4th

INTERNATIONAL CONFERENCE ON EMERGING TRENDS IN MULTIDISCIPLINARY RESEARCH

ICETMR-2019

Date : 23rd - 24th February, 2019

Venue

Shanmuga Industries Arts & Science College, Thiruvannamalai

Jointly Organized By

ARUNAI INTERNATIONAL RESEARCH FOUNDATION (Nonprofit Organization)

Arunai International Research Foundation (AIRF)

Shanmuga Industries Arts & Science College

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MESSAGE

MN.Palani, BA., BL.,
Chairman
Shanmuga Industries Arts and Science College
Tiruvannamalai.

I am immensely happy that Arunai International Research Foundation and Shanmuga Industries Arts & Science College jointly organizing 4TH International Conference on Emerging Trends in Multidisciplinary Research". I am sure that the Conference will provide a fruitful interaction among teachers, scholars and students in various research fields. It exposes imagination and learning of general human interests. It also develops the creative thinking, which enhances the depth in knowledge and feels pleasure in actual application. By organizing this type of conferences the scholars will be more benefitted and the reflection will be on the society. This is exactly what we have to do in the present.

MESSAGE

N.Kumar., BE.,
Secretary & Correspondent
Shanmuga Industries Arts and Science College
Tiruvannamalai.

It is my pleasure to give this message on the "4TH International Conference on Emerging Trends in Multidisciplinary Research" organized by the Arunai International Research Foundation and Shanmuga Industries Arts & Science College. The aim of this conference is to bring together academicians, educators, planners, teachers and professionals to exchange their views, insights and opinions on past and current practices in multidisciplinary Research; Conference brings some exposure for the Research Scholars and Faculties. It opens the window into unfamiliar world and offers a fresh look. In today's world, I am sure scholars will undergo an immensely rewarding experience. I believe that the scholars will benefit highly from this conference. My Hearty greetings should go to the organizers. My best wishes for the conduct of the international conference.

MESSAGE

Prof.Al.Udaiyappan, M.Sc., Mphil., F.I.C.S.,
Academic Dean
Shanmuga Industries Arts and Science College
Tiruvannamalai.

I am extremely happy to know that Arunai International Research Foundation and Shanmuga Industries Arts & Science College jointly organizing 4TH International Conference on Emerging Trends in Multidisciplinary Research". In today's era of competition and survival we observe laxity in ethical values. Computerized world has led to the emergence of high life style and raised the standard of living of people. It has made human rich in materialistic sense but deteriorated the ethical fiber in the society. People crave for money, power and pelf. They are ready to jeopardize the interest of other people in pursuit of their selfish gains. Corruption in religious, economic, social and educational field is rampant. We come across many social evils in the society. I am sure this conference will help to open avenues for exchange of ideas in this important field of Eco-Literary Studies. The prospects of participation of eminent resource persons from prestigious academic institutions from our Nation and from abroad and their interaction with the scholar community are gratifying and it the significance and its relevance to improving the standard of living of the people.

MESSAGE

Dr.K.Anandaraj, M.Sc.,M.Phil.,Ph.D.,
Principal
Shanmuga Industries Arts and Science College
Tiruvannamalai.

Knowledge sharpens the gate for seekers

It gives me immense pleasure in welcoming all of you to this great assembly of scholars and researchers through the International Conference on Emerging Trends in multidisciplinary Research. Which is jointly organised by Arunai International Research Foundation and Shanmuga Industries Arts and Science College. The main aim of this conference is to bring together national and international academics, educators, planners, teachers and professionals to exchange views, insights and opinions on past and current practices in multidisciplinary Research, this conference acts as a forum that brings exposure to post-graduate students, Research Scholars and Faculties. The participants are able to present their research papers in a world class forum and gain invaluable experiences. Let us engage in discussions of the common trends in our fields of research and find common ground on which we can stand on to appreciate and integrate each other's findings into our own. It is only through research and practice that we could contribute to the nation and the world at large with the advances and innovations in the field of social sciences and humanities to ensure a balanced growth in the society. Sustaining progress in research for the advancement of the society is a very challenging task. It takes continuous effort and sacrifice to provide new insights on multidisciplinary Research that would benefit the students and the nation. I would like to congratulate and thank organizers. In fact, Arunai Journal and Shanmuga Industries Arts & Science College has brought the international world to our door step.

This conference also acts as platform to begin networking among scholars and researchers from all corners of India as well as from abroad and to generate sequels of collaborative research and publications which is the primary goal of this conference. By attending this conference, the scholars get an opportunity to publish in an international journal which at the same time fulfills the requirement of the senate for them to graduate. This conference acts as a stepping stone for new researchers and post graduate students to further embark into more international conferences. This conference also provides an access in producing a more contributing and productive future generation which will aid the nation of India to prosper in the international arena in ensuring that the nation will be on the same platform with other prosperous countries.

I also thank everyone who has contributed for the success of this conference directly or indirectly and pray that the teamwork will continue and grow in the years to come.

FOREWORD

Dr. Kasi Kamalakkanan
CEO
Arunai International Research Foundation
Tiruvannamalai.

Arunai International Research Foundation, Thiruvannamalai, Tamilnadu, India is actively involved in promoting the realm of research, education and philanthropy for a new world order.

The vision of Arunai International Research Foundation is to promote best quality and excellence to the education community through the conduct of series of conferences in collaborating with various reputed educational institutions. I am happy that 4th International Conference on Emerging Trends in Multidisciplinary Research is conducted on 23rd February 2019 in collaboration with Shanmuga Industries Arts and Science College to provide platform for sharing their knowledge, ideas, and findings in the midst of practicing researches in the multidisciplinary fields.

Response to our call among the researches was really overwhelming. One hundred and fifty papers were received globally. All the selected papers were given to the editorial board for the blind peer review process.

My sincere thanks to the Invited speakers for sharing their insights among the participants.

My heartfelt thanks to the Members of the Editorial Committee, Members of the Organizing Committee, Delegates and Students for their fullest cooperation in the successful conduct of this conference.

I hope that the delegates will find the conference productive and an enabling platform for building relationship and networks for their future innovation.

FOREWORD

Dr. M. Seenivasan

Organizing Secretary ICETMR-2019
Department of Mathematics
Annamalai University, Annamalainagar.

I deem it a great honor and privilege bestowed on me to write this message for this remarkable conference.

In continuation of three international conferences, Arunai international Research Foundation organizes 4th International Conference on Emerging Trends in Multidisciplinary Research jointly with Shanmuga Industries Arts and Science College. Both of them render their services to the academic community.

As a premier conference in the multidisciplinary research, this conference would provide a highly competitive forum for reporting the latest developments in the research areas and application domains.

This international conference, ultimately will lead to new opportunities for the participants and Resource Persons from various fields.

In this conference, we received more than 125 paper submissions from all over the world. Thanks to the effort of the Program Committee members, we have accepted a number of high quality submissions, including 84 full papers, 23 short papers, and 20 posters for presentation at the conference. These selected papers cover almost all of the major research topics.

The conference will provide a comprehensive, enriching overview of the field.

My deep wishes and prayers to all fruitful scientific sessions and a very pleasant stay in Thiruvannamalai.

Good Luck.

MESSAGE

Dr. Kameswari

Associate Professor
Department of Mathematics
TCE, Madurai.

It is my pride privilege to present foreword in the proceedings of the 4th International Conference on Emerging Trends in Multidisciplinary Research jointly organized by Arunai International Research Foundation & Shanmuga Industries Arts and Science College.

Arunai International Research Foundation thrives to emphasize multidisciplinary research across the world. Shanmuga Industries Arts and Science College enables the rural youth living to have easy access to higher educations.

This conference would provide a platform for scholars, faculties and industrialist throughout the world to interact, exchange their views and ideas with renowned and eminent experts from premier institutes.

This international conference, ultimately will lead to new opportunities for the participants and to the organizers.

I wish this conference in a grand success.

Happy Conference to all of you.

Contents

Invited Talk

CHEMISTRY

1. The Biological Importance of Nitrogen Contains Heterocyclic Compounds

Dr. G. Rajarajan

Department of Chemistry, Annamalai University, Annamalainagar-608002.

Nitrogen contains heterocyclic compounds are among the most frequently encountered scaffolds in industries and other academic disciplines such as medicinal chemistry, biophysics, and material science. Heterocycles are of immense importance in biologically and industrially. The heterocycles occur in a diversity of natural products and drugs and are of great importance in a wide variety of applications majority of pharmaceuticals. Nitrogen, sulphur, and oxygen contain heterocycles were widely used as key building blocks for pharmaceutical agents like antifungal and anti-bacterial activity, anti-inflammatory activity and analgesic activity, anti-tubercular activity, anti-depressant activity, anti-cancer activity, anti-viral activity and anti-leishmanial activity. Nitrogen-containing heterocycles have been used as medicinal compounds for centuries, and form the basis for many common drugs such as Morphine, Captopril, and Vincristine (cancer chemotherapy). Aromatic nitrogen heterocycles may contain another heteroatom, such as the oxygen in isoxazoles, oxazoles, 1,3,4-oxadiazoles, and 1,2,4-oxadiazoles. Among the drugs containing aromatic five-membered nitrogen, heterocycles are cholesterol-reducing Atorvastatin, anti-inflammatory Celecoxib, antiulcerative Cimetidine. antifungal Fluconazole and antihypertensive Losartan.

2. Dual Functional Fluorescent Chemosensor for Discriminative Detection of Cr^{3+} and V^{3+} ions its Malty-applicable Molecular Docking, Living Cells and DFT

C. Anbuselvan[*#] E. Dhineshkumar and M. Iyappan

Department of Chemistry, Annamalai University, Annamalainagar
[#]PG and Research, Department of Chemistry, Government Arts College, Chidambaram.

A Schiff Base derived fluorescent probe for dual channel detection of Cr^{3+} and V^{3+} ion was developed. By two pathways Cr^{3+} and V^{3+} ions takes place its sensing; i) blocking the process of photoinduced electron transfer to turn on fluorescent response, and ii) intramolecular charge transfer process which enrich the red shifted fluorescent. Mass spectrometric, NMR and theoretical studies were used to support all those findings. In order to get application molecular docking, bioimaging studies, the live cells is applied with sensing of Cr^{3+} and V^{3+} ions.

Keywords: *Chemosensor, Fluorescence, Cr^{3+} and V^{3+} ions, HepG2 Cells, Bio imaging, DFT*

3. Synthesis, Crystalline perfection and Non- linear optical studies of Hg(II) doped ADP crystals

Dr S. Senthilkumar[a] and Dr P.Punitha[b]

[a]Assistant Professor, Department of Chemistry, Annamalaiuniversity
[b]Assistant Professor in Chemistry, Govt. Polytechnic College, Korukkai, Thiruthuraipoondi, India

Non-linear optical crystals of Hg(II) doped ADP crystals at different concentrations were grown by slow evaporation techniques. The doped crystals were clear, transparent and grown within 10-12 days. High resolution X-ray diffraction study reveals that the grown crystals are having good crystalline perfection and their FWHM was calculated. Thermal behavior of the doped crystals has been studied from the TG and DTG analyses. SHG study reveals that the doped ADP crystals are a promising non-linear optical material and it's also suitable for optoelectronic applications.

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4. Synthesis and Characterization of novel 5-(benzo[1,2,5]oxadiazol-4-yl)-3-phenyl-4, 5-dihydro-1H-pyrazole-1-carbothioamides derivatives

S. Sivapriya, S. Priyanka, D. Sivakumar, M. Gopalakrishnan, H.Manikandan*

Department of Chemistry, Annamalai University, Annamalanagar-608 002.

Anovel 5-(benzo [1,2,5] oxadiazo l-4-yl) - 3 - pheny l - 4, 5 - dihydro - 1H - pyrazole - 1 - carbothioamide was synthesized by the cyclisation of chalcone with thiosemicarbazide in presence of sodium hydroxide in ethanol which leads to the formation of the pyrazole moiety. The chemical structure of the compound was checkout by FT-IR,^{1}H&^{13}C NMR, Mass spectrometry, and the purities was confirmed by elemental analysis. TheHOMO-LUMO and band gap energies were calculated by DFT method. The in-vitro antibacterial evaluation of these compound was checked out against gram positive and gramnegative bacteria by disc diffusion method and the minimum inhibitory

Concentration of these compound were determined. The title compound manifest well antibacterial activities compared to standard drugs. The compound was tested for their anticancer activity and molecular docking studies.

Keywords: *Chalcone, Thiosemicarbazide, DFT, Antibacterial, Anticancer and Molecular Docking.*

BOTANY

5. Antihyperglycemic Efficacy of Sargassum Weightii on Streptozotocin Induced Diabetic in Male Albino Rats

A. Natarajan

Department of Botany, Arignar Anna Government Arts College, Villupuram - 605 602.

Diabetes mellitus is one of the most important health problems worldwide, showing high indices of prevalence and mortality. Diabetes mellitus can be defined as a group of metabolic diseases characterized by chronic hyperglycemia, resulting from defects in insulin secretion, insulin action, or both. Diabetes mellitus is the metabolic disorder with the highest rates of prevalence and mortality worldwide. Diabetes mellitus is a major health problem in developed and developing countries. The present study was undertaken to investigate the effect of methanolic extract of *Sargassum weightii* on alloxan induced diabetics in male albino Wistar rats. Streptozotocin induced diabetic rats were treated with methanolic extract of *Sargassum weightii* at the doses of 50, 100 and 200 mg/kg, p.o. and its influence on glucose, insulin, hemoglobin, glycosylated hemoglobin, alanine transaminase, aspartate transaminase were observed. Oral administration of methanolic extract of *Sargassum weightii* at the dose of 50, 100 and 200 mg/kg, p.o. to streptozotocin treated rats showed significantly decrease in plasma glucose, glycosylated hemoglobin, alanine transaminase, aspartate transaminase where as plasma insulin, hemoglobin levels were significantly increased. Hence, it can be concluded that *Sargassum weightii* extracts prove to be effective in the treatment of diabetes mellitus owing to its ability to increase insulin secretion.

Keywords: *Glucose, Insulin, Sargassum weightii, Streptozotocin*

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6. In Vitro Antioxidant Activity of Methanolic Root Extract of Decalepis Hamiltonii Wight & ARN

R. Manivasagaperumal

Department of Botany, Thiru Kolanjiappar Goverment Arts College,
Viruthachallam, Tamil Nadu, India.

