NATIONAL SEMINAR
ON

'A' Grade
NAAC Re-accredited
(3rd Cycle)

1993
सत्यमेव जयते
'B' Grade NAAC Re-accredited
(2nd Cycle)

RECENT TRENDS IN CHEMICAL, ENVIRONMENTAL AND LIFE SCIENCES

RTCELS–2020

11 January 2020

ABSTRACT BOOK

....Sponsored By....

Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon

.....Organized by.....

Department of Chemistry
S. V. P. Arts and Science College Ainpur Tal. Raver

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Department of Chemistry
Sardar Vallabhbhai Patel Arts & Science College, Ainpur

Tal-Raver, Dist-Jalgaon [Maharashtra]

'B' Grade NAAC Re-accredited (2nd Cycle)

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Dr. J. B. Anjane

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Mr. S. S. Salunke

About Seminar

The aim of the present seminar is to create a scientific awareness among the teachers and students about "RECENT TRENDS IN CHEMICAL, ENVIRONMENTAL AND LIFE SCIENCES. It also provides platform to exchange the information on recent advances in physical, chemical, life sciences and environmental sciences. The seminar also aims to attract participants with different background, research fields and places to expose and discuss invocative theories frameworks methodologies tools and applications and thus provides opportunities for the researchers and students to exchange new ideas and experiences face to established research relations.

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दि. 11-01-2020

President's Message

I am extremely glad to know that Department of Chemistry, Sardar Vallabhbhai Patel Arts and Science College, Ainpur is organizing one day National Seminar on "Recent Trends in Chemical, Environmental and Life Sciences".

I assure that this Seminar will provide a platform to bring together researchers from various organizations under a common environment and discuss the recent trends in Chemical, Environmental and Life Sciences.

Moreover, such a Seminar will help the staff, students to interact with prominent personalities from the renowned institutions across the country.

On the behalf of Ainpur ShikshanPrasarak Mandal Ainpur I express warm wishes for this fruitful seminar.

Ainpur Parisar Shikshan Prasarak Mandal's Tal.Raver, Dist.Jalgaon

Ainpur, Pin-425507

Shri. BhagwatVishwanath Patil
President,
Ainpur ShikshanPrasarak Mandal, Ainpur

॥ ज्ञानदी पेटवू ज्ञानज्योत ॥

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Umavinagar, Jalgaon - 425 001 (Maharashtra) INDIA

(formerly North Maharashtra University, Jalgaon)

Prof. P. P. Patil
Ph.D., F.M.A.Sc.
VICE-CHANCELLOR

MESSAGE

I am happy to know that S.V.P.Arts and Science College, Ainpur is organizing a National Seminar on ***"Recent Trends in Chemical, Environmental and Life Sciences"*** on 11th January 2020.

This seminar aims to provide opportunities to the academicians, scientists, researchers and students to present their research through paper presentations. This seminar will also provide common platform and more opportunities to the researchers in the areas of Chemical, Environmental and Life Sciences. I am sure that deliberations in this seminar will be fruitful to develop a convergence through effective knowledge sharing on need based in-depth research and development. Participants in this seminar will also benefit from intellectually stimulating deliberations on recent trends in Chemical, Environmental and Life Sciences.

I wish the National Seminar a grand success.

(Prof.P.P.Patil)
Vice- Chancellor

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॥ अंतरी पेटवू ज्ञानज्योत ॥

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Umavinagar, Jalgaon - 425 001 (Maharashtra) INDIA

(formerly North Maharashtra University, Jalgaon)

Prof. Pramod P. Mahulikar

M.Sc., Ph.D.

Pro-Vice Chancellor

Message

It gives me immense pleasure in writing this foreword for the National Seminar on "Recent Trends in Chemical, Environmental and Life Sciences", organised by Sardar Vallabhbhai Patel Arts & Science College, Ainpur on 11th January, 2020.

Developments in technology, science and society have caused major changes to traditional systems, structures and ways of working and exciting new opportunities are emerging. These trends are changing the nature of chemistry as a discipline, the role of chemists and the landscape within which we work.

It is essential for organisations to look ahead, anticipate future developments and adapt to stay relevant. We wanted to understand how the chemical sciences may evolve to improve the everyday lives of people in the next ten to twenty years. Scenario planning is based on the understanding that many factors can influence the future context.

The principal mode of environmental education is to integrate environmental education into science classes. To study life sciences it is necessary to talk about the living environment and the relationship between biological organisms and their environment. Studying life sciences not only enables students to learn a great deal of environment-related basic knowledge, but also can foster a feeling toward the environment and develop skills needed to protect the environment.

I hope that the lectures and deliberations with the resource persons from various institutes, universities and colleges will be beneficial to young researchers and all delegates and definitely the seminar will motivate young generation for research in multidisciplinary approach.

I wish a great success to the National Conference.

(Prof. P. P. Mahulikar)
Pro-Vice Chancellor

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Ainpur Parisar Shikshan Prasarak Mandal's
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Outward No **SVPCA/** _____ Date : 11/01/2020

Principal's Message

On behalf of College, I extend a very warm welcome to all the delegates and participants present today for the National Seminar on the subject "Recent Trends in Chemical, Environmental and Life Sciences". This Seminar aims to bring different ideologies under one roof and provide opportunities to exchange ideas face to face, to establish research relations and to find global partners for future collaboration. The themes and sub-themes for this Seminar are indicative of relevant research areas to give the prospective authors innovative prepositions about the ambit of discussion.

We have invited eminent dignitaries from different sectors to get a better understanding of recent trends in Sciences. We wish to welcome and thanks our eminent inaugurator and keynote speakers: Prof. Kishor R. Desai, Professor & Director, Department of Chemistry, UkaTarsadia University, Bardoli, Gujrat and Prof. VenuTrivedi, Govt. S.K.P College, Devas, Madhya Pradesh.

Under the prudent guidance of our institutional management Ainpur Parisar ShikshanPrasarak Mandal, this National Seminar continues to march on the way of success with confidence. The sharp, clear sighted vision and precise decision making powers of our management has benefited our college to say competitive.

We would like to express special thanks to Hon. Prof. P. P. Patil, Vice-chancellor KavayitriBahinabaiChaudhari North Maharashtra University, Jalgaon and Hon. Prof. P. P. Mahulikar Pro-Vice Chancellor for sponsorship of the seminar by providing seed money to encourage the researchers in the rural masses. We would like to thank the publisher and editor of International Journal "Journal of Research and Development for providing us with the platform for online publication.

Last but not the least, we would also thankful to the Teaching, Non-Teaching staff, the organisers and the students for their contribution in successfully organizing and managing this event. This event wouldn't have been possible without their rigour efforts and constant support.

We welcome you all at Ainpur College and hope that this Seminar will act as a medium for all of us present here to ponder upon the topic of discussion, challenge us to strive towards it and inspire us at the same time.

Thank you!

Sardar V.P. Arts & Sci. College AINPUR Pin 425507 Dist-Jalgaon

Dr. J. B. Anjane
Principal,
Sardar Vallabhbhai Patel Arts and Science College, Ainpur

Preface

It gives me immense pleasure to announce here that the Department of Chemistry and Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon jointly organizing National Seminar on “Recent Trends in Chemical, Environmental and Life sciences” RTCELS-2020 on 11th January 2020. I am glad to be present and take the opportunity for the seminar as a convener. The theme of the seminar centrifuged with the challenging and scopic subjects like Chemistry, Environment and Life Sciences in applied form.

Now days the natural and social aspects are in uncertain views creating the disorders in the system. The most challenging task for the researchers is how to apply the science to minimize the disorders. This seminar will create an awareness regarding the trends in the phase of sustainable development. It opens a platform to travel through the global age with emerging trends in science and technology.

The participants may get motivation and prudent support on their own research thrust areas. More appropriately he or she may get an opportunity to explore and strengthen themselves as a quality researcher. The dais is also open for discussion on the current issues regarding applied science.

It is highly acknowledgeable to note here the financial support from Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon for this seminar. Being a convener, I request to convey the overall program to dedicate for rural development. I am very much thankful to our beloved Principal for his constant motivation, the resource persons for their easy inspirable acceptance, the organizing committee for their extensive corporation and coordination. The special thanks for the unforgettable contribution of participants with their active participation and excellent presentations. The event organized by us is thoroughly providing a valuable work for participants, researchers, students and society.

Dr. S. N. Vaishnav

Convenor

National Seminar
on
Recent Trends in Chemical, Environmental and Life Sciences

ABSTRACT BOOK INDEX

01 **Exploring the interactions between hydrogen bonded complexes of Xylose and Water.**

Amol R. Koli and Sachin D. Yeole*
Department of chemistry,
Bhusawal Arts, Science and P.O. Nahata Commerce College,Bhusawal 425201 (India)
Email:sdyeole@gmail.com

Abstract
Hydrogen bonded complexes between Xylose and water, modeled by xylofuranose…H_2O complexes were explored employing quantum chemical and framework. The Moller-Plesset second order perturbation theory (MP2) in conjugation with aug-cc-pVDZ basis set, is used for investigating the H-bonding interactions. Energy decomposition analysis by LMO-EDA approach indicate that the electrostatic and exchange interactions are the two largest contributing terms to the total interaction energy for bonding between Xylose and water.

