ICRTST- 2021

(19-20 June, 2021)

E-Book of Abstracts

3rd International Conference on Recent Trend on Science and Technology (ICRTST-2021)

Organized by: Society for Development of Innovative Research in Science and Education (SDIRSE) *Jointly with*

MAA SHAKUMBARI TRUST, Greater Noida, Gautam Budha Nagar

(Registration No. Trust/05/2019)

Conference Email: msticrtst2021**@gmail.com**

Conference website: https://mstrust.in/icrtst-2021/

JOURNALS

- *International Journal of Computational Modeling and Physical Sciences, UP India* ***(ISSN 2582-7642)***
- *Advanced Mathematics Scientific Journal* ***1857-8365*** *(printed version)* ***1857-8438*** *(electronic version)* *(**Scopus Journal**)*
- *Materials Today: Proceedings,* ***ISSN: 1369-7021*** *Science Direct Elsevier Publication*
- *Turkish Journal of Computer and Mathematics Education* ***Scopus Journal*** *(1309-4653)*
- *Journal of Polymer and Composite (2321-8525) ESCI Journal.*
- International Journal of Future Generation Communication and Networking, Web of Science (ESCI)
- *Advances and Application in Mathematical Sciences* ***(*ISSN 0974-6803) .*ESCI Journal.***

Preface

The 3rd International Conference on Recent Trend on Science and Technology (ICRTST-2021) is intended to provide a common platform for mathematicians, computer scientists, engineers, statisticians throughout the world to present their latest findings, ideas, developments and applications covering aspects of recent trends in Science and engineering and Technology . On behalf of organizing committee, we express our gratefulness to the authors who contributed in the form of research papers. The speakers of plenary and invited talks are also gratefully acknowledged. All the abstracts in this E-Book of abstract have been included without any major editing except minor syntactical and typographical errors. However, due care has been taken in compiling/editing but the typographical errors cannot be ruled out due to paucity of time. We are grateful to our esteemed Chairmen, Prof. (Dr) Anil Kumar for his constant support and encouragement which made it possible for us to organize this event. We are indebted the**Initiated by Society for Development of Innovative Research in Science and Education (SDIRSE) Greater Noida UP India** andMaa Shakumbari Trust Greater Noida for the cooperation to organize this conference. We extend a warm welcome to all delegates and invited speakers for their participation in the conference. We hope that the deliberations during the conference will provide directions for future research and the conference will have a lasting impact on the academic/research works of all the participant and delegates.

Message, Conference Chair Prof. (Dr.) Anil Kumar

Dear Participants,

It is with great pleasure that I invite you to attend the **3rd International Conference on Recent Trend on Science and Technology (ICRTST-2021)**to be held under the patronage of **Maa Shakumbari Trust Greater Noida** UP india. The event will take place on 19-20, June 2021 at the virtual online Greater Noida, Gautam Budha Nagar , UP, India.

ICRTST-2021will provide an excellent opportunity for regional and international operators and owners as well as technology, product and service providers to connect, network and discuss how to develop innovative ideas and feasible solutions that will address the growing needs of the environmental and pandemic and chemical properties of upstream and downstream.

The theme selected for **ICRTST-2021** is "Recent trend on Science & Technology and Science through Innovation" and its objective is to create a forum for facilitating the exchange of practical experiences in all aspects of process engineering in addition to seeking solutions to the various challenges that process engineers face.

Some of the main topics that will be addressed during the technical program of the conference are Science and Technology, Energy Efficiency, Mechanical system Mathematical modleing and Sustainability amongst others.

ICRTST-2021will attracts hundreds of international companies, professionals and scientists taking part in the different facets of the conference as sponsors, exhibitors, presenters and speakers or simply as delegates. The technical program will feature specialized topics best suited to meet the needs of process engineers at this global event that is guaranteed to attract a widespread audience.

I look forward to welcoming all of you at **ICRTST-2021**.

With my best and warm regards,

Prof. (Dr.) Anil Kumar

President MST, Greater Noida UP India
Conference Chairman (**ICRTST-2021)**
Swami Vivekanand Subharti University Meerut UP India

Message of Convenor Dr Amit K Awasthi

It is my great pleasure to present the proceedings of the **3rd International Conference on Recent Trend on Science and Technology (ICRTST-2021)**. This conference is being organized by Maa Shakumbhari Trust during the Covid-19 period. It's objective is to provide a research platform to young researchers in various interdisciplinary areas. We were honored to have as the Chief Guest,Dr Rajendra Kumar Jenamani and as the Guest of Honor, Dr S K Varshney as Guest of Honour and our eminent Keynote speakers. We have finalized 211 research papers after critical review. As the convener of the conference, I extend my gratitude to our Advisory committee members. I would like to thank technical program committee, local organizing committee, volunteers and the staff members for their dedicated support. Special gratitude is paid here to the MST, Greater Noida India for organizing such wonderful conference. Finally I would like to thank all the authors, volunteers and persons who directly or indirectly contributed to the conference.

Without their cooperation and full support, this conference would not have been possible.

Dr Amit K Awasthi

Convener ICRTST-2021

Head, Mathematics

GBU, Greater Noida UP India

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4	**Dr Ajay Shukla**	**Professor Mathematics SV National Institute of Technology , Surat**	**Inauguration**
5	**Dr S K Varshney**	**Advisor and Head Department of Science and Technology, New Delhi**	**Emerging Trends in Computer Science and Technology**
6	**Dr Sachin Kumar**	**Deputy Director Sardar Swaran Singh National Institute of Bio Energy Kapurthala Punjab**	**Lignocellulosic Valorization for Biofuels and Bioenergy**
7	**Prof. (Dr.) V K Katiyar**	**Dean Academics & Research University of Patanjali, Haridwar**	**Mechanics of Breathing**
8	**Dr DS Hooda**	**Guru Jambheshwar University of Science and Technology Hisar Haryana**	**Estimation of Missing Data in Design of Experiment and Contingency Table.**
9	**Dr Manu Pratap Singh**	**Department of Computer Science, Institute of Engineering and Technology, Dr. B.R. Ambedkar University, Agra, UP, India**	**New Era of Computation: Soft Computing to Quantum Computing**
10	**Prof.(Dr .) Avanish Kumar**	**Professor Mathematics Bundelkhand University, Jhansi UP India dravanishkumar@yahoo.com**	**Task Management for Distributed Systems**

11	Dr RR Sinha	Dr. BR Ambedkar National Institute of Technology, Jalandhar Punjab	Estimation of Parameters under Complete and Incomplete Information
12	Dr. D. K. Ghosh	D. K. Ghosh Department of Statistics Saurashtra University, Rajkot, Gujarat, India	Diagonal matrix of a Vector and Its Application for theConstruction of Efficiency Balance Designs
13.	f. (Dr.) Santosh Kumar	Department of Mathematics College of Natural and Applied Sciences, University of Dar es salaam, P.O.Box-35062, Dar es salaam Tanzania.	Fixed Point Theory and It's Applications
14	Prof. (Dr.) R K Dwivedi	Department of Physics and Materials Science and Engineering JIIT Noida UP India	Engineering Materials and Applications
15	Dr Akhilesh Barve	Mechanical Department, MANIT, Bhopal	Industry 4.0 and Supply Chain Management
16	Dr Deepak Garg	Professor and Head-Computer Science and Engineering Department, School of Engineering & Applied Sciences, Bennett University, Greater Noida UP india of Edeepak.garg@bennett.edu.in	Challenge and Opportunities in Artificial Intelligence
17	Dr K P Yadav	Vice Chancellor , Sangam University, Bhilwara, Rajasthan	Latest Trend in Computer and IT Sector
18	Dr. Gaurav Varshney	Assistant Professor, Department of Mathematics S.B.S.Govt. P.G. College Rudrapur (U.S.Nagar) India	Mathematical Modeling and its Application in Biofluid Dynamics
19.	Prof. (Dr.) Pradeep	Manav Rachna University, Faridabad Faridabad, Haryana, India	Alignment of Research and Innovation activities towards

	Kumar Varshney		**Sustainable Development Goals**
20	**Dr Nitish Pathak**	**BPIT, Guru Govind Singh Indrapratstha University, Delhi India**	**Artificial Intelligence for Engineers**
21.	**Dr. Ashok G. Matani**	**Professor- Mechanical Engineering Government College of Engineering, Amravati, India**	**IoT and sensors applications in water and energy resources optimization**
22	**Dr S P Singh**	**Principal and Medical Superintendent Professor Ayurveda Physiology , M.J.F. Ayurveda Medical College and Hospital, Jaipur Rajasthan**	**The Role of Engineering Technology in medical and ayurveda fields in reference to the pandemic disease coronavirus -19**

IT 01: Guest of Invited talk

ESTIMATION OF MISSING DATA IN DESIGN OF EXPERIMENT AND CONTINGENCY TABLE

D.S. Hooda

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Abstract:

Missing data in design of experiment and contingency table causes incomplete information which leads to more ambiguity and difficulty in decision making process. Thus, to estimate missing data is an important and challenging problem.

In the proposed talk the estimation of missing data in design of experiment by applying the maximum entropy principle is described. An algorithm to estimate the missing values in a fuzzy matrix is defined and applied in estimation of missing data in contingency table. Discussion and conclusion are also given in the end.

IT 02: Guest of Invited talk

Diagonal matrix of a vector and its application for the Construction of Efficiency balance designs

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Abstract:

We have introduced the concept of Diagonal matrix of a vector in this investigation. This matrix is defined and0 then some of its properties are also studied. Moreover, this matrix is used for the

construction of unequal replication sizes and unequal block sizes efficiency balanced designs. However it is found that the when all the replication sizes are equal and all the block sizes are also equal, the efficiency balance design becomes balance incomplete block designs with repeated blocks.

IT 03: Guest of Invited talk

Title: Fixed Point Theory and It's Applications

Prof. (Dr.)Santosh Kumar
Department of Mathematics
College of Natural and Applied Sciences,
University of Dar es salaam,
P.O.Box-35062, Dar es salaam
Tanzania.

Abstract:

Fixed point theory is a fascinating research area which is important in pure and applied mathematics. Several areas in science and technology have nonlinear phenomena and fixed point theory provides tools to get the solution of the problems. In last 100 years, it utilized by researchers to solve problems in Physics, Chemistry, Genetics, Economics, Electronics Engineering, Chemical Engineering and many others. This talk will cover a brief development of fixed point Theory which focuses on different areas of it. Lastly, I will cover some applications of fixed point theory in science and technology.

Invited talk 4 Alignment of Research and Innovation activities towards Sustainable Development Goals (SDGs)

Prof. (Dr.)Pradeep K. Varshney
Professor and Dean Research, Manav Rachna University, Faridabad
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Due to manifold developments in the areas of Research, Innovation, Startups and Entrepreneurship (RISE) in the country, the Global Innovation Index of India has increased to 38 in 2021, which is only due to imaginable thinking and initiatives taken by youth during last one decade. RISE activities can be further enhanced by aligning our objectives with Sustainable Development Goals (SDGs) as per United Nationsalso known as The 2030 Agenda for Sustainable Development, comprises of 17 Global Goals, 169 associated targets, and 230 individual indicators a set of 8 Global Goals.

Scientific Research, Innovation, Startups and Entrepreneurship are directed and shaped, they don't just happen and they play crucial roles in addressing the SDGs. However, due to uncertainties, engrained interests, distributed priorities in science and innovation, and complex interconnections between the Global Goals, the potential contributions of science, research, technology and innovation remain complex and elusive. The SDGs are seen as a step towards international collective impact efforts, focusing and guiding humanitarian efforts worldwide.

More broadly, the academic community will learn more about how distributed policy, economic and scientific choices about research topics may be more or less aligned with the SDGs. In this paper, you will learn how you evaluateyour research and innovation ongoing activities that is not only relevant to scientific outputs but also to societal goals.

Key Words: Sustainable, SDGs, Research & Innovation, Entrepreneurship, Startups

Invited talk 5: IoT and sensors applications in water and energy resources optimization

Dr. Ashok G. Matani

Professor- Mechanical Engineering

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Technologies such as satellite remote sensing in combination with semantic sensor web and geographical information systems (GIS) can be used innovatively by water authorities to obtain information in real time about water use, to track and forecast the level of rivers and to identify new sources of fresh water. Web-enabled sensors and communication networks provide an opportunity for water stakeholders to obtain information in near real time about physical and environmental variables such as temperature, soil moisture levels and rainfall. Smart metering technologies can also provide individuals, businesses and water companies with information in near real time about their own water use, thus raising awareness about usage, locating leakages and offering better control over water demand. ICT can bring enormous benefits to water authorities in mapping and monitoring natural water resources, as well as in forecasting river flows and giving advance warning of water-related emergencies such as flooding. In particular, smart metering technologies will play an important role in measuring water consumption in real time, identifying leaks at the consumer level and making consumers more conscious about their water usage.

International efforts to meet renewable energy deployment and energy efficiency measures is resulting in a safe and reliable manner of renewable energy, thereby, resulting in minimized environmental , climate impacts, air quality improvement, good public health, and increased jobs and economic growth, increased grid reliability as well as lower energy costs on a household, corporate and national levels, The joint efforts by various institutions , corporations, governments and non-governmental organizations (NGOs) has resulted in enhancing world level energy efficiency highlighting the potential to significantly minimization of greenhouse gas emissions on the earth.

The growth of renewable energy is restricted due to less reliability of transmission & distribution systems. The traditional energy grids were built to support the one-way transmission of uniform energy from power plants and bill the customers once a month. Hence now-a-days these grids are not applied to support the varying electricity supply from renewable sources. Artificial Intelligence (AI) and Internet of Things (IoT) systems has enabled the creation of smart grids supporting manual switching between renewable and long-established power plants to ensure an

uninterrupted power supply. This switching in smart grids is supporting the varying nature of renewable energy and facilitates non-stop energy supply to the consumers.