The present study was to carryout to evaluate the antioxidant potiential of methanolic root extract of *Decalepis hamiltonii*. The metnanolic root extract was subjected to total phenolic and flavonoid estimation. The level of the antioxidant potentials of root extract were determined by DPPH, ABTS, Superoxide radical, Hydroxy radical activity. The results showed that methanolic root extract of *Decalepis hamiltonii* had higher level of phenol(13.05mgGAE/g) and flavonoid content(6.40mgQE/g). The methanolic root extract showed significant antioxidant activity. The percentage of inhibition for DPPH(93%), ABTS(90%), Superoxide radical(80%) and Hydroxyl radical(62%) which is comparable with respective standards. The result suggested that the antioxidant activity was due to higher levels of phenolic and flavonoid contents in the methanolic root extract. Further studies along with isolation and molecular mechanism of methanolic root extract of *Decalepis hamiltonii* may lead to significant outcome.

Keywords: *Antioxidant, ABTS, Ascorbic acid, DPPH.*

7. Antioxidant Profiles Enhanced by Administration of Seaweed, Sargassum Polystum on Streptozotocin Induced Diabetes in Male Albino Wistar Rats

Dr. J. Sekar

Department of Botany, L.N. Government Arts College, Ponneri – 601 204.

Despite the immense strides that have been made in the understanding and management of diabetes, disease related complications are increasingly unabated. In spite of the presence of series of known anti-diabetic medicine in the pharmaceutical market, remedies from medicinal plants are used with success to treat this disease. Many marine sources treatments for diabetes are used throughout the world and there is an increasing demand from patients to use the natural products with ant diabetic activity. Seaweeds offer a wide range of therapeutic possibilities both internally and externally. All essential minerals are provided by dietary seaweeds. Terrestrial plant even remotely approaches seaweeds as sources of metabolically-required minerals. Brown seaweeds are the only known non-animal sources of thyroid hormones. Most seaweed is rich in vitamins, especially the B vitamins, including B12. Seaweeds are macro algae which play an important role in ocean ecology and also are important source of food, pharmaceuticals as well as industrial products. Bioactive compounds from seaweed are known to have great potential in pharmaceutical and biomedical applications. Seaweeds are potential renewable resource in the marine environment. They occupy an important place as a source of biomedical compounds such as carotenoids, dietary fibre, polyphenols, enzymes, protein, essential fatty acids, polysaccharides, vitamins and minerals.

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8. In-Vitro Antioxidant and α -Glucosidase Inhibition Properties of Halymenia Floresii (Clemente) C. Agardh 1817

A.Vetriselvi[1*] and A. Porselvi[2]

[1*]Assistant Professor, Department of Botany, Queen Mary's College, Chennai – 600 004

[2]Research Scholar, Department of Pharmacy Practice, SRM College of Pharmacy, Kattankulathur – 603 203

The algal resource has been sought for thousands of years for their ability to prevent disease and improve human health. Seaweeds are potential renewable resources in the marine environment. The present study was performed to investigate α- Glucosidase inhibition and antioxidant activities of methanol extract of *Halymenia floresii under in vitro*, collected from Gulf of Mannar. Interestingly, methanol extract of *Halymenia floresii* showed high α-Glucosidase inhibition and antioxidant property. The extract of *Halymenia floresii* showed 50% α- Glucosidase inhibition at 69.32 ± 1.23 µg/ml. It also exhibited high antioxidant scavenging activity on 2, 2-diphenyl-picrylhydrazyl (DPPH) (IC50 46.07 ± 1.34 µg/ml), hydroxyl (IC50 34.32 ± 1.01 µg/ml), nitric acid (IC50 52.34 ± 1.02 µg/ml), and superoxide (IC50 34.11 ± 1.37 µg/ml) radicals, as well as high reducing power. There was a better suppressive effect on lipid peroxidation and good metal chelating ability observed. The results obtained from this study clearly suggesting that Halymenia floresii has significant potential to use as natural α-Glucosidase inhibitor and also an effective antioxidant agent.

9. 'OMIC' Science – The Future of Biological Science

Dr. G.M. Alagu Lakshmanan

Assistant Professor , Department of Botany,

ThiruKolanjiappar Government Arts College, Vriddhachalam

The knowledge of biological science is expanding to greater heights which results in need of lot of analyzing skill, interpreting the information and managing the biological information. This is the reason why the biological science becomes synthetic biology where in the role of other field of sciences like physics, chemistry, mathematics and computer science along with engineering principles and technology takes their lead role in shaping the field of biology into major realm of science. Nowadays, the word omics is chanted throughout the sphere of biological sciences and taken granted for using this omic knowledge to the man kind development.

The word informally refers to a field of study in biology ending in -omics, such as genomics, proteomics or metabolomics. Genomic science is deals with the discovery and noting of all the sequences in the entire genome of a particular organism. Genomics is, therefore, the study of the genetic make-up of organisms. Determining the genomic sequence, however, is only the beginning of genomics. Once this is done, the genomic sequence is used to study the function of the numerous genes (functional genomics), to compare the genes in one organism with those of another (comparative genomics), or to generate the 3-D structure of one or more proteins from each protein family, thus offering clues to their function (structural genomics). In crop agriculture, the main purpose of the application of genomics is to gain a better understanding of the whole genome of plants. Agronomically important genes may be identified and targeted to produce more nutritious and safe food while at the same time preserving the environment.

Genomics is an entry point for looking at the other 'omics' sciences. The information in the genes of an organism, its genotype, is largely responsible for the final physical makeup of the organism, referred to as the "phenotype". DNA in the genome is only one aspect of the complex mechanism that keeps an organism running – so decoding the DNA is one step towards understanding the process. The basic flow of genetic information in a cell is present in DNA is transcribed or copied into a form known as "RNA". The complete set of RNA (also known as its transcriptome) is subject to some editing (cutting and pasting) to become messenger-RNA, which carries information to the ribosome,where it is translated into the life language molecule called protein. The complete set of proteins in a cell can be referred to as its proteome and the study of protein structure and function and what every protein in the cell is doing is known as proteomics. The proteome is highly dynamic and it changes from time to time in response to different environmental stimuli. The goal of proteomics is to understand how the structure and function of proteins allow them to do what they do, what they interact with, and how they contribute to life processes. An application of proteomics is known as protein "expression profiling" where proteins are identified at a certain time in an organism as a result of the expression to a stimulus.

The metabolomics science refers to the complete set of low molecular weight compounds in a sample. These compounds are the substrates and by products of enzymatic reactions and have a direct effect on the phenotype of the cell. Thus, metabolomics aims at determining a sample's profile of these compounds at a specified time under specific environmental conditions. Genomics and proteomics have provided extensive information regarding the genotype but convey limited information about phenotype. Low molecular weight compounds are the closest link to phenotype. Metabolomics can be used to determine differences between the levels of thousands of molecules between a healthy and diseased plant. The technology can also be used to determine the nutritional difference between traditional and genetically modified crops, and in identifying plant defense metabolites. The future of biology is fully in the hands of omic sciences which bring out more glorious development in the field of agriculture and medicine to fulfil all the requirements of human beings.

ZOOLOGY

10. Studies on the Impact of Heavy Metal Lead on Biochemical Changes in the Adult Insect Sphaerodema Rusticum in Relation to Excretion (Heteroptera : Belostomatidae)

V. Rajathi[1], M. Sivanandan[1] and H. Manikandan[2]

[1]Department of Zoology, Government Arts College, Chidambaram – 608102 Tamil Nadu India.

[2]Department of Chemistry, Annamalai University, Annamalainagar

The effects of medium lethal concentration of heavy metal lead (14.20 ppm for 48 h) exhibited a significant decline in the contents of glucose and glycogen in the fat body, haemolymph and Malphigian tubules. The toxicity impact of lead on Sphaerodema rusticum was appropriate to be comparatively higher than any other insects. Since it has its own tolerance limit beyond 48h (14.20ppm) concentration in the aquatic environment. This intimate that the non-target organism like Sphaerodema rusticum could be used as an effective indicator to assess the extent of lead pollution in the aquatic environment.

Keywords: *Sphaerodema rusticum, Haemolymph, Fat body, Malphigian tubules.*

MATHEMATICS

11. Cutting-Edge Technology in Health Care Diagnostics through Fuzzy Expert Systems

Dr.M.Kameswari

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Health monitoring has become as essential activity in every one's life. Human disease diagnosis is a complicated process and requires high level of expertise. Developing a web-based expert system dealing with human disease diagnosis or health monitoring has to overcome various difficulties. Cutting-edge technology refers to technological devices, techniques or achievements that employ the most current and high-level IT developments; in other words, technology at the frontiers of knowledge. Fuzzy systems are being used successfully in an increasing number of application areas. An expert system that uses fuzzy logic instead of Boolean logic is known as Fuzzy expert system. A fuzzy expert system is a collection of fuzzy rules and membership functions that are used to reason about data. Using fuzzy expert system expert knowledge can be represented that use vague and ambiguous terms in computer. Fuzzy logic is a set of mathematical principles for knowledge representation based on degrees of membership rather than the crisp membership of classical binary logic. As fuzzy logic attempts to model human's sense of words, decision making and common sense, which assist in digital health monitoring and diagnostics extensively leading to more human intelligent machines

Keywords: *Health monitoring, Diagnostics, Cutting-Edge Technology, Expert System, Fuzzy Expert System, Fuzzy Logic, Intelligent Machines.*

12. Interval-Valued Anti Fuzzy Ideals in Ternary Semirings

T.Anitha[1], J. Jayaraj[2] and S. Thirumaran[3]

[1]Department of Mathematics, Alagappa Chettiar Government College of Engineering and Technology, Karaikudi
[2]Department of Mathematics, Dr.Purachithaliver M.G.R Govt. Arts and Science College, Kudavasal
[3]Department of computer science, Annamalai University, Annamalainagar 608 002.

In this paper we introduce the notion of interval-valued anti fuzzy ideals and interval-valued anti fuzzy bi-ideals in ternary semirings. Interval-valued anti fuzzy right ideals are characterized through interval-valued fuzzy right ideals and right ideals.

Keywords: *interval-valued anti fuzzy right ideals, interval-valued anti fuzzy bi-ideals.*

13. Exact Analysis of Unsteady Convective Diffusion of Solute in a Capillary Bounded by Porous Beds

Dr. R. VijayaKumar

Mathematics Section, FEAT, Annamalai University,
Annamalainagar - 608 002, India.

The aim of this article is to focus the unsteady connective diffusion of erythrocytes in a couple stress fluid flowing in a rectangular channel bounded by porous layers and separated by a distance 2h apart. A uniform magnetic field is applied in the perpendicular direction to the flow of blood. The influence of the parameters such as Hartman number, couple stress parameter and porous parameter on horizontal velocity, dispersion coefficient and concentration profiles are analyzed and explained through graphs.

Keywords: *couple stress fluid, magnetic field, generalized dispersion . AMS Subject Classification: 76S05, 76W05, 76D05*

14. Prediction of Expected Time of Personnel to Leave the Industry -A Stochastic Approach

Vijayasankar. N

Assistant professor, Department of Statistics,

Periyar Atrs College, Cuddalore.

In any industry manpower otherwise called the human resource is very important factor. A many number of employed in different sector in industry. The phenomenon is very much pronounced in software industry. The propensity to leave the industry also changes due to the decisions of the management at decision making epochs. The industry crosses a particular level called the threshold, the individuals leaves the industry. Another factor which contributes to exit a person from the industry is the emotion which occurs at a decisions epochs which are at random time intervals. The level of emotions suffered by an individual is random characters. But when it crosses a particular level called the threshold, then the individual quit the industry. In this paper a stochastic model is developed to estimate the expected time of an individual to leave the industry.

Keywords: *Manpower, Stochastic Model, Industry, Epochs, Threshold, Estimate, Expected Time.*

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15. Decision Making Problem Based on Bipolar Intuitionistic Fuzzy Soft Set Using Topsis Method

S.Anita Shanthi

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Annamalai Nagar- 608 002

Bipolar fuzzy set theory, an extension of fuzzy set theory, deals with incomplete and vague information. The purpose of this talk is to develop new methodologies in handling multi-criteria decision-making (MCDM) problems where the subjective data given by a decision maker are expressed with bipolar fuzzy information. Every alternative has a rating consisting of two parts: positive and negative. The positive part represents the benefit (or satisfaction degree) and the negative part represents the cost (or dissatisfaction degree) of the alternative on the corresponding criterion. Bipolar intuitionistic fuzzy soft "Technique for order preference by similarity to ideal solution" TOPSIS method for solving MCDM problems that are equipped with bipolar fuzzy information is presented. The proposed method is illustrated with an example.

Keywords: *Bipolar intuitionistic fuzzy soft set, TOPSIS method.*

16. Investigation of Cross-Diffusion effects on Casson fluid flow in existence of variable fluid properties

R. Sivaraj

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VIT, Vellore, India 632014

A numerical investigation has been carried out for coupled partial differential equations which describe varying fluid properties on unsteady, free convective chemically reacting fluid flow on a moving vertical cone and flat plate. The computations for flow, heat, and mass transport in presence of thermal radiation, viscous dissipation, Soret and Dufour effects are carried out using Crank-Nicolson scheme. The influence of various physical parameters on transport properties of the fluid is displayed in form of graphs and tables. The results elucidate that the consideration of variable fluid properties has a significant influence on the flow, heat and mass transfer characteristics. Strengthening the Casson fluid parameter tends to decelerate the fluid velocity and escalate the local skin friction.

Keywords: *MHD, variable viscosity, variable thermal conductivity, variable molecular diffusivity, thermal radiation, Soret and Dufour effect 2010 MSC: 76A05, 74D10, 76W05, 85A25, 80A32, 80M20*

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17. Analysis of Economic Order Quantity Model for Non-Instantaneous Deteriorating Items with Ramp Type Demand Rate, Time Dependent Holding Cost and Shortages

K.Karthikeyan

Associate professor, Department of maths, School of Advanced Sciences, VIT Vellore, T.N,

Deterioration of goods is a realistic phenomenon in many inventory systems. Control and regulation of deteriorating items – like fruits and vegetables that are best sold farm fresh; or pharmaceuticals, chemicals, volatile liquid, blood, etc. that deteriorate during their normal storage period – is a major problem in inventory systems dealing with such products. Researchers have been progressively modifying the existing models for deteriorating items so as to make them more practicable and realistic. In this article an economic order quantity inventory model for non-instantaneous deteriorating items has been developed with ramp type demand rate, time dependent deterioration rate and time dependent holding cost. Shortages in inventory are allowed in this model, which is partially backlogged. The main objective of this model is to develop an optimal replenishment policy that minimizes the total average inventory cost. Numerical examples are used to illustrate the developed model.