02 **Environmental pollution from thermal power station ash**

Anil .H.Shinde Rupesh Anil Sonar, Mahesh Govinda Sapkale
Arts, Science and Commerce College Varangaon

Abstract
VARANGAON: TheDust and fly ash blanketed the city and it peripheral areas lowering visibility for nearly two hours on Tuesday afternoon. The dust also induced a health scare with people complaining of burning and stinging sensation in their eyes. Environmentalists allege that the pollution level in Varangaon has increased due to the faulty and outdated machinery being used by Varangaon Super Thermal Power Station (VSTPS).
Keywords – Fly ash pollutions, spreading ash on the road pollution, river mixing ash pollution

03 **Structural characteristics of Ag:CdTe films by screen printing technique.**

B.Y. Bagul[1,2] , P.S. Sonawane[2]*
[1]*Vasantrao Naik Arts, Commerce and Science College Shahada, 425409, M.S., India*
[2]*Material Research Laboratory, P.G. Department of Physics, Pratap College, Amalner, 425401, M.S., India*
Email:bybagul@gmail.com

Abstract:

This work deals with the synthesis and structural characterization of silver (Ag) doped cadmium telluride **(**CdTe) which were prepared by using precipitation method and the samples were characterized by X-ray powder diffraction. The doping concentration varies from 0.1 - 0.3% of Ag atoms. X-ray diffraction (XRD) techniques were employed to study the structural properties of film samples. It was found that the samples have a hexagonal crystal structure highly oriented with the hkl values of (220), (311) plane. The size of the particle is found to be increased with increase in concentration of Ag.
Keywords: II-VI semiconductors, cadmium compounds, Ag doped CdTe, X-ray diffraction (XRD).

04 Synthesis, Spectral studies and biological activity ofSchiff base derived from Isoniazide

**Pallavi Ravindra Bhangale.*
D.N.College,Faizpur,
E-Mail-pallavi51083@gmail.com
Dr.A.N.Sonar Shri V.S.Naik college,Raver

ABSTRACT

The Schiff base ligand synthesis from the condensation of primary amines like Isoniazide with 5-chloropyrazole - 4 – carbaldehyde.

The synthesized ligand Characterized by techniques like TLC, MP, Solubility Spectroscopic techniques like IR, NMR, CMR and Mass, also the anti bacterial activity of the ligand were tested against some bacteria.

05 "Studies on Synthesis of Pyridine & it's Derivatives"

Bharti P.Koli, Dr.R.P.Gore
University Institute of Chemical Technology, KBCNMU, Jalgaon

Abstract:
This review summarizes the synthetic pathways to pyridine derivatives. Synthesis focuses on two components or MCR's including three, four components. Reaction conditions are variable including a green approach, microwave irradiation and other catalysts.

Keywords: Synthesis, Pyridine etc.

06 An Ecofriendly approach towards Nanoparticle synthesis using Ionic Liquids

S.R.Bhirud, Dr. G.R.Chaudhari*
P G Research Centre, Department of Chemistry, SES'S Arts and Science College, Bhalod-425304.
Corresponding author Email: drgrc76@gmail.com

Abstract

Ionic liquids are able to offer outstanding media for the nanoparticle synthesis. This review focuses on the use of ionic liquids as a versatile reagent for the synthesis of nanoparticle and explores the ability of ionic liquids to acts as a reactant, solvent and surfactant. In this review some methods of synthesis of some selected nanoparticles are discussed.

07 Importance of Biodiversity Conservation and Impact of Climate Change on Biodiversity Conservation

Chandrakant V. Wankhede* Vasantrao P.Pawar **
** Assistant Professor, Dept. of Zoology, Arts and Science College Bhalod Tal .Yawal Dist. Jalgaon, India*
***Assistant Professor, Dept. of Botany, Arts and Science College Bhalod Tal .Yawal Dist. Jalgaon, India*

Abstract: The loss of biological diversity is a global crisis. There is hardly any region on the Earth that is not facing ecological catastrophes. Of the 1.7 million species known to inhibit the Earth (human are just one of them), one third to one fourth is likely to extinct within the next few decades. Biological extinction has been a natural phenomenon in geological history. But the rate of extinction was perhaps one species every 1000 years. But man's intervention has speeded up extinction rates all the more. Between 1600 and 1500, the rate of extinction went up to one species every 10 years. It is estimated that about 50 species are being driven to extinction every year, bulk of them in tropical forest, due to human interference.

Biodiversity plays a direct role in climate regulation. Biodiversity conservation will lead to strengthening of ecosystem resilience and will improve the ability of ecosystem to provide important services during increasing climate pressures. This review basically focuses on the importance of biodiversity, the consequences faced by the plants, animals, humans and ecosystem owing to the global warming and climate change and the possible mitigation and adaptation strategies in terms of biodiversity conservation which can protect the planet from the consequences of climate change.
Keywords: Biodiversity, Climate change, Mitigation and adaptation

08

Plant Diversity studies in Public Gardens of Jalgaon city, Maharashtra, India

Gauri Rane & Pooja Pandey
P. G. Research Center Department of Botany, M.J. College, Jalgaon
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ABSTRACT
Jalgaon city is located in North Maharashtra region where the climate is hot throughout the year except few months of winter. In such situation the public gardens are the promising places for relaxation in the city. Garden is the place where plants are of valuable& pleasurable nature are growing hence they are the places of serene relaxation. The public garden provides a suitable environment for relaxation & relieves the stress and strain of the body and mind. In Jalgaon city there are 11 big and small public gardens maintained by Municipal Corporation. Out of these 11, only 4 are widely & frequently used by the people & most popular. They are Bahinabai Udyan, Dr. ShyamaPrasad Mukherjee Udyan, Mahatma Gandhi Udyan & Shivaji Udyan Mehrun. These gardens were extensively surveyed for the plant diversity. Data obtained by frequent visits shows diversity of trees, shrubs, herbs & climber species in these gardens. Identification of plants was done by using relevant literature. Total 9527 plants are recorded from these gardens. Highest number of plants 3142 are recorded from Shivaji Udyan, Mehrun followed by Bahinabai Udyan i,e 2862 followed by Dr. ShyamaPrasad Mukherjee Udyan i,e 2151 & lowest number of plants 1372 were recorded from Mahatma Gandhi Udyan. The detailed lists with number of trees, shrubs, herbs & climbers are prepared. *Polyalthia longifolia* B & H is dominant tree species, *Duranta repens* L. is dominant shrub species, *Hymenocalli scasibaea* L. is dominant herb species and *Bouganvillia spectabillis* A. L. Wilde is dominant climber species from these gardens. All these gardens show great plant diversity.
Key Words: Public garden, Plant diversity

09

The effects of enriched supplementary feed in relation to growth of Indian major carp *Catla catla.*

Shaikh Hafiz Mahmad
Department of Zoology,
IQRA'S H. J. Thim College of Arts and Science,
Mehrun, Jalgaon. Maharashtra, India. Email: drhafizshaikh@gmail.com

Abstract:

The different kinds of Supplementary and usual feeds have been used for the proper growth of fishes in the practice of freshwater fish culture. Two types of feeds generally used in the mixed form with various combinations and proportion to enhance the growth of fishes in fresh water fish culture. For proper growth of fishes the balance diet must be enrich with 40% proteins, 20% carbohydrates and 6% fats and proper proportion of essential vitamins.

In present work fresh water major carp *Catla catla* was selected for the study which deals with role of enriched Supplementary feed in relation to growth. Healthy fishes were collected from local dam and randomly divided into two groups released in to A and B tanks.

Fishes in tank A survive as control and tank B as experimental fish. Both tanks fishes feed enriched supplementary feeds in equal proportions once a day in morning.
Keywords: Enriched, Supplementary feed, fish culture, *Catla catla*.

10 **Removal of Congo red dye by using $Zn_{0.3}Fe_{0.45}O_3$nanoparticle:A Kinetic and Isotherm investigation**

Ganesh N. Jethave[a], Sachin D. Patil[a], Umesh A. Fegade[b] and Sanjay B. Attarde[a],
[a]School of Environmental and Earth Sciences, North Maharashtra University, Jalgaon, MS, India.
[b]Bhusawal Arts, Science and P.O.Nahata Commerce College, Bhusawal, MS, India.
*Corresponding author *Email ID: ganeshjethave@gmail.com*

Abstract
$Zn_{0.3}Fe_{0.45}O_3$bimetallic oxide nanoparticle (ZnFeBONp) was synthesized and characterized by FESEM, EDS, XRD and FT-IR techniques with the aim of exploring its application for removing of Congo red dye from synthetic waste water. The effects of pH, contact time, adsorbent dosage and dye concentration on the removal of dye were investigated and optimized as pH 6.5, 40 min contact time, 0.2 g adsorbent dose for 20 ppm dye. Results indicated that the synthesized adsorbent could effectively remove high concentrations of dye in a short contact time. Isotherm modeling revealed that the Langmuir isotherm could better describe the adsorption of the dye on the ZnFeBONp as compared to other models. The qmax up to 333.33 mg g−1. Kinetics of Congo red adsorption on ZnFeBONp best fit with the pseudo-second-order model. Because of the high-specific surface area and nano-scale particle size, ZnFeBONp indicated favorable adsorption behavior for dye.
Keywords: ZnFeBONp, Congo red dye, Isotherms, Adsorption Mechanism, Pseudo-second-order model

11 **Diels-Alder reaction of 4-styrylcoumarins**

Kailas K. Sanap[a]
[a]Department of Chemistry, N.B. Mehta Science College, Bordi, Palghar-401701

