safer and more effective natural therapies and also to lower the treatment cost, and time period for cancer treatment. According to scientific reports, some plants product has been considered to have anti-cancerous potential due to easily availability, cheaper and possess no toxicity as compared to modern (allopathic) drugs. In recent studies, India is the largest habitat for the medicinal plant called "Botanical Garden of The World" and major contribution is from the Himalayan region. As unique pharmacophores and medicinal properties present in naturally occurring secondary metabolites (polyphenol, terpenes, alkaloids, etc.) attracted scientists

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*Withania somnifera: Therapeutic Uses and Phytochemical Constituents*

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**Abstract**

*Withania somnifera* (Ashwagandha) commonly known as 'winter cherry' is an herbaceous plant belongs to family Solanaceae or night shade family. The plant is an erect, evergreen, branching shrub of 30 to 150 cm in height and its leaves possess a strong smell of green tomatoes. The plant is widely distributed in tropical region of Africa, South Africa, India, southern China and Sri Lanka. *W. somnifera* is an imperative medicinal plant and has been used in ayurvedic medicines for centuries in the treatment of several disorders such as anaemia, ulcers, asthma and high blood pressure. Numerous pharmacological properties such as antitumour, antioxidant, anti-stress, neuroprotective, anti-arthritis, analgesic and anti-inflammatory have been reported in *W. somnifera*. These pharmacological activities are due to the occurrence of various

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Volume 3, Issue 1, Jan-Apr, 2020.

*Review on Importance of Carotenoids in health and medicine*

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**Abstract**

Carotenoids are among the most common natural pigments which play a major role in the protection of plants against oxidative damage and also acting as attractants for pollinators. More than 600 different compounds have been characterized and the major types of carotenoids that are used commercially in the international market are  $\beta$ -carotene, astaxanthin, lutein, canthaxanthin, lycopene, and zeaxanthin. Carotenoids are products of the isoprenoid biosynthetic pathway. The carotenoids are essential as antioxidants, natural colorants, pharmaceuticals and nutraceuticals. It has been confirmed that carotenoids inhibit the commencement of numerous disorders such as multiple sclerosis, arteriosclerosis, cataract, age related macular degeneration, cancer and arthritis. They also exhibit anticancer, anti-aging and immune modulatory activities. The demand of carotenoids has triggered the research to explore a commercial viable process for economic production of carotenoids.

Volume 3, Issue 1, Jan-Apr, 2020.

*Microbial Fuel Cell: An Alternative Source of Energy Production*

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**Abstract**

India is the second highly populated nation in the World. It's quite impossible to fulfill the adequate supply of energy to such a vast population, so there is a need alternate energy sources due to the high consumption rate of non-renewable sources which are depleting day by day. A view on sources of energy reflects the idea of MFC (microbial fuel cell) which is a renewable source of energy that is designed to convert organic waste into electrical energy using decomposition through microorganisms. Various type of sources is used for the production of energy, in which organic waste (grass cutting, leaf mold, rice bran, chicken dropping), as well as wastewater, included as a power source in MFC's. Basically, it uses microbes as a biocatalyst to oxidize organic matter to produce electricity. Some microbes are mostly used for the production of electrical energy from biochemical energy that is: *Sparamusaovata* (mostly used), *Clostridium butyrium*, *Saccharomyces species* (gram positive bacteria), *Bacillus*

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*Recent Technologies for Waste Water Treatment*

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**Abstract**

In recent years, the presence of pollutants in aqueous solutions usually comes from heavy metals and metalloids and it is emerging as an important environmental and social problem. As many of these elements are stable, they are bio-accumulative, and assessment of their safe limits is very difficult in the ecosystem. Few metals, such as Fe, Zn, Cu, Co, Cr, Mn and Ni, are required for biological metabolism in trace amounts; however, their higher dose may cause toxic effects. Others, such as Pb, Hg, Cd, and As, are not suitable for biological functions and are positively toxic. The toxicity of these elements is of considerable concern worldwide because of their environmental burden. During the past few decades, scientists have been developing cheap and environmentally friendly technologies for the treatment of wastewater generated at the household and up to the industrial scale. In this regard, methods like ion-exchange, membrane filtration, catalysis including photocatalysis and photocatalysis