Conclusions

Considering merger and rapid advancement in radio communication and smart phones technologies, consumer and commercial drones have grown at exponential rate .Radio communication assists in governing the aircraft movement, and smart phones had resulted in steep minimization of the prices of various equipments such as chips, microcontrollers, cameras , accelerometers and other sensors. These have resulted in capturing of data with better computing capabilities. Data analytics and machine learning is assisting in making data-driven decisions for predicting weather conditions, increasing affordability and improving shortcomings maintaining the supply chain, thereby enhancing productivity.

Paper ID: ICRTST -01

A Study on Flame Color Recognition and Identification of the Metal Ion Using Deep Learning Approach

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Abstract:

Alkali metals give flames their color. This is due to the fact that they have low ionization energy. The pa-per proposes to use Res Net and Dense Net to recognize flam e colors and metals. Deep learning is a relatively new area of research in this field. These models (Res Net & Dense Net) are computationally intensive and are typically used to achieve high-classification accuracy. These networks are constructed using sacks of convolution

(Conv2D) layers with Batch Normalization and a function of activation called Relu. We evaluated our scheme on 315 samples of Flame Images from our own dataset and obtained a recognition rate of 95.55% for Res net and 95.31%for Dense Net.

Key words : Flames, Metal, Resnet, DensNet, Relu, Conv2D.

Paper ID: ICRTST -02

Temple Waste Management in Western Himalaya for Sustainable Environment

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Abstract:

Theharmless and environmentally harmonious management of solid wastes generated from various human activities has become a major issue in all over the world. A huge amount of solid waste is produced as an outcome of anthropogenic activities which is poorly managed thatresults in considerable environmental pollution.India is a religious country having large numbers of temples and a huge tonnage of solid waste is produced largely during functions, worships, ceremonies and festivals. Enormous quantity of flower waste is generated on daily basis as an outcome of offerings by billions of peoplethat is left unmanaged or thrown in local water bodies causing serious environmental pollution. During the current study, the quantity of flower waste generated by few of the major temples of Himachal Pradesh was assessedand data on waste management practices was collected from temple authorities. The waste was transported to vermicomposting unit where it was mixed with different proportions of cattle dung. Fungal treatment was also given to the waste for reducing decomposition time. After Vermicomposting process, analysis of various physical and chemical parameters includingpH, electrical conductivity, determination of potassium, sodium, phosphorus, nitrogen, C: N ratio, C: P ratio, volatile matter, ash content, total organic carbon and moisture content was done. The results indicate that fungal treated waste got degraded in less time in comparison to control. Also, the compost produced at the end was of high quality. Thus, vermicomposting of flower waste is an

excellent and eco-friendly practice to get valuable yields which may lead to a healthier and waste free environment.

Keywords: Temple waste, pollution, compost, Himachal Pradesh

ICRTST-03

Madhumeh (Diabetes Mellitus) and its treatment by Triphala & Avipattikara Churnain Ayurveda Treatises

Praveen K. Dixit[1]*, K. Nagarajan[2], Sokindra Kumar[3]

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Abstract:

Madhumeh one of the form of Prameha is well described in the ancient literatures, like in Vedas and in the Ayurveda. Premeha is a syndrome which includes a group of clinicalmanifestations and mainly characterized by increased quantity of turbid urine, described in classics as “Prabhuta Avila Mutrata.” Polyuria andTurbidity of the urine are the two essential features of this disease.Such conditions are most commonly occurs in Diabetes Mellitus (Madhumeh) also. Madhumeh(DM)is a type of Prameh. Some of the ayurvedic intellectuals have recited that the word Pramehaembraces a list of urinary disorders which may be characterized by ample urination due to severe imbalances of Dosha and Dushyas.Two maintypes of Prameha are described in Ayurveda – Sahaja (refers to natural, inherited or congenital factors) and Doshaja (refers to Dosha vitiation).Based on the clinical importance it is further divided into two types – Sthoola Prameha (urinarydisorders of stouts) and KrishaPrameha (urinarydisorders of lean. Diabetes mellitus (Madhumeha) which is one among the VatajaPrameha.in which the patient voids excessivequantity of urine having Madhura Rasa, RukshaSparsha, and Kashaya Varna. Nowadays, Prameha is recognized as lifestyle disorder in thesociety. In Diabetes Mellitus also various complications related to the kidney damage (nephropathy), cardiovascular diseases, nervedamage (neuropathy), eye damage (retinopathy), foot damage, hearing impairments, skin

worse conditions, etc. occurs. *Triphala*and*AvipattikaraChurna* are well-known traditional ayurvedic formulations which is most commonly usedto tone up and support the normal functioning of the bowel and urinary system. Many traditional compounds containing *Triphala* and*AvipattikaraChurna* as an ingredient, is found to be useful in the treatment of several kinds of ailments and diabetes is among one of them.In this present paper, anattempt has been made to summarize the antidiabetic andantihyperlipidemic potential of *Triphala* and *AvipattikaraChurna* as a whole including Invitro/Invivohyperglycemic activity and toxicity studies.

Keywords: Triphala; Avipattikara; Prameha; Sthoola; Polyuria

ICRTST -04

VASO-PROTECTIVE EFEECTS OF CARVACROL IN NICOTINE AND ARSEINC INDUCED VASCULAR ENDOTHELIAL DYSFUNCTION

Anchal Garg[1*], Vardan Gupta[1], Praveen K. Dixit[1], Puspendra Kumar[2],K.Nagarajan[3]
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Abstract:

The present designed study investigated the effect ofp-cymene derived naturally occurring phenol carvacrol in nicotine and arsenic induced vascular endothelial dysfunction (VED). As exposure to nicotine and arsenic is associated with increased oxidative stress and impaired lipid profile, it has been implicated in the pathogenesis of VED, therefore; we evaluated vaso-protective effectscarvacrol on basis of its anti-oxidant property. The induction of VED via nicotine and arsenic showed impairment in the integrity of vascular endothelium and alters vascular tone bycreating an imbalance betweenvaso-contractile and vaso-dilatory factors thus decreasing the eNOS activity and altering NO bioavailability. Various parameters including lipid profile and oxidative stress were assessed.The treatment with carvacrol at two different dose (low and high) or atorvastatin significantly prevented nicotine and arsenic induced VED and

oxidative stress by improving endothelium integrity. Thus, it may be concluded that nicotine and arsenic induced oxidative stress and lipid profile alterations plays a key role in induction of VED in Wistar rat model. Henceforth, our results indicate that carvacrol may be useful in nicotine and arsenic induced VED.

Keywords:VED, Carvacrol,Arsenic,Nicotine

ICRTST -05

To Develop, Optimize and Evaluate Bilayer Tablet of Amlodipine and Metoprolol in the Treatment of Hypertension.

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Abstract:

The aim of present study is to develop, optimize and evaluate bi-layer tablet of Amlodipine and Metoprolol in the treatment of high blood pressure. As, it is bilayer tablet, so release of these 2 drugs is controlled by developing it into an immediate and sustained release layers. Here, Amlodipine will be immediate release layer and Metoprolol will be sustained release layer, which remains in stomach for prolonged period of time to maximize bioavailability of drug by using various individual concentration of crospovidone and various individual concentration and viscosity grades of HPMC polymers for both immediate release and sustained release respectively. Pure drugs along with polymers and excipients are taken and evaluated for compatibility test using FTIR studies. After the preparation of tablets, Pre and Post compression parameters, release rate kinetics, stability studies and In-vitro dissolution testing, are evaluated. To confirm the absence of chemical interaction between drug and polymer, FT-IR spectra is done. Pre and post compression parameters were found accurate for the experiment. One, Immediate Release Layer (ISL) and one Sustained Release Layer (SRL) were found best in their respective batches (by dissolution testing). So, they both were compressed to get a novel bilayer tablet. According to stability studies there is no substantial dissimilarity in drug content and

dissolution rates for a period of 6 months (as per ICH guideline). So, a novel bilayer tablet is formed successfully.

Keywords: Amlodipine, Metoprolol, Crospovidone, HPMC Polymer, Hypertension

ICRTST -06

Effect of Polymer Concentration on the Dissolution Rates of Pioglitazone Hydrochloride

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Abstract:

An emulsion of pioglita zone hydrochloride (drug) was prepared by mixing drug:polymer (gelatin) in different ratios of 1:0.5, 1:1, and 1:1.5 (wt/wt), respectively. These emulsions were used for the preparation of tablets of different composition. Tablet hardness increased with a decrease in concentration of polymer, while the percentage friability increased with an increase in polymer concentration in the tablet. The encapsulated tablet showed better sustained release than conventional tablets. The effect of concentration of polymer on dissolution rates of these tablets was studied using the Hixson-Crowell cube root law equation. The data obtained prove that the formulations are useful for a sustained release of pioglita zone hydrochloride, since the percent-age released after 24 h was nearly 76%.The release of pioglita zone hydrochloride was influenced by the presence of polymer and different compositions of lactose

Thetabletcontainingan emulsionofratio1:0.5 showed an excellent result of rate constant, better than conventional and other compositions

.**Keywords:** Dissolution; Drug; Hardness; Kinetics; Polymer.

ICRTST -07

Solutions of Fractional Kinetic Equations Involving Srivastava Polynomial Function and Multi-Index Bessel Function

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Abstract:

In the present paper, expressed the generalized fractional kinetic equations involving Srivastava polynomial function and Multi-Index Bessel function with their fractional derivatives. Further, by using the approach of Laplace transform, solutions are obtained in terms of Mittag-Leffler function. Further, the graphical presentation of the solutions is given to show the behavior of these solutions.

ICRTST 08

Formulation and Evaluation of Sustained Release Matrix Tablets of Nifedipine (NF)

Shubham Bhatt*, Yash Rastogi, Somesh Sharma
Under supervision of Mr. Anuj Pathak (Asst. Prof.)
Department of Pharmaceutics
K.I.E.T. SCHOOL OF PHARMACY, GHAZIABAD, INDIA

Abstract:

Sustained release drug delivery system is basically used for achieving the therapeutic effect of drug at the minimum concentration at the extended period of the time in systemic circulation. So in the treatmentof anginaand hypertension, the conventional delivery system is not much effective because the sufficient amount of the drug do not reaches to the site of action in appropriate amounts thus this is the major challenge and to overcome such problems mostly we used the sustained release delivery system which include matrix system that have pliability, hydrophilic polymer matrices that are wildly used polymer that control release of the drug. Nifedipine is BCS Class II drug that use calcium channel blocker medication to manage angina

and help in treating highblood pressure. It is prepared by blend of polymers so that we can get desirable release profile of drug. The evaluation of nefidipine there are different parameters are used such as physical characteristics, pharmacokinetics, hardness, friability, thickness, drug content uniformity weight variation, and the in vitro drug release rate pattern. HPMC K100Mis a high purity, water soluble cellulose derivative used to stabilize the formulation and it show 97% of drug release at 24 hours and with Eudragit which is the class of cationic synthetic polymers that have an optimal positive charge for adhesion to the corneal surface without manifestation of toxic effects and that indicates 96% of drug release at 20 hrs release of Nifedipine drug.

Keywords: Nefidipine, Sustained Release, Matrix Tablet, HPMC,Eugragit, In Vitro Drug Release.

ICRTST- 09

Effect of Meshing Methods on Finite Element Analysis under the Identical Loading Conditions using ANSYS.

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Abstract:
In finite element analysis, meshing method is a critical issue. Finite element analysis is finding its way into the product development cycle for design validation primarily using commercial FEA software packages available. FEA is most widely used for the structural analyses. This paper presents study of the effects of mesh method on variation in total deformation and equivalent Von-mises stress using static structural analysis. Based on these results the guidelines for choosing the appropriate mesh method in finite element modeling are provided. The static structural analysis is carried out to know the effects of mesh method by using Ansys Software. The model under study is of a structure made up of structural steel. The model is subjected to the identical load conditions of pressure and force. By assigning different mesh methods for analysis, comparison is made on variation in total deformation values and equivalent Von-mises stress values.
Keywords: Finite element analysis; Static structural analysis; Mesh methods; Total deformation; Equivalent stress

ICRTST -10

Unisum Labeling of Some Special Graphs

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Abstract:

Graph labeling is a method of allotting unique integers to the nodes and edges of a graph by following certain conditions. In this paper, a new labeling method of numbering the vertices and edges of graphs is being introduced known as Unisum labeling. Agraph G = (V,E) is said to be an Unisum graph if the vertices of G are labeled with distinct integers ranging from 1 to m+1 inclusive, where m is the number of edges of the graph G and the edges of G are uniquely represented by adding unity to the absolutedifference between its corresponding end vertices without repetition of any labels.Unisum labeling is distinct yet can be incorporated into several graphs with ease. This labeling is applied to some special structures of graphs and unique algorithms are created to satisfy the necessary and sufficient conditions of Unisum labeling.