Abstract :
Coumarins (2H-1-benzopyran-2-ones) and polycyclic compounds containing coumarin moiety occur in many plants and have important biological applications in day today life. They form a group of more than 60 drugs, which are used in medicine and have various biological activities, viz. antifungal, anticoagulant, hypertensive, antihelmintic, CNS depressant, antitumor agents, hypnotic, and HIV protease inhibition. Coumarin compounds are used as additives in foods, cosmetics, perfumes, cigarettes, pharmaceuticals, and alcoholic beverages. They find application in fluorescent dyes, as they are effective fluorophores, characterized by high fluorescence quantum yields. Undeniably, they constitute the largest class of fluorescent dyes and are widely used as emission layers in organic light-emitting diodes (OLED), optical brighteners, and nonlinear optical chromophores.
The Diels-Alder reaction of 4-styrylcoumarins with N-phenylmaleimide and maleic anhydride has been reported earlier. In the first report on this reaction, position of the surviving double bond was not established unambiguously and was assumed to be in ring C, exocyclic to ring B and the subsequent workers maintained the same position These reactions are reported to require long reaction time. We thought that, after the Diels-Alder reaction the surviving double bond would be in ring B, as the double bond conjugated to the carbonyl group would be more stable. Further, such a double bond would be endocyclic to both the rings B and C. Similar type of double bond migration after Diels-Alder reaction of 1-vinylnaphthalene is reported to give more stable aromatized adduct. In our efforts to use the 3,4 double bond in 3,4 annulation, we undertook detailed investigation of the Diels-Alder reaction of 4-styrylcoumarins. Further, we also thought

it interesting to observe the effect of 7-substituent on the Diels-Alder reaction. Thus, we undertook a detailed study of the Diels-Alder reaction of 7-substituted-4-styrylcoumarins with symmetrical dienophiles, N-phenylmaleimide (NPMA) and tetracyanoethylene (TCNE)
Keywords: Coumarin, Diels-Alder reaction, 4-Styrylcoumarin, annulations

12 **Exploring enzyme-catalysis landscapes in proteins mixed-L, D in structure**

Kirti Patel*
Department Of Chemistry, N. B. Mehta Science College, Bordi, Tal. Dahanu, Dist. Palghar – 401701. Maharashtra State, India
Email: kirtinsk@gmail.com

Abstract:-

Nature adapts proteins in specificity of desired application with side-chain structures as chemical alphabet. While limitless in chemical possibility, the adaptive designs are limited in scope of molecular shapes—for biological reason—to but only the possibilities in poly-L-peptide structures. For proteins to be adaptable for desired application at level of shape, our lab introduced shape-specific protein design with the stereochemical option of residue-level structure as additional alphabet. Applying the concept of stereochemical control of shape and chemical control of interaction, we report exploration of combined L- and D-α-amino acid alphabet in its enzyme-catalysis potential. Sixteen and twenty-one residue peptides are designed stereochemically as the folds with enzyme-like clefts lined with side chains chemically specific for recognition and hydrolysis of substrates of interest. Made by solid phase synthesis, the peptides are examined in their potential as hydrolases against the substrates targeted. The results of conformational and functional evaluation of the peptides will be presented while future scope of evolutionary optimization of catalysis potential in sequence space of chemical and stereochemical structure will be discussed.

13 **Study of aflatoxin in oil seeds of Jalgaon District, Maharashtra.**

A. S. Kolhe
email - kolheajaykumar4@gmail.com

ABSTRACT
Aflatoxins are one of the most potent toxic substances that occur naturally. These are a group of closely related mycotoxins produced by fungal species such as *Aspergillus flavus* and *Aspergilus parasiticus*. Aflatoxins grow on cereals and oilseeds.Sample of oil seeds viz., cotton, mustard, peanut, safflower and sesame were collected. Dilution plate and agar-plate methods were used for isolation of mycoflora associated with collected samples. All isolates of Aspergi1lus flavus obtained from collected samples were screened for their aflatoxigenic potential in SMKY liquid medium. In all seventeen different fungi were isolated from oil seeds. *Aspergi1lus flavus, A. niger, A. ochraceus, Aspergi1lus sp., Fusarium sp. and Penicil1ium sp.* were stand out common seed infesting fungi, A. flavus was dominant in all fungi and its 72.80% strains were aflatoxigenic. Highest percentage of aflatoxigenic fungi was recorded in peanut seeds (86.20%). Analysis of oil seeds for its natural aflatoxin contamination revealed that 53.77% samples were naturally contaminated with aflatoxin. Maximum concentration of aflatoxin B1was detected in peanut seeds (215.87 ppb) followed by cotton seeds (95.25 ppb), sesame seeds (92.89 ppb), mustard seeds (84.38 ppb) and safflower seeds (58.61 ppb). Oil seeds contaminated with aflatoxin hus poses a potential threat for the life of human and animal beings **Key words :-** *Oil Seeds, Mycoflora, Aspergillus flavus, aflatoxin.*

14 **Nano-zeolite-graphene oxide composite for calcium hardness removal: Isotherm and Kinetic study**

Ram A. Konale and Sopan T. Ingle
School of Environmental and Earth Sciences,
Kavayitri Bahinabai Chaudhari North Maharashtra University,
Umavi Nagar, Jalgaon MS INDIA 425001.
**Corresponding author: email: ramkonale@gmail.com,*

Abstract:
The present study is an attempt to synthesize and explore the applications of the synthetic nano-zeolites (nZ) and its composites with graphene oxide (GO) for water purification. The modified Hummer's method and hydrothermal methods were applied for the synthesis of the graphene oxide and nano zeolites respectively, followed by the preparation of the composite with the ultrasonic method. The Scanning electron microscopy, Energy dispersive analysis of X-rays, Fourier transform infrared spectroscopy and X-ray fluorescence was used for physico-chemical characterization of the composite. The various parameters like adsorbent dose, contact time, initial and final pH of solution were optimized for the removal of calcium hardness. The results indicate optimum removal (98%) can be reached at pH 7 while the removal is highly adsorbent dose-dependent. The nZGO removal data were investigated by pseudo-first-order, pseudo-second-order, Elovich, and Intraparticle diffusion. In that, pseudo-second-order and Intraparticle diffusion models are best fitted to experimental data. The experimental data were also analysed by Langmuir, Freundlich and Temkin isotherms, the experimental data follows Langmuir isotherm with correlation coefficient is 0.99 which is near
Keywords:Calcium hardness, graphene oxide, nano-zeolite, nano zeolite-graphene oxide-composite

15 **BIOENERGY AND BIOFULES**

Rushikesh Sanjay Nannaware
Arts, Science and Commerce College Varangaon

Abstract
It is the the need of the recent era modern bioenergy. its commercial energy production form biomass for industries power generation or transport fuel bioenergy is an inclusive term for all from of biomass and biofuels. Green energy is an alternate and term for reversible energy that is energy. Its healthy for economics and friendly for environment and its alternate liquid fuel that can be used in any diesel engine without modification.
Keywords :- biodiesel ,biomass , bioenergy, biogas.

16 **Recent advancements in iron catalysis: A Short Outlook:**

Nitin D Patil[a], Dipak B Patil[b]*, Kamlesh B Patel[a], Arunkumar Jain[a], Sasanka Raha[a].
[b]Department of chemistry, SVP college Ainpur,Jalgaon,Maharashtra 425507
[a] Department ofchemical research & process development ,Aromatic bussiness,Atul ltd, Atul,Valsad,Gujarat 396020

Abstracts:
Due to growing concerns over high prices of metal catalysts particularly second (4*d*) d-block series and third (5*d*) d-block series metal complexes. The research community is now focusing to find cheaper alternatives hence much emphasis have been given to first (3*d*) d-block series metal catalysts .Among them iron catalysis have been the centre of attraction from last few years due to its easy availability & low cost .The present review highlights the recently developed

reactions strategies using iron catalysts &also discuss its importance in newly developed methodologies particularly in the area of oxidation and dehydrogenative cross-coupling reactions and α-C–H Functionalization of π-Bonds.

Keywords: Iron catalysis, Cross coupling reactions, Late stage oxidation,Dehydrogenative cross coupling,Arylation of phenols,Wacker type oxidation,Thiyl radical iron catalysis, Aerobic oxidation,Alkenyl halide iron catalysis, Grignard reagent in iron catalysis,Hydrosilylation,C(sp^2)−C(sp^3) Cross□Coupling.

17 Diatoms from Abhora dam of Raver tahsil of Jalgaon district, Maharashtra

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ABSTRACT
The present paper deals with the taxonomic details of 23 taxa of diatoms belonging to 12 species, 03 forms and 08 varieties of 10 genera of diatoms from Abhora dam in Raver tahsil of Jalgaon district, Maharashtra. All the taxa were recorded for the first time from the study area.

Key words: Diatoms, Abhora dam, Raver, Jalgaon

18 An eco-friendly approach for the synthesis of Schiff base under solvent free condition

Rakesh P.Chaudhari , Bharti P.Koli, Ganesh R.Chaudhari
Arts and Science College Bhalod,Tal-Yawal,Dist-Jalgaon

Abstract:
Schiff base was synthesized by condensation of Aniline with substituted aromatic aldehyde catalyzed by Tartaric acid under solvent free condition. Advantages of reaction are mild reaction condition, easy work up to afford the high yield of product. The product is characterized by IR spectra.

Keywords: Schiff base, Tartaric acid, IR Spectra etc.

19 Effect of solar radiation on dye-sensitized solar cells by using Natural Dye asPhotosensitizer

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Abstract
Natural dyes are environmentally and economically superior to ruthenium-based dyes because they are nontoxic and cheap. In this study, dye-sensitized solar cells (DSSCs) were fabricated using natural dyes light harvesting materials. Natural dyes were extracted from different parts of plants using different extracting solvents. Natural dyes were used as light harvesting pigments for Dye-sensitized solar cell. The effect of dye extracting solvents on the performance of solar energy conversion has been studied.

20 Synthesis of Carbazole Derivatives for the Screening towards Biological Applications

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Abstract:
Carbazoles and its derivatives represent an important class of heterocycles molecules.[1,2] The carbazole and it containing alkaloids have been reported to exhibit diverse biological activities such as antimicrobial, antitumor, antiepileptic, antihistaminic, antioxidative, anti-

inflammatory, antidiarrhoeal, analgesic, neuroprotective and pancreatic lipase inhibition properties.[3-12]The nitrogen- containing heterocyclic compounds have maintained the interest of researchers through decades of historical development of organic synthesis. Herein we have synthesized substituted carbazole derivatives considering the medicinal importance. The various carbazoles derivatized having resembled structure of Ellipticine using various synthetic methods. The synthesized carbazole and their derivatives were characterized by Mass, IR, $^{1}H/^{13}C$-NMR analysis and its screening for biological applications.