Keywords: *Inventory, Ramp Type Demand, Deterioration, Partial backlogging,*

18. Effects of Thermal Radiation, Chemical Reaction and Heat Generation on Two Cases of Heat and Mass Transfer Flow Towards a Vertical Plate Embedded in a Porous Medium

S. Karthikeyan, Department of Mathematics, Erode Arts and Science College, Erode 638009.

The effects of thermal radiation, chemical reaction and heat generation on two cases of heat and mass transfer flow upon a vertical plate in a porous medium are analyzed. In the first case, the influence of thermal radiation and chemical reaction on the problem of unsteady hydro-magnetic natural convection flow, heat and mass transfer of an electrically conducting fluid in a porous medium bounded by a semi-infinite vertical plate with heat generation and variable suction is considered. The differential approximation is incorporated to represent the radiative heat flux in the energy equation. The governing dimensionless equations are solved analytically after using small perturbation approximation. The effects of different combinations of flow parameters on the velocity, temperature and concentration profiles are depicted graphically. In the second case, the behavior of MHD mixed convection stagnation-point flow towards a vertical plate embedded in a highly porous medium with heat and mass transfer in the presence of thermal radiation, internal heat generation, Soret and Dufour effects is studied. The non-linear partial differential equations governing the flow are transformed into a set of ordinary differential equations using suitable similarity variables and then solved numerically using shooting method together with Runge-Kutta algorithm. The effects of the various parameters on the velocity, temperature and concentration profiles are depicted graphically and values of skin- friction coefficient, Nusselt number and Sherwood number for various values of physical parameters are tabulated and discussed. It is observed that the temperature increases for increasing values of the internal heat generation, thermal radiation and the Dufour number and hence thermal boundary layer thickness increases.

19. Topological Descriptors of Various Type of Molecular Graphs

K. Pattabiraman, Assistant Professor of Mathematics, Government Arts College (A), Kumbakonam.

Graph theory is a very powerful area of mathematics that has wide range of applications in many areas of science such as chemistry, biology, computer science, electrical, electronics and other fields. The examination of chemical structural information is made conceivable using molecular descriptors. Chemical graph theory is a branch of mathematical chemistry in which we apply tools of graph theory to model the chemical phenomenon mathematically. Furthermore, it relates to the nontrivial applications of graph theory for solving molecular problems. This theory contributes a prominent role in the field of chemical sciences. Chem-informatics is new subject which is a combination of chemistry, mathematics and information science. It examines (QSAR) and (QSPR) relationships that are utilized to foresee the biological activities and physiochemical properties of chemical compounds. A lot of research in the field of chemical graph theory has been performed and researchers continue to research into this field.

A chemical graph is a simple finite graph in which vertices denote the atoms and edges denote the chemical bonds in underlying chemical structure. A topological index is a numeric quantity associated with chemical constitution indicating for correlation of chemical structure with many physical, chemical properties and biological activities.

A topological index is a mathematical measure which correlates to the chemical structures of any simple finite graph. They are invariant under the graph isomorphism. There are numerous topological descriptors that have some applications in theoretical chemistry. Among these topological descriptors the degree-based topological indices are of great importance. In this paper, we present different topological descriptors for various classes of molecular graphs.

20. Some Queuing Models Analyzed by Matrix Geometric Method

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The analysis and description of real world phenomenon through probability theory leads to stochastic modeling. Queuing theory is one of the most important field in stochastic modeling. Many real life systems can be reduced to components which can modeled by the concept of a queue.

The analysis of queuing model means the mathematical formulation, solution and computation of some stochastic characteristics. We consider the new queuing models. These models are developed based on some real life situations. For these models take arrival process is Poisson. The different models are analyzed using by the methods either analytically or numerically.

In this talk, we consider a queue with server break down. The life time of the server and repair times also negative exponential. This model is analyzed using Matrix Geometric Method. Some operating characteristics are also obtained and particular models are identified by assuming specific values to the parameters.

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21. HAM Solution for SEIR Epidemic Model

Dr.SP.Subramanian and Dr.Nirmala P.Ratchagar

Mathematics Section, FEAT, Annamalai University, Annamalainagar-608002

We consider a new semi analytic technique namely the Homotopy Analysis Method (HAM) is applied for SEIR Epidemic model. HAM is different from already exiting perturbation methods, and is most suitable for stongly non linear simultaneous different equations arising in this model. The advantage of this Model is that it provides a direct scheme for solving the problem. i.e. without the need for linearization, perturbation, massive computation and any transformation, MATHEMATICA 8.0 is used to carry out computations. Results were disscussede graphically using HAM and RUNGA Kutta method, for the childhood diseases.

AGRICULTURE

22. Abiotic Stress Tolerance in Crop Plants and its Mitigation

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Agriculture using genetically modified crops is emerging as an effective measure to counteract the negative impact of abiotic stresses on crop production. Abiotic stresses mainly salt, drought, cold and heavymetals are the major cause of crop failure which restrict crops to reach their full genetic potential. Salt, drought and heavy metals exert their negative impact essentially by disrupting the ionic and osmotic equilibrium of the cell, whereas, cold causes mechanical constraint to the membrane. Plants respond to abiotic stresses through multifaceted molecular signalling pathways. Therefore, understanding of molecular signalling pathways and identification of key molecules and their specific role s is important for crop improvement. Several genes responsible for abiotic stress tolerance have been identified which code for antioxidants, enzymes that modify lipids in the cell membrane, stress-response transcription factors, proteins that maintain ion homeostasis, heat shock proteins, or enzymes that synthesize important stress-response compounds. Transgenic plants having some of these genes have been produced and found to be abiotic stress tolerant. Present chapter reviews the plant responses to abiotic stresses such as salinity, drought, cold and heavy metal stresses and tolerance mechanisms through recent approaches.

PHYSICAL SCIENCES

23. Impact of Yogic Practices and Physical Exercise on Breath Holding Time of Men Players

Dr. K. Krishnasamy,

Director of Physical Education, Govt. Arts & Science College,Karambakudi,

The purpose of the study was to find out the Impact of Yogic practices and physical Exercise on breath holding time of men basketball Players. To achieve this purpose of the study, thirty men basketball players, studying from various department of Annamalai University Chidambaram, Tamil Nadu, were selected as subjects at random. The age group is between 18 -25 years. The subjects were n=30 divided into three equal groups of ten each Group I underwent Yogic training programme, Group II Physical exercise training programme and Group III acted as control, which did not participate in any special training programme apart from regular activities as per the curriculam. Breath holding time was the variable it was assessed by Hold breath in Seconds test, all the subjects were tested on Breath holding time prior to and immediately after the training programme of 12 weeks. The analysis of covariance was used to analyze the significant difference, if any, among the groups. .05 level of confidence was fixed as the level of significance to test the "F" ratio obtained by the analysis of covariance, which was considered as appropriate. The results of the study revealed that Breath holding time significant due to Yogic practices and physical Exercise.

Keywords: *Yogic practice, physical Exercise and Breath holding time.*

EDUCATION

24. Enhancing Professional Competencies of Teachers

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Teaching is a complex activity. It constitutes a very important modality of education and has remained the chief instrument of the educational process; it is essentially a process of changing people, their knowledge, skills, attitude and behaviour through instruction, demonstration, practice, planned experience and other techniques. The art of pedagogy or the art of teaching implies the use and application of a number of competencies/skills which the teacher is required to develop and acquire in his/ her behavioural repertoire. A teacher must acquire professional competencies, effective teaching skills and abilities to perform their multiple tasks effectively in the teaching process. A teacher competent in his profession has a thorough knowledge of subject matter or knowledge of contents. The teacher who has command over subject matter can provide more and more information to the students in the classroom. Teaching students according to national and international standards, teachers need to have knowledge about subject matter profoundly and flexibly so they can guide the students for the creation of useful cognitive maps, he has to correlate one idea to another and aware the students about misconceptions. Teachers are needed to see how some conceptions are interconnected across fields and related to everyday life. In this way the paper highlights various professional competencies of teachers.

Keywords: *Professional Competency, Lifelong Learning Competencies, Research competencies, ICT Competencies, Teaching Competency, Communication competencies, Transactional competencies.*

Paper Presentation

BUSINESS ADMINISTRATION

25. Invisible Hindrance on Women Career Development

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The purpose of this study is to know the "Glass Ceiling of women career development". Glass Ceiling means invisible hindrance. Here, there are various reviews of literature examined. In the contemporary world, every woman has faced significant obstacles in their career. It is identified that management perception and sexual harassment are the main barriers to women's career development. The review illustrated that due to assess the technology on a woman's awareness level regarding sexual harassment has been increased. However, there is proper interventions are implemented which increase the effort of women and changing the perception about gender. Still, many organizations show the effect of women to promote as a creator, trainers of the next generation.

Keywords: *glass ceiling, management perception, sexual harassment, women career development.*

26. A Study on Healthcare Reinforcement through Total Quality Management at Narayani Hospital of Vellore

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Today, healthcare sector faces a new era of development and rapid changes in Hospitals today are entering the stage of systematic quality improvement as feedback loops are established at organizational level. This paper highlights the Total Quality Management adaption and implementation requires changes in structure, system and process as a necessary prerequisite to achieve improved performance and changes in employee behaviour. It is important to identity the components that influence the success of TQM adoption and implementation in service sectors.

Keywords: *Quality Management, Health Care, TQM.*

COMPUTER SCIENCE

27. Increase the Performance and Security in Vanet Using Deduction of Sybil Attack

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Vehicular Ad-Hoc Network was one of the trending and mostly picked research area for remote sensing applications due to its features like low cost assembly, user friendly, fault identification, fast acquiring of sensed data and introducing wide range of sophisticated tools for remote sensing. The Sensed data was evolved as a prominent tool for monitor the real time scenarios to further process of communicate and decision making. In this paper, we propose an asymmetric encryption algorithm, with emphasis on MultiVariate Quadratic Quasigroups (MVQQ) algorithm, in a circumstance of VANET. Also proposes the execution examination of the Sybil attack in VANET. The execution metric is taken for the assessment of attack which relies upon a packet end to end delay, system throughput and load. This framework likewise used to counteract Sybil attack by limiting timestamps given by RsU's at a beginning stage itself. An attacker is one of sort of end client, yet their role in the system is negative and makes issues for different segments of system. A serious attack, known as Sybil attack, against ad-hoc networks includes an attacker misguidedly asserting numerous characters. A Sybil attack delivers different messages to different nodes. Every In this paper, we discusses some of the techniques put forwarded by researchers to detect Sybil attack in VANET. In this paper we have discussed about the loom for detecting Sybil attack in VANET using neighborhood based method. The simulation setup contains of 100 Vehicular nodes moving with consistent speed of 10 meter every second. The information rate of Vehicular nodes is 10 Mbps with default transmitting intensity of 0.006 watts.

Keywords: *MVQQ (MultiVariate Quadratic Quasigroups), Sybil Attack, Vehicular Ad-Hoc Network (VANET).*

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28. A Survey on Outlier Detection Techniques Using Statistical Approach

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Outlier detection is the technique of finding data objects with different behaviors from others. Outliers are the noisy data in statistics, has to be an important problem which is researched in many fields of research and applications domains. Outlier detection is necessary study in several applications such as public safety and security, medical care, fraud detection and etc. A number of surveys researches, books and review articles cover outlier detection techniques in statisticalmethods and machine learning in great details. In statistical approach for outlier detection is to identify the data objects in low probability regions of the model as outliers. By this attempt, we wish to gain an improved perspective of several researches on outlier detection.

Keywords: *Outlier Detection, Outliers, Statistical Approach,Probability, Medical Care.*

29. Efficient Data Mining Method to Discover Frequent and Rare Itemsets

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Itemset mining is an essential subfield of data mining. It is made to determine interesting patterns and useful patterns in transaction database. The frequent itemset mining task is to discover collections of items that appear frequently composed in transactions made by customers and the next task of infrequent itemset mining is to discover rare items that appear in transaction purchased by customer rarely. Itemset mining is used to detect more generally as the task of discovering collections of itemset values frequently co-occurring in the databases and it is designed for market basket analysis. In supermarket product, retailer wants sufficient information are in need to decide the placement of products, promotion strategies and improving the profit of the supermarket and customer satisfaction. Market Basket analysis can help retailer to plan which items to put on sale at reduced rates. In this study, supermarket datasets are mined from association rule mining methods comparing using existing Apriori based algorithms in order to generate frequent itemsets and rare itemsets,so users will be able to reduce the time of decision making, improve the performance and operation, and increase the profit of their organizations.

Keywords: *Frequent itemsets, rare itemsets, Data mining, apriori algorithm.*

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30. Analysis of Classifier Based Feature Selection Techniques Using Ensemble Model for Network Intrusion Detection System

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Intrusion Detection is the practice of recognizing items or events that do not follow an expected behavior or do not coordinate with other items in the dataset. Network traffic is increasing referable event to growing use of the web services and smart devices. The NSL-KDD dataset is the refined version of KDD dataset which is widely used in analysis of Intrusion Detection in computer networks. Data mining techniques are used to build the Intrusion Detection System. Smart Intrusion Detection System can be build using effective dataset. Feature selection is used to revamp the effectiveness of the model. The proposed system focus on classifier based feature selection method which is used to create modified datasets by using Bayes Network classifier and Naive Bayes classifier. The NSL-KDD dataset is used to perform classifier based feature selection. Ensemble based Bagged J48 classification technique is used to build the perfect Intrusion Detection System using that modified dataset.

Keywords: *Intrusion Detection System, Bayes Network, Naïve Bayes, J48, Bagged J48.*

31. New Approach to a Hybrid Fuzzy-Sliding Mode Control to a Brushless AC Motor Scheme

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This paper deals with fuzzy-sliding mode controlstrategies of a Brushless AC Motor. The system combines the performance of fuzzy logic control and sliding mode control. Sliding mode control scheme, fuzzy logic controller strategies and the hybrid fuzzy-sliding mode controller were simulated with Matlab/ Simulink for comparison. Behind this strategy, the main objective is to improve the performance of the fuzzy sliding mode control scheme. An experimentation, where all the command were implemented to an MSK Board with a PM50 module and a 90W BLAC Motor is used to validate all the result. the BLDC motor frameworks have questionable and nonlinear attributes which corrupt execution of controllers. Sliding mode controllers (SMC) are very useful in controlling the non-linearities in the system. But due to the effect of chattering in SMC based drives, the use of controller is limited. Henceforth a novel hybrid fuzzy sliding mode controller is exhibited in this paper for effectively reducing the chattering effect.