ICRTST-11

Land Suitability Evaluation for Different Crops in Soils of Eastern Sohag, Egypt

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Abstract:

This study aimed to evaluate land suitability for cultivating different crops in some soils of the Eastern part of Sohag Governorate. Six soil profiles were drilled, and soil samples were collected from each horizon. Soil profiles were described morphologically in situ. Soil samples were prepared and analyzed for their physical, chemical, and fertility parameters using the standard methods. Climatic data, as well as soil morphological, physical, chemical, and fertility data of the studied soils were used to evaluate and classify land capability using different indices. These

data were used also to evaluate and classify land suitability for cultivating different crops using the parametric method and ALES model. The results of this study prevailed that, the soils of the studied site ranged between poor to fair capability (using Storie index) and from very poor to fair capability (using Sys and Verheye index). Regarding soil suitability evaluation using the parametric method, the studied area ranged between marginally suitable (S3) and moderately suitable (S2) for cultivating Wheat, Maize, Alfalfa, Tomato, Olives, and Mango. Using the ALSE model, soils ranged from non-suitable (N1) to moderately suitable (S2) for cultivating the evaluated crops. The limitations of these soils are soil texture, ECe, and SOM. Land capability and suitability maps were generated using the interpolation tool of QGIS software. These data and maps can be used for better planning for new lands reclamation and for enhancing land efficiency for crop productivity.

Keywords— *Storie Index, Parametric method, ALSE, land capability, land suitability, Sohag soils, mapping, QGIS.*

ICRTST -12

Second Order Cyclic Analysis of Counter Flow Pulse Tube Refrigerator

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Abstract:

Stirling machines are environmental friendly machines having working fluid as helium, nitrogen, or air, unlike other refrigerating machines which use refrigerants having some ODP and GWP values. Refrigerants having high ODP and GWP value affects the environment which is not the case with Stirling machines. To meet present and upcoming commercial requirements and needs, active refrigerators should be designed with low vibrations and durability. The Stirling-type pulse tube refrigerators can fulfill these requirements and performs better than other refrigerators. The Present paper deals with the modification of the inertance pulse tube refrigerator model in which the reservoir is eliminated and replaced with another pulse tube refrigerator. These two pulse tube refrigerators are operated at 180 degrees out of phase named

as counter-flow pulse tube refrigerator (CFPTR). For the development of the mathematical model, second-order cyclic analysis approach is applied. A modified approach of analysis is presented in this paper. The performance parameters ideal refrigerating effect, ideal power input, and losses determined separately which estimates net power input and net refrigerating effect. The confirmation of the cyclic model is done by CFD modeling of CFPTR.

ICRTST-13

Implementation of hybrid wind-solar energy system for ELECTRIC LOADS

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Abstract:

Solar energy and wind energy are being used more and more as a renewable source by various countries for different purposes. These energies offer many advantages and have a unique limitation due to the instability of energy. The aim of this is to command and synchronize the power flow of one hybrid system using two sources of energy (solar and wind). The first contribution of the present work is represented by the utilization of an Artificial Neural Network controller to command the maximum power point at fixed atmospheric conditions. The second contribution is represented by the optimization of the system respecting real-time constraints in order to increase the generating system performance. For this, the simulation and hardware implementation of the proposed algorithm are accomplished using MATLAB/SIMULINK and a Xilinx System Generator. The simulation results confirm that the considered system presents acceptable execution real time performance and precision. The proposed designed model and its control strategy give the opportunity to optimize the hybrid power system performance, which is utilized in Electrical loads and rural pumping applications.

KEYWORDS: Wind turbine system, PV, MPPT, Artificial Neural Network controller, FPGA, Pumping water.

DEMEANOR ANALYSIS OF SPINAL CORD USING PLIABLE BASED SENSOR

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Abstract:

Improper sitting position causes curvature of spinal cord. This is due to the longtime usage of smart phone and laptop by youngsters, IT professionals and working staff which leads to neck pain and low back pain and in turn leads to spinal related disorders. Best way to prevent this is by keeping a good posture as a daily routine. The focus of this paper is to build a wearable device to detect wearer's bad posture and alert the user to return back to the erect position. As well as provide a feedback through voice module and LCD display. In this we use accelerometer sensor for detecting the bending angle once poor posture is detected, and it is processed through Arduino. Massager is attached with this device using DC motor to reduce low back pain and it is switched on whenever needed. Through this project we can train the user to maintain a good posture through its continuous use and we also provide massager to the user and it is used whenever the user experiences an ache in the low back.

ICRTST- 15

EFFECT OF CLIMATE CHANGE IN SUNDARBAN REGION OF WEST BENGAL.

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Abstract:

Sundar bans or Sundor bon is the world's largest river delta located in India and Bangladesh.Sundarbans is the world's largest contiguous mangrove forest and is a designated world heritage site. Shared by India and Bangladesh, it is home to several species including tigers. The habitat supports approximately 4.37 million people. As per the research conducted it is believed that the Sundarbans have soaked in 4.15 crore tonnes of carbon dioxide. Due to climate change the Sundarbans faces several challenges. With rising sea levels, islands are disappearing and the increasing salinity in the water and soil has severely threatened the health of mangrove forests and the quality of soil and crops. Additionally, there have been serious disturbances to hydrological parameters and change in fishing patterns, resulting in disastrous consequences for fishermen. Frequent cyclones and erratic monsoon raining pattern are damaging ecology and humanity. In addition to general environment protection laws, India has also set up institutes at both the Central and State levels to specifically tackle the effects of climate change on Sundarbans. However, split responsibilities between Centre and States and multitude of institutions has resulted in overlap of responsibilities, loss of time and resources, which makes the institutions ineffective. With risk of the Sundarbans submerging, there is an urgent need for global reduction of emissions and replacement of fossil fuels with renewable energy. Governments also need to promote plantation of local saline resistant seeds. Even as the State and Central Government of India finalise action plans to tackle the problems of climate change and take steps for poverty alleviation in one of the world's poorest regions, there is a

pressing requirement to set up flood relief centres and rapid action response teams to cyclones and storms.

ICRTST- 16

Performance Evaluation of 6T SRAM cell using 90 nm Technology

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Abstract:

Over the last few decades, Static Random-Access Memory or SRAM has become the universally utilized memory technology. It can hold its stored information or data as long as the power is provided and it can be referred to as a type of random-access memory that utilizes latching circuitry in order to store the bits. The SRAM cells are made of MOSFETs. Additionally, the System of Chip advancements requests low-power SRAMs. In this paper performance evaluation of 6T SRAM cell topology has been carried out using Cadence virtuoso tools in a 90 nm technology node. It is performed in terms of the read and write operations, power, noise, temperature, and also the hold operations have been analyzed. Likewise, to assemble a dependable memory or storage, the individual cell (SRAM) should be intended to have a high Static Noise Margin (SNM). The main objective is to comprehend and analyze these activities of the SRAM.

Keywords :SRAM; SNM; Read; Write; Hold; Noise; Power; Temperature

Madhumeh(Diabetes Mellitus)and its treatment by Triphala&AvipattikaraChurnainAyurvedaTreatises: Pharmacological and Toxicological Aspects

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Abstract:

Madhumeh one of the form of Prameha is well described in the ancient literatures, like in Vedas and in the Ayurveda. Premeha is a syndrome which includes a group of clinicalmanifestations and mainly characterized by increased quantity of turbid urine, described in classics as "Prabhuta Avila Mutrata." Polyuria andTurbidity of the urine are the two essential features of this disease.Such conditions are most commonly occurs in Diabetes Mellitus (Madhumeh) also. Madhumeh(DM)is a type of Prameh. Some of the ayurvedic intellectuals have recited that the word Pramehaembraces a list of urinary disorders which may be characterized by ample urination due to severe imbalances of Dosha and Dushyas.Two maintypes of Prameha are described in Ayurveda – Sahaja (refers to natural, inherited or congenital factors) and Doshaja (refers to Dosha vitiation).Based on the clinical importance it is further divided into two types – SthoolaPrameha (urinarydisorders of stouts) and KrishaPrameha (urinarydisorders of lean. Diabetes mellitus (Madhumeha) which is one among the VatajaPrameha.in which the patient voids excessivequantity of urine having Madhura Rasa, RukshaSparsha, and Kashaya Varna. Nowadays, Prameha is recognized as lifestyle disorder in thesociety. In Diabetes Mellitus also various complications related to the kidney damage (nephropathy), cardiovascular diseases, nervedamage (neuropathy), eye damage (retinopathy), foot damage, hearing impairments, skin worse conditions, etc. occurs. *Triphala*and*AvipattikaraChurna* are well-known traditional ayurvedic formulations which is most commonly usedto tone up and support the normal functioning of the bowel and urinary system. Many traditional compounds containing *Triphala*

and*AvipattikaraChurna* as an ingredient, is found to be useful in the treatment of several kinds of ailments and diabetes is among one of them.In this present paper, anattempt has been made to summarize the antidiabetic andantihyperlipidemic potential of *Triphala* and *AvipattikaraChurna* as a whole including Invitro/Invivohyperglycemic activity and toxicity studies.

Keywords: Triphala; Avipattikara; Prameha; Sthoola; Polyuria

ICRTST-18

IMAGE CAPTION GENERATOR USING LSTM

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Abstract:

In recent years, the problem of automatically creating descriptive sentences for images has piqued interest in natural language processing and computer vision science. Picture captioning is a fundamental task that requires a semantic understanding of images as well as the ability to construct correct and correct description sentences. The authors propose a hybrid approach that employs a multilayer Convolutional Neural Network (CNN) to produce image-related vocabulary and an LSTM to correctly organise coherent sentences using the generated keywords. Until producing an accurate representation using the learned captions, the convolutional neural network compares the goal picture to a huge dataset of training photos. We show the validity of our proposed model using the Flickr8K and Flickr30K datasets, showing that it outperforms state-of-the-art Bleu metric models.

The Bleu metric is an algorithm for assessing the efficacy of a machine translation scheme by grading the content of text translated from one natural language to another. Regular test matrices are used to assess the proposed model's success and demonstrate that it outperforms previous benchmark models.

ICRTST- 19

IN-VITRO ASSESSMENT OF ANTI-INFLAMMATORY AND ANTI-ARTHRITIC ACTIVITY OF *WITHANIA SOMNIFERA(LINN)* EXTRACT

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Abstract:

Ashwagandha, often known as Indian winter cherry, is a plant belonging to the *Withania Somnifera Linn* family. (Solanaceae) is a plant family (commonly available as Churna).Africa, the Mediterranean, and India are home to this species. It grows to a height of 30-50cm and is primarily found in India's drier regions. It has been used for a long time to treat inflammation, dyspepsia, hypertension, rheumatism, tumors, anxiety, hemopoietic, antimicrobial, depression, immunomodulation, antiulcer, hepatoprotective activity, Alzheimer's, Parkinson's disease, rejuvenating benefits, and syphilis, among other disorders. Flavonoids, saponins, glycosides, alkaloids, tannins, and steroids are among the chemical compounds that have been examined.It also contains Withanoloides, a significant component.The Present study describes the Assessment of anti-inflammatory activity of Alcoholic and Hydroalcoholic extract of *Withania Somnifera (Linn)* by Protein denaturation method and HRBC method that is comes under in-vitro study.The inhibition of COX and LOX enzymes, which play a key role in inflammation, is the primary mechanism of anti-inflammatory action. NSAIDS are anti-inflammatory medications that work by inhibiting the enzymes COX and LOX.The production of free radicals or changes in electrostatic hydrogen, hydrophobic, and disulphide bonding are the mechanisms that cause protein denaturation. As a result, the herbal medication always has a high potential but a low side-effects.

Key words: Ashwagandha, Churna, Withanoloides, Cardioprotective, Protein Denaturation

ICRTST-20

Data Science: Fundamental Approach to Implement a Data Science Project

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Abstract:

As the world entered the age of huge information, the requirement for its storage collectively grew. It had been the most challenge and concern for the enterprise industries. The most focus was on building a framework and solutions to store information. Currently once Hadoopand different frameworkshave with success resolved the matter of storage, the main focus has shifted to the process of this data. Data Science is that the secret sauce here. All the ideas that you see in Hollywood sci-fi movies will truly become reality through data Science. Data Science is that the way forward for computing. Therefore, it's vital to grasp what's data science and the way will it add price to your business.

Keywords: Data Science, Business Intelligence, EDA, Machine Learning

ICRTST-21

Annotating properties for Provenance in aneducational Ontology

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Abstract:

The semantic web is enabling persons to create data stores on an existing web. On the other side, a semantic web refers that searching data source within a web depository. Here semantic web may be represented as an important component or backbone of ontology. Here ontology establishes the relationship between subjects and objects as well as vice-versa. In this paper, various ontology's are created towards various courses offered by Universities or institutions for the students and simultaneously courses ontology offered students to opt-in various courses depending on their qualification and needs. Ontology is constructed using protégé alpha tools. Though Ontology is used to help the agent to find accurate and specific data, there are no measures of trustworthiness upon the data retrieved from the designated web. Several questions arise like who, when, how, where data is created. There are no such formats are available embedding trust level in the returned ontology's. This paper is proposing trust level in an ontology using the concept of data provenance e.g. PROV-DM which tracks data lineage for end users. PROV-DM is the first standard model, proposed by www consortium.
Keywords –Semantic web, ontology, Provenance protégé.

ICRTST -22

Multiplicative Degree Based Topological Indices of F-sum graphs of Alkenes

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Abstract:

Degree based topological indices depends upon the degree of vertices. This paper computes several multiplicative degree-based topological indices of F-sum graphs of alkanes. Also, the findings are interpreted graphically using MATLAB.

Keywords: Topological index, alkanes, F-sum graphs, degree.