21 **A Study of Literacy in MuktainagarTahsil : Geographical Analysis**

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ABSTRACT:

Literacy is an essential factor for socio-economic development of human life. Therefore, literacyis an important index of socio- economic condition of an area. It is significant device for regional analysis, planning, approach and population policy. In this paper an attempt has been made to spatial analyze literacy in MuktainagarTahsil. There is wide spatial variation. The average literacy of MuktainagarTahsil is 65.03%.MuktainagarTahsil has divided into 80 human settlements. Highest literacy found in Bhokari i.e.78.06% and lowestliteracy found in Halkhede i.e.26.35%as per census 2011. It means there is large variation of literacy in MuktainagarTahsil.
Key words: Literacy,Illiteracy, Literacy Differential, Disparity, Gender gap Urbanization, Migration, Census.

22 **Synthesis, Characterization and Biological study of Phenoxy acetohydrazide derivatives**

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Abstract:

Acid hydrazides are present in many biologically active molecules and show various biological activities, such as antitubercular, antifungal, antibacterial, anti-inflammatory, anticancer, antiviraland antiprotozoal action. Hydrazide–hydrazones constitute a class of organic compounds contain azomethine (–NH–N=CH–) group connected with carbonyl group and it is responsible for various pharmaceutical applications and useful in the synthesis of different five membered heterocyclic systems.

Halo-substituted phenols are treated with Ethyl chloroformate in acetone followed by treatment with hydrazine hydrate gives hydrazides. Hydrazides are reacted with aromatic aldehydes gives hydrazones derivatives. The structures of all synthesized compounds were characterized by using various spectroscopic methods such as 1HNMR, FT-IR, U.V. spectroscopy etc. These derivatives are sent for anti-tuberculosis studies. These compounds showed low to moderate activities. Hydrazones were tested for their in-vitro anti-mycobacterial activity against Mycobacterium tuberculosis H37 RV strain using Alamar-Blue susceptibility test, and the activity is expressed as the minimum inhibitory concentration (MIC) in µg/ml. This synthesis would give the new way towards the development of effective Anti-TB agents in future.

23 White Egg Shell $CaCO_3$: As a natural, recyclable catalyst for the synthesis of 1H-pyrazolo[1,2-b]phthalazine-5,10-diones derivatives in aqueous media

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Abstract

In this report,we disclosed a newer methodology for the synthesis of 1H-pyrazolo[1,2-b]phthalazine-5,10-diones derivatives as one-pot synthesis involving three component reaction of substituted aldehydes, malononitrile, and phthalhydrazide in the presence of White Egg Shell $CaCO_3$ as a natural, recyclable catalyst in aqueous media H_2O-EtOH (7:3) at 80 ^oC.

24 A Colorimetric Cu(II) Chemosensorand its Application in Real Sample Analysis.

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Bhusawal Arts, Science and P. O. Nahata Commerce College, Bhusawal.

Abstract

The study reports an easy to prepare colorimetric chemosensor (*E*)-2-(1-(3-aminophenyl)ethylideneamino)benzenethiol (**1**), a small and simple cation probe displaying great selectivity for the Cu^{2+} metal ion over other cations in an aqueous methanol (CH_3OH/H_2O; 60:40, v/v) system. Upon complexation with Cu^{2+}, the **1** exhibit substantially enhanced absorbance intensity at 250 nm and 300 nm with a naked-eye detectable colour change from light yellow to brown. Fluorescence studies of the receptor showed "TURN-ON" recognition properties for the Cu^{2+} ion with a 1:1 binding stoichiometry and, the detection limit based on the IUPAC definition (CDL=3 Sb/m) was found to be 46 nM from 10 bland solutions.Density Functional Theory (DFT) calculations show the mechanistic behaviour behind the binding of Cu^{2+} with **1**.

Keyword: Colorimetric chemosensor, (*E*)-2-(1-(3-aminophenyl)ethylideneamino)-benzenethiol, density functional theory.

25 Surface Water Quality Assessment, Prediction & Modelling of River Daya in Odisha

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Abstract-

Water is one of the prime elements responsible for life on the earth. India's surface water flows through 14 major river basins beyond innumerable medium/minor basins. The climate change is affecting the precipitation and ultimately affects the quantity of freshwater available, whereas, increasing waste water loads from point and non-point sources are deteriorating the quality of surface water as well as ground water resources. The surface water quality is a very important and sensitive issue and is a great environmental concern worldwide. Surface water pollution by chemical, physical, and microbial contaminants can be considered as an epidemic all over the world.

The surface water systems are naturally open to the atmosphere, such as lakes, rivers, estuaries, reservoirs and coastal waters. A natural process such as changes in erosion, precipitation, weathering of crustal material as any anthropogenic influences such as urban,

industrial and agricultural activities, increasing rate of consumption of water resources, degrade the quality & quantity of surface water and make it unsuitable for domestic uses. Industrial waste water, run off over the agricultural lands and municipal sewage disposal are the most vulnerable for water pollution. The concentration of biological available nutrients in excess and concentration of toxic chemicals leads to diverse problems such as toxic algal blooms, loss of oxygen in water, fish kill loss of biodiversity and loss of aquatic plants and coral reefs

The management of river water quality is a major environmental challenge. Monitoring different sources of pollutant load contribution to the river basin is quite a difficult, laborious and expensive process which sometimes leads to analytical errors also. The main objective of the present study is to develop a model to assess and predict the water quality challenges of the Daya river basin, in Odisha, India, using Neural Network and GIS techniques and to compare the results through the statistical method. Hydro-geochemistry of ground water in Daya river basin was used to assess the quality of ground water for determining its suitability for drinking and agricultural purposes.

We collected samples from selected locations during different seasons (winter, summer, rainy). The analysis was carried out by taking certain important parameters like pH, total dissolved solids, Alkalinity, Chloride, Nitrate, Total Hardness, Calcium, Magnesium, Iron, Flouride, total Coliform, Fecal coliform, E. Coli.

The physico-chemical parameters were found within permissible limit prescribed by IS: 10500:2012 (2nd Revision) except microbiological parameters like total Coliform, Fecal coliform, E. Coli exceeds in all sites. By taking 2 years data, it can be seen that there is 5% increase in microbiological contamination. It may be harmful for human consumption as it will create many health hazarded issue to common people like diarrhoea, dysentery etc. Our study indicates that the main pollutant in water is the sewerage system influenced by urban and industrial growth.

26 Synthesis and Spectral Studies of Novel Schiff base of 4-Benzoyl Pyrazolone derivative.

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Abstract:-
Pyrazolone are very important class of heterocycles due to their wide applications in pharmacological and biological activities. Here we synthesized the useful derivatives of 4-benzoyl-3-methyl-(1-substitutedphenyl)-5-pyrazolonewas obtained by condensation of 1-substituted phenylhydrazine with Ethyl acetoacetate in ethanol containing a few drops of glacial acetic acid by the conventional process. The products were condensed with various aromatic amines to give Schiff bases. Excellent yield was obtained with mild reaction conditions,non-hazardous and safer environmental conditions. The structures of the synthesized compounds were characterized byIR-spectra, ^{1}H-NMRspectra, mass spectral data, and elemental analysis.
KEYWORDS:4-benzoyl-3-methyl-(1-substitutedphenyl)-5-pyrazolone,substituted phenylhydrazine, Ethyl acetoacetate, Schiff bases.

27 **Histopathologicaleffects of Thiamethoxam on gill tissues of freshwater bivalve,*Lamellidensmarginalis* (lamarck).**

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Abstract: Study was conducted to study the histopathological changes in the gills of freshwater bivalve, *Lamellidensmarginalis* after chronic exposure to Thiamethoxam. A parallel control was run simultaneously. Gills of bivalvesexposed to Thiamethoxamexhibited some structural alterations in their histology in comparison to control which exhibited normal architecture. The remarkable changes included: degeneration, necrosis and vacuolization of epithelium,elongation of gill filament with swollen tips,shrinkage and irregular shape of gill filament.The results suggest that the gills of bivalves exposed to Thiamethoxam were structurally altered. Such alterations might be responsible to affect the vital physiological functions such as, respiration and nutrient uptake which in turn might affect the growth and survival of bivalves.
Key words: Histopathology, chronic, gills, *Lamellidensmarginalis*.Thiamethoxam,

28 **Assessment of soil characteristics of Budhal coast of Konkan, Maharashtra.**

Kajal H. Sawakare

Abstract
The soil is the most important constituent to fulfilment of all the basic needs of human beings. All the occupations are dependent on the quality of soil directly or indirectly. Because of various activities of human beings, the quality of soil gets affected negatively which also imbalance our environment. This Physical and Chemical study of soil is based on various parameters liketexture, moisture, Bulk Density, Specific Gravity, Percent Porosity pH, percent CaCO3, Organic matterpresent in the soil sample. As a very small fraction of the huge soil mass is used for analysis. This soil analysis of Budhal Coastal region of Konkan, Maharashtra has doneto understand the quality of the soil for various purposes. The representation of the properties of soil is done by using ArcGIS 10.2 software.
Keywords- Soil analysis, pH, Budhal Coastal area, Konkan,ArcGIS

29 **Study the Cropping Pattern Using Methods of Crop Concentration and Crop Diversification in Yawal Tehsil, District Jalgaon**

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[3 &4]Assistant Professor, PG & Research Dept. of Geography, M. J. College, Jalgaon, MH

Abstract:
The spatio-temporal variation of crop concentration and diversification in Yawal tehsil in Jalgaon district has analyzed in this study. Crops concentration defines the differences in the density of some crop agricultural areaon specified durations. The crop diversification is an idea which is contradictory to crop concentration. The present paper is an effort to definite the crop concentration and crops diversification in Yawal tehsil of Jalgaon district, Maharashtra. Tehsil is a geographical situated in the north part of district along satpuda mountainous range. In present research examined area has excessivedisparity in agricultural system, fertilityquality of soil,

transformation of agricultural technology, river irrigation system etc. responsible for high yield of crops. In this analysis observed that the maximum concentrations under nonfood crops has found such as cotton, banana, oilseed etc. selected study region has been very famous for banana production and near about 50% and more banana crop export in Maharashtra have recorded form same this agricultural region. Given research adopted methods of crop concentration and crop diversification congruently using Bhatia's method for crop concentration and Gibbs and Martin's (1962) formula for crop diversification. Using graphs and maps make by Microsoft excel and Arc GIS software.