Keywords: *Brushless Motor, Sliding Mode, Fuzzy Logic, Hybrid controller.*

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32. Comparative Analysis of Various Tools for Data Mining and Big Data Mining

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Data mining and knowledge discovery has emerged to extract useful, interesting, and unknown patterns and knowledge from huge amount of database. Big data is the term used to delineate massive amounts of information of both structured and unstructured data types. Data mining techniques can be classified as classification, association, clustering, anomaly detection, regression analysis, prediction, and tracking patterns. Data mining tools which are helpful to achieve above data mining techniques. This research analysis various data mining and big data mining tools with different perspectives. This research will help for researchers to select appropriate data mining tool or tools for their research.

Keywords: *Big data; association; clustering; anomaly Detection.*

33. Testing Uncertainty of Cyber-Physical Systems in IoT Cloud Infrastructures: Combining Model-Driven Engineering and Elastic Execution

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Today's cyber-physical systems (CPS) span IoT and cloud-baseddatacenter infrastructures, which are highly heterogeneous with various types of uncertainty. Thus, testing uncertainties in these CPS is a challenging and multidisciplinary activity.We need severaltools for modeling, deployment, control, and analytics to test and evaluate uncertainties for different configurations of the same CPS. In this paper, we explain why using state-of-the art model-driven engineering (MDE) and model-based testing (MBT) tools is not adequate for testing uncertainties of CPS in IoT Cloud infrastructures. We discuss how to combine them with techniques for elastic execution to dynamically provision both CPS under test and testingutilities to perform tests in various IoT Cloud infrastructures. Ccs Concepts(1) Computing methodologies→Model development and analysis;(2) Computer systems organization.

Keywords: *testing, elasticity, uncertainty, IoT, Cloud, MDE, MBT*

34. Performance Evaluation of Outlier Detection Algorithm Based on Ensemble Method

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Outlier analysis is necessary research in data mining. Outlier detection can be used in many application areas like the diagnosis of diseases, fraud detection, agricultural, etc. so that there is a need to detect Outliers. In the proposed method, we focused to analyze the performance of outlier detection algorithm using feature bagging technique on health care application. The density-based Local Outlier Factor algorithm is used to detection of outliers. The local density of an object depends on its K nearest neighbor of objects. Next we introduce feature bagging technique which is one of the ensemble methods. Ensemble method of classifiers has been effective in improving overall performance and stability of machine learning algorithms. We compare the performance of Local Outlier Factor method and LOF with feature bagging technique. Experiments were conducted in the diabetic dataset. The experiments result shows that the performance of the local outlier factor algorithm with feature bagging technique improves the accuracy.

Keywords: *Outliers analysis, Data Mining, Outlier Detection, Bagging, Local Outlier Factor.*

CHEMISTRY

35. Effect of Cadmium Additives on Crystal Growth Parameters and Properties of Ammonium Dihydrogen Ortho-Phosphate Crystals

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The effect of pure and cadmium doped single crystals of ammonium dihydrogen phosphate (ADP) were grown by slow evaporation solution technique (SEST) in aqueous solution at ambient temperature. Incorporation of Cd(II) into the crystal lattice is well confirmed by energy dispersive X-ray spectrometry (EDS). Presence of Cd(II) in the crystal lattice of ADP has not altered the basic structure of ADP as evidenced by powder X-ray diffraction and single crystal. FT-IR studies confirm the functional groups of the crystals. Scanning electron microscope (SEM) reveals changes in surface morphology as a result of doping. Thermal studies reveal that the purity of the sample and no decomposition is observed below the melting point. The second harmonic generation (SHG) efficiency measurements indicate that non-linear optical (NLO) property is enhanced appreciably by Cd(II) dopant. The grown crystals were also characterized by UV-Vis and diffuse reflectance spectra (DRS).

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36. Crystal Growth, Structure and Properties of (E)-[4-(4-Diethylamino)-Styryl)-1-Methyl-Pyridinium Iodide

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(E)-[4-(4-Diethylamino)styryl)-1-methyl-pyridinium iodide (DSP) was synthesized and grown by the slow evaporation method. The title compound crystallizes in the monoclinic crystal system with space group, $P2_1/C$. The effect of different solvents including methanol, chloroform and water on the crystal morphology of DSP were studied using X-ray diffraction (XRD). The crystallinity of the material was confirmed by powder X-ray diffraction analysis. The functional groups present in the molecule are identified by FT-IR analysis and the band gap energy is estimated using diffuse reflectance data by the application of Kubelka–Munk algorithm. The melting point and thermal property of DSP were studied using TG-DTA technique. Theoretical calculations were performed using density functional theory (DFT) to derive the optimized geometry, dipole moment, first-order molecular hyperpolarizability and HOMO-LUMO energies. The intermolecular hydrogen bonding interactions are analyzed by Hirshfeld surface analysis and fingerprint plots.

37. A Study on Intuitionistic Bell Shape Fuzzy Relation in Decision Making Problem

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In this paper, we are dealing with Intuitionistic Bell Shape Fuzzy Number and finding the Bell shape valued intuitionistic fuzzy relation (BVIFR). The composition of Bell shape valued intuitionistic fuzzy relation and score, accuracy function is proposed to solve medical diagnosis decision making problem. Finally given a numerical example to verify the proposed approach.

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38. UV-A Light Assisted Photocatalytic Decomposition of Methyl Orange by Biocl Nanocatalyst

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The Photoactive BiOCl nanomaterial was successfully synthesized and characterized by FT-IR, XRD, FE-SEM and UV-DRS analysis. The XRD results show that crystallite size of BiOCl is 67nm. The effect of operational parameters such as effect of pH, Catalyst suspension, Initial dye concentration and reusability were observed. Hence the catalyst can be reused for continuous treatment of waste water.

Keywords: *Photocatalyst, BiOCl nanocatalyst , Methyl orange , Wastewater treatment*

39. Investigation on the Role of Structural, Optical and Magnetic Properties of Cobalt Ferrite Nanoparticles and its Effect on the Photo-Fenton Activity

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Inverse spinel cobalt ferrite ($CoFe_2O_4$) nanoparticle has consideration owing to its implausible and incredible properties, predominantly its optical and magnetic properties. These enhanced properties make $CoFe_2O_4$ used as in the waste water treatment. A facile and economically viable sol-gel route was used to synthesize $CoFe_2O_4$ nanoparticles. The structural and crystallite size of the synthesized sample was characterized by Powder X-Ray Diffraction and Fourier Transform Infrared spectrum two absorption bands were observed. Using Scanning electron Microscopy and High Resolution Transmission Electron Microscopy different structures and the particle size was found. By UV-visible and Photoluminescence studies reveals the significant optical properties and their band gap was calculated using Kubelka-Munk plot, band gap was found. The synthesized cobalt ferrite nanocatalyst was premeditated for its photo-Fenton application of Acid red 73 (AR 73) dyes, which is a very important organic dye used in textile industries and the results point out that the catalyst can be reused without any significant loss.

Keywords: *Cobalt ferrite, Acid red 73, Photo-Fenton,*

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40. Molecular Structure, Spectroscopic (FT-IR and NMR) of 3-ethyl-5-methyl -2r,6c-di(4-chlorophenyl)piperidin-4-on-1-ium picrate: A experimental and DFT study

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A piperidin-4-one containing 3-ethyl-5-methyl-2r,6c-di(4-chlorophenyl)piperidin-4-on-1-ium picrate was synthesized . The FT-IR and ^{1}H and ^{13}C NMR spectra were recorded for title compound and the experimental data were compared with the theoretical data. The stability of the molecule due to hyper-conjugative interaction and charge delocalization was studied by NBO analysis. The UV-Vis spectral data calculated by using the DFT method were correlated with the experimental values. The calculated HOMO and LUMO energies revealed that charge transfer occurs within the molecule and Mulliken charges were also obtained. The electrical dipole moment (μ) and first hyperpolarizability (βo) values have been computed using DFT B3LYP/ 6-31G(d,p) method. Molecular electrostatic potential (MEP) analyses were performed to predict the reactive sites of the molecule. The calculated first hyperpolarizabilty is high suggesting an extended p-electron delocalization over the picryl-ring and piperidone moiety which is also responsible for the nonlinear optical property of the molecule. The ^{1}H and ^{13}C NMR chemical shift of the molecule were calculated by the gauge independent atomic orbital (GIAO) method and compared with the experimental results.

Keywords: *Picrate, DFT, HOMO–LUMO, NLO, MEP.*

41. Synthesis, Spectroscopic Investigation and DFT Studies of 2-((E)-(2-(2-cyanoacetyl) hydrazono) methyl)-4-((E)-phenyldiazenyl) phenyl methyl carbonate

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Synthesis and computational optimization studies have been carried out by Hartree–Fock (HF) and Density Functional Theory (DFT–B3LYP) methods with 6–31+G(d, p) basis set for 2-((E)-(2-(2-cyanoacetyl) hydrazono) methyl)-4-((E)-phenyldiazenyl)phenyl methyl carbonate (CHPMC). The stable configuration of CHPMC was confirmed theoretically by potential energy surface scan analysis and the complete vibrational assignments were performed on the basis of total energy distribution (TED) analysis. The vibrational properties, studied by IR and Raman spectroscopy data complemented by quantum chemical calculations support the formation of intramolecular hydrogen bond. Furthermore, the UV-Vis spectrum is interpreted in terms of TD-DFT quantum chemical calculations with the shapes of the simulated absorption spectra are in good agreement with the experimental data. The comparison between the experimental and the theoretical values of FT-IR, FT-Raman vibrational spectra, NMR (^{1}H and ^{13}C) and UV-Vis spectra have also been discussed.

Keywords: *cyanoacetyl; hydrazone; diazenyl; methyl carbonate; FT–Raman*

42. Hirshfeld Surface analysis of 3,3-dimethyl-2, 6-bis(4-phenyl)piperidin-4-one N(4')-cyclohexyl thio Semi carbazone

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Hirshfeld surface analysis of 3,3-dimethyl-2,6-bis(4-phenyl)piperidin-4-one N(4')-cyclohexyl thio semi carbazone is carried out. The title compound crystallized in orthorhombic crystal system with $Pca2_1$ space group. The intermolecular interactions which stabilize the crystal structure are discussed in detail and the relative contributions of each interaction are quantified.

43. Dynamic column studies for the removal of copper(II) ionsusingn-Butyl acrylate grafted Cellulose Nano Crystals copolymer

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In the present study, Cellulose Nano Crystals (CNCs) was extracted from banana fiber using steam explosion method and grafted with n-butyl acrylate monomer using ceric ammonium nitrate as an initiator through radical polymerization method. The grafted copolymer was used as an adsorbent in packed bed column studies with respect to various parameters like initial concentration, flow rate and bed height.This dynamic experimental results increased with increase in bed height, and decreased with increase in metal ion concentration and flow rates. The adsorption capacity calculated using theoretical models such as Thomas, Yoon-Nelson and Adam Bohart. The results revealed that Thomas and Yoon-Nelson model fits better than Adam Bohart model.

Keywords: *Cellulose Nano Crystals (CNCs), Packed bed column, Dynamic model, Adsorption, Copper(II).*

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44. Adsorption capacity of Chitosan oligosaccharide-g-Glycidyl methacrylate/ Polypropylene glycol/ Bentonite-glutaraldehyde blend for lead (II)ions from aqueous solution

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Heavy metal pollution has become a center of attention for all nation worldwide. Most recently, significant improvements were made in both economical and effectiveness for removal of heavy metal (lead) from aqueous solution using low cost adsorbent. This study explored the adsorption potential of the low cost and novel hybrid material of COS-g-GMA/PPG/Bentonite-Glu blend. The influence of pH, adsorbent dose, initial ion concentration and contact time were investigated using batch adsorption technique. The effect of any one of those previously mentioned parameters on the adsorption capacity were studied while other parameters were kept constant. This shows that the adsorption characteristics of the adsorbent followed Freundlich adsorption isotherm and physical adsorption mechanism. Kinetic treatment of the results gave a pseudo second order type of mechanism. From the results, it was concluded that novel hybrid material of COS-g-GMA/PPG/Bentonite-Glu blend is an excellent adsorbent for the removal of lead(II) ions from aqueous solution.

Keywords: *Chitosan oligosaccharide, Glycidylmethacrylate, Glutaraldehyde, Ceric ammonium nitrate, Poly propylene glycol. Bentonite*

45. Recent research on Chitosan - Industrial and Biomedical Applications

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Derived from chitin, chitosan is a unique biopolymer that exhibits outstanding properties, beside biocompatibility and biodegradability. It has aroused great interest as a biomaterial due to its peculiar properties arises from the presence of primary amine groups. As a consequence, a significant number of research groups have investigated the application of chitosan and a huge number of papers were published every year. The proposed talk will focus on the novel combination of chitosan based biomaterials studied by our research group for tissue engineering and environmental applications. We have fabricated this biopolymer in various forms by adapting fascinating techniques such as freeze drying, electrospinning, solvent casting and so on. In this talk I would like to discuss about chitosan in nanoforms as size-dependent properties could enable to exhibit higher efficiency as stated by Richard Feymann "There's plenty of room at the bottom".

Keywords: *Tissue regeneration, drug delivery, adsorbent, membranes, chitosan nanoparticles*

46. Electrospinning Fabrication and Characterization of polyvinyl Alcohol /montmorillonite clay nanofiber mat

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In this study, polyvinyl alcohol/montmorillonite hybrid nanofibers were prepared by electrospinning technique. The obtained nanofibers were characterized with Fourier transform infrared spectroscopy (FT-IR), X-ray diffraction (XRD), Differential scanning calorimeter (DSC), Thermogravimetric analysis (TGA), and Scanning electron microscopy. The presence of montmorillonite clay will significantly influence the morphology and properties of PVA nanofiber. The addition of MMT to polyvinyl alcohol will improve the thermal stability of PVA/MMT blend nanofibers. The incorporation of MMT to the PVA/MMT hybrid nanofiber will increase their fiber diameter, improves their thermal stability and induce amorphous nature. These morphological changes and property enhancement is due to addition of MMT clay. The FT-IR and XRD results suggest the coexistence of polyvinyl alcohol and montmorillonite clay within polymer matrix through intercalation of polymer chain between silicate layers forming well-ordered multiplayer morphology with alternating polymeric and silicate layers.