ASSESMENT OF ANTI- ARTHRITIC/ANTI INFLAMMATORYACTIVITY OF *INULA RACEMOSA*HOOK.F (PUSKARAMOOL) IN-VITRO

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Abstract:

Inula racemosa Hook. F (Asteraceae) commonly called Pushkarmool a well-documented Indian medicinal plant. *Inula racemosa* is known by different names around the world including the Indian sub-continent. Pokharmul in Hindi and Guajarati, puskaramul in Canada and Indian elecampane in English.The plant is commercially is a very important medicinal plant as described in Ayurveda. It is employed in the treatment of cardiovascular disease, a respiratory illness like asthma, bronchitis, cough,and anti-inflammatory, anti-arthritic activity, hypoglycemic, anti-anginal.It has glycosides, tannins, Flavonoids, Alkaloids, steroids, phenols, Saponins, proteins, and amino acids as chemical constituents.In this study,we have explored the In-vitro anti-inflammatory activity of the *Inula racemosa* Hook. F by Protein denaturation inhibition method and human red blood cells membrane stabilization (HRBC).Diclofenac sodium was used as a standard drug in the study. Resultsshowed the potential anti-inflammatory activity.

Keywords: anti-inflammatory, anti-arthritic, HRBC membrane sedimentation, analgesic, Inula racemosa root, arthritis, an autoimmune disorder, Phytochemical, Joints, Medicinal plants, bioactivity.

ICRTST- 24

Ant Lion, Dragonfly and GA based Optimal PID Control for Benchmarked Nonlinear Dynamical Aerial System: A Comparative Experimentation

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Abstract:

The paper presents a bio-inspired optimally tuned PID controller for the effective stabilization of decoupled, benchmarked, laboratory aerial system, scientifically known as the Twin Rotor Aerial System (TRAS). The non-linear model of such a system is linearized by applying state-space approach. Further, the derivation of the decoupled models of pitch and yaw actuators is carried out. To obtain the desired and accurate control performance, each of the designed PID controllers are optimized individually by using ant lion optimizer (ALO), dragonfly algorithm (DA), genetic algorithm (GA) and Ziegler Nichols 2ndmethod (ZN2). Responses corresponding to the met heuristic based PID controllers are measured and then compared in terms of the value of their overshoot, rise time, settling time and four performance indices based upon unity feedback error. From the experimental results, it is observed that ALO-PID performs better than DA-PID, followed by GA and ZN2 tuned PID for the quick rejection of external disturbances and to achieve the desired trajectory tracking, while at the same time, ensuring closed-loop stability of the system.

Keywords: ALO, DA, PID, TRMS, Optimization.

ICRTST-25

Heart Disease Prediction using different Algorithm of Machine Learning

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Abstract:

The health sector has become a major sector in the medical field. Many data and hidden information are available in the healthcare sector. Practical decisions are made with this hidden information using data mining methods. Scientific data play an important role in the processing of large amounts of data in the field of health care. This paper uses the cardiac database found in the UCI Machine Reading Library. This research paper work has the aim to find out heart disease and well-being of patient's heart using various data science methods such as navies bayers Logistic Regression and Random Forest. Therefore, this research paper provides a comparison and analysis of various algorithm in machine learning.

Keywords: Health disease, Naives Bayers, Machine learning.

ICRTST-26

MM-Wave Radar Applicationin 5GFor Autonomous Vehicles

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***Abstract*:**

The Autonomous Vehicle to All other different things (V-2-X) technology is the very crucial modernization that the globe can see within the years to arrive. This modal will be going to help different Avantgarde techniques such that object tracking, detection and recognition, problem identification, and getting rid of it. These are the techniques that would be needed different ideas amongst them, the huge amount of dataset transmit rates corresponding (GB) Giga-bits per dynamic period, huge accuracy, high speed to transmit data, that is presented the capacity new design for the upcoming new generation of 5th Generation as well as broad range bandwidth of (*mm*-Wave) that will conceive with an absolute result of V-2-X demand. As the targets similar to accuracy/discontinuation and safety of V-2-X technology, and the action of *millimeter*-wave connection needs different results for natural problems to occur resulting in a high loss in propagation path, penetration disability. This review paper gives a view of the V-2-X communication technology digs V-2-X targets and goals including the *mm*-wave and attending various beneficial results.

Keywords—5th Generation cellular, mm-Wave Radar, Directivity, Beamforming, V-2-X, MIMO, Automotive Radar Operation.

ICRTST- 27

Health Monitoring Smart Wearable Cloth for Chronic Patients

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Abstract:

Nowadays millions of people are dying annually due to having some health issues, an estimated 1.7 million due to cancer, 1.4 million due to chronic respiratory diseases. Recently Health Monitoring Systems have rapidly evolved in the research area of the medical field as well as Wireless Sensor Networks (WSN). To resolve this situation traditional methods are already there but it is difficult to implement because they are restricted such as position, wireless communication, and the main disadvantage of usingtraditional sensors is that patients cannot move freely at any point in time. To overcome this situation, we describe the design which is a microcontroller-based wireless health monitoring system. The aimof our proposed system is to monitor the pulse rate, heart rate, condition of the muscle and respiratory system by using a heartbeat sensor, muscle sensor, and respiratory sensor. Our health monitoring system comprises of four medical electronics sensors and which is the sensor unit of our system and another part of our system is the controller part, which has the latest technologies like cloud computing and GSM which we are using for data transmission and live monitoring. Our current project is an experimental creation of a cloth which can regulate and monitor various unit of the human body with ease. Nowadays various sensors like muscle sensors and other medical equipment are available to monitor various body parts. So, we aim to make them combine and work as a single unit.

Keywords—Health Monitoring, Wireless Sensor Network, Medical E-Sensors, Cloud Computing, and GSM technologies.

ICRTST- 28

TUNING OF PID CONTROLLER WITH SYMBOLIC LOGIC

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Abstract:

In this research paper it introduces a new way to design a PID controller. The PID controller is mostly and extensively suited controller in the field sector. While considerable architecture manage in controls system, and they are being completely realize by professional. On that basis, it is frequently the first step to a new choice control design. There are many suggested ways to tune the PID controls in Ziegler Nichols procedure is the most commonly method. The best answer for the program is to get the by fuzzy logic controls. The formula used here is the fuzzy weight of the incomprehensible setup. The function of fuzzy set point weight control has been done not only through by ordinary technique tuning hence it also used with discrete scenarios and numbers of group activities performed.

Keywords:PID,Fuzzy logic (FL), (ZN), Fuzzy Set Point Weighting Controller (FSPWC), Membership Function (MF).

ICRTST-29

How Cyber Security Applies and their Ethics

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Abstract:

We will be analyzing a techniquesof cyber-attacks and different security methods. We aspire to create research into the subject area. This paper explores how cybercrime has become a serious threat in our lives and we are going to look at a few of the different security methods that are being used in this arena and their various ethics and policies.

Keywords: Cyber security, Cyber crime, Cyber ethics, Social

media, Cloud computing, Android apps**.**

ICRTST- 30

Cyber Security

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Abstract:

Oftenthe business taking part within the digital offer chain cannot determine and realize the varied risks and threats associated within the forthcoming digital IoT technologies. The goal of this paper is to debatehoweverthese cyber risks are being implemented in IoT which will be unbroken inmind whereasdesigning the business skeletonand conjointly whereas implementing provision network. The paper illustrates the idea of IoT world and illustrates the look framework for a recognized web for conceptualizing the cyber risks from the IoT flexibly chain within the advanced economy. The techniques utilized in the analysis are open and clear-cut secretwriting and discourse analysis.

Keywords: Cyber risk, call web, digital technologies, internet-of-things, offer chain ways.Although we will not neglect the term “Hacking” as this arrives simplywith CYBER SECURITY and is coupled on the variedstages.

ICRTST- 31

NUMERICAL STUDY OF MHD FLOW THROUGH A POROUS MEDIUM WITH PERODIC WALL TEMPERATURE AND HEAT GENERATION/ABSORPTION IN PRESENCE OF RADIATION

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Abstract:

Aim of the study is to investigate magnetohydrodynamic free convection and oscillatory flow through a vertical channel filled with porous medium and non-uniform wall temperatures. Also, the effect of radiation and heat generation or absorption on an electrically conducting optically thin fluid is demonstrated analytically and quantitatively. For an oscillatory time-dependent coupled non-linear equation are solved for the fluid velocity and temperature by asymptotic approximation. Numerical results for the velocity and temperature profiles for various parameters such as Grashof number, radiation parameter, porosity parameter, Prandtl number and heat generation/absorption parameter as well as local skin friction coefficient and local Nusselt number are discussed numerically and presented through graphically.

Key words: Magneto hydrodynamic, oscillatory, porous medium.

ICRTST -32

A Study on Flame Colour Recognition and Identification of the Metal Ion Using Deep Learning Approach

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Abstract:

Alkali metals give flames their colour. This is dueto the fact that they have a low ionisation energy. The pa-per proposes to use ResNet and DenseNet to recognise flamecolours and metals. Deep learning is a relatively new area ofresearch in this field. These models (ResNet & DenseNet) arecomputationally intensive and are typically used to achieve highclassification accuracy. These networks are constructed usingsacks of convolutional (Conv2D) layers with Batch Normalizationand a function of activation called Relu. We evaluated our schemeon 315

samples of Flame Images from our own dataset andobtained a recognition rate of 95.55% for Resnet and 95.31%for DenseNet.

Index Terms—Flames, Metal, Resnet, DensNet, Relu, Conv2D.

ICRTST -33

Multi-Model Neural Style Transfer for Audio and Image (MMNST)

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Abstract:

Neural Style Transfer (NST) was created to give a new look for images, audios and videos through optimization and manipulation techniques. Nowadays, this specific field has picked up pace among various techniques that deal with neural networks and it has emerged as one of the most efficient means of producing style transfer. In order to address the shortcomings in the existing system, Multi-Model Neural Style Transfer (MMNST) approach for image and audio is proposed. It focuses on two kinds of data: audio and image. The main objective of the proposed system is to create artistic imagery by separating and recombining image content and style. For the audio style transfer, we have two inputs which is broken down, optimized and enhanced and finally combined together in a fulfilling manner Specifically, local and global features can be transferred using both parametric and non-parametric neural style transfer algorithms, which results in an outcome that has equal portions of both -content and style input as they coalesce perfectly. For experimentation, VGG-19 (CNN), Tensor Flow-Lite models is used. The proposed model outperforms the existing models in terms of accuracy, execution speed and the total loss incurred during the process.

KEYWORDS– Neural Style Transfer (NST), Convolution Neural Network (CNN), Visual Geometric Group (VGG), Tensor Flow-Lite, PyTorch.

ICRTST- 34

Computational Analysis and Prediction of Retinopathy Diabetes

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Abstract:

Computational Analysis and Prediction of Retinopathy diabetes" proposes new directions towards getting solution via computationalapproach for the Retinopathy diabetes. It is a common retinal infection which is caused by diabetesand a major cause of vision disability in both the middle and older age groups. Consequently, early diagnosis and detection by routine screening and appropriate treatment would be extremely beneficial in effectively monitoring the infection's progression. The current method of detecting retinopathy is a time-consuming and labor-intensive task that heavily relies on a physician's expertise.To address these issues, automated detection of diabetic retinopathy is needed.Early detection of diabetic retinopathy is also important for diagnosis, as it can help avoid blindness if treated properly. As there are more people affected by the disease than eye specialists who can scan them, a robotized predictive framework for diabetic retinopathy enhancements in the eye is required, so that lonesick people can be referred to a master for additional care and supervision.To dissect the angles and phases of retinopathy, shaded retinal images are used.Image recognition can be used to diagnose these different features and stages of Diabetes Retinopathy in a robotized manner, and it can also be referred to a professional for assistance, making it an excellent tool for convincing Diabetic Retinopathy screening.Thiswork proposes a novel system whichperforms the such detection, the first signs of DR,that aregraded into different categories.This approach ca be applied in clinical practice to validate or invalidate the detection. Methoddeveloped here may also be expendedfor pooling knowledge of detection for serving mankind.

ICRTST -35

Emotion Recognition by Recognition of Statistical Features of Facial Expression Image

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Abstract:

In this article, statistical features are used to analyze an approach to emotion detection. The proposed work first considers the ROI of the FER standard database. The brow, jaw, nose, left eye, and right eye is all important parts of the facial image in determining human emotions. For calculating statistical features, cropped eyebrow images of various emotions of facial images are used. Special statistical feathers have been measured in this proposed work to classify real human emotion. Mean, median, mode, and standard deviation are statistical attributes. Human emotions such as happy, sad, rage, fear, disgust, surprise, and neutral are accurately recognized by analyzing these statistical features.

Key word: ML ,DL , AI and statistical attributes.

ICRTST -36

Evaluating Critical Success Factors for Total Quality Management in Flexible Manufacturing Systems using Best Worst Method

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Abstract:

Over the years Total Quality Management (TQM) has been widely used by firms in anticipation of improving profits, market share and competitiveness. Although TQM is a proven approach for success in manufacturing, services and the public sector, failed in their campaigns because of

many reasons like lack of top management commitment, ignoring customers etc. This paper presents a study on certain specific factors that impact the success of the TQM implementation in a Flexible manufacturing systems used in a manufacturing industry. For this we have used the best worst method which is a Multi-Criteria Decision Making technique a number of alternatives are evaluated with respect to the most and least significant factor. The assigned weightages to each factor and further analysis points out that Cost efficient manufacturing process and Improvement of utilization of machines are the most important success factors. When considered for a long term approach the said analysis can provide needed help for companies involved in long-term continuous improvement efforts. If the TQM approach is properly followed and in accordance with the disciplines of the flexible manufacturing techniques, the companies will be capable of achieving organizational excellence.

Keywords: FMS, TQM, critical success factors, BWM method, MCDM.