Keyword: Crop concentration, crop diversification, Arc GIS, Yawal tehsil.

30 **Green Synthesis of heterocyclic Derivatives: an Overview on Green Chemistry and Its Applications.**

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Abstract:-

Today, our lives around the chemical substances in the environment are increasing day by day. The possibility of a system we must avoid or minimize the use and making of hazardous substances. Therefore, we focus on green chemistry is also called sustainable chemistry. This review describes recently developed approaches based on the synthesis of structurally various heterocyclic compounds. They are some of the most varied heterocyclic compounds and are commonly applied in the synthesis of various organic compounds.Application of green chemistry in organic synthesis such as water-mediated reactions, Bio-based reactions and ionic liquids reactions. Benzimidazole is a heterocyclic compound. It is a valuable compound for the biologically active compounds such as therapeutic activities like analgesic, anti-inflammatory, antiulcer, antihypertensive, antibacterial, antiviral, antifungal, anticancer and antihistaminic. This review presents our knowledge for the synthesis of benzimidazole and also various benzimidazole derivatives with different pharmacological activities.
Keywords: Heterocyclic Compound, Benzimidazole, ionic liquid, water-mediated reaction, Bio-based reaction and Biological active compound.

31 **Studies of Stability constant of drug with transion metal ions at 303K.**

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Abstract:-

The interaction of transion metal ion with Olmesartan drug have been investigated by pH metric titration at 0.1 M ionic strength at room temperature in 30 % Ethanol-Water mixture. The data obtained use to estimate the values of proton-ligand stability constant (P^k) and Metal -ligand stability constant (logK). It is observed that transition metal ion form 1:1, 1: 2 complexes with all the systems.

32 A geographical study of age structure of muslims in rural areas of jalgaon district

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Abstract:

Man is the base of all resources and according to their needs man played an important role as modifier, regulator and controller of the resources. So man himself is considered as the most important and valuable resources of the earth. Man is the central theme of all different interrelated fields. If we know more about the population composition of the area then the implementation of the developmental tasks will be more fruitful and effective. Thus human resources can be analyzed in the form of location characteristics and sequential growth of various components. The age structure of a population refers to the number of people in different age groups. Age structures are one of the most basic characteristics of a population and have great importance in population studies. The age structure of population is considered as one of the basic demographic characteristics of population. The population of any region categories into various age group help in comparisons in their distribution. The age structure of different populations is usually compared with reference to three broad age groups: (i) Young or Dependents (0 to 14 years), (ii) Adult or Working (15 to 59 years), and (iii) Old or Dependents (60 years and above). The social and economic implications of these three age groups and the geographical variations in their distribution are worthy of serious consideration (Clarke, 1972).
Keywords: Age structure, Young or Dependents, Adult or Working, Old or Dependents,

33 Evaluation of Water and Soil Quality of Village Pond for Rural Development

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ABSTRACT

The study was conducted to evaluate the physico-chemical parameters of water and soil of a freshwater village pond of Magdalla, Surat District of Gujarat in India in relation to their potential for rural development. Early morning water samples were collected and analyzed for temperature, pH, total dissolved solids (TDS), total hardness (TH), calcium hardness, magnesium hardness, total alkalinity, dissolved oxygen (DO), biological oxygen demand (BOD), chloride, phosphate, silicate, nitrate, nitrite and ammonical nitrogen. Similarly soil sample were collected and analyzed for moister content, pH, organic matter, nitrate and available phosphorous. The values of physico-chemical parameters of water during the study period were observed for temperature (25.833±3.512°C), pH (8.167±0.414), total dissolved solid (380.417±124.799 mg/L), total hardness (139.667±18.932 mg/L), calcium hardness (89.823±10.535 mg/L), magnesium hardness (12.163±3.527 mg/L), total alkalinity (172.667±42.128 mg/L), dissolved oxygen (3.371±1.530 mg/L), biochemical oxygen demand (2.500±1.035 mg/L), chloride (99.400±26.393 mg/L), phosphate (0.231±0.129 mg/L), silicate (0.180±0.071 mg/L), nitrate (2.921±2.728 mg/L), nitrite (0.017±0.027 mg/L), and ammonical nitrogen (0.021±0.006 mg/L). Average values for soil sample were as moister content (34.106±3.928 %), pH (8.667±0.227), organic matter (0.877±0.537), nitrate

(2.826±1.763mg/100g) and available phosphorous (7.772±3.284 mg/100g). Results obtained from the study suggested that village pond may be used for rural development by developing fish culture.

Keywords- Physico-chemical parameters, fish culture, village pond.

34 The Role of Internet Technology based Agriculture in development of Environment

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ABSTRACT : Easier access to computers, the modernization of countries around the world and an increase in utilization of smartphones, tabs, Internet of Things, laptops and computers, has created large number of opportunities to people to use the internet more frequently and more conveniently specially, in rural areas.

Agriculture is a backbone and a main income source of the Indian rural people. Around 70% population of India resides in rural area. Indian economy is also known as rural economy which is dominated by agricultural sectors.

In the era of ICT the concept of agriculture is changing. The main aim behind this study is to explore the role of e-technology touched agriculture in the development of environment. Also to think, how to transfer facilities in urban areas to rural areas for helping agriculture by spreading knowledge of e-farming, and suggesting the remedies for the agriculture based environmental development..

Key Words : ICT, IoT,

35 Conservation of Wild relatives of cultivated crops and sustainable development with reference to Nagzira Wildlife Sanctuary, Gondia district, Maharashtra, India.

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Abstract

In India there are c 166 cultivated crop plants and c 320 wild relatives of cultivated plants. Among them c 250 spp. in India are having horticultural importance are distributed in different phytogeographical regions of India. Of whichc 60 spp. are rare or endangered due to over exploitation in their natural habitats. Crop wild relatives are an important socio-economic resource that is leading with the sustainable development, these are the live gene bank.for the production of genetically modified plant of cultivated crop plants,The present study has revealed c 12 species of wild relatives of cultivated plants in the areas studied.

Key words :- Wildlife, cultivated, sanctuary, endangered.

36 **Pattern of Sex Ratio of Dode Gurjar community of Jalgaon district of Maharashtra (India)**

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ABSTRACT:-
Human population is studied within different areas of knowledge but demography is directly related to it. There are various elements studied in demography. But birth rate, death rate, migration and age-sex structure are known as major demographic processes while other elements are studied within their preview. Now- a-days the number of females per 1000 males decreasing in many parts of India. It also varies with Religion to religion and community to community.
In Gurjar community of Jalgaon district of Maharashtra, sex ratio and Child sex ratio both are decreasing alarmingly even though there is no dowry system in Gurjars and even though the marriage expenditure is the responsibility of males. The low sex ratio can create many social problems in future. It may be due to pre-natal sex determination and sex selective abortions, and there is strong social or psychological pressure to have a son (son preference attitude) in the family due to certain social customs & compulsions. This paper is devoted mainly to a discussion of the Literacy Rate and Sex Ratio of Dode Gurjar community of Jalgaon district of Maharashtra.
Key words: - Sex Ratio, Gurjar Community

37 **Some common ethno veterinary plants in padmalaya forest in jalgaon. District.**

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Abstract : Wild plants play important role in human as well as animal health. The present study deals with the ethnoveterinary use of certain wild plant species. Many tribal communities like Bhil ,Pawra ,Tadvi , Vanjari utilized these plants as veterinary medicines to treat their animals . They use these plants to cure their cattle suffering from different diseases . Present paper deals with twenty different cattle disease and 15 plant species utilized by tribals and villagers of Padmalya forest area as ethnoveterinary medicine.
Keywords: Ethno veterinary plants, Animal diseases , Tribal's,padmalaya

38 **Study the Cropping Pattern Using Methods of Crop Concentration and Crop Diversification in Yawal Tehsil, District Jalgaon**

Mr. G. S. Tadvi[1], Dr. S. N. Bharambe[2],Dr. C. D. Mahajan[3]andDr. S. S. Jadhav[4]

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Abstract:
The spatio-temporal variation of crop concentration and diversification in Yawal tehsil in Jalgaon district has analyzed in this study. Crops concentration defines the differences in the density of some crop agricultural area on specified durations. The crop diversification is an idea which is contradictory to crop concentration. The present paper is an effort to definite the crop concentration and crops diversification in Yawal tehsil of Jalgaon district, Maharashtra. Tehsil is a geographical situated in the north part of district along satpuda mountainous range. In present research examined area has excessive disparity in agricultural system, fertility quality of soil, transformation of agricultural technology, river irrigation system etc. responsible for high yield of crops. In this analysis observed that the maximum concentrations under nonfood crops has

found such as cotton, banana, oilseed etc. selected study region has been very famous for banana production and near about 50% and more banana crop export in Maharashtra have recorded form same this agricultural region. Given research adopted methods of crop concentration and crop diversification congruently using Bhatia's method for crop concentration and Gibbs and Martin's (1962) formula for crop diversification. Using graphs and maps make by Microsoft excel and Arc GIS software.