Keywords: *Montmorillonite clay, intercalation, fiber diameter, thermal stability.*

47. Studies on Efficient Removal of Methylene Blue Dye Using Silica Nanoparticle as Adsorbent

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Major source for water pollution was due to large quantity use of dyes in industries which poses contamination to ecosystem. Many techniques were practiced for treatment of wastewater, among these adsorption process was widely used technique for removal of dye from wastewater. Nowadays, use of mesoporous silica nano particle as an adsorbent in wastewater treatment has attained attraction. Due to their large surface area, uniform pore structure, thermal and mechanical stability, its adsorption capacity towards dyes increases. In this study, adsorption studies were investigated under different conditions such as adsorbents, contact time, temperature, agitation speed, and pH. The adsorption isotherm and kinetic studies shows its highly efficient and excellent adsorption capacity. The probable adsorption mechanism for removal of methylene blue dye by mesoporous silica nanomaterials was proposed. Desorption studies were investigated and regenerated adsorbent can be used for further adsorption process. Hence as a low cost, reusability and eco-friendly material, silica nano particle has efficient potential in removal of dyes from wastewater treatment.

Keywords: *Silica nano particle, adsorption, dye removal, kinetics.*

MATHEMATICS

48. Analysis of Degree Based Topological Descriptors of Different Types of Chemical Structures

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Graph theory has much advancement in the field of mathematical chemistry. Recently, chemical graph theory has become very popular among researchers because of its wide applications in mathematical chemistry. The molecular topological descriptors are the numerical invariants of a molecular graph and are very useful for predicting their bioactivity. A great variety of such indices are studied and used in theoretical chemistry, pharmaceutical research and in different other fields. The topological index of the graph G can be considered as a score function f form G to R+ which maps each molecular graph to a positive real number. These defined topological indices are functioned as numerical descriptors of molecular structure yielded from the corresponding fluid chemical compound, and many engineering applications of it can be implemented in theoretical chemistry, especially in QSPR/QSAR study. Also by computing these topological indices we estimates the chemical biology, medicine and pharmacology features of compounds. In this paper, we discuss various degree based topological descriptors of different types of chemical structures.

49. Generalized Products of Directable Automata

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In this paper, we introduce generalized direct product, generalized restricted direct product and proved that generalized direct product, generalized restricted direct product of directable, trap-directable automata is directable, trap-directable. Also, we proved that generalized direct product of strongly connected directable automata is strongly connected directable.

Keywords: *Generalized product, Directable automata, generalized directable automata. AMS Mathematics subject classification: 18B20, 68Q70.*

50. Vulnerability Parameters of graphs

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A communication network is composed of processors and communication links. Network designers attach importance to reliability and stability of a network. If the network begins losing processors or communication links, then there is a loss in its effectiveness. This event is called the vulnerability of the communication network. In a communication network, vulnerability measures the resistance of the network after a breakdown of some of its processors or communication links. A communication network can be modelled by a graph whose vertices represent the processors and whose edges represent the lines of communication. Many graph theoretical parameters have been used in the past to describe the stability and reliability of communication networks. Among them, two basic parameters, connectivity and edge connectivity have been extensively used. In this paper, we present some of the parameters such as toughness, scattering number, integrity, tenacity and rupture degree of the tensor product of complete equipartite graphs.

Keywords: *Tensor product, toughness, scattering number, integrity, tenacity and rupture degree.*

51. A Study on Q-Fuzzy Translation of Q-Intuitionistic Fuzzy Subsemiring of a Semiring

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In this paper, we introduce the concept on Q-fuzzy translation of Q-intuitionistic fuzzy subsemiring of a semiring and establish some results on these. We also made an attempt to study the properties on Q-fuzzy translation of Q-intuitionistic fuzzy subsemiring of semiring under homomorphism and anti-homomorphism. 2000 AMS Subject classification: 03F55, 06D72, 08A72.

Keywords: *Q-fuzzy subset, Q-intuitionistic fuzzy subsemiring, Q-intuitionistic fuzzy translation of subsemiring, strongest Q-intuitionistic fuzzy translation of relation, Product in Qintuitionistic fuzzy translation of subsets*

52. Irregular Colouring of Neighbourly Irregular Chemical Graphs Among s-block and p- block elements

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In a neighbourly irregular chemical graph (NIC) G, if distinct atoms have distinct color codes and colouring is defined as irregular colouring. In this paper, we establish irregular colouring and also discussed about the chromatic number (G)χ and irregular chromatic number irχ(G) of some classes of NIC graphs.

Keywords: *Neighbourly irregular chemical graph, Irregular colouring of NIC graph, Irregular chromatic number of NIC graph.*

53. A Study on Distinct Domination Parameters on Line Graph of a Complete Graph

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In this paper, we have obtained the line graph of a complete graph Kn. It is denoted by L(Kn). In this we established bounds for distinct domination parameters such as domination number)G(γ, Inverse domination number)G('γ , 2- domination number 2)G(γ, Inverse 2- domination number)G('2 γ, Location 2- domination number D)G(R 2 , Total domination number t)G(,γ Accurate domination number a)G(γ, Efficient domination number e)G(γ. Also studied some of the properties and illustrated with examples.

Keywords: *Complete graph, Line graph, Domination number,*

54. Stability Analysis of Nitrogen (N_2) Cycle with Varying Population

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This paper probes to make a study on Nitrogen cycle with varying population. Two models of the system has been formulated. For both the models, equilibrium point has been identified. The global stability of both the systems has also been analysed by establishing appropriate Lyapunov function.

Key Words and Phrases: *Mathematical model, Nitrogen cycle, birth and death rate –Equilibrium point – Lyapunov Stability*

55. Interval-valued ($\in$, $\in$ Vq) -Fuzzy Prime Ideals in Ternary Semirings

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In this paper we introduce the notion of interval-valued ($\in$, $\in$ Vq) -fuzzy prime ideals in ternary semirings. We have shown that if $\tilde{\mu}$ is an interval-valued ($\in$, $\in$ Vq) -fuzzy ideal of a ternary semiring S and $\mathrm{Im}(\tilde{\mu}) \cap D(0,0.5) \neq \phi$, then $\tilde{\mu}$ is an interval-valued ($\in$, $\in$ Vq) -fuzzy prime ideal of S if and only if (i) $[0,0] \notin \mathrm{Im}(\tilde{\mu})$ (ii) $\mathrm{Im}(\tilde{\mu}) \cap D(0,0,1) \neq \phi$, (iii) $\left|\mathrm{Im}(\tilde{\mu}) \cap D(0,0.5)\right| = 1$, (iv) $\overline{U}(\tilde{\mu};[0.5,0.5])$ *is a prime ideal of* S.

Keywords and Phrases: *interval-valued* ($\in$, $\in$ Vq) *-fuzzy ternary subsemirings, interval-valued* ($\in$, $\in$ Vq) *-fuzzy ideal, interval-valued* ($\in$, $\in$ Vq) *-fuzzy prime ideal.*

PHYSICS

56. Synthesis and Characterization of cobalt doped Fe2O3.

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Cobalt doped ferrite were prepared by the sol–gel method. All samples were heat treated at 700ºC. The nanoparticles were structurally characterized by using the X-ray diffraction technique (XRD), and the morphology was studied by scanning electron microscope (SEM). All samples have a similar rhombohedra structure of Fe_2O_3. The size of the nanoparticles of the powders increases when the dopant percentage is increased.The magnetic properties of the nanoparticles, studied using vibrating sample magnetometer (VSM), showed relatively small saturationmagnetization, and coercivity was observed to be low as compared with that of other reports. Saturation magnetization also increases withincreasing dopant percentage.

57. Mechanical activation of the synthesis reaction of BaTi0.5CO0.5O3 from a mixture of BaCO3 -TiO2 - cobalt oxide powders

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In this article of solid state reaction of $BaTiO_3$ formation from a mechanically activated $BaCO_3$-TiO_2-CO system has been investigated. The stoichiometric ratiocombination of $BaCO_3$-TiO_2- CO was activated in a planetary ball mill in a frequent regime for 0 to 100 hours, hard-pressed and thermally treated up to 1200°C. $BaTi_{0.5}CO_{0.5}O_3$ (BTCO) nanoparticles were prepared by the hydrothermal technique. Cobalt oxide was used as a dopant. The sintered compacts were characterized by the measurement of different mechanical alloying properties. XRD and FESEM analyses were done to characterize the micro to nanoparticle structure of the sintered samples. Dielectric properties of the samples were measured at different frequencies. The maximum value of dielectric constant was obtained in the BTCO sample with 0.5 stoichiometric ratio Co-dopant concentration at high frequency. High-temperature X-ray diffraction measurements were performed to investigate the crystallization temperatures as well as the particle sizes via the Scherrer's formula. The effects on the micrographs and crystal structure of BaTiO3 particles had been analyzed by field emission scanning electron microscope (FESEM), and XRD analyses confirming the cubic structure of the $BaTiO_3$ nanoparticles.. CO^{+2} ion doped barium titanate (BTC) nanopowders were synthesized by the hydrothermal technique. In addition, the effect of mechanochemical activation by high energy milling and the Ba/Ti/CO stoichiometric ratio combination on the reaction temperature, particle size and tetragonality were studied.

Keywords:*XRD, FE-SEM, BDS, Microstructure, and Perovskite.*

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58. Bioremediation in the Reduction of Bacterial Load in the Fish Tilapia Mossambica

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Natural waters harbour various kinds of microorganisms which may be harmful or beneficial. The use of medicinal plants to displace pathogens by competitive processes is being used in the animal industry as a better remedy than administering antibiotics and is now gaining importance. The fish Tilapia mossambica was used in the present study. The bacterial isolates,serially diluted were used as a means of inoculum. The ethanol extract of medicinal plants prepared were used as inoculum in the treatment against the bacterial load in the fish.After 24 and 72hours the fish samples were collected .The samples of skin,gills and intestine were examined for bacterial load. The results revealed a decrease in the bacterial load from 24 to 72hrs after being treated with the medicinal plants. The skin of the fish samples were found to show increased reduction compared to the other two regions. Bioremediation thus seems to be a promising one in the reduction of bacterial loads in fishs.

59. Influence of Al Doping on Structural, Optical and Dielectric Properties of ZnO Nanoparticles Prepared by Sol-Gel Method

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The influence of Al doping on the Structural, optical and dielectric properties of ZnO nanoparticles was investigated. The structural, morphological, optical and dielectric properties of the as-prepared nanoparticles were investigated by X-ray diffraction (XRD), Scanning Electron Microscope (SEM), Diffuse Reflectance Spectra (DRS) and Dielectric measurements. The Crystallite sizes of ZnO were obtained from the X-ray diffraction (XRD) patterns whose values are decreasing with the addition of Al. The XRD analysis also ensures that ZnO has a hexagonal (wurtzite) crystal structure and Al ions were successfully incorporated into the lattice positions of Zn ions. The SEM images also showed that the particles were grown and that they were interlinked with each other. The addition of Al was decrease in particle size and they agglomerated with one another. The Optical band gap values were 2.98 and 3.03 eV for pure and Al doped ZnO nanoparticles. The dielectric constant of Al doped ZnO is changing compared to the pure ZnO, which is due the Al doping may be created a more defect in the ZnO crystal structure.

Keywords: *X-ray diffraction, lattice position, agglomerated, dielectric constant*

AGRICULTURE

60. Evaluation of Different Rice Straw Management Practices for Sustainable Weed Management in Transplanted Rice

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Field experiments were conducted at the experimental farm, Department of Agronomy, Annamalai University in Samba (September – January) season ,to study the effect of off-season land management practices with weed control measures on the weed flora and crop performance of rice. Off-season land management practices and crop weed control measures had significant interaction on weed parameters and crop parameters. Incorporation of rice straw @ 5 t ha^{-1} in the field in 40 days before transplanting in the preceding off-season followed by hand weeding twice in the succeeding rice crop performed significantly superior with the least weed dry matter production, highest weed control index and highest grain yield. However, this was on par with the treatments viz., incorporation of rice straw @ 5 t ha^{-1} in the preceding off-season followed by post-emergence application of bispyribac sodium @ 0.035 kg ha^{-1} and by incorporation of rice straw @ 5 t ha^{-1} in the preceding off-season followed by post-emergence application of bispyribac sodium @ 0.025 kg ha^{-1} instead of straw burning in rice crop. Hence, integration of rice straw incorporation @ 5 t ha^{-1} in the preceding off-season as off-season land management practice, followed by weed control measures either by hand weeding twice or by post-emergence application of bispyribac sodium @ 0.035 kg ha^{-1} or by post-emergence application of bispyribac sodium @ 0.025 kg ha^{-1} in the succeeding rice crop could be a sustainable weed management strategy in transplanted rice, instead of rice straw removal or rice straw burning.

Keywords: *Rice, bispyribac sodium, rice straw, weed management*

61. Effect of Ortho Silic Acid Formulations on Leaf Folder Incidence in Low Land Rice

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Field experiments were conducted to study the effect of ortho silic acid formulations (OSA) on leaf folder incidence in low land rice at Experimental Farm, Department of Agronomy, Annamalai University Annamalai Nagar, Tamilnadu, India during Navarai (December- January, 2017) and Samba (September – October,2017). The treatments consisted of 100% NPK (T_1), T_1 + soil application of calcium silicate at 2 t ha^{-1} (T_2), T_1 + soil application of silicon at 120 kg ha^{-1} through Fly ash (T_3) ,T_1 + soil application of 25 kg silixol granules ha^{-1}(T_4) ,T_1 + soil application of 50 kg Silixol granules ha^{-1} (T_5), T_1 + foliar spray of Silixol plus @ 1ml lit^{-1} on 20,40 and 60 days after transplanting (T_6), 75% NPK (T_7) ,T_7 + soil application of calcium silicate at 2 t ha^{-1} (T_8), T_7 + soil application of silicon at 120 kg ha^{-1} through Fly ash (T_9) , T_7 + soil application of 25 kg silixol granules ha^{-1} (T_{10}), T_7 + soil application of 50 kg Silixol granules ha^{-1} (T_{11}), T_7 + foliar spray of Silixol plus @ 1ml lit^{-1} on 20,40 and 60 days after transplanting (T_{12}). The experiments were laid out by adopting randomized block design and replicated thrice. Among the various treatments imposed, 100% NPK + soil application of 50 kg Silixol granules ha^{-1} considerably reduced the leaf folder incidence (0.72, 1.60 and 0.41, 1.44) in rice at tillering and flowering stages in both seasons. While 75 % NPK alone had least defense on leaf folder which recorded higher per cent incidence in both seasons. Therefore the present study showed soil application of 50 kg silixol granules ha^{-1} along with 100% NPK and recommended plant protection measures effectively minimize the occurrence of leaf folder in low land rice.