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*Azadirachta indica: An Alternate to Pesticides*

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**Abstract**

Pesticides including insecticides, herbicides, fungicides, etc. are widely used to control pests and weed. Along with the use of pesticides comes its side effect. So, alternates are in need to overcome these challenges of long-term harmful effects on living organisms. Synthetic pesticides should be replaced with organic pesticides which are called as biopesticides. Other alternates can also be adapted involving physical, mechanical, biological, cultural and behavioral tactics. These are present in varied forms like biochemicals derived from natural sources or microorganisms. Using a pesticide from a natural resource can be more helpful, affordable and less toxic as compared to synthetic, for example; naturally resistant to insect hosts can be introduced like *Azadirachta indica* (Neem), from which pesticides and medicinal products can be derived. The main component of neem leaves is azadirachtin which disrupts the pest's maturation on eating them and meliantriol leads to starvation due to the inability of

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Volume 3, Issue 1, Jan-Apr, 2020.

*A Strong Antioxidant: Ascorbic acid or Vitamin C is an active  
ingredient of Indian Gooseberry (Emblica officinalis)*

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**Abstract**

Indian gooseberry, (*Emblica officinalis*) also known as Amla, which has history in Ayurveda medicine. [1] It has superior value in entirely indigenous traditional system of medicine, including customs in Ayurveda, for medicinal and nutritional reasons to build up lost physical and mental strength. *E. officinalis* is identified to be remedy against diversified physical disorders like cancer, osteoporosis, neurological disorders, hypertension together with lifestyle diseases and other infectious disorders. These actions are accredited to either various molecular pathway or antioxidant property that averts the destruction of cellular compartments from oxidative stress. Amla exhibits strong antioxidant property. This antioxidant activity of *Emblica officinalis* is ascribed to the high content of ascorbic acid or

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*Phytological Role of Legume Seed (*Cyamopsis tetragonoloba*)*

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**Abstract**

In Ancient times terrestrial plants and their extracts have been used as medicines. Guar is hardy and drought-tolerant and is mainly grown in the semi arid and subtropical areas of North and North-West India (notably in Rajasthan) and East and South-East Pakistan. Around the world, India is the biggest producer of guarbean of the total production. It belongs to belongs to genus *Cyamopsis* family fabaceae. Legume seeds have received attention as function food because of their nutritive value including fibres, vitamins, flavonoids and phenolic acids. The guar or cluster bean (*Cyamopsis tetragonoloba*) is basically a legume and the source of guar gum. The seed pods grow in clusters giving guar the common name cluster-bean. Guar is one of the therapeutic plant exhibiting antisecretory, antimicrobial, antiasthmatic, anti-inflammatory, antiulcer, hypoglycemic and anti-hyperglycemic properties. Numerous bioactives have been reported in this plant. Guar is a multi-purpose plant mostly

  
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### *Optics and Phase Contrast Microscope*

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#### **Abstract**

*In this paper, the role of optics in Phase Contrast Microscope is discussed along with its principle, working technique, applications and limitations for image processing. Image formation in Phase Contrast Microscope is result of interference of light and it enables visualization of microorganism by transforming Phase differences of light (which is difficult to see using an ordinary light microscope) caused by differences in refractive index between cellular components by differences in amplitude of light i.e. dark and light areas (which can be observed and known as positive or dark phase contrast). In conclusion the utility of Phase Contrast Microscope has been discussed along with role of optics in better image formation.*

**Keywords:** *Microscope optics, phase change method*

#### **Introduction**

Phase Contrast Microscope (PCM) is an

for biologists to study living cells and how they proliferate through cell division [2].