Keyword: Crop concentration, crop diversification, Arc GIS, Yawal tehsil.

39 **An eco-friendly approach for the synthesis of Schiff base under solvent free condition**

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Bharti P.Koli, Ganesh R.Chaudhari Arts and Science College Bhalod,Tal-Yawal,Dist-Jalgaon

Abstract:
Schiff base was synthesized by condensation of Aniline with substituted aromatic aldehyde catalyzed by Tartaric acid under solvent free condition. Advantages of reaction are mild reaction condition, easy work up to afford the high yield of product. The product is characterized by IR spectra.

Keywords: Schiff base, Tartaric acid, IR Spectra etc**.**

40 **Physico-Chemical Analysis of Drinking Water at Different Places Arround Panzara River from Akkalpada to Dhule.**

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Abstract:
The water of Panzara-Kan or Panzara River is the important source of domestic and potable use. The water samples were collected from the river from different points and analyze for different physic-chemical parameter in beginning of winter season. Effect of municipality savage, domestic savage and agricultural runoff on river water has to be in consideration. The area selected to sampling between the Akkalpada and Dhule at Eight different points. In physico-chemical analysis various parameters was studied like pH, Turbidity, Electrical conductivity, TDS, PH, TS, EC,BOD, COD etc, out of which only physical parameters are studied in this paper.

Key Words: river water, pH, TDS,EC.

41 **Growth and Characterization of some doped and undoped Bismuth tri- sulphide Crystals by Gel method**

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[2] Departments of Electronics, Shri.S.S.Patil Arts, Shri.Bhausaheb T.T.Salunkhe Commerce and Shri.G.R.Pandit Science College, Jalgaon (MS)

Abstract:
Bismuth tri sulphide [Bi_2S_3] crystals were grown by single diffusion gel technique. Growth conditions were optimized. Optimum growth conditions are reported. The crystals were doped by material Fe.Influence of metal Iron dopant on the structural and optical properties of the Bismuth tri sulphide crystals have been studied. Structural properties of Fe doped Bi_2S_3 are studied by X-ray diffraction (XRD) and micro structural properties by Scanning Electron Microscope (SEM). The broadness of XRD peaks indicates the nanocrystalline nature. Crystallite

size estimated from X-ray line broadening of the maximum intensity peak using the Scherrer's formula. Thermal studies of doped and undoped crystals are reported. The UV-VIS analysis gives the energy band gap of gel-grown crystal.

Keywords: Gel growth, Doping, XRD, UV-Vis spectroscopy. SEM, TGA&DTA.

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Use of information technology in industrial pollution control

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Introduction: -

One of the most alarming issues in modern cities is the air quality level, where air pollution has caused 120 deaths out of 100,000 per year based on a worldwide study (Green Car Congress, 2019). The World Health Organization emphasized that 97% of cities in low- and middle- income countries with more than 100,000 inhabitants do not meet World Health Organization (WHO) air quality guidelines. The National Air Quality Index (AQI) was launched in New Delhi on September 17, 2014, under the Swachh Bharat Abhiyan. The Central Pollution Control Board along with State Pollution Control Boards has been operating National Air Monitoring Program (NAMP) covering 240 cities of the country having more than 342 monitoring stations.

Due to poor air quality, it will increase potential health risks such as risk of stroke, heart disease, lung cancer, asthma and others as well (citation). Hence, there is a need to install an air quality monitoring system in industries to ensure the air is not contaminated. This can be done by installing sensors to monitor dust particles, carbon dioxide, carbon monoxide, nitrogen dioxide and sulfur dioxide levels and this information can be shared with the respective Pollution Control Boards directly through internet connectivity, where the computer desktop application allows board to monitor real-time data of the current air quality level in the area. Hence, through these implementations, better quality of life can be achieved.

43

The Cropping Patterns in Jalgaon District of Maharashtra State: A Micro Level Study of Selected Villages in Jalgaon District

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ABSTRACT:

Cropping pattern is a dynamic concept because it changes over space and time. It can be defined as the proportion of area under various crops at a point of time. In other words, it is a yearly sequence and spatial arrangement of sowing and fallow on a given area. In India, the cropping pattern determined by rainfall, climate, temperature, soil type and technology.The choice of crop cultivation of farmer is guided by the factors like Physical, Social and Economic. Sometimes they cultivate a number of crops at their farms and rotate a particular crop combination over a period.Considering the above discussion in mind researcher has attempted to find out cropping patterns in some selected villages in Jalgaon district of Maharashtra state.

KEY WORDS:

Cropping pattern, Crop Cultivation, Crop combination,Cash crop,Agricultural activities

44 **Macrofungi of Pal forest range Jalgaon**

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Abstract :- In present investigation biodiversity studis emploing the survey method were carried out to record mushrooms and macrofungi from Pal forest . The study recorded 20 different types of macrofungi inclusive of several mushrooms, prominent among them being the genera *Aucularia. Daldinia , ganoderma , Laccaria, Mycena , Schizophyllum , Polyporus , Xylaria* among several others details of which , as wekk as ecological significance and economic importance of the types recorded in , are mentioned in the research paper .

Key wards : biodiversity, mushroom, macrofungi, polyporaceae , pal forest.

45 **Studies of Stability constant of Drug molecule [Losartan] with different transition metal ion at constant ionic strength at 303◦ K**

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Abstract:-
The formation of complexes of drug molecule [Losartan] with transition metal ions at0.02 M ionic strength at room temperature in 10% ethanol:water mixture with various combinations was investigated at 303◦K by pH-metric titration technique. The value of proton ligand stability constant [pK] and metal ligand stability constant [log K] calculated from experimental data . it is observed that the metal ions form 1:1 and 1:2 complexes with drug molecule [Losartan].

46 **Assessment of Physico-chemical Properties of Waste Water after Treatment with Adsorbents**

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Abstract:
Living organism cannot survive without water because water is most essential thing for every living thing. Now day water pollution become universal problem. Natural water lands becomes polluted due to human activity, industrial waste, agricultural waste, sewage water discharge. In the present study waste water goes out from chemistry laboratory of J.D.M.V.P.S. A.S.C. Nutan Maratha College Jalgaon, is collected and its physico-chemical properties were checked then this water sample treated with dried corn cob powder and dried Sugarcane Bagasse after filtration of this water sample all physico-chemical parameter were re-analyzed. Comparison of these analytical values with standard values it was found that values of all physic-chemical parameters decreases and comes within standard limits.

Key Words:
Water pollution, waste water, waste water treatment, natural adsorbents

47 **Presentation under – Sectional Session Animal, Veterinary and Fishery Sciences**
Antipyretic activity of successive extract of flowers of *Sphaeranthus indicus* Linn. in rat

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ABSTRACT
Pyrexia or fever is caused as a secondary impact of infection, malignancy or other diseased states. Plant has shown potential for used of in treatment of inflammatory. Thus, there is every possibility of developing new useful drugs from medicinal plants with a long history of human use. To search an ideal antipyretic agent of plant origin and its comparison with standard drug to isolate and purify the acute ingredient from the flowers of*Sphaeranthus indicus*by advance technology. Animals with approximately constant rectal temperature were selected for the study. Rats of either sex were divided into seven groups of six animals each. Pyrexia was induced by injecting 20% aqueous suspension of Brewer's yeast 2 ml/kg body weight in normal saline, subcutaneously, below the nape of the neck. Rectal temperature was recorded by clinical thermometer immediately after Brewer's yeast injection, at -18 h and after 18 h that is 0 h. Ibuprofen (standard) (50 mg/kg b.w.p.o), acetone, chloroform, methanol and aqueous extracts at a dose 500 mg/kg b.w.p.o) in Tween-80 were administered orally. A control group was given 0.3 ml normal saline. The temperature was recorded at 1, 2 and 3 after drug administration. At the dose of 500 mg/kg body weight Chloroform, Methanol and
Aqueous extract significantly reduce elevated rectal temperature, 37.07 ± 0.54^0C and 36.21 ± 0.25^0C and 37.87± 0.25^0C respectively compared to control (39.07 ± 0.66^0C) at 3th h. It can be concluded that, the antipyretic activity of the*Sphaeranthus indicus*extract is attributed due to flavonoids present in it.
Key words: Antipyretic activity,*Sphaeranthus indicus* Linn.

48 **Effect of Tulsi extract supplemented diet on hematological parameters of *Cyprinus carpio*.**

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Abstract:
Addition of Herbal extract and herbs added to the feed supplement provide more resistant and healthy fish to the aquaculture. The herbal additives are cheaper, easily available and eco friendly with minimum or no side effect to fish and consumer. In this study *Ocimum tenuiflorum* was added as additive in the food supplement in different concentration feed to fishes twice a day, after 15 days the hematological parameters such as red blood corpuscles (R.B.Cs.) and white blood cells (W.B.Cs) were estimated. The result shows the progressive increase in the hematological parameters of *Cyprinus carpio.*
Key words:
Cyprinuscarpio, Red blood cells (R.B.Cs.), White blood cells (W.B.Cs.), *Ocimum tenuiflorum*, food supplement.

49 Study of enthalpy, entropy and free energy of activation ofl-alaline & l-valine with distilled water at different temperatures

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ABSTRACT:

Densities and viscosities of liquid mixtures plays an important role in finding their heat content, mass transport, fluid flow and molecular structures etc. excess molar enthalpy of activation and free energy of activation are useful in understanding the nature of intermolecular interactions, dispersion forces and the extent of hydrogen bonding between two liquids. Enthalpy, entropy and free energy of activation have been calculated from the experimental values of density and viscosity of binary liquid mixtures of L-Alaline and L-Valine with water at different temperature. All the mixtures exhibited endothermic enthalpies, entropy of activation are negative over all composition range, its values suggesting weak molecular interaction, dispersive forces and extend of hydrogen bonding between constituent molecules.
Keywords- L-Alaline, L-Valine, Excess molar volume, Excess molar enthalpy.