ICRTST -37

Determination of relationship between rise in Temperature and Overall Efficiency in a 3-Phase Induction Motor and Thermal Analysis of a suitable Cooling Jacket

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Abstract:

The 3 phase induction motor used to power an electric vehicle (EV) tends to overheat on continuous usage, which in turn leads to higher thermal losses. In order to tackle this issue, a suitable cooling system has to be incorporated. This project focuses on obtaining boundary

conditions through thermo-electrical conjugation of motor power losses, and subsequently performs design and analysis of a suitable cooling jacket which encloses the motor casing. Based on performance criteria, the best suited coolant fluid is chosen i.e. in this case plain water. After performing heat transfer and flow simulation on the cooling jacket, it was seen that the average bulk temperature of the motor was seen to limit within 60±5°C (as per the optimal working temperature of the motor as provided by the manufacturer data sheet), when the flow rate of coolant was varied within 0.1- 0.125 kg/s. Index terms: 3-phase induction motor, electric vehicle (EV), coolant fluid, cooling jacket, heat transfer and flow simulation, bulk temperature, mass flow rate.

ICRTST- 38

Analysis of Gasoline Electric Hybrid two Wheeler

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Abstract:

A gasoline-electric hybrid vehicle is a vehicle which relies not only on batteries but also on an internal combustion engine which drives the wheels. It derives power from both source i.e from batteries and from Engine as per the need of power requirement. The objective of this work is to design and fabricate an electric power transmission system for existing gasoline powered two wheeler. The combination of both the power makes the vehicle dynamic in nature. It provides its owner with better utilization of fuel Hybrid electric vehicles (HEV) combine an electric motor, battery and control system with an internal combustion engine to achieve better fuel economy and reduce toxic emissions. In HEV, the battery alone provides power for low-speed driving conditions where internal combustion engines are least efficient. In accelerating, long highways, or hill climbing the electric motor provides additional power to assist the engine. This allows a smaller, more efficient engine to be used. Thus the vehicle is best suited for the growing urban areas with high traffic.

Keywords: Electric Vehicle, controller, battery, engine, motor.

ICRTST-39

The Forcing Monophonic Global Domination Number of a Graph

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Abstract:

Let G be a connected graph and let S be a minimum monophonic global dominating set of G. A subset T⊆S is called a forcing subset for S if S is the unique minimum monophonic global dominating set containing T. A forcing subset for S of minimum cardinality is a minimum forcing subset of S. The forcing monophonic global domination number of S, denoted by f(¯γ m) (S), is the cardinality of a minimum forcing subset of S. The forcing monophonic global domination number of G, denoted by f(¯γ m) (G), is f(¯γ m) (G)=min{f(¯γ m) (S) }, where the minimum is taken over all minimum monophonic global dominating sets S in G .Some of its general properties are studied. It is shown that for every pair a ,b of integers with 0≤a≤b, there exists a connected graph G such that f(¯γ m) (G)=a and ¯γm (G)=b, where ¯γm (G) is the global domination number of a graph.

Key words: forcing monophonic global domination number, monophonic global domination number,monophonic number, global domination number

ICRTST-40

A study on analysis of physicochemical parameters of water quality

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Abstract:

One of the most essential components of the ecosystem is water. After air, water is possibly the most valuable natural resource. Though water covers the majority of the earth's surface, just a small portion of it is exploitable, making this resource scarce. The importance of water in human health cannot be overstated. As a result of fertilisation, pollution, and human activity, water can become extremely contaminated. Weathering of rocks and leaching of soils, as well as mining activities, pollute natural water. As a result, water quality is critical in both environmental and economic terms. Because of the usage of contaminated drinking water, the human population suffers from a variety of water-borne diseases, it is vital to monitor the quality of drinking water at regular intervals. The availability of high-quality water is a critical element for illness prevention. Water quality can be assessed using a variety of factors, including physical, chemical, and biological ones. If the water quality is poor, it is unsafe to drink and use for other purposes. As a result, it is required to determine whether water is suitable for drinking, irrigation, or industrial use. Water samples can be evaluated using pH, turbidity, conductivity, total suspended solids (TSS), alkalinity, total dissolved solids (TSS), and other characteristics. This paper focuses on the various physicochemical parameters and their measurement methods to assess the water quality.

Keywords: Water contaminants, TSS, TDS, Alkalinity, pH, Turbidity, Biological oxygen demand, Chemical Oxygen Demand.

ICRTS-41

Effect of food additives on human health

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Abstract: A growing number of food color additives are increasingly being utilized to improve the chemical and physical look of food products. In today's world, the abuse of food color additives has become a big health concern. Food additives are commonly utilized in the food business to extend product shelf life to attribute, as well as to enhance the specific food attributes that are typically lost during processing. The food business has been using an increasing number of additives since the dawn of modern existence. Regardless, they are pharmaceuticals that, like any other, might have negative effects due to their extensive use. There are many coloring agents, artificial sweeteners, preservatives, flavoring agents, and other forms of food additives are employed in our food products. The human body faces a variety of health hazards as a result of increased intake of these additives. This article focuses on the negative effects of these food additives on human health, which are causing a slew of health problems.
Keywords: Coloring agents, Artificial sweeteners, Preservatives, Flavoring agents, Botulism, Therapeutic effects, Carcinogenic

ICRTST-42

Distance Eccentric Connectivity Index of the Line graph of Linear Chain of Benzene

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Abstract:

Distance eccentric connectivity index is a distance-based topological indices that was currently applied for mathematical modeling of biological activities of diverse nature. In this paper we evaluate exact results for the distance eccentric connectivity index of the line graph of linear chain of benzene.

Keywords– Topological index, line graph, benzene, distance.

ICRTST- 43

Liver Lesion Classification using Gray Level Run Length Matrix (GLRLM) and Convolution Neural Networks (CNN)

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Abstract:

To assess the advantage of the extra available data present in spectral CT datasets, as associated to conventional CT datasets, once using convolutional neural networks for fully automatic extraction and classification of liver lesions in CT images.

Key words: Liver Lesin , Matrix CNN Gray level .

ICRTST- 44

Role of Data Warehousing in Business Intelligence

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Abstract:

Business knowledge (BI) has been applied in different areas to take better choices and it gives distinctive degree of data to its partners as per the data needs. The motivation behind this paper is to introduce a writing audit on ongoing works in BI. Business Intelligence (BI) frameworks have been a main concern of CIOs (chief information officer) for some last years, however little is thought about how to effectively deal with those frameworks past the usage stage. The measure of information gathered by most presumed firms is expanding quickly. This is making a

requirement for organizations to utilize devices to see the information, analyze it and obviously, get it. Clients of the subsequent data incorporate supervisors at different levels just as examiners and, progressively more junior staff whose work expects them to see accurately what's going on in one piece of the business. At all levels, staff requires precise data in structure which can be effectively perceived and immediately followed up on.

Keywords: Business Intelligence, Data, Warehousing, Information

ICRTST-45

Air Quality Monitoring System Using Blynk App

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Abstract:

Today, air pollution is one of the significant environmental issues that causes adverse health effects in human bodies such as cancer, cardiologic disease and, high mortality rate resulting in damaging effects on the welfare of humans, animals and other living organisms of the environment. According to the recent research survey from WHO, India was the third most polluted country globally in 2020. Every year, about 2.5 million Indians, almost 30%, die from air pollution caused by burning fossil fuels. Given this, our group has developed a project based on an air quality monitoring system used to detect the various parameters of air that are perilous

to human beings and society. An IoT-based system was developed that detected the various parameters with the help of different sensors such as PM2.5, DHT11, LDR sensor, MQ-135, and the rain sensor. These sensors continuously sense the air quality index, rain, humidity, temperature, and smoke, finally providing all the information on the smart phone. In addition, it also helps us to fetch the data from any location where the device is installed. In this project, the Blynk app is implemented, a platform with IOS and android app to dominate and equate with Arduino Uno using ESP8266wifi controller. This app continuously monitors the value, throws an alert to the user with the help of a buzzer whenever the threshold value is exceeded.

Keywords— Sensors, IoT, Blynk App, Arduino Uno, ESP8266wifi.

ICRTST-46

Green Hydrogenation with Plant-Mediated Metallic Nano particles Supported Heterogeneous Catalyst

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Abstract:

This paper describes the green synthesis of Metallic nanoparticles (MNP's). There are various approaches for the synthesis of MNP's i.e. physical and chemical which is toxic to the environment and expensive. Biological methods have become a matter of focus among scientists. The chemistry of plant-based MNP's synthesis i.e. green synthesis is a branch, which has gained much significance due to their non-toxicity and mono-dispersed MNP's preparation methodologies. However, the green synthesis results in the formation of MNP's having varied sizes and shapes.

Here, we report the synthesis of MNP's from extracts of Citrus X Sinensis and Citrus X Limon leaves has been used because of their antioxidant properties. MNP's of Copper and nickel are

prepared by using the above-mentioned plant extracts containing flavonoids, phenolic acid, and terpenoids. These are characterized using TEM, IR, and UV Visible techniques. The rate kinetics of stability of MNP's synthesis and their capability to sequester metal ions by capping proteins such as glutathione and phytochelatins giving it a monodispersedsize that can also be controlled by temperature and PH conditions is very well studied. This review is all-inclusive for the understanding of the mechanism of MNP's synthesized by plants.

ICRTST-47

A Brief Study on Exponential Synchronization of Neural Networks

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Abstract:

This paper attempts to present an overview of recent progress of exponential synchronization for a class of neural networks with time-varying delays, mixed time-varying and stochastic impulses via periodically intermittent control, state feedback and impulsive control, aperiodically intermittent control,Dynamic Intermittent Output Feedback Control, leakage delay and reaction-diffusion terms via periodically intermittent control, with mixed delays and impulsive effects via output coupling with delay feedback, . By using a Lyapunov–Krasovskiĭı functional, a drive–response concept and a linear matrix inequality (LMI) approach, several sufficient conditions are established that guarantee the exponential synchronization of the neural networks. Finally, this paper presents an illustrative example and uses the simulated results to show the feasibility and effectiveness of the theoretical results.

Keywords: Neural network, synchronization, LMI, Lyapunov, time-delay.

2010 AMS Subject Classification: 34A34, 34A37, 92B20, 34K20, 93D05, 93D09, 93D20.

ICRTST-48

Crystal and Molecular docking studies of biscyclohexyl diols with focal adhesion Kinase inhibitors

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Abstract:

In the present study crystal structure of 3-hydroxy-2-((2-hydroxy-4, 4-dimethyl-6-oxocyclohex-1-enyl) (4-methoxyphenyl) methyl)- 5, 5-dimethylcyclohex-2-enone was determined using single crystal X-ray diffraction. Cyclohexane is a non planar molecule the shape of which vaguely resembles a chair. The conformation of cyclohexane molecule is constantly changing, with the atom on the left which is currently pointing down flipping up, and the one on the right flipping down. Further the structural feature was extrapolated to molecular docking studies with focal adhesion kinase (FAK) domain using Autodock to study its anticancerous property. The compound exhibited considerable bacterial inhibition of lower to moderate concentrations. We conclude that these derivatives can be used in medicine and have enormous potential as pharmaceutical agents due to their biological activities. The above titled receptor gainfunctional and structural insights into their mechanism of inhibition and explore its potential as an anticanceragent.

Keywords: Bis cyclohexyl diols, Docking, Focal adhesion kinase, anticancer

ICRTST-49

IMPLEMENTATION OF THE COMMUNICATION PROTOCOLS SPI BY THE HDL-VERILOG LANGUAGE

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Abstract:

In this paper design and development of SPI is presented. The SPI module permits synchronous, full duplex serial communication in the microcontroller unit and also peripheral devices. The master is the device that possesses the clock. data or raw material transmits between the master and the slave is synchronised to the clock possessed by the master. With the help of Vivado, we use the verilog code and create the single input Master and single input Slave. The Finite-State-Machines (FSM) and the state diagrams of both Master and Slave are used for verification purposes. From the RTL synthesis the schematic diagram and the synthesis results are covered. And performed the power and temperature results total on- chip power is 2.23W. The temperature of the Chip is at 29.2C and the thermal Margins are around 55C.The input clock Frequency is taken 50MHz. Voltage taken is 1.8V. It can transfer data up to 7Mbps.

Key words: SPI, AMBA, UART, I2C, Verilog, Vivado, Master, Slave, RTL, Power, Temperature.

ICRTST-50

Preparation, Characterization of Thermal, Mechanical, and Water Absorption Studies from PLA/MWCNTs Bio Films

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Abstract:

The scope of the present work is to develop ecofriendly films which was prepared by using poly lactic acid (PLA) and reinforcement with different weight percentages (0.5wt%, 1.0wt% and 1.5wt%) of MWCNTs through solvent casting method. The thermal properties of

PLA/MWCNTs films were studied through TGA; the result showed that the enhancement of thermal stability with the incorporation of MWCNTs in the PLA. The molecular level of dispersion was investigated by means of XRD and SEM techniques. The water absorption properties were also found to be reduced for the PLA/MWCNTs films with increasing MWCNTs content. The addition of nanorinforcement (MWCNTs) to an optimum concentration produced significant improvements in thermal stability and charyield. From the data, we are assuming that the PLA/MWCNTs films enhancement in the thermal, mechanical, and water absorption show better values than that of the neat PLA. It was interesting to observe that the effective dispersion of MWCNTs within the PLA, which might be achieved only at low weight percentages. By incorporating PLA/MWCNTs it was found that PLA/MWCNTs film may be used for food packing, packaging of goods, tissue engineering, medical devices, medicine, drains, tubes, cathers and industrial advanced high performance applications.

Keywords: Poly(lactic acid); MWCNTs; mechanical properties; thermal stability; morphology; and water absorption.