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### *Review Article On Elastic Theory Of A Single DNA Molecule*

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#### **Abstract**

*In this paper, we presented review of elastic responses of double(ds) and single(ss) stranded DNA at external force field. In this article author solve a simple elastic model for dsDNA and compare the results with experiments. It appears in the paper that short ranged base-pair stacking interaction can account for both stability of dsDNA double helix and its high deformability at large external forces. Author also study structure transition process of ssDNA theoretically and show that transition cooperativity is controlled by base-pair stacking interaction in DNA hairpin structure. This work demonstrated the possibility of understanding DNA elasticity by simple models and suggested significance of stacking interaction to mechanical stability and deformability of DNA double helix.*

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*Cuminum cyminum: An Important Indian Spice*

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**Abstract**

*Cuminum cyminum* belongs to the family Apiaceae native from East Mediterranean to South Asia. Cumin seeds are oblong and yellow-grey. Since ancient times Cumin seeds are liberally used in several cuisines of many different food cultures. The word spice comes from the Old French word *spice*, which became *epice*, and which came from the Latin root *spec*. A spice is seed, fruit, root, bark or other plant substance used for flavoring, coloring or preserving food. Spices were among the most demanded and expensive products. Most herbs and spices have antioxidant activity due to the presence of phenolic compounds, especially flavonoids, which influence nutrition through many pathways. It is used in the treatment of several disorders such as chronic diarrhea, asthma, diabetes, hypertension, fever, inflammation, bronchitis, dizziness, eczema, gastrointestinal disturbances and dyspepsia. In

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*A Review on the use of Health Benefits of Cinnamomum Zeylanicum*

Shivani<sup>1</sup>, Anita Chauhan<sup>2\*</sup> and Priyanka Chaudhary<sup>2</sup>

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**Abstract**

In India there are several books on spices but research on a common spice (*Cinnamomum zeylanicum*) is very important and highly demanded medicinal herb. Cinnamon has been known from remote ancient past. Cinnamon is a common spice used by different cultures around the world for several centuries. It is obtained from the inner bark of trees from the genus *Cinnamomum*, a tropical evergreen plant that has two main varieties: Cinnamon cassia (CC) (also known as *Cinnamomum aromaticum* (Chinese cinnamon) and *Cinnamomum zeylanicum* (CZ). Cinnamon is considered a remedy for respiratory, digestive and gynaecological ailments. Cinnamon is one of the oldest tonic plants on the globe. The Chinese feel that cinnamon used on a daily basis over a long period of time will improve the complexion and giving more youthful appearance. In India, cinnamon is used to flavor sweet a great pleasure. The spice, which stimulates the uterine muscles, is also used in difficult

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*Statistical Modeling with Genetic Algorithms*

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**Abstract**

Genetic algorithms (GA) are the stochastic optimization techniques that are based on "Darwinian" models of population biology and are proficient of solving for optimal solution for multivariate functions, without the usual mathematical requirements of strict continuity, differentiability, convexity etc. GA's are commonly used to generate high quality solutions to optimization and the search problems by relying on bio-inspired operators such as mutation, crossover and selection. In this paper, we proposed a multivariate regression approach to GA's using information measure of complexity (IC), as a measure of model quality.

**Key Words:** Genetic algorithms, stochastic optimization, Statistical Modelling, Multivariate Functions, Information measure of complexity (IC)

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**Introduction**

Genetic Algorithms widely used

By GA's, we can easily find solutions to complex problems because GA's are

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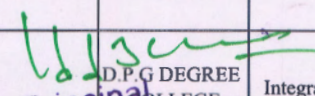
**3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years (10)**

**BOOKS**

L. No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Dr. Swati Chauhan	FICTIONALIZATION OF HISTORY					2021	978-81-953203-1-8	D.P.G DEGREE COLLEGE	RUDRA PUBLISHER
2	Ms. Shikha	DATA COMMUNICATION AND NETWORK TOPOLOGY					2020	9789383784455	D.P.G DEGREE COLLEGE	OM PUBLICATION
3	Mr.Sachin	Advanced text book in industrial economics					2018	9788193726037	D.P.G DEGREE COLLEGE	