Keywords: *OSA formulations, rice leaf folder, per cent incidence, leaf damage*

ECONOMICS

62. Assessment of Health Impact and Policy Formulation: An Overview

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India has nearly 17 per cent of the world's population and a large proportion of the world's poor, health indicators. The Health Ministry implements various programs to improve healthcare delivery, and consequently the health status of the people. The national disease control and other programs are implemented nationwide. However, Health impact assessment (HA) does not form a part of policymaking in India. The approach thus this far has been of looking at health as a standalone factor, with diseases that can be prevented or cured by the health system. However human health is not just a factor or outcome of decisions taken by the health department. Action of other entities and agencies also cause substantial health effects. Unless this is recognized, the health sector will only be left to grapple with the adverse outcomes of other policies, with no ability to tackle the problem at its roots. What is needed is a review of how various programs and policies of the government in other sectors can impact the health of people. It is thus time to look at the broader definition of health, encompassing the well-being of the people. In this study highlight about Indian Health and Environment System, HIA as Tool in Policy formulation, EIA Framework in India, EIA in India and Its Health- Related Aspects, and National Health Policy and Its Implementation.

Keywords: *Environment; Environmental health; Health status; Development; Public policy; Risk assessment.*

COMMERCE

63. Green Marketing: Issues and Challenges

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Environmental pollutions an inevitable phenomenon in a global perspective in this era of industrialization, given the unbelievable scientific and technological advances made over the last two centuries. Every year, tens of millions of various types of chemical products are manufactured for commercial, industrial, agricultural, military, household and personal use. It is estimated that around hundred million different types of toxic and hazardous products are used by U.S industries every year. It is these chemicals and their by products that contaminate our air, soil, streams, oceans and underground water supplies as well as damaged our food and health. In today's business world, environmental issues pay an important role in marketing. Resources are limited and human wants are unlimited. Hence, it is very important for the marketer to utilize the resources efficiently and at the same time, achieve the organizations objective. Green marketing talks about sustainable and socially responsible products and services. Green products don't work well and consumer won't pay a premium for them is old saying. But most companies today believe that investing in environmentally preferable products and technologies can be a source of innovation and competitive advantage. This paper deals with the evolution and importance of the concept of green marketing in today's business world, issues and challenges of green marketing.

64. Prospects and Problems of E-Marketing: an Outline from Customers and Business Perspective

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E-marketing is the procedure for carrying on the products and services from the place of production to the place of consumption. Similar to all other concepts, this e-marketing has its own merits and demerits. Henceforth, the main purpose of this study is assessing the prospects and the problems of the e-marketing practices in the organization. The study found the factors such as cost effective, time savings, wider reach and accessibility, profitability, customer satisfaction and retention and new group of customers are the prospects of e-marketing practices while, the constructs namely continuous boredom, reduced brand loyalty, reduction of the business of local brands, security threats and time consuming are the problems associated with the e-marketing practices. Suggestions such as reducing the frequency of advertisements, proper examination towards the website content, rising the e-marketing practices among the local brands to rise their businesses, removing inappropriate content by the website owners and improving the speed of the website for avoiding the problems of e-marketing practices are provided.

Keywords: *E-Marketing, Problems, Prospects, Customers, Business organization.*

65. A Conceptual Framework of Job Satisfaction of Teachers in Vellore City.

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Effective teachers are essential for the accomplishment of an educational system. Teaching is successful when there is presence of an effective teacher. The quality of teaching depends not only on the knowledge of the teacher but also how he is comfortable with the profession. Researchers, policymakers, educational leaders and others also agree that their satisfaction is a significant factor that affects student teachers' development and most importantly quality teacher education.

Keywords: *Job Satisfaction, Emotional Feelings, Positive Attitude.*

66. A Conceptual Study on Green Marketing: An Overview

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Green revolution going green, environmental protection, sustainable development and life style protecting our earth and many more have become a natural phenomenon in our everyday life. Green marketing refers to the process of selling products and/ or services based on their environmental benefits. Such a product or service should be eco-friendly. The word "Green" is most popular to increase the purchase intention and sales. However one of the basic assumption of green marketing is that potential consumers would be willing to pay more for a green product. The present paper is to create a more awareness and willingness of the consumer to buy green product.

Keywords: *Green Marketing, Awareness and Gree Product.*

PHYSICAL EDUCATION

67. Differentials on Passing Ability Between Universal Attackers and Blockers of Volleyball Players

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The purpose of the study was to find out the differentials on passing ability between universal attackers and blockers of college level volleyball players. To achieve this purpose of the study 15 universal attackers and 15 blockers from various colleges were selected as subjects. The subjects who participated in St. Joseph's inter collegiate volleyball tournament held at Cuddalore, Tamil Nadu, India during the academic year 2013-2014. The age of the selected subjects are ranged from 18 to 25 years. The selected subjects were tested on passing ability through Brady Volleyball Test. The collected data were statistically analyzed using independent t-test. The result of the study showed that no difference exist between universal attackers and blockers of volleyball players on passing ability ($t = 0.41$, $p > 0.05$). It is concluded that passing ability of attackers and blockers in volleyball found to be same.

Keywords: *Universal attackers, Blockers, Passing Ability, Brady Volleyball Test, T – Ratio.*

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68. Effect of Varied Resistance Circuit Weight Training on Cardiovascular Fitness

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The purpose of the study was to find out the effect of varied resistance circuit weight training on cardiovascular fitness. To achieve the purpose sixty male students studying Bachelor degree in Periyar EVR college, Trichy were selected at random as subjects for this study. Their age, height and weight ranged between 18 and 22 years, 154 cms and 174 cms, and 50 kg and 71 kg respectively. They were randomly divided into four groups and each group consisted of fifteen subjects. Group I underwent high intensity circuit weight training, Group II underwent moderate intensity circuit weight training, Group III underwent low intensity circuit weight training, Group IV acted as control group. The criterion variables selected for the study were Cardio Respiratory Endurance and it is measured by coopers 12 minutes run/walk test. The experimental groups participated in their respective training for a period of twelve weeks. The data were collected on cardio vascular endurance of varied resistance circuit weight training groups and control group before and after the training programme. The collected data were analyzed statistically by analysis of covariance (ANCOVA) and Scheffe's post-hoc test was used to test the paired mean differences.

Keywords: *Circuit Weight Training, High Intensity, Low Intensity, Medium Intensity.*

69. Effects of Aggression Variable in Indoor and Outdoor Basketball Practice

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The purpose of the study was to find out the effects of aggression variable in indoor and outdoor basketball practice. To achieve these purpose forty five male basketball players who were studying in the Department of Physical Education and sports sciences, Annamalai University, were selected as subjects and their age is ranged from 18 to 25 years.The selected subjects were divided into three equal groups of fifteen each at random. The subjects of indoor practice group (Group I) and outdoor practice group (Group II) underwent basketball practice in their respective environments for seventy five points compulsory in a session for five days per week for twelve weeks. Group III acted as control in which they did not undergo any special training programme apart from their regular physical education programme of the curriculum. A qualified physician examined the subjects and declared that they were medically and physically fit to participate in the training programme. The collected data from the indoor practice, outdoor practice and control groups during pre and post-test on criterion variable namely aggression is used for statistical treatment to find out significant difference between the adjusted post means by computing analysis of covariance (ANCOVA) for each criterion variable separately. In all cases 05 level of confidence was fixed to test the significance which was considered as an appropriate. Since, three groups were compared, whenever the obtained 'F' ratio for the adjusted posttest was found to be significant, the Scheffe's test was applied as post hoc test to find out paired mean differences, if any.

Keywords: *Basketball Practice, Indoor, Outdoor, Aggression, ANCOVA, Scheffe's test.*

70. Recent Research in Teacher Education

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A quality teacher's education program is rational and efficient to handle some specific education problems. Basically, it elucidates the idea about what good teaching is all about and then how it organizes course work and all practical experiences around it. Teacher education is a program related with teacher proficiency and competence that would make them competent enough to face new challenges in the education. Now a days the field of education is not only limited with books but has broadened in various new horizons. It demands understanding with inquiring minds, assimilating the required transformations, accommodating and responding to the universal needs. It also discusses the need of teacher education program to be innovative and various practices that can be included. Teaching has gone a protracted approach from the normal lecturer-listener system. Today, lecturers don't seem to be simply lecturers, but guides; students are not just listeners but co explorers of knowledge. Education has become additional interactive and experiential for each parties. Thus, teaching skills have additionally evolved, with more techniques available for teachers to use. The importance of lecturers and teaching because the primary subjects of analysis has contributed to a rather restricted understanding of what goes on in faculties and lecture rooms. Few studies of lecturers and teaching have examined the extent to that variations in teacher effectiveness are associated with variations in teachers' material data, and there is still a tendency to debate problems with teaching and learning normally terms separated from the content that has been tutored. In this the researcher argues for the requirement to bridge studies of teaching and learning with studies of the topic concerned – to determine a voice communication between didactics and classroom studies. An analytical style and framework ready to bridge the teaching–learning gap has to be developed.

71. Information and Communications Technology Affecting Teachers

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This article reports on the literature associated with practicing teachers' uptake of information and communications technology (ICT). Studies reveal a number of factors which influence teachers' decisions to use ICT in the classroom: access to resources, quality of software and hardware, ease of use, incentives to change, support and collegiality in their school, school and national policies, commitment to professional learning and background in formal computer training. The review highlights the role of pedagogy and suggests that teachers' beliefs about teaching and learning with ICT are central to integration. It is suggested that successful implementation of ICT needs to address three interlocking frameworks for change; the teacher, the school, and policy makers. ICT has become commonplace entities in all aspects of life. The use of ICT in education lends itself to more student-centered learning settings. But with the world moving rapidly into digital media and information, the role of ICT in education is becoming more and more important and this importance will continue to grow and develop in the 21st century.

72. Mobile Learning is the Future of Young Learners

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Mobile learning is one of the technological advancement in education. Mobile learning means "learning on the move." The learning process takes place anytime, anywhere while we are moving in our environment. The mobile revolution is finally here in the form of m-learning, which is a natural extension of e-learning. In this paper I would like to focus the future of mobile learning with the Y-learners .A wide definition of mobile earning is the ability to learn independently of place and time, facilitated by arange of mobile devices. Mobile computing devices off era unique opportunity for teacher and students in different kind so finstructional settings to capitalize on the flexibility and freedom afforded by these devices. If appropriately facilitated, mobile devices what ever and when ever the ynee dit.

73. Effect of Twenty Four Week Football Training on Flexibility, Agility, and Endurance of Junior School Boys

Dr. N.R.Ramkumar

Director of Physical Education, Amet University, Chennai.

The purpose of this study was to find out the effect of twenty four week Football training on flexibility, agility and endurance of Junior School boys. The study was conducted on thirty (N=30) Football players who were randomly selected from various Schools in Tamil Nadu, India during 2017-2018. The age of the subjects were ranged between 14 to 16. The selected players was assigned in to two groups of fifteen each (n=15), Group –I underwent Football training, and Group –II acted as Control. Flexibility, Agility and Endurance were selected as dependent variables. Flexibility was assessed by Sit & Reach test, Agility was assessed by 4x10 m Shuttle Run and Cardio Respiratory Endurance was assessed by Cooper's 12 Minutes Run/Walk test. The experimental group underwent the training for 24 weeks. All the subjects were tested prior to and immediately after the training period of twenty four weeks for all the selected variables. The data collected data from the three groups prior to and immediately after the training programme on the selected criterion variables were statistically analyzed with Analysis of Covariance (ANCOVA). In all the cases 0.05 level of confidence was fixed to test the hypotheses. Flexibility, Agility and Endurance showed significant difference between the groups. Football training group showed better performance than Control group.

Keywords: *Flexibility, Agility and Endurance*

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74. Influence of Tabata Training with and without Yogic Practice on Selected Physiological Variables Among Engineering College Men Students

***Mr. K. P. Santhosh Nathan, Dr. R. Mohanakrishnan,**

Ph.D (Research Scholar), Department of Physical Education, SRMIST, Kaattankulathur-603203 Assistant Professor, Department of Physical Education, SRMIST, Kaattankulathur-603203

The purpose of the study was to investigate the Influence of Tabata Training with and without Yogic Practice on Selected physiological Variables among Engineering College Men Students. To facilitate the study, 45 Engineering College Men Students between the age group of 17-22 were selected from Mohamed Sathak AJ college of Engineering, Chennai. In the study, the total numbers of subjects were divided into three groups' viz., Experimental group-I, Experimental group-II and the Control group. The group one under gone six weeks Tabata training with Yogic practice training programme and group two under gone Tabata training without Yogic practice and the control group was not exposed to any treatments. Before administering the training a pre test were taken from all the 45 subjects and at the end of sixth week a post test was also taken. The pre test and post test scores of all the three groups on vital capacity and forced vital capacity was collected. Analysis of Covariance (ANCOVA) was applied to determine the significant difference resulting from the training programme on Engineering College Men Students. Results revealed that there was significant mean difference in the physiological variables in Engineering College Men Students.

Keywords: *Tabata Training, Yogic practices, Vital Capacity and Forced Vital Capacity*

75. Effect of Yogic Practices on Elasticity Among Lumbago Women

Dr.G. Gokul Krishnan

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Manalmedu, Mayiladuthurai Taluk, Nagapattinam

The aim of this study was to find out the effect of yoga practice on flexibility among lower back pain women. For the propose of the study 20 lumbago (low back pain) women's from Vivekananda College, Sirkali, Nagpattinam District, Tamilnadu, were selected as subjects and their age ranged between 30 to 45 years. The selected subjects were divided into two groups namely Group – I underwent yoga (n= 10) and Group – II acted as control (n= 10). The flexibility was selected as dependent variable and tested by using sit and reach test. The yoga group underwent parivarthatrikonasana, vakrasana, ustrasana, ardhachakrasana, komugasana, patchimothaasana, veerasana, yogamudra , yoganidhra, nadisuthi pranayama and silent meditation. The yoga practice was extended for eight weeks, three days per week, sixty minutes per day including warming up and relaxation. The control group did not do any special training program apart from their regular activities. The data were collected before and immediately after the yogic practice. The collected data on flexibility was analyzed by using analysis of variance (ANOVA) to find the significance between groups. The level of confidence was fixed at 0.05. The result of the study shows that, Astanga yoga practice improves flexibility when compared to control. The result shows that there was a significant improvement on flexibility due to yogic practice on low back pain women's

Keywords: *Yogic Practice, Lower Back Pain, Women.*

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76. A Study Regarding Health among Hostel Girl of Annamalai University, Tamilnadu

Dr.C. Thillaigovindan,

Assistant Profsssor, Annamaial University, On Deputed Physical director, Alagappa Government Polytecniccolleg, Karaikudi.