ICRTST-51

Magnetized String Cosmological Model in Rosen's BimetricGravity

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Abstract:

We have presented the solution of LRS Bianchi type III space-time with magnetic field and with string viscous fluid by solving the field equations of Rosen's bimetric theory of gravitation. It is observed that the magnetic field could have the cosmological origin of the model and it is agreed with Harrison (1973). The small value of magnetic field originated the universe and starts evolving it with maximum density and ending with zero density. The strong magnetic field ruled out the existence of the universe. Other geometrical and physical behavior of the model have been studied in the evolution of universe.

Keywords: Gravitation theory, Magnetic field and Cosmology.
PACS: 04.20-q, 41.20-q, 98.80-k

ICRTST-52

Evaluation and study of Behavioral Parametersof Novel drug RNH-12

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Abstract:

As per the ethics, a new compound or drug believes to have possible pharmacological effects should be tested on animals before tested on humans which have similar physiology than humans. In this article we have discussed the most commonly used behavioral test which are used to evaluate the anti-anxiety effects Behavioral tests are very useful to understand the Neuro-psychotic disease and also helpful in finding the treatment of the particular disease.Anxiolytics are the agent which are used to treat anxiety effect produced due to any cause.In this article, species-specific behavioral expressions related to anxiety in rodents have been described and their use to increase the reliability and sensitivity of tests for anxiety have been discussed.The various parameter will be undertaken for the better and precise evaluation of anxiolytics Nowadays there are various tests are available to evaluate the anxiolytics effect of a new chemical entity or even for comparative studies with the standard drug. In this review article, we have discussed the most commonly used behavioral tests which are used to evaluate the anti-anxiety effect of RNH-12. we have discussed the locomotor activity with the help of actophotometer and for the motor coordination the rotarod apparatus have been used and the very common for the anxiety assessment is elevated plus maze(EPM) and hole board apparatus .and for the learning and memory Morris water maze(MWM)In this article, species-specific behavioral expressions related to anxiety in rodents have been described and their use to increase

the reliability and sensitivity of tests for anxiety will be discussed.In the present study the test compound has shown the positive result to improve learning and memory and reduce anxiety of test animal.

Keywords: ,NCE- New chemical entity,EPM- elevated plus maze ,MWM-Morris water maze.

ICRTST-53

A Novel Approach for Malicious Intrusion Detection Using Ensemble Feature Selection Method

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Abstract:

Machine learning based intrusion detection is the major area of research nowadays. Network behavior can be identified by either analyzing the nodes in the network or the underlying traffic. Malicious traffic is the major problem area in the recent years. This paper describes the process of identification of malicious traffic utilizing machine learning techniques. The network traffic behavior can be monitored by studying the features associated with it. Large number of features are very tedious to work with, due to which proposed feature selection approach is applied on the standard dataset. The proposed work has used ensemble feature selection approach and various classification algorithms of the machine learning for classifying the malicious traffic. The accuracy of the model generated with the existing common feature selection techniques and the proposed ensemble based technique is compared and it was found that the ensemble method has given more promising results.

Keywords - Data Mining; Intrusion Detection; Classifier; Malicious;Network Attack; Feature Engineering

ICRTST-54

Environmental Changes and its factors will affect Soil Quality and Growth of PlantsA Review: in Nagpur Region

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Abstract:

Soil health and soil quality are defined as the capacity of soil to function as a vital living system within land use boundaries. Thisfunction which sustains biological productivity of soil also maintains the quality of surrounding environment and human health.Thus the two terms are used interchangeably although it is important to distinguish that, soil quality is related to soil function,whereas soil health presents the soil as a finite non-renewable and dynamic living resource. In this review, we deal with soil healthconcept which includes interactions between plant inputs and soil in creating a healthy environment. Adverse effects on soil healthand soil quality arise from nutrient imbalance in soil, excessive fertilization, soil pollution and soil loss processes that areincreasingly becoming common in developing countries. This review will examine the development of soil health approaches aswell as the content of soil health and soil quality information and its application to reduce negative impacts on agriculturalproductivity and long term sustainability Soil, like air and water, is a fundamental natural resourcesupporting a variety of ecosystem goods and services tothe benefit of the mankind. While production function ofsoil was recognized

Environmental factors include temperature, food, pollutants, population density, sound, light, and parasites. The diversity of environmental stresses that have been shown to cause an increase in asymmetry is probably not exclusive; many other kinds of stress might provide similar effects. Soil quality indicators are physical, chemical, and biological properties, processes, and characteristics that can be measured to monitor changes in the soil. Soil quality are important to focus conservation efforts on maintaining and improving the condition of the

soil; evaluate soil management practices and techniques; relate soil quality to that of other resources; collect the necessary information to determine trends; determine trends in the health of the Nation's soils guide land manager decisions. Objectives of this paper are to review of four sites and its current efforts to define soil quality. To know the soil status for its productivity, it is necessary to maintain the nutrients status. As nitrogen, phosphorus and potassium help leaves, stem roots and fruits and stimulates overall plant growth respectively .A common focus among all proposed different soil quality in different studied sites definitions is that the soil must reflect its ability to "function" in numerous ways at the present time and in the future. Soil and plant management practices that add or maintain soil carbon appear to be among the most important for restoring, maintaining, or improving soil quality.

Key words: Soil quality, Soil functions, Environmental Factors.

ICRTST-55

The Role of Technology in COVID-19 Pandemic

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Abstract:

As the COVID-19 pandemic continues unfolding, technology solutions and government initiatives are multiplying to help monitor and control the virus's journey. Their aid includes reducing the load on the health system and reinforcing the efforts of overworking and burned-out healthcare workers. While smart technologies cannot replace or compensate public institution measures, they do play a crucial role in emergency responses. Take a look at the promising use cases of how technology can help fight the novel coronavirus outbreak.

ICRTST-56

Role of Harmonic Function in Complex Analysis

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Abstract:

In this term paper, the definition and properties of harmonic functionin complex analysis is discussed. Harmonic Function is used frequently and plays a vital role in mathematics, physics and engineering. Here we will learn the definition, some fundamental properties and their roles and connections to complex analysis. We will directly see this as the consequence of Cauchy-Riemann equations.

ICRTST-57

The Numerical Study of Fuzzy Partial Differential Equation using Fuzzy Laplace Transforms

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Abstract:

In this project, different formulations of the fuzzy partial differential equation are solved using the fuzzy Laplace transform. The radioactive decaying and other heat and wave differential equation underimposed fuzzy initial conditions is considered and three different systems of fuzzy differential equations for respective right angled triangular, trapezoidal and quadrilateral initial conditions are prepared and solved using fuzzy Laplace transform. A new quadrilateral fuzzy number is introduced and using that the decaying differential equation is explored. We established the fuzzy Laplace transform for all defined right angled triangular, trapezoidal and

quadrilateral fuzzy numbers. The lower central and upper solutions according the applied fuzzy initial conditions are presented. The solution in terms of membership grade has also illustrated. The core effect of time on number of *radionuclide in* the sample and α^*value in $\alpha^* - left$ quadrilateral fuzzy number(Q_{c,i_c,d_1,d_2})is investigated.

ICRTST-58

Cyclic Decomposition of Unicyclic Graphs

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Abstract:

Let G = (V, E) be a connected simple graph of order p and size q . A decomposition of a graph G is a collection of edge disjoint subgraphs H1, H2, . . . , Hn of G such that every edge of G belongs to exactly one Hi . An H -decomposition is a decomposition of G such that each Hi in the decomposition is isomorphic to H . A decomposition H of a graph G into subgraphs H1, H2, . . . , Hn is said to be cyclic if there exists an isomorphism f of G which induces a cyclic permutation fV of the set V = V (G) and satisfies the following implication: if Hi ∈ H , then fHi ∈ H for some subgraph Hi of H . Here fHi is the subgraph of G with verexset {fu : u ∈ V (Hi)} and edge-set {fw : w ∈ E(Hi)} . In this paper we concentrate the cyclic decomposition of unicyclic graphs into stars and paths.

Keywords: Decomposition, H -decomposition, Cyclic decomposition, Unicyclic graphs.

ICRTST-59

Independent Function on Intuitionistic Fuzzy Graph

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Abstract:

Let $G = V, E$ be an intuitionistic fuzzy graph. A function $f: V \rightarrow [0,1]$ is called an independent function if $dN\mu v = 1$, $dN\nu [v] \neq 1$ for every $v \in V$, where $\mu 1\ v > 0$, $\nu 1(v) \neq 1$. An independent function f is maximal if $dN\mu v \geq 1$, $dN\nu [v] \neq 1$ for every $v \in V$, where $\mu 1\ v = 0$,$\nu 1(v) \neq 1$. The parameters of an intuitionistic fuzzy graph, such as the independent domination number ( ) and the independence number ($\boldsymbol{\beta 0 i}$), are also defined. Keywords: Independent function; independent domination number; independence number.

ICRTST-60

Formulation and Optimization Immediate Release Fixed Dose Combination Tablet of Oral Hypoglycemics Agents for Treatment and Management of Type 2 Diabetes Mellitus

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Abstract:

Immediate release/fast disintegrating tablet has been recognized ever increasing in demand during last some decade in pharmaceutical field. Type 2 diabetes mellitus is a progressive disease associated with significant morbidity and mortality. In order to achieve glycaemic targets, patients often require a combination of oral therapy and/or insulin in addition to lifestyle

modification. Combination product of DPP4 inhibitor and biguanide widely used for the treatment and management Type 2 diabetes mellitus due to synergistic effect minimal untoward effects. Oral bioavailability is restricted due to high first-pass metabolism. To overcome this problem in the present investigation is to formulate the immediate release fixed dose combination tablet of DPP4 inhibitor and biguanide by using synthetic super disintegrant (Crospovidone and Sodium Starch Glycolate and appropriate different concentration of binder by wet granulation method. Precompression parameter like angle of repose, moisture content, particle size estimation, bulk density, tapped density, carr's index, hausner ratio and post compression parameter like thickness, drug content, wetting time, uniformity of weight, friability, dispersion time, disintegration time (DT), in vitro dissolution study, stability study is studied. F8 formulation showing maximum optimum activity optimize in form of immediate release fixed dose combination tablet of DPP4 inhibitor and biguanid

ICRTST-61

ASSESSMENT OF ANTI- ARTHRITIC/ANTI INFLAMMATORYACTIVITY OF INULA RACEMOSA HOOK.F (PUSKARAMOOL) IN-VITRO

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Abstract:

Inula racemosa Hook. F (Asteraceae) commonly called Pushkarmool a well-documented Indian medicinal plant. Inula racemosa is known by different names around the world including the Indian sub-continent. Pokharmul in Hindi and Guajarati, puskaramul in Canada and Indian elecampane in English. The plant is commercially is a very important medicinal plant as described in Ayurveda. It is employed in the treatment of cardiovascular disease, a respiratory illness like asthma, bronchitis, cough, and anti-inflammatory, anti-arthritic activity, hypoglycemic, anti-anginal. It has glycosides, tannins, Flavonoids, Alkaloids, steroids, phenols, Saponins, proteins, and amino acids as chemical constituents. In this study, we have explored the In-vitro anti-inflammatory activity of the Inula racemosa Hook. F by Protein denaturation inhibition method and human red blood cells membrane stabilization (HRBC). Diclofenac

sodium was used as a standard drug in the study. Results showed the potential anti-inflammatory activity. Keywords: anti-inflammatory, anti-arthritic, HRBC membrane sedimentation, analgesic, Inula racemosa root, arthritis, an autoimmune disorder, Phytochemical, Joints, Medicinal plants, Umesh Chavan

ICRTST-62

Emotion Recognition by Recognition of Statistical Features of Facial Expression Image.

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Abstract:

In this article, statistical features are used to analyze an approach to emotion detection. The proposed work first considers the ROI of the FER standard database. The brow, jaw, nose, left eye, and right eye is all important parts of the facial image in determining human emotions. For calculating statistical features, cropped eyebrow images of various emotions of facial images are used. Special statistical feathers have been measured in this proposed work to classify real human emotion. Mean, median, mode, and standard deviation are statistical attributes. Human emotions such as happy, sad, rage, fear, disgust, surprise, and neutral are accurately recognized by analyzing these statistical features.

ICRTST-63

IN-VITRO ASSESSMENT OF ANTI-INFLAMMATORY AND ANTI-ARTHRITIC ACTIVITY OF WITHANIA SOMNIFERA(LINN) EXTRACT

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Abstract:

Ashwagandha, often known as Indian winter cherry, is a plant belonging to the Withania Somnifera Linn family. (Solanaceae) is a plant family (commonly available as Churna). Africa, the Mediterranean, and India are home to this species. It grows to a height of 30-50cm and is primarily found in India's drier regions. It has been used for a long time to treat inflammation, dyspepsia, hypertension, rheumatism, tumors, anxiety, hemopoietic, antimicrobial, depression, immunomodulation, antiulcer, hepatoprotective activity, Alzheimer's, Parkinson's disease, rejuvenating benefits, and syphilis, among other disorders. Flavonoids, saponins, glycosides, alkaloids, tannins, and steroids are among the chemical compounds that have been examined. It also contains Withanoloides, a significant component. The Present study describes the Assessment of anti-inflammatory activity of Alcoholic and Hydroalcoholic extract of Withania Somnifera (Linn) by Protein denaturation method and HRBC method that is comes under invitro study. The inhibition of COX and LOX enzymes, which play a key role in inflammation, is the primary mechanism of anti-inflammatory action. NSAIDS are anti-inflammatory medications that work by inhibiting the enzymes COX and LOX. The production of free radicals or changes in electrostatic hydrogen, hydrophobic, and disulphide bonding are the mechanisms that cause protein denaturation. As a result, the herbal medication always has a high potential but a low side-effects.