**BOOK CHAPTERS**

L. No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Dr.Amita Singh	Emerging trends in Agriculture Sciences(Volume-12)	A Review on Crop Residue management Practice in India.				2022	978-93-95118-13-2	D.P.G DEGREE COLLEGE	Integrated publication
2	Dr.Amita Singh	Advances in Medicinal plants sciences Vol-3	Phytoconstituents, Bioactive and Traditional medicinal uses of Withania.				2022	978-93-93502-28-5	D.P.G DEGREE COLLEGE	Integrated publication
3	Dr. Smita Pathak	Advanced Trends in Agricultural Extension. Vol. 5,	Chemical Composition and Effects of Plumeria obtusa Green Manure on Barley				2022	978-93-95118-18-7	D.P.G DEGREE COLLEGE	Integrated publication
4	Dr. Neha Shekhawat	Natural resources management and environmental security	Yamuna River Pollution and Sustainable Solutions for the Future.				2023	9.7894E+12	D.P.G DEGREE COLLEGE	Integrated publication

  
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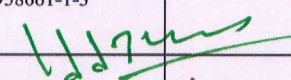
5	Dr. Nalinee	Microbial Consortium and Biotransformation for Pollution Decontamination	Genetically engineered bacteria: a novel technique for environmental decontamination				2022	<a href="https://www.sciencedirect.com/science/article/pii/B9780323918930000018">https://www.sciencedirect.com/science/article/pii/B9780323918930000018</a>	<a href="https://www.sciencedirect.com/science/article/pii/B97803239189300000802via%3Dihub">https://www.sciencedirect.com/science/article/pii/B97803239189300000802via%3Dihub</a>	Elsevier
6	Dr. Amita Singh	Current Research in soil Fertility. Vol-5	Nitrogen Fixation Enhancement in Pulses under Moisture Stress Condition by Foliar Application of KNO <sub>3</sub>				2021	978-93-91216-77-1	D.P.G DEGREE COLLEGE	AkiNik Publications
7	Dr. Shefali	Contaminants in Agriculture and Environment: Health Risks and Remediation	Heavy metals in agro-ecosystems and their impact on human health				2019	978-93-5321-003-8	CCS Haryana Agricultural University, Hisar	Agro Environ Media Haridwar, India
8	Dr. Uzma Sayyed	Biofilms in Human Diseases: Treatment and Control	Approaches Towards Microbial Biofilm Disruption by Natural Bioactive Agents				2019	978-3-030-30757-8	Integral University, Lucknow	Springer
9	Dr. Priyanka Chaudhary	Biotechnological approaches for medicinal and aromatic plants	Ocimum gratissimum: A Review on Ethnomedicinal Properties, Phytochemical Constituents, and Pharmacological Profile				2018	978-981-13-0535-1	Arni University, Himachal Pradesh	Springer
10	Dr. Shefali	New and Advanced technologies in Aquaculture to support environmentally sustainable development	New and Advanced technologies in Aquaculture to support environmentally sustainable development.				2020	978-981-15-2817-0_11	D.P.G DEGREE COLLEGE	Springer
11	Dr. Shefali	Applied Entomology and Zoology: Volume 3	Earthworms: The Intestines of Earth				2018	978-93-5335-066-6	CCS Haryana Agricultural University, Hisar	AkiNik Publications

**CONFERENCE PROCEEDINGS**

S. No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Dr. Neha Shekhawat		ANEMIA IN WOMEN OF REPRODUCTIVE AGE	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
2	Dr. Deepika Mithal		PHOTOPHYSICAL PROPERTIES IN TRIVALENT RARE EARTHS (EU, TB, GD, ND) DOPED ZNO NANOSTRUCTURES	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
3	Dharmbir Singh		THEORETICAL HIGH PRESSURE STUDIES ON TRANSPARENT OXIDE SEMICONDUCTORS	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		