The purpose of the present study was to examine the level of health among hostel girls of Annamalai University. 100 hostel girls were selected as the sample of this study. A survey approach has been followed to examine the lifestyle of girl's hostel of, Annamalai university. A well structured questionnaire is the tool of the study. There were 5 questions on the concepts of health. In order to make the study analytic and interpretation part of data more rational and scientific, some statistical tools like percentage and chisquare test were used. The findings shows that 64% of there spondents say that they have good health while 30% subjects described their health as excellent and 6% consider their health as not good.

Keywords: *Health, lifestyle and Hostel.*

77. Fitness and Wellness

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Mayiladuthurai – 609 001

Awareness about physical fitness and wellness is essential for everyone. Physical fitness is defined as the capacity of an individual to do daily routine work without fatigue, to participate in physical activity and still reserve enough to meet any emergency. Wellness is the state of being and healthy and free from diseases. Aim of Fitness and Wellness Is to deal more confident as you improve your appearance. Basic fitness can be classified in the four main components. They are strength, speed, stamina and flexibility. The Components of Wellness are emotional, spiritual, intellectual, physical, social and carrer. Each and every person to do some physical exercise regularly (exercise like walking, jogging, running, yoga etc). Regular exercise and physical activity promotes muscles and bones. It improves respiratory cardiovascular healter and overall health. Staying active can also help you maintain a healthy weight, reduce your risk of type 2 diabetes heart diseases are reduce your risk of some cancer. FITT(Frequency,Intensity,Type,Time) principle useful tool for weekly Fitness routine. . It will help the people to improve their fitness and wellness programs.

Keywords: *Fitness, Wellness, FITT*

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78. Learn Yoga - Control Your Emotion

Dr. R. Vidhya Sree

Director of Physical Education, Govt.College for Women, Kumbakonam

In present-day lifestyle, although modern technology has helped to protect us from physical damages like injuries, infections, accidents, we are faced with many emotionally demanding situations in all fields of life, such as high-level competition, unemployment, unending and ever-mounting targets, high expectations at the workplace, adjustments in families, dealing with difficult personalities, etc. causing heightened anxiety and stress. Stress is not viewed as a singular event, but as a transaction between an individual and the environment that makes demand on all available coping resources of the body-mind complex. This involves cognitive appraisal and coping processes. When these resources are taxed and the responses exceed the coping abilities it can result in distressful negative emotions. These precipitate aggressive behaviours such as anger, fear, distress, irritability etc. Stress and coping are closely related to affect or emotions because they are affected by cognitive appraisal. Thus the heightened stress responses that result in negative affect and distress are reflections of an inability to cope with demanding situations. Yoga is one of the popular practices that have the potential to promote positive affect. Yoga, developed thousands of years ago, is now recognized as a form of mind-body medicine. It addresses the full scope of a person's life including physical, mental, emotional and spiritual aspects of the individual in disease and health.

79. Effects of Combined Aerobic and Anaerobic Training in Different Proportions on VO_2 Max Among Healthy College Women

Dr. M. Sankar

Director of physical education, Government Arts College (Autonomous), Kumbakonam

Combined training is one exercise program including aerobic and anaerobic activities. It is the best way to reap all the benefits of aerobic and anaerobic exercise. Most of the benefits that one receives from performing either aerobic or anaerobic exercise will be present in a combined training program. The aim of the study was to investigate the effect of twelve weeks combined aerobic anaerobic training on VO2max of college women. For the purpose, seventy five women students studying bachelors degree in different discipline, at Government Arts College(Autonomous),Kumbakonam, Tamilnadu were randomly selected and divided equally into five groups of fifteen subjects each. G1 – (70 % aerobic and 30 % anaerobic training), G2 – (60% aerobic and 40 % anaerobic training), G3- (50 % aerobic and 50 % anaerobic), G4- (40 % aerobic and 60 % anaerobic) and G5-control. The data were collected before and after the twelve weeks of training on VO_2 max. The collected data were analysed by ANCOVA and Scheffe's test was as follow up to test the, significant the confidence was fixed at 0.05 level. The result of the study indicates that the combination of 60 % aerobic and 40 % anaerobic training was the most effective for increase the VO_2 max among college women.

80. Significance of Outcome - Based Education

Dr. K.Senthil Kumar,

Assistant Professor, Government college of Education,

Orthanadu, Thanjavur (Dt)

Outcome-based education has been the topic of acrimonious debates in many states and school systems. The furor surprised some educators who, after years of hearing calls for "results" from political and business leaders, assumed that most parents and citizens would support a move to more definite outcomes and means of assessing them. Perhaps the majority of people do agree with the principles of OBE-or would if they understood them but highly vocal critics have how raised enough questions about how OBE might work in practice to create doubts among informed members of the public about its desirability.

81. Physiological and Psychological Fitness for Kabaddi Players

G. Vinayagam, Dr. B. Selvamuthukrishnan

Ph.D Research Scholars,Hindustan Institute of Technology & Science

Director of Physical Education, Hindustan Institute of Technology &Science

The game of Kabaddi is a typical Indian game that involves a lot of agility, endurance, courage and team spirit. In the beginning of the 20th century rules of the games were framed by the Deccan gymkhana. The National Kabaddi Federation of India was formed in 1950 and it organized the first national Kabaddi championship in the year 1952. In competitive sport a player often comes across certain movements where winning or losing is dependent on player's ability to cope with pressure situations. In this regard mental toughness plays a major role. find out correlation between Independent Variables (Endurance, hip and trunk Flexibility, Agility, Speed and leg Explosive Strength) and Dependent Variable (Kabaddi Performance). Selected Variables were Endurance, hip and trunk Flexibility, Agility, Speed and leg Explosive Strength (Independent Variables).

82. Analysis of Selected Physical Fitness Component of Boys and Girls of Different Age Group

Dr. G. Kumarasamy

Director of Physical Education,

Government polytechnic College, Aundipatti, Theni

The purpose of the study is to Analysis the selected physical fitness component namely agility between boys and girls of pubescent and post-pubescent players. To achieve purpose of the study sixty kabaddi men and women players and sixty men and women kho-kho players in the various places around Cuddalore District, Tamilnadu. The age of subjects ranged from (a) Pubescent:13 – 18 years (b) Post-pubescent :19 – 25 years. The selected criterion variable agility was measured by administering shuttle run. The static group design was used as experimental design in this study. The collected data on selected criterion variable was statistically analyzed by using 2 × 2 factorial ANOVA to find out the significant difference between boys and girls post-pubescent and pubescent players. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The simple effect was used for find out any significant difference between the groups on selected criterion variable. The results of the study showed that there was a significant difference between boys and girls post-pubescent group have better agility than pubescent group, there was a significant difference between girls post-pubescent group have better agility than girls pubescent group, there was a significant difference between boys post-pubescent group have better agility than boys pubescent group.

Keywords: *physical fitness, pubescent, post-pubescent, agility.*

83. Effect of Sand Running on Cardio-Respiratory Enudrance and Resting Pulse Rate

Dr. A.Neethi

Assistant Professor in Physical Education and Sports Sciences, Annamalai University

The purpose of the present study was to find the effect of sand running on cardio-respiratory endurance and resting pulse rate. For this purpose, thirty male students studying Bachelor Degree in the Department Physical Education and Sports Sciences, Annamalai University in the age group of 18 – 22 years were selected. They were divided into two equal groups, each group consisted of fifteen subjects, in which Group – I underwent sand running and group – II acted as control group who did not participate in any special training. The training period for this study was three days in a week for twelve weeks. Prior to and after the training period the subjects were tested for cardio-respiratory endurance and resting pulse rate. Cardio-respiratory endurance was assessed by conducting Cooper's 12 minutes run/walk test, and resting pulse rate was assessed by counting the pulse rate at arterial pressure for one minute at resting condition. Analysis of Covariance was applied as statistical tool. The result of the study has shown that the sand running group has improved the cardio-respiratory endurance and also reduced the resting pulse rate after the sand running period when compared with the control group.

Keywords: *sand running, cardio-respiratory endurance and resting pulse rate.*

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84. Effect of Stair Climbing and Sand Dune Running on VO_2 Max

Dr. S. Newton

Director of Physical Education, TPEVR polytecnic college, Vellore

The purpose of this study was to find out the effect of stair climbing and sand dune running on selected physiological. To achieve the purpose, thirty (N=30) men football players from various colleges of Puducherry state, who had represented their college football team were selected as subjects. The subjects were selected on a random basis and were allotted to three groups (stair climbing, sand dune running and control) by random assignment (N=10). The age of the subjects ranged from 19 to 24 years. The research scholar reviewed the various scientific literatures pertaining to the stair climbing and sand dune running on selected physiological, strength and endurance variables such as VO_2 max, the control group did not undergo any type of training. Stair climbing training was given to the experimental group I and sand dune running was given to the experimental group II on alternate days in the morning for a period of twelve weeks. Two days after the end of experimental period the post test was conducted and data collected on selected dependent variables. The difference between the initial and final means of the groups was considered as the effect of respective treatments. The data obtained were subjected to statistical treatment using analysis of covariance (ANCOVA).

85. Impact of Yogic Asanas on Total Cholesterol of Women Players

Dr. K. Bhuvanendhiran

Director of Physical Education,Dr.PT.MGR. Govt. Arts & Science College

Kudavasal.

The purpose of the study was to find out the Impact of Yogic asanas on Total cholesterol of women volleyball players.. To achieve this purpose of the study, forty female student studying various department from Annamalai University, Chidambaram. (n=40) were randomly selected as subjects and their age ranged between 18 to 22 years. The selected subjects were randomly assigned into two equal groups such as experimental group (EG) and control group (CG) with twenty subjects each (n=20). The experimental groups underwent their respective group for eight weeks three days per week a session on each day. Control group was not engaged to any specific training apart from their curriculum. Total cholesterol was taken as variable for this investigation. The pre and post test were conducted one day before and after the training programme. Analysis of covariance (ANCOVA) was used to analyze the collected data. The results revealed that the experimental group (EG) produced significant improvement ($p \leq 0.05$) due to Yogic asanas training on Total cholesterol when compared to control group (CG).

Keywords: *Yogic asanas, total cholesterol*

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86. Analysis of Selected Physical Fitness Component of Boys and Girls of Different Age Group

Dr. Aranga Panbilnathan

Director of physical Education, Loganatha Narayanasamy Government College,

Ponneri-601204

The purpose of the study is to Analysis the selected physical fitness component namely speed between boys and girls of pubescent and post-pubescent players. To achieve purpose of the study sixty kabaddi men and women players and sixty men and women kho-kho players in the various places around Cuddalore District, Tamilnadu. The age of subjects ranged from (a) Pubescent:13 – 18 years (b) Post-pubescent :19 – 25 years. The selected criterion variable speed was measured by administering 50mts dash. The static group design was used as experimental design in this study. The collected data on selected criterion variable was statistically analyzed by using 2×2 factorial ANOVA to find out the significant difference between boys and girls post-pubescent and pubescent players. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The simple effect was used for find out any significant difference between the groups on selected criterion variable. The results of the study showed that there was a significant difference between boys and girls post-pubescent group have better speed than pubescent group, there was a significant difference between girls post-pubescent group have better speed than girls pubescent group, there was a significant difference between boys post-pubescent group have better speed than boys pubescent group.

Keywords: *physical fitness, pubescent, post-pubescent, speed.*

87. Effect of Walking Programme on Selected Physiological Variables of Middle Aged Men

Dr.R. Sevi

Department of Physical Education, Annamalai University, Annamalainagar – 608002.

The purpose of the study was to find out the effect of walking programme on selected physiological variables of middle aged men. To achieve this purpose, 20 middle aged men were randomly selected as subjects from various places around Kumbakonam. The age of the subjects were ranged from 40 to 45 years. The subjects were further classified at random into two equal groups of 10 subjects each in which group - I underwent brisk walking for five days per week for six weeks and group - II acted as control that did not underwent any special activities other than normal activities. The selected criterion variables such as resting pulse rate and breath holding time were assessed before and after the training period. The collected data were statistically analysed by using Analysis of Covariance (ANCOVA). From the results of the study it was found that there was a significant decrease in resting pulse rate and improvement in breath holding time for brisk walking programme group when compared with the control group.

88. Relative Effect of Pranayama Practice and Aerobic Training on Cardio Respiratory Endurance of Inter-Collegiate Kabaddi Players

Dr. A.Subradeepan

Director of Physical Education, Government Polytechnic College, Nagarcoil.

The purpose of the study was to find out the effect of pranayama practice and aerobic training on cardio respiratory endurance of inter-collegiate kabaddi players. To achieve the purpose of the study the investigator proposed to select forty five male Kabaddi players from various colleges affiliated to Manonmaniam Sundaranar University, Tirunelveli,Tamilnadu, India as subject in the age group of 18 years to 23 years. They were divided into three equal groups of fifteen each (n=15) at random. Group-I performed pranayama practice, group-II performed aerobic training and group-III acted as control. ANCOVA was used to find out the adjusted mean difference between the groups. The result of the study reveals that due to the effect of Pranayama practices and aerobic training the cardio respiratory endurance of the subjects was significantly improved. It is also concluded that no significant differences existed between Pranayama practices and aerobic training groups in improving cardio respiratory endurance of inter-collegiate kabaddi players.

Keywords: *Pranayama practice and Aerobic training, Cardio Respiratory Endurance.*

89. Analysis of Selected Physical Fitness Component of Boys and Girls of Different Age Group

Dr.R.Subramanaian

Director of Physical Education, Government polytechnic College, Purasawalkam, Chennai-600012.