Key words: Ashwagandha, Churna, Withanoloides, Cardioprotective, Protein Denaturation.

ICRTST-64

Security Challenges in Mobile Cloud Computing

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Abstract:

Mobile Cloud Computing is a computing which includes mobile computing and cloud computing, as MCC is right now in the growing stages of development. This provides us ability to use advanced application through mobile devices. Mobile devices can rely on cloud computing to perform computerenhancing tasks such as searching for data mining, storing data on cloud servers, etc. The use of mobile cloud computing overcomes performance-related obstacles e.g., bandwidth, storage capacity and battery life, and environmental problems e.g., availability, distribution and heterogeneity. Security and privacy are the major concerns in MCC. There consists of numerous loopholes as well as there are challenges which exists in the security policies. Mobile Cloud computing is transforming Internet infrastructure. It incorporates some of the elements of mobile accessed globally networks and cloud computing. However, the mobile devices are not inadequate in resources provided by Cloud. This research paper concludes surveys on the infrastructure of MCC whereas describing concern of data exploitation and the security issues.

Keywords: Mobile cloud computing, MCC, Infrastructure, Security issues.

ICRTST-65

Implementing an Automated Method for Early Stage Lung Cancer Detection using Artificial Neural Network

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Abstract:

Lungs are the most important organs in our bodies because they enable us to breathe. The oxygen from our lungs enters our blood stream and provides energy to our body cells. When a person is suffering from lung cancer the lungs are harmed and the person experiences a variety of symptoms including headaches, breathlessness and chest pain. Lung cancer detection is usually

done manually by qualified professionals, and although these techniques are particularly useful in advanced stage detection, it is also a time-consuming process that is highly dependent on the person performing the process. This increases the risk of human error in the detection process, necessitating the use of an automated system. So in this paper we aim to use an automated method to diagnose cancer early, reducing human error and making the process more reliable and convenient. Image processing algorithms and artificial neural network were used to develop an automated method for early-stage lung cancer detection in the proposed work. Using Image Processing Techniques, we will segment the CT scans of the lungs and then pass them to the Artificial Neural Networks and on obtaining cancer as a result, use Fuzzy Clustering to separate out the abnormal portions of the infected lung.

Keywords: Lung Cancer, Detection, Image Processing, Algorithms, Artificial Neural Networks.

ICRTST-66

Comparative Study between Natural Super Disintegrant and Synthetic Super Disintegrant in the Formulation of Immediate Release Tablet of Telmisartan

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Abstract:

Several dosage forms had been developed so as to release the drug immediately after administration and drug will slowly or incompletely dissolve in gastrointestinal tract. BCS classify, Telmisartan under Class II (Solubility low and Permeability high). Telmisartan is a drug for the class of angiotensin II receptor blockers that is antihypertensive and which is difficult to solubilize in water. It is found that the rate of dissolution and bioavailability is less. The aim of this study was to assess the efficacy of natural and synthetic superdisintegrants: Locust bean gum, Sodium starch glycolate, Croscarmellose sodium, Crospovidone in the promotion of

Telmisartan Immediate release tablets for the disintegration of tablets and the dissolution of drug. The efficiency of superdisintegrants was tested, by considering two concentrations, viz., like 2% and 5% in the formulations. The analysis was performed for the planned granules and tablets based on physiochemicals and an in vitro dissolving study. The dissolution was performed as a dissolving media in USP apparatus II at 50 rpm with 0.1 N HCl. The dissolution rate of the drug telmisartan was found highly dependent on the tablet disintegration, on the particle size of the super disintegrant, on the solubility of the drug and also on the type of super disintegrant in the dissolution medium. It was observed that using the Locust Bean Gum, immediate release tablets with proper hardness, disintegration time and increased dissolution percentage can be formulated.

Keywords: Immediate release, Anti- hypertensive, Locust bean gum, Croscarmellos.sodium, Sodium Starch Glycolate, Telmisartan.

ICRTST-67

Hey Prabhu - A Special Intercessor from AI

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Abstract:

"Hey Prabhu, human brain is complex!!!", still there are limits to what it can do. For software developers, to think of all the possible eventualities is impractical at best. Developers instruct software on what function to execute and in what circumstances traditionally, but now they

instruct the software on how to function and learn. What they have to do all is to teach the software how it needs to perform for different tasks unlike writing instructions to order the algorithm how to behave from start to finish which was in practice traditionally in software development. It's a drive of progress from a model of programming to teaching. Algorithms in artificial intelligence field learn, discover ways to make the process more efficient. It can process data faster than we can, it's capable to come up with innovative solutions grounded on earlier instances that it accesses. It revolutionized the field of voice technology also to become much more adaptive and efficient. Here is a presentation of such work. "Hey Prabhu" is a special intercessor from AI that aims to develop a personal assistant for Window-based systems that can perform more than just execute searches only. To communicate it offers a user-friendly interface for functioning a diversity of jobs by exercising well-defined commands. It competes Google's Google Assistant, Microsoft'sCortana, Apple's Siri, Amazon's Alexa I a very good manner. It supports as a particular conciliator for routine occupations for example health advices based on symptoms, prompting the user for events and tasks scheduled, live weather conditions, general human conversation, searching queries in google, or other search engines, retrieving images, searching videos, word meanings, searching for medicine details etc. It's aimed for users interaction with the it either through voice commands or using keyboard input. Such statements/commands of user are analyzed with the aid of machine learning to provide an optimal solution.

Keywords: Web driver, open source, AI, Prabhu, intercessor, artificial intelligence selenium, Personal Assistant, Window Systems, Automation, Machine Learning, web applications

ICRTST-68

Zig Bee Network Communication Protocol Performance Evaluation

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Abstract:

These ZigBee is a low power short range communication technology . In this article a simulation is performed on NS-2 having nodes in three-dimensional distribution .It is based on IEEE 802.15.4 and ZigBee performance is processed and analysis is done using Gawk script language .

ZigBee performance is mainly indicated by Link establishment time , Packet loss and throughput and also by the size of beacon.

Keywords —ZigBee , NS-2 , Link establishment time , throughput .

ICRTST-69

Subordination and Super ordination of Analytic Functions Described by New Operator

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Abstract:

The properties of the generalized derivative operator are used in the current paper, we derive certain subordination and superordination properties.

Keywords: Univalent Function, Convex function, Differential Subordination, Differential Superordination, Derivative Operator.

ICRTS-70

Formulation and Evaluation of Sustained Release Tablets of Olmesartan Medoxomil

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Abstract:

The aim of this study is to develop the sustained release formulation of Olmesartan medoxomil using different concentrations of HPMCK4M and Xanthan Gum in combinations by direct compression method by using 32 factorial design. Olmesartan is used in the treatment of hypertension. It belongs to the class the anti – hypertensives called as Angiotensin Receptor

Blockers (ARBs) (type AT1). It is a BCS Class – II drug. The concentration of polymers i.e., HPMCK4M and Xanthan Gum needed to attain the release of drug was taken as independent variables while the time required for the release of drug at 10%, 50%, 75% and 90% (t10%, t50%, t75% and t90%) was taken as dependent variables. Nine formulations were prepared. These nine formulations contain varying proportions of polymers HPMCK4M and Xanthan Gum and were evaluated for different parameters like hardness, friability, thickness, % weight variation, content uniformity, In vitro release studies, etc. The statistical parameters like slope, intercept and coefficient of correlation were also calculated. The results show that all the formulations were within the pharmacopoeial limits and the drug release profiles of the formulations were fit in the various kinetic models. For the dependent variables, polynomial equations were formed and the validity of these formed polynomial equations were checked by forming two check pint formulation i.e., C1 and C2. The best formulation found was F5 with 15% Xanthan gum (X1) and 15% HPMCK4M (X2) and follows first order kinetics and Higuchi's kinetics. The mechanism for the release of drug was Non – Fickian Diffusion (Anomalous transport).

Keywords/phrases: omlesartan medoxomil, 32 factorial design, hpmck4m, xanthan gum, sustained release, first order kinetics

ICRTST-71

Cluster Performance of An Efficient Improved K-Means (AEIKM) Algorithm and Also Using Hybridized Technique on Large Dataset: Implementation and Its Analysis

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Abstract:

Cluster technique performance has added a vital role in extracting the data features from the dataset, and also finds the information. The real-world datasets like heart disease, user knowledge modeling, iris, and wine datasets are occupied by the UCI Irving Machine learning repository. The k-means technique is more popular for using splitting datasets into clusters but it has some limitations. This method does not perform well on a huge dataset. Therefore, we suggested An Efficient Improved K-Means (AEIKM) Algorithm to overcome the few limitations of traditional k-means and proposed that this algorithm is used to hybridize with another popular algorithm Principle C0mponent Analysis (PCA) to also improve the efficiency for a huge dataset. In this research paper, the proposed method and its hybridize with PCA are implemented on MATLAB R2013a software tool to measure the performance metrics of a cluster.

Keywords: K-Means, Principal Component Analysis (PCA), External metrics, Sum of Squared Error (SSE), Inter-Cluster Distance (ICD).

ICRTST-72

Effect of Green practices on organizational performance: An Empirical study

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Abstract:

The study focuses on analyzing the direct consequence of Green Manufacturing (GM) practices on operational performance in the manufacturing industry. A model for evaluating GM's effect is developed considering it as a fundamental variable that affects the causal relationship between GM practices and operational performance.A structural equation model was proposed and investigated across the manufacturing industry in India. A structured survey questionnaire was used to gather empirical data from 400 Indian companies. A total of 203 usable responses were obtained giving a response rate of 53%. The data was analyzed using SPSS- AMOS software. The results revealed that GM practices directly and positively affected operational performance. The results indicated that the structural equation model remained invariant across the Industry.

The study provides further evidence to managers and practitioners on GM practices' effect on operational performance in developing countries like India.

ICRTST-73

Development and Evaluation of Sustained Release Matrix Tablets of Nifedipine

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Abstract:

Sustained release drug delivery system is basically used for achieving the therapeutic effect of drug at the minimum concentration at the extended period of the time in systemic circulation. So in the treatment of angina and hypertension, the conventional delivery system is not much effective because the sufficient amount of the drug do not reaches to the site of action in appropriate amounts thus this is the major challenge and to overcome such problems mostly we used the sustained release delivery system which include matrix system that have pliability, hydrophilic polymer matrices that are wildly used polymer that control release of the drug. Nifedipine is BCS Class II drug that use calcium channel blocker medication to manage angina and help in treating high blood pressure. It is prepared by blend of polymers so that we can get desirable release profile of drug. The evaluation of nefidipine there are different parameters are used such as physical characteristics, pharmacokinetics, hardness, friability, thickness, drug content uniformity weight variation, and the in vitro drug release rate pattern. HPMC K100M is a high purity, water soluble cellulose derivative used to stabilize the formulation and it show 97% of drug release at 24 hours and with Eudragit which is the class of cationic synthetic polymers that have an optimal positive charge for adhesion to the corneal surface without manifestation of toxic effects and that indicates 96% of drug release at 20 hrs release of Nifedipine drug.

Keywords: Nefidipine, Sustained Release, Matrix Tablet, HPMC, Eugragit, In Vitro DrugRelease.

ICRTST-74

A Covid-19 Tracker for Medical Frontliners

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Abstract:

The management of Covid-19 affected patients is a very difficult task. The current healthcare system of India is not able to cope with the enormous flow of patients and is in a dire need for improvement. This implementation paper provides a system which will manage all the affected patients right from the time they are Covid-19 positive till the time they are treated and discharged. This paper includes all the technical details of a fully implemented healthcare management system which is a significant improvement in the current system. The proposed system is a cross platform multi user web app which can be used by multiple stakeholders to carry out smooth management of the patients. It consists of a lot of key features like dynamic location-wise patient status, an accurate tracking system of ambulances, a statistical trend analysis of patients and categorical report generation of patients. This system aims to help the medical Frontliners in efficient management of Covid-19 patients and it is a common site for all the different health workers like field workers and medical officers to work together and fight against this deadly disease affecting our country.

Keywords: Covid-19, Geocoding, Analysis, Pandemic, Tracking, Ambulance, Maps, Clustering, Patients, Hospital, Database.

ICRTST-75

T-SHIRT BASED VISUALIZATION FOR REAL TIME ECG MONITORING

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Abstract:

This project investigates a portable system for remote monitoring of cardiac activity. In this paper we present a low cost handheld device with wireless transmission for real time ECG acquisition, archiving and visualization in PC. It uses completely a wireless system. The patient is fully clothed which has sensor device in it and scan the heartbeat of the patient. The temperature sensor used is in physical contact with the patient and measures the body temperature. The ECG waves will be displayed on the display unit. The Wi-Fi module is located on the patient's cloth is used to transmit the ECG report to the doctor. At the receiver side, using Wi-Fi receiver and printer, the doctor can view the patient's ECG report. Heartbeat sensor and temperature sensor is connected to the analog pin of microcontroller. It is then converted into

digital values. The values of those sensors are calculated by the microcontroller. Using IOT module these values are sent to PC for doctor's reference as a ECG report.

Keywords: wireless system, body temperature, Wi-Fi receiver and printer, microcontroller, cardiac activity. I

ICRTST-76

Results on Coupled Fixed Point Theorems with Application

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Abstract:

Here we will prove some results on coupled coincidence point using Y-cone metric space. Also we establish some coupled coincidence point theorems applying mixed g monotone map in ordered Y-cone metric spaces. Also, to illustrate the result we provide an example.

Key Words: Mixed g-monotone mappings, Coupled common fixed point, Y-cone metric space.