50 Disaster management in India

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Abstract

India has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Floods, droughts, cyclones, earthquakes and landslides have been a recurrent phenomenon. At the global level, there has been considerable concern over natural disasters. Even as substantial scientific and material progress is made, the loss of lives and property due to disasters has not decreased. Disaster management occupies an important place in this country's policy framework as it is the poor and the under-privileged who are worst affected on account of calamities/disasters. Disasters retard socio-economic development, further impoverish the impoverished and lead to diversion of scarce resources from development to rehabilitation and reconstruction. The new approach of Government of India proceeds from the conviction that development cannot be sustainable unless disaster mitigation is built in to the development process.

51 Response on yield of Hyacinth bean (*Lablab purpureus* L.) using compost, Vermicompost verses synthetic fertilizers and growth regulator

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Abstract

Hyacinth bean (*Lablab Purpureus* L.) is a protein rich crop belonging to family Fabaceae. But in this crop the flower shedding is a major and common problem which ultimately affects pod set and yield. Through this study, an attempt is made to solve this problem by treating crop with vermicompost, compost , synthetic fertilizer and growth regulator . For this experiment healthy seeds of ' *Lablab purpureus*' were sterilized and treated with different concentrations of growth regulator Indole 3 Acetic Acid (viz.25% , 50% , 75% , 100% conc.) and in compost , vermicompost , synthetic fertilizer (Varlakshmi) together with control plant .Various

morphological parameters were observed like days of germination , number of cotyledons , mature leaf size , days of flowering , height of plant etc. and recorded . The photographs are taken at various stages of growth. It is observed that as compared to growth regulator IAA & synthetic fertilizer, compost and vermicompost treated plants have given better yield in terms of vegetative and flowering growth. Similarly maximum flowering and fruiting is also observed in the same. Hence, the present study aims to propose the use of compost and vermicompost instead of synthetic fertilizer and growth regulator in improving the yield of Hyacinth bean.

Keywords: Hyacinth bean, Compost, Vermicompost, Growth regulator, Synthetic fertilizer.

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Isolation and characterization of halophilic bacteria from Soil

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ABSTRACT

Halophiles are nothing but "Salt loving" organisms. They are classified into Archae domain. There are also bacterial halophiles as well as some eukaryotes such as alga *Dunaliella salina.* This halophiles are categorized into slight, moderate and extreme depending on the requirement of salt concentration. Isolation of halophiles is done by enrichment method using halophilic medium as a selective media. Single colony was used to perform morphological and biochemical characters. Optimization was done using the effect of temperature i.e. 25^0C, 37^0C, 45^0C, 55^0C, 65^0C,70^0C and NaCl i.e. 0%, 1%, 5%, 10%,15%, 20%,25% on the growth of that isolates. It was found that the isolate was moderate halophile.

Keywords: Halophiles, NaCl, Extremophile, Archae.

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Seasonal Variation in Density and Diversity of Zooplankton of Ranipur dam Shahada Taluka District Nandurbar (M.S.) India.

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Abstract:

Zooplankton diversity is one of the most important ecological parameters in water quality assessment. The present paper deals with seasonal variation in density diversity of Zooplankton of Ranipur dam water near Shahada in Nandurbar district, Maharashtra. Ranipur dam water is mostly used for drinking, irrigation and domestic purposes. The Zooplankton dynamics can greatly influence the water quality of this dam. Therefore the population composition and seasonal variation of zooplankton were carried out. For study samples were collected from the three different sampling stations (A, B and C) of Ranipur dam. The quantative analysis of Zooplankton has revealed the fact that Rotifers, Cladoceran, Copepodes and Ostracods were the major components of its total bulk in Ranipur dam. The values of number of Zooplankton species indicating the pattern of diversity has exhibited a different dominating trends of its major sub groups as given Rotifera > Cladocera > Copepoda > Ostracoda. The Ranipur dam had moderate diversity of total Zooplankton with 45 species of Zooplankton were recorded belongs to four taxonomic groups. Out of 45 species, 25 species belongs to Rotifera, 09 species to Cladocera, 06 species Copepoda and 05 species to the Ostracoda.

Keywords:

Ranipur dam, Zooplankton, Seasonal variation, diversity.

54 **Volumetric, viscometic and ultrasonic velocity studies of Binary mixtures of 2- propanol and 1-heptanol with o-nitrotolune at 298.15 and 308.15k**

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Abstract :
The physicochemical properties like ultrasonic velocities, viscosities and densities of binaryliquid mixtures of 2-propanol and 1-heptanol with o-nitrotolune were reported at 298.15and 308.15 K. The Excess molar volume (V^E), Isentropic compressibility(ΔKs) and viscositydeviation (Δη) have been calculated. These values were fitted with Redlich –Kister type polynomial equation. The results were interpreted in terms of molecularinteraction between the components of the mixtures.
Keyword: Ultrasonic velocity, viscosity, density, Excess molar volume (V^E), Isentropic compressibility(Ks) viscositydeviation (Δη) molecular interactions.

55 **State of the Employment among Muslims in Jalgaon: A Geographical Analysis**

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Abstract:
Muslim Population is one of the major minority community constituting the Indian Population. According to the 2011 census, 79.8% of the population of India practices Hinduism, 14.2% adheres to Islam, 2.3% adheres to Christianity, and 1.7% adheres to Sikhism. As per Rajinder Sachar commission Muslim population is one of the most deprived in term of social, economic, health and other parameters. They have very little representation in government services and political sphere. Majority of the Muslim population is engage in the private jobs for their livelihood.

Jalgaon is a Municipal Corporation city in district of Jalgaon, Maharashtra. It is one of the largest city in North Maharashtra Region constituting significant number of Muslims. As per census 2011, total population of Jalgaon district was 4,229,917. Hinduism constitutes 81.74% of Jalgaon population. Muslims are minority in Jalgaon state forming 13.25% of total population. The Jalgaon city is divided into 69 wards. The Jalgaon city has population of 460,228 of which 240,590 are males while 219,638 are females.

Muslims in Jalgaon city are engaged in variety of jobs such as Government Service, Business, Salesmen at Shops and super markets, laborer in grain market, vendors, auto driver, workers in Industries etc. The level of general health condition and education is less. In general observation the standard of living of Muslims in Jalgaon city is not at par with the other minority

population as well as the majority communities in the city. In the present research paper, the authors have studied the occupational pattern in Muslim community spatially.

Key Works: Livelihood, Poverty, BPL, Five Year Plan, Millennium Development Goals.

56 **Gaseous Air Pollution And Its Consiquencses**

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Abstract:-

Air pollution has become an extremely serious problem for the modern industrialized world. Air pollution may be defined as any atmospheric condition in which certain substances are present in such concentrations that may produce undesirable effects on man and ecosystem. These substances include gases particulate matters radioactive materials and many others. Air pollution may or will have harmful effects on living things and materials. It may interfere with biochemical and physiological processes of plants to an extent, which ultimately leads to yield losses Air pollution was earlier considered as a local problem around large point sources. But due to use of tall stacks and long range transport of pollutants, it has become a regional problem. The Trans boundary nature of pollutants was clearly evident when areas remote from sources of air pollution also showed higher concentrations of air pollutants. Uncontrolled use of fossil fuels in industries and transport sectors has led to the increase in concentrations of gaseous pollutants such as SO2, NOx, etc.

57 **Thermo-physical analysis of 2-Amino thiazole derivatives using TGA-DSC.**

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Abstract:

Zooplankton diversity is one of the most important ecological parameters in water quality assessment. The present paper deals with seasonal variation in density diversity of Zooplankton of Ranipur dam water near Shahada in Nandurbar district, Maharashtra. Ranipur dam water is mostly used for drinking, irrigation and domestic purposes. The Zooplankton dynamics can greatly influence the water quality of this dam. Therefore the population composition and seasonal variation of zooplankton were carried out. For study samples were collected from the three different sampling stations (A, B and C) of Ranipur dam. The quantative analysis of Zooplankton has revealed the fact that Rotifers, Cladoceran, Copepodes and Ostracods were the major components of its total bulk in Ranipur dam. The values of number of Zooplankton species indicating the pattern of diversity has exhibited a different dominating trends of its major sub groups as given Rotifera > Cladocera > Copepoda > Ostracoda. The Ranipur dam had moderate diversity of total Zooplankton with 45 species of Zooplankton were recorded belongs to four

taxonomic groups. Out of 45 species, 25 species belongs to Rotifera, 09 species to Cladocera, 06 species Copepoda and 05 species to the Ostracoda.

Keywords:
Ranipur dam, Zooplankton, Seasonal variation, diversity.

58 Some Very Severe Fungal Disease of Economically important Trees of, Jalgaon District's

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Abstract:

During the extensive and intensive survey in 2017-18,and 2018-19 in order to collect and observe the severe fungal disease of trees of , Jalgaon Districts was conducted. Out of trees plants affected,, 20 plants were found affected from severe fungal diseases. These plants are – Azadirachta indica, Albezia procera, Albezia lebbeck, Madhuca latifolia, Pongamia pinnata, Tectona grandis, Termenilia arjuna, Termenelia bellerica, Ficus religiosa, Ficus benghalensis, Dalbergia sisso , Cassia fistula.Bridelia retusa were seriously affected.About 17leaf spot, 5 rust, and 7 wilt disease and 16 heart rot were observed during two years . Pathogens were identified with the help of available literature and confirmed by experts.