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4	Mr. Dinesh		THYROID DYSFUNCTION: CAUSE OF SECONDARY HYPERTENSION	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
5	Dr. Ginni Rani		HYDROLOGICAL CYCLE AND ITS INFLUENCE ON CLIMATE CHANGE	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
6	Dr. Amita Singh		PHYTOMEDICINAL IMPORTANCE OF <i>SARACA ASOCA</i> (ASHOKA): A PROMISING FUTURE	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
7	Dr. Anita Chauhan		SECONDARY METABOLITES OF IMPORTANT MEDICINAL PLANT:HIBISCUS ROSA SINENSIS	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
8	Dr. Indu Malik		BACTERIAL LIPOPEPTIDES INDUCED BRAIN DYSFUNCTION: ALTERED NEURONAL ACTIVITY AND NETWORK	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
9	Dr. Jyoti		महहलाए एवं सशहिकरण : महात्मा गाधी के हवचारों के हवशष सदरुभ म	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
10	Ms. Ekta Yadav		INTRODUCTION OF CLOUD COMPUTING: A REVIEW	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
11	Ms. Gazal Kundu		WOMEN ENTREPRENUERSHIP: CONCEPT & CHALLENGES FACED BY WOMEN	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
12	Ms. Gunjan Sharma		CHANGING ROLE OF LIBRARIANS IN DIGITAL ERA	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
13	Mr. Keshav Kumar		SPECTROSCOPIC ASPECTS OF HYDROXY SCHIFF BASE COMPOUNDS	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
14	Ms. Nidhi jain		PHY TOCHEMICAL INVESTIGATION OF LEAVES OF <i>AMARANTHUS VIRIDIS</i> PLANT AND ESTIMATION OF PROTEINS AND CARBOHYDRATES OF ITS	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
15	Ms. Pooja Bansal		LINEAR PROGRAMMING AND IT'S APPLICATIONS: A REVIEW	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		

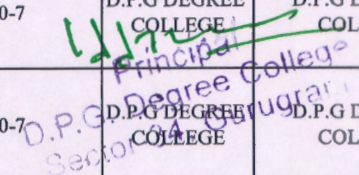
  
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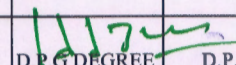
16	Ms.Poonam		A REVIEW ON MIGRATORY AVIAN FAUNA OVER WETLANDS	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
17	Ms.Nalini Sharma		TOTAL ENERGY CALCULATION PACKAGES: AN OVERVIEW	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
18	Ms. Preeti Goel		EFFECT OF ANTIOXIDANT ASCORBIC ACID OF AMLA (EMBLICA OFFICINALIS) ON CORONA VIRUS	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
19	Ms.Preeti Rathi		A NOVEL ALGORITHM FOR INTRUSION DETECTION USING WEB USAGE MINING TECHNIQUE	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
20	Dr. Reena		FUTURE PROSPECTS OF ECO-FRIENDLY PLASTICS: BIODEGRADABLE AND BIO-BASED POLYMERS	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
21	Ms. Reetu		STATUS OF WOMEN IN ANCIENT INDIA	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
22	Dr.Sapna		A FACILE SYNTHESIS OF NIFE <sub>2</sub> O <sub>4</sub> -ZNO COMPOSITE HOLLOW NANOSPHERES AND ITS USE IN PHOTOCATALYSIS	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
23	Dr. Shama Parveen		TIN OXIDE (SnO <sub>2</sub> ) NANOPARTICLES BY HOUSEHOLD TEA WASTE: GREEN SYNTHESIS FOR FIELD EMITTER APPLICATIONS	EMERGING TRENDS IN MULTIDISCIPLINARY	EMERGING TRENDS IN MULTIDISCIPLINARY	INTERNATIONAL	2022	978-81-958661-1-3		
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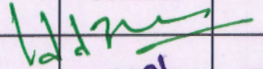
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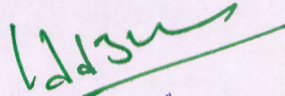
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