The purpose of the study is to Analysis the selected physical fitness component namely agility between boys and girls of pubescent and post-pubescent players. To achieve purpose of the study sixty Kabaddi men and women players and sixty men and women kho-kho players in the various places around Cuddalore District, Tamilnadu. The age of subjects ranged from (a) Pubescent: 13 – 18 years (b) Post-pubescent:19 – 25 years. The selected criterion variable agility was measured by administering shuttle run. The static group design was used as experimental design in this study. The collected data on selected criterion variable was statistically analyzed by using 2 × 2 factorial ANOVA to find out the significant difference between boys and girls post-pubescent and pubescent players. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The simple effect was used for find out any significant difference between the groups on selected criterion variable. The results of the study showed that there was a significant difference between boys and girls post-pubescent group have better agility than pubescent group, there was a significant difference between girls post-pubescent group have better agility than girls pubescent group, there was a significant difference between boys post-pubescent group have better agility than boys pubescent group.

Keywords: *physical fitness, pubescent, post-pubescent, agility.*

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90. Effect of Resistance Training Endurance Training and Combined Training on Selected Bio-Chemical Parameters

Dr. K. Sekarbabu,

Department of Physical Education, Annamalai University.

The fortitude of the study was to find the effect of resistance, endurance and combined training on selected biochemical variables. To achieve this purpose of the study, sixty male students age ranged between 18 to 25 were randomly selected as subjects from the department of physical education, Annamalai University, Chidambaram, Tamil Nadu. They were divided into four equal groups, each group consisting of fifteen subjects in which group-I underwent resistance training, group-II underwent endurance training, group-III underwent combined resistance and endurance training and group-IV acted as control group who did not participate in any special training. The subjects were tested on selected criterion variables such as high density Lipoprotein and low density Lipoprotein prior to and immediately after the training period. The selected criterion variables such as high density Lipoprotein and low density Lipoprotein were measured by using the Boehringer Mannheim Kit method. The analysis of covariance (ANCOVA) was applied to find out significant difference if any between experimental and control group. In all cases .05 level of confidence was utilized to test the significance. After analysis of data, the results shows that the endurance training and combined training groups have reduced the level of low density Lipoprotein and improved the level of high density Lipoprotein significantly but the resistance training group did not reduced the level of low density Lipoprotein and improved the level of high density Lipoprotein. However three were no significant differences in improving the selected criterion variables among all the three experimental groups.

Keywords: *Resistance Training, Endurance Training, Combined Training, High Density Lipoprotein and Low density Lipoprotein.*

91. Relationship of Selected Kinematical Variables With the Free Throw Performance in Basketball

Dr. P. Ranjith

Director of Physical Education, Sri Sairam Institute of Technology, Chennai.

Purpose of the study was to find out the relationship between selected kinematical variables with the free throw performance in basketball. For this purpose eleven basketball players belonging to the age group of 18 to 25from different colleges in Chennai were selected as subjected for the study. The videos as obtained by in Sony digital video camera (Model: HDR-XR550E). The camera was placed perpendicular to the plane of free throw at a distance of 8.05 meters to capture the free throw. The camera was fixed perpendicular to the plane of motion by setting the axis of the camera at 90 º angle through a plumb line test. The camera focus and optical settings were fixed after a number of attempts to ensure the optimum image was captured in the camera. The camera was fixed on a stationary tripod at a height of 1.40 meters a careful attention was taken to avoid panning. The calibration frame of 1m x1m was placed nearer to the plane of action in front of camera. The angle of release and height of release variables were measured from the video captured in camera. The captured videos were analyzed by frame by frame to measure the angle of release and height of release through the KINOVEA software version 0.8.15. Pearson's product moment correlation coefficient was used to determine the significant relationship between free throw and shoulder angle, knee angle and ankle angle, the study was concluded that there was significant relationship between shoulder angle and free throw performance and there was no significant relationship between knee and ankle angle with free throw performance.

Keywords: *Kinematic, shoulder angle, knee angle and ankle angle, free throw*

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92. Effect of Resistance and Circuit Training on Jumping Ability Among College Men

Dr. P. Ranjith,

Director of Physical Education, Sri Sairam Institute of Technology, Chennai.

This study was undertaken determine influence of resistance and circuit training on jumping ability among college men. The selected subjects were from different colleges in Chennai, Tamil Nadu. The subjects chosen for the study were divided randomly into two groups namely one, experimental group I (20) and experimental group II (20) different in each groups. Six weeks of selected resistance and circuit training were given to experimental groups. The experimental groups underwent the training programme as per the training schedule prepared by the investigator. The programme was given three days in a week for six weeks, with respective standard tests for measuring the physical variable jumping ability. The data were computed statically by using 't' ratio to see progressive effects. The result of the study shows that the circuit training shows better improvement than the resistance training group.

Keywords: *Jumping ability, Circuit Training and Resistance Training.*

93. Effect of Specific Kho Kho Training at Different Preparatory Phase on Selected Motor Fitness Variables of University Level Players

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**College Director of Physical Education, Periyar EVR College, Trichy.

The purpose of the study is to find out effect of specific kho kho training at different preparatory phase on selected motor fitness variables of university level players. To achieve the purpose of the study thirty university kho kho players were selected from Annamalai university. The age of the subjects were ranged from 17-23 years. The selected subjects were divided into two equal groups, each group consists of 15 subjects. Group-I underwent specific kho kho training for six days in a week for twelve weeks, The Group-II control group does not undergone any specific training training other than the regular routine activities. The selected motor fitness variables selected in the study were explosive power and muscular endurance and they were measured by standard test such as sergent jump and sit ups respectively. The data were collected on selected motor fitness variables namely explosive power and muscular endurance which were assessed by vertical jump and bent knee sit ups respectively before and after twelve weeks of training. The data was analyzed by using analysis of covariance (ANCOVA). The level of significance was fixed at 0.05. The findings of the present study have strongly indicate that that kho kho specific training at different preparatroy phase shows significant changes of university level kho kho players.

Keywords: *preparatory phase, specific training, explosive power, muscular endurance*

94. Efficacy of Yoga Sadhana on Self-Efficacy Level of Annamalai University Students

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[1]Ph.D.Scholar (Full Time), Centre for Yoga Studies, Annamalai University

[2]Assistant Professor in Yoga, Department of Education, Annamalai University

The objective of this study is to examine the effect of Asanas, Pranayamas, and Dhyana on Self-efficacy level of college students. This is an experimental study which follows pre & post-test experimental designs. A group of 45 volunteer Female students studying in I year B. Ed class have been selected from the campus of Annamalai University. The age group range lies between 20 to 25 years. Furthermore, these 45 students have been divided equally into three groups on random basis, consisting of 15 students each. Group A has given some select Yogasanas, Group B has given some select Pranayamas and Meditation, and Group C is a controlled group and has not given any type of exercise except general warming-up exercises. Here Group A and B have gone through yogic Practices for one hour daily during evening session for 5 days per week during eight-week training program under strict supervision of the researcher. All the three groups has been pre-tested and post-tested for select Self regulated Learning component, i.e. self-efficacy. The study has experimentally proved the authenticity of Yogic Practices in ornamental the Self-efficacy level of female college students. Moreover, the results clearly indicate that Pranayamas and Meditation are more effective than Asanas in enhancing Self-efficacy level of female students.

Keywords: *Ashtanga-yoga, Asana, Pranayama, Meditation, Self-efficacy.*

95. Recent Trends in Marketing 'On-Line Marketing' Issues and Challenges

Dr. M. Murugan[1] and Mr.K.Annamalai[2]

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In the rapidly changing social economical, political, environmental and technological situations, the world-over companies are under tremendous pressure to respond to the changes. The changes are more accelerated with the onset of Liberalization, Privatization & Globalization. Today is not like yesterday and tomorrow will be different from today. Traditional nature of Trade, Commerce & Industry is going to replace by new one and information technology (IT) is playing a predominant role in it. A whole world people became the customer of business. The no hold barred competition had given rise to marketing challenges before business. The market with choice and ready availability as its crucial feature forced the companies of India to resort to the best marketing practices as adopted in the highly advanced countries. Online marketing Company efforts to market products and services and build customer relationships over the internet. A vast public web of computer networks that connects users of all types around the world to each other "information repository". With the development in information technology, the marketers will overcome the above challenges. Online marketing is vital in even changing market. In Indian context online marketing is in the beginning stage, for its development, great amount of computer literacy & internet acquaintance is required. To solve the problems of existing physical marketing virtual (sky) marketing is required and e-marketing will fulfill this requirement. Indian customers are more habited and find of to see & physically verify the products, while they are purchasing the product. In view of the rapidly changing competitive global market, enterprises are striving to achieve improvement in performance, customer satisfaction, quality service, security and profitability. This is possible only with the passage of time. Marketing would change with changing situations. It will secure its important position let it be change its nature. It is everlasting, ever-changing & always given new direction for research.

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96. CANopen Protocol Analysis System in Marine Automatic Engine Room Monitoring

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This paper presents the fact of CANopen convention and its examination programming. The significance of CANopen convention keen examination framework be connected in investigating and introducing control framework in view of CAN handle transport is additionally discussed. In this paper, we discuss the design approaches for embedded CAN-bus interception and capture device and CANopen intelligent analysis system, and apply it successfully to detect and debug integrated monitoring alarm system basedon CAN-bus in automation ship engine room. We have discussed the CAN as main communication protocoland connected controlled objects, smart instrument nodes,gateways and upper computers from bottom to top, and for medan integrative system which is transparent to users. During system running and testing, CANopen protocol intelligent analysis system was applied to analyze and process the validity of messages received or transferred by each CAN device and network load, and it improved the convenience of system development, debugging, installation and maintenance successfully.

Keywords - CANopen; Intelligent Analysis System; CAN field bus; CAN high-level Protocols.

97. Environmental Impact of Pesticides on Hormonal Imbalance in Human

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Several pesticides used as herbicides, insecticides and fungicides are known to be endocrine disrupting chemicals (EDCs). Synthetic chemicals are released into the environment by design (pesticides) or as a result of industrial activity. It is well known that natural environmental chemicals can cause goiter or thyroid imbalance. The endocrine disruptors alter the proper functioning of the endocrine pathway with important consequences on human health. This article summarizes data concerning the effects of different types of endocrine disruptors such as: phytoestrogens, bisphenol, diethylstilbestrol, phthalates, dioxin and pesticides on endocrine system and the sequelae on endocrine functions.Many endocrine disrupting compounds adversely impact the following functions: metabolic rate, sex development, insulin production and utilization, growth, stress response, gender behavior, reproduction. The action to disrupt the endocrine pathway is possible via nuclear receptors, through membrane receptors, neurotransmitter receptors, orphan receptors and enzymatic pathways involved in the hormonal synthesis. Pesticides reach the environment primarily during preparation and application. Application can take place via different techniques, depending on factors such as the formulation type, the controlled pest and, the application timing. In agriculture, it is possible to apply pesticides to the crop or to the soil. Liquids sprays are commonly used in crops; for example, boom sprayers, tunnel sprayers, or aerial application. Systemic pesticides can also be employed. As for soils, pesticides can be applied as granules, injected as a fumigant, or sprayed onto the soil surface, which is possibly followed by pesticide incorporation into the soil top layer. Seeds are sometimes treated with pesticides prior to planting. Environmental conditions such as temperature and humidity impact volatility, which can occur from soil, plants, or surface water, and may continue for several days or weeks after pesticide application. In the atmosphere, the chemicals can be transported over long distances. Subsequent atmospheric deposition can contribute to surface water pollution. Finally, the degradation of pesticides that also determines the behavior and fate of these compounds in the environment. This paper reviews the current knowledge of the Environmental impact of pesticides on hormonal imbalance in human.

Keywords: *Environmental, Pesticides, Hormonal imbalance and Human.*

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98. Manjula Padmanabhan's Kleptomania: "A Multi Dimensional Mania"

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Literature is an intermediate of obsessive stealing, which compels writers to make use of their family, the problems of their friends and the typical situations in their life to make their works the most interesting. The general definition of the term 'Kleptomania' is a recurring insists to steal, normally without considering need or profit. Manjula Padmanabhan's short story anthology entitled, Kleptomania is one of the popular titles. Manjula is discussing about writers and how do they discover their subjects. This article describes the style of Manjula and how she is analysing real-life issues through the lives of her surrounding in the quest of the art. The author discusses the mind-set of people in handling factual problems and their incapability to reveal the truth. She presents her characters in such a way that everyone must encounter unlawful problems and it should provoke a question on those people who are encumbering the development of the public.

Keywords*: Kleptomania, unlawful Issues, Problems of real -Life*

99. On T- Conorm of Fuzzy Soft Aggregation and its Application of Multi Criteria Decision Making in Agriculture

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Multi- Criteria Decision Making (MCDM) which that addresses the problem of making a suitable choice from a set of alternatives which are characterized in their attributes is a normal human activity. For this, used the Mathematical tool called Fuzzy Soft Matrix. In this paper, to find the best agricultural place and applied the T- Conorm of Fuzzy Soft Aggregation in Multi Criteria Decision Making.

Keywords: *Fuzzy, Fuzzy Soft Matrix, Fuzzy Soft Aggregation (FS- Aggregation), T-Conorm, T- Conorm of Fuzzy Soft Aggregation.*

100. Solvent-free synthesis of some bio-potentN-(4-chloro-1-naphthyl) substituted benzenesulfonamides

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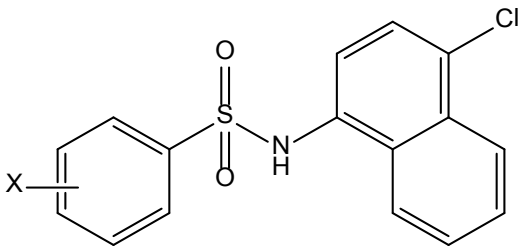
Some N-(4-chloro-1-naphthyl) substituted benzene sulfonamides(I) have been synthesised by microwave assisted solvent-free condensation between 4-chloro-1-napohthylamine and various substituted benzene sulfonamides in the presence of Cu2+/Zeolite catalyst. The yields of the sulfonamides are more than 80%. These sulfonamides are characterized by their physical constants, micro analysis and spectroscopic techniques. This method offered environmentally benign synthesis, solvent less synthesis, shorter reaction time, high yields, less hazardous to environment and human. The antimicrobial activities of these sulfonamides were assessed using Bauer-Kirby disc diffusion technique. The mm of zone of inhibition values were measured against their antimicrobial microbes referred with Ampicillin and Miconazole are standard and DMSO as solvent.

Keywords: *Aryl sulfonamides, Solvent-free synthesis, Cu2+/Zeolite, IR and NMR spectra, Antimicrobial activities*



X=H, 3-Br, 4-Cl,, 4-F, 3-OH, 4-OH, 4-OCH_3, 4-CH_3, 3-NO_2, 4-NO_2

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