59 Role of Coriander (Coriandrum sativium L.) On Accumulation and Depuration of Cadmium in Bellamya bengalensis(L.)

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Abstract:

Present study aimed to examine the usefulness of Coriander (Coriandrum sativium L.) extract for elimination of heavy metal bioaccumulated in the whole body tissue of the experimental model animal gastropod snail Bellamya bengalensis (L.) The accumulation and elimination of cadmium (Cd) was examined by exposing the snail Bellamya bengalensis(L.) to 0.228ppm ($CdCl_2$) cadmium chloride with and without Coriander (Coriandrum sativium L.) extract for 7, 14, 21 days. After 21 days treatment the snails were allowed to cure naturally in normal water and with coriander extract up to 21 days separately. The whole body tissue samples were taken out after every 7 days for metal analysis. There was a gradual increase in heavy metal content with increase in exposure period for mercury. The concentration of cadmium during depuration was found to be decreased with increase in period. However the recovery was faster in those which are treated with coriander extract as compaired to those which are allowed to cure naturally in normal water. The aim of present study was to highlight the antioxidation, heavy metal detoxification, elimination and chelating aspects of coriander.

Key words: Coriander, Heavy Metal, Cadmium, Bioaccumulation, Depuration, Gastropod, Bellamya bengalensis L.).

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Role of Solar, Wind and Biomass Energy Resources in Rural Development of India

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Abstract

Today there is an urgent need for transition from petroleum based energy systems to one based on renewable resources. In the world energy security, economic growth and environment protection are the national energy policy drivers for any country. Solar, wind and biomass energy has the potential to create many employment opportunities at all levels, especially in rural areas of India. Enhancing the regular use, promoting deployment, innovation and basic research in renewable energy technologies, resolving the barriers to development and commercial deployment of solar, wind and biomass technologies in rural area of India is today's need. In this research paper, solar, wind and biomass energy resources, their potential of producing electricity, cost effectiveness, efficiency, applications, limitations and storage problems are focus of attention.

Keywords: solar, wind, biomass, rural, development

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Problems and Remedies to Control Noise Pollution in the Areas of Jalgaon City

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Abstract :

Noise pollution in nature has been a one of a kind circumstance which makes it hard to enough contrast noise and other natural contaminations. In spite of the fact that it is enticing to think about its similarity with water, air or strong waste issues, noise ought to be viewed as a thoroughly independent element. Noise, a physical poison, isn't effectively perceived. This is on the grounds that the affectability of human ear gets naturally acclimated to the encompassing dimension of sound and hence moderate increments in the surrounding level go unnoticed. Along these lines noise keeps on doing the harm, quietly. Noise is a disturbance to the human environment that is escalating at such a high rate that it will become a major threat to the quality of human lives. In the past thirty years, noise in all areas, especially in urban areas, has been increasing rapidly. There are numerous effects on the human environment due to the increase in noise pollution. The influence of noise on the human body can be due to the direct effects upon the auditory system, on non-auditory physiological processes and on purely psychological mechanisms.

Key words: Nausea, Noise, unpleasant, remedies, urbanization, industrialization, physical poison.

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In-vivobio-control of fungal pathogens through antagonistic fungi

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Abstract:

Stringent new restriction on the use of chemicals and elimination of some effective toxic pesticide from the market could be option but alternative biopesticide application are needed for

the control of several diseases and such strategies should be made with the help of public concern regarding pesticide pollution due to indiscriminate use..

For assessment of antifungal activity against ten targeted fungal pathogen following different methods were adopted. Three *Trichoderma* species, namely *Trichoderma viride, Trichoderma koningii* and *Trichoderma hamatum* were evaluated against ten phytopathogenic fungi of leafy vegetables. Biological control of ten fungal pathogens of leafy vegetables were carried out by using three *Trichoderma species* as a biocontrol. *In-vivo* studies showed that *T. viride* was more effective and revealed 68.14% disease reduction, while *T. koningii* and *T. hamatum* had 43.43% and 36.02% disease reduction among eight leafy vegetables at field conditions.

Keywords: Biocontrol, Antagonstic fungi, *Trichoderma spp*., *In-vivo.*

63 **Acoustical studies of substituted heterocyclic drugs in ethanol-water solvent at 303.15k.**

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ABSTRACT

Ultrasonic methods find extensive applications for characterizing aspects of physicochemical behavior such as nature of molecular interactions in pure liquids as well as liquid mixtures. The ultrasonic velocity and density of substituted heterocyclic drugs Clarithromycin in 70% ethanol-water mixture have been measured by using ultrasonic interferometer at frequency 3MHz and at constant temperature 303.15K. From the experimental data, various acoustical parameters such as intermolecular free length, specific acoustic impedance, relative association, adiabatic compressibility, apparent molal compressibility, and apparent molal volume have been evaluated, which helps in understanding the molecular interactions occurring in these solutions.

Keyword: ultrasonic velocity, intermolecular free length, relative association.

64 **Applications of Schiff base ligands**

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Abstract

Schiff bases are formed by the condensationof primary amines. There are various applications of Schiff bases. Schiff bases are used as catalysts, pigments and dyes, intermediates in various organic synthesis, polymer stabilizers, and corrosion inhibitors. Their use in contraception, food packages and as an O_2 detector is additionally printed. Schiff bases showshelpful biological activities such anti-inflammatory, analgesic, antimicrobial, anticonvulsant, antitubercular, anticancer, antioxidant,antidepressant activities, DNA cleavage, Catalytic Oxidase activities. Schiff's bases are also used as an analytical chemical reagents and/or separation reagent. Schiff bases are also used in chemo-sensor for detection of metal ions.Invention of a new

chemotherapeutic Schiff bases and their metal complexes is now attracting the attention of medicinal chemists. Subsequently, Schiff base constitutes a significant class of compounds for new drug development. Moreover, Schiff bases are also used for molecular docking study.
Keywords: Schiff base, biological activity, sensor

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A study on Zooplankton Diversity of Banshelki Lake Udgir

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Abstract
Water is the most important for the survival of all life forms on the Earth. That may be in the form of liquid, solid and vapor form. Zooplanktons are the second trophic level organisms in food chain. They are the food for upper level organisms in the food chain and food web. The diversity of zooplanktons has been studied in Banshelki Lake in the year 2018 season wise. In every season there is presence of different kinds of zooplanktons. This indicates that the lake ecosystem is sustaining in proper manner.
Key words:Zooplanktons, Water, Trophic levels Food Chain and Food web

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A preliminary survey on algae (Euglenineae and Myxophyceae) from sewage from Bhusawal city.

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ABTRACT

Algae are natural inhabitants of water and serves as indicators of water quality in various ways. Sewage water contains1-6 times more of organic matter which enhance the growth of algae. Present communication includes Most of taxa of Euglenineae and Cyanophyceae collected from sewage water, moist soil near to sewage pools/puddles / nallies of Bhusawal city. Present communication includes genera like *Euglena* Ehr., *Phacus* Dujardin, *Microcystis* Kuetz., *Chroococcus* Naeg., *Gloeocapsa* Kuetz., *Aphanocapsa* Naeg., *Aphanothece* Naeg., *Synechocystis* Sauv. *Merismopedia* Meyen, *Arthrospira* Stizenb., *Spirulina* Turpin em. Gardner, *Oscillatoria* Vaucher, *Phormidium* Kuetz., *Lyngbya* Ag., *Nostoc* Vaucher, and *Anabaena* Bory.
Key words : Algae, sewage, Bhusawal, Euglenineae and Myxophyceae.

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Status of Dissolved Oxygen and Biochemical Oxygen Demand in Tiru Lake,Udgir

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Abstract

Oxygen level in the water body indicates the survival of organisms. The levels of DO were measured for assessment of lake health along with BOD. BOD is dependent on the organic content and its degradation in the lake. DO levels was found in the range of 6mg/L to 11 mg/L. BOD levels are also affected by the Self purification process. Present investigation is made for the Tiru lake. The study period was from January 2018 to December 2019. BOD levels were in

the range of 10 mg/L to 56 mg/L. Dissolved Oxygen was analyzed by winkler's method .BOD three Day method was applied for the analysis.

Key Words: Bio-Chemical Oxygen Demand, Anthropogenic, Organic waste, Self Purification Survival.

68 **Synthesis and Luminescent, Electrical Resistivity Properties of CdTe Thick Film**

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Abstract

Semiconductor nanoparticles are currently being extensively studied due to their unique size dependent properties. It has been demonstrated by several groups that nanocrystalline II-VI semiconductors show enhanced luminescence and electrical properties. Polymers are able to achieve surface passivation, prevent particles from agglomeration, which are in favour of controlling the particles size and size distribution effectively. CdTe an important II-VI semiconductor material, which is very useful for a variety of electro-optical devices and solar energy conversion. CdTe nanocrystalline thick films have been prepared by screen-printing method and characterized by luminescent, electrical resistivity techniques. CdTe nanoparticle thick film have been prepared using cadmium acetate as cadmium source and tellurium dioxide as telluride source. The photoluminescence spectra of the CdTe films exhibited red band emissions corresponding to the luminescence emission. Electrical resistivity studies showed that the films are semiconducting nature and the room temperature electrical resistivity of the film decreases with the increasing temperature.

Keywords: Co-precipitation, Thick film, CdTe, Semiconductors, Luminescent, Electrical Resistivity Properties.

69 **Status of Dissolved Oxygen and Biochemical Oxygen Demand in Bhopani Lake,Udgir**

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Abstract

Oxygen level in the water body indicates the survival of organisms. BOD is dependent on the organic content and its degradation in the lake. DO levels was found in the range of 3mg/L to 10 mg/L. BOD levels are also affected by the Self purification process. Present investigation is made for the Kaloor lake. The study period was from January 2018 to December 2018. BOD levels were in the range of 12 mg/L to 45 mg/L. Dissolved Oxygen was analyzed by winkler's method .BOD three Day method was applied for the analysis.

Key Words: Bio-Chemical Oxygen Demand, Anthropogenic,Organic waste ,Self Purification Survival.