Subject Classification: 54H25, 47H10. 2010AMS

ICRTST-77

Role of Harmonic Function in Complex Analysis

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Abstract:

In this term paper, the definition and properties of harmonic function in complex analysis is discussed. Harmonic Function is used frequently and plays a vital role in mathematics, physics and engineering. Here we will learn the definition, some fundamental properties and their roles and connections to complex analysis. We will directly see this as the consequence of Cauchy Riemann equations.

ICRTST-78

The Numerical Study of Fuzzy Partial Differential Equation using Fuzzy Laplace Transforms

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Abstract:

In this project, different formulations of the fuzzy partial differential equation are solved using the fuzzy Laplace transform. The radioactive decaying and other heat and wave differential equation under imposed fuzzy initial conditions is considered and three different systems of fuzzy differential equations for respective right angled triangular, trapezoidal and quadrilateral initial conditions are prepared and solved using fuzzy Laplace transform. A new quadrilateral fuzzy number is introduced and using that the decaying differential equation is explored. We established the fuzzy Laplace transform for all defined right angled triangular, trapezoidal and quadrilateral fuzzy numbers. The lower central and upper solutions according the applied fuzzy initial conditions are presented. The solution in terms of membership grade has also illustrated. The core effect of time on number of radionuclide in the sample and $\alpha*$ value in $\alpha* - left$ quadrilateral fuzzy number (Qc, ,$d1$,$d2$) is investigated.

Keywords: Fuzzy differential equation, Fuzzy initial conditions, Triangular, Trapezoidal and $\alpha - left$ quadrilateral fuzzy number.

ICRTST-79

Upwind Scheme of Caputo Time Fractional Advection Diffusion Equation

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Abstract:

The purpose of the present study is to create an implicit upwind finite difference method to calculate the numerical results of a time fractional advection diffusion equation (TFADE). The time derivative of fractional order is treated by applying Caputo-based fractional formula of derivative order $\alpha \in (0,1)$. The finite difference approximations (FDA) take care of the discretization of the differential equation. The study also considers the stability of the fractional equation (TFADE). Finally, a Numerical example study is carried out to illustrate the solutions achieved for various fractional order of the time derivative.

ICRTST-80

A research report on Home Automation System

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Abstract:

Nowadays people are connecting with technology fasters the past decade. Most people are connected to the internet with technological a gadget, which is helping them to manage their daily task efficiently. Automation of those gadgets is playing an important role to manage the task and provide full control to the user. People are adopting those automation technologies in their daily life such as home automation. Home automation gives control over home appliances, it not only controlling the appliances at home but also providing security to the home without any physical involvement of humans; user can control the home automation system by using

voice commands on their smartphones. In this paper we discuss a different aspect of the home automation system, we also proposed a model of a home automation system which is consist of Raspberry Pi, relays, Wi-Fi, and smartphone. The purpose of creating a smart home is to save energy and giving more power to users to manage their appliances smartly.

Keywords- Automation, Wi-Fi

ICRTST-81

Enhancing Productivity in Painting Industries by Implementing Effective Work Study Techniques

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Abstract:

If a product is made at the low cost with high quality and can be sold competitively in the market at a price higher than its cost of production. The objective of productivity is to maximize output and minimize input. The method study is systematic recording a critical examination of existing and proposed ways of doing work as a means of developing and applying easier and more effective methods and reducing costs. This work aims to improve the productivity in small scale industry by reducing extra time and reducing the fatigue to worker by applying work study. In this research paper of productivity improvement in small scale industry, some changes in painting section have been suggested using time study technique which leads to productivity improvement, reduction in process time, production cost, labor cost.

ICRTST-82

Post –Hoc Test for One-Factor Fuzzy Analysis of Variance

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Abstract:

Fuzzy Analysis of Variance (FANOVA) is a statistical tool to test the homogeneity of several population means under fuzzy observations. There are numerous papers in the literature in which Analysis of Variance is accomplished for fuzzy observations rather than real observations for solving real-life problem but to the best of our insight, till now nobody has executed the Post Hoc test to track down the significant difference between the pair of means. The purpose of this paper is to implement a Post-Hoc method integrated with one-way FANOVA to analyse the exact difference between the pair of means from multiple population means under fuzzy observation. In this paper, the observations are in form of Trapezoidal Fuzzy Numbers (TFNs) which have been fuzzified through the α-cut interval method into lower-level and upper-level fuzzy intervals. FANOVA for one factor with Post-Hoc test is carried out on fuzzi fied data and decisions are taken at a certain significance level. The concept of the proposed method has been shown by taking numerical example.

ICRTST -83

Invariant Sub manifolds in Complex Contact Metric Structure Manifolds

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Abstract:

In the present article, we have studied of invariant submanifolds in complex contact metric structure manifolds. In the first section, we have studied the some literature related to the complex contact metric structure manifolds and their properties. Again the second section, we

have continued of the first discussing as well as preliminaries of the complex contact metric manifolds and a brief treatment of invariants submanifolds. Section third, we define invariant and anti-invariant (CC-totally real) submanifolds in such manifolds in complex contact metric structure manifolds and start the study of their basic properties. Also, section fourth, we establish the Chen first inequalities and Chen inequalities for the invariant $\delta(2,2)$ and CC-totally real submanifolds in a complex contact metric space and obtaining relationships between extrinsic and intrinsic invariants submanifolds.

Keywords: Complex Manifold, Contact manifold, Submanifolds, δ – invariants, Metric space.

Mathematical Subject Classification: 53C40; 53C25

ICRTST-84

Preventing Soil Pollution and Increasing Crop Productivity with Effectiveness of Rotavator

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Abstract:

In recent years, fertilizer consumption increased exponentially throughout the world, causes serious environmental problems. Fertilization may affect the accumulation of heavy metals in soil and plant system. Plants absorb the fertilizers through the soil; they can enter the food chain. Rotavator can play vital role in multiple cropping systems where the time for land preparation is very less or limited. It is used for mixing manure or fertilizers into soil and for seedbed preparation. Tillage plays an important role in the crop growth, production and to gain higher cost to benefit ratio. However, we all know about the effect of various tillage implements on yield of crop. A soil tillage practice improves soil physical properties which helps the plant to show their full potential and growth. Soil tillage techniques are used to provide suitable environment to seed growth and development, reduce soil erosion, manage crop residues, and level the surface for planting, irrigation, drainage and incorporation of organic and inorganic

fertilizers in the soil. Urea (chemical fertilizer) was found to be quite toxic to the health of Pigeon Pea plants and earthworm present in the soil. There was a significant correlation between the concentration of Urea added to soil and the productivity of crops. The quantity and quality of Pigeon Pea crops decreased steadily with the increase in the dose of Urea. Healthy plants and higher crop productivity of Pigeon Pea in the plots prepared by using rotavator and used of organic fertilizer set up can be attributed to the fact that the organic fertilizers probably provide effective nutrition directly for the crops and this might be the reason for the higher productivity. Plot wise total Pigeon Pea production output of seedbed prepared manually and by using rotavator also for use of chemical and organic fertilizer are analysed. Use of organic fertilizer instate of chemical fertilizer which not only improve Pigeon Pea production rate but also help in minimizing the enrichment of ground water, river water and lake water also reduces soil pollution caused by excessive use of chemical fertilizer.

ICRTST-85

Post –Hoc Test for One-Factor Fuzzy Analysis of Variance

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Abstract:

Imprecise data is effectively deal with fuzzy sets, soft sets, and fuzzy soft sets. Whereas matrix theory is an important tool in Mathematics that has a wide range of applications in research. Fuzzy soft matrices have widened the scope for application in various decision-making problems. Keeping this in mind, we define cosine similarity, distance and entropy measures for Fuzzy Soft Matrices (FSM). Some properties of cosine similarity, distance and entropy measures for fuzzy soft matrix havealso been proved between two or more fuzzy soft matrices. In addition, a decision-making algorithm is studied to solve decision-making problems under the FSM. In the medical field, a specific case study of the proposed similarity measure is studied. The application of the proposed entropy measure in the decision-making problem is also demonstrated.

ICRTST-86

SHORT CHANNEL EFFECTS IN MOSFET AND NANOWIRE FET

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Abstract:

Ever since the years has been evolved theinterest towards nanostructures is been increasingdue to their distinct characteristics that are very muchinfluential in the field of properties like physical, electrical,chemical, biological, and opt electrical. The performance ofthe devices gradually decreases due to the short channeleffects 8that comes into picture due to the weak gate controlling in the conventional metal oxide semiconductor field effect transistor (MOSFETs) when shrunk intonanometer range size.The key component of Nano technology and nano science isnano-structured matter. The structure of nano particlesubstance ranges between 1 and 100nm in size comprisingof composite, metal, organic, or inorganic material, carbon,metal oxide. In this work the electrical properties of Mosfetand Nano-wire FET's are understood by simulating theproperties of electronic behavior through a open sourcesoftware tool like Nano-Hub.org.

Key Words: Metal Oxide Semiconductor Field EffectTransistor (MOSFET),Nano-wire FET, Nano-Hub.org

ICRTST-87

TENSOR SUM TENSOR PRODUCT AND TOEPLITZ OPERATOR INDUCED DYNAMICAL SYSTEM ON WEIGHTED CONTINUOUS AND LOCALLY CONVEX SPACE

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Abstract:

In this paper we obtained dynamical system induced by tensor sum tensor product and toeplitz operator on weighted locally continuous and locally convex space of cross section CV_0 (H^2) (or CV_b (H^2,E)) and LV_0 (H^2) (or LV_b (H^2)) and holomorphic functions HV_0 (H^2,E) (or HV_b (H^2,E)) respectively

Keywords: Locally convex space, tensor sum operator, tensor product operator, multiplication operator, composition operators, dynamical system and toeplitz operator.

2000 AMS Subject Classification: 46 M 05, 47 A 80, 47 B 37.

ICRTST-88.

Some new Results on Fractional Integro-differential Equations with Atangana-Baleanu Type

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Abstract:

In this paper, we study the existence and uniqueness of solutions for the neutral fractional integro-differential equations in the concept of Atangana-Baleanu derivative in Banach spaces. The fractional derivative considered here is in the Caputo sense. The desired results are proved by using Banach and Krasnoselskii-Schaefer fixed point theorems.

Keywords: Neutral Volterra-Fredholm integro-differential equation, Caputo fractional Derivative, Atangana-Baleanu derivative, Fixed point technique.

ICRTST-89

A Freezing Method for Solving Bottleneck-Cost Transportation Problem

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Abstract:

A new method, namely the 'Ghadle-Munot freezing method' is proposed for finding an optimal solution to the bottleneck Transportation Problem. Further Ghadle-Munot Algorithm [Congruence modulo method] is used to find all efficient solution to the bottleneck-Cost Transportation Problem. The method structured in the form of an algorithm and coded in MATLAB which makes it user friendly. The method is illustrated through a numerical example.

Keywords - Bottleneck Transportation Problem, Freezing Method, Congruence modulo Method, Bottleneck-Cost Transportation Problem, MATLAB.

ICRTST-90

Certain Inequalities Pertaining New Extended Beta Function

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Abstract:

The aim of present paper is to establish the logarithmic convexity and certain inequalities involving newextension of beta function by using fractional calculus operators. The H• older's and Chebychev's integralinequalities are using with new extension of beta function, to _nd the logarithmic convexity and the monotonicityfor new extended conuent hyper geometric function and Gauss hyper geometric function.

Keywords: New Extended Beta function; Logarithmic Convexity; New extended Conuent hypergeometric function; New extended Gauss hypergeometric function; Chebychev's integral inequality;H• older's inequality.

2010 Mathematics Subject Classification : Primary 26A51, 26A35 ; Secondary 26B25

ICRTST-91

Formulation and Evaluation of Bisoprolol fumarate Loaded Fast Dissolving Tablet Using Trigonella Foenum and Plantego ovate

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Abstract:

The main objective of present research work was to prepare fast dissolving tablets of Bisoprolol fumarate by direct compression method using synthetic and natural superdisintegrants and to

explore the disintegrating property of the Trigonella Foenum and Plantago ovata mucilages. Bisoprolol Fumarate is an antihypertensive agent used in the management of hypertension and prophylaxis treatment of angina pectoris and heart failure. The prepared Bisoprolol fumarate Loaded Fast Dissolving Tablet was evaluated for various parameters like weight variation, hardness, friability, disintegration time, drug content, swelling index, water absorption ratio, wetting time, in- vitro drug release, FTIR studies. IR spectral analysis study showed that there was no drug interaction with formulation additives of the tablet as there was no variation and it can be justified there was no interaction between drug and polymer. All the post-compressional parameter are evaluated were prescribed limits and results were within IP acceptable limits. Based on the in-vitro disintegration time and dissolution studies formulations F12 and F15 were found to be promising and showed a disintegration time of 22 sec and 24 sec respectively. Formulations F12 and F15 containing Trigonella Foenum and plantago ovata mucilages showed highest drug release above 99% within 20 and 25 min respectively. Trigonella Foenum mucilage was found to be better superdisintegrant than Sodium Starch Glycolate, Croscarmellose Sodium and Crospovidone. This may be due to the rapid uptake of water from the medium, swelling and burst effect. The results concluded that fast dissolving tablets of Bisoprolol fumarate showing enhanced dissolution may lead to improved bioavailability and effective therapy.

ICRTST-92

PROPAGATION OF LOVE WAVES IN PRESTRESSED ORTHOTROPIC LAYER COATED OVER A PRESTRESSED ORTHOTROPIC SEMI-INFINITE SPACE WITH IRREGULAR INTERFACE.

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Abstract:

This paper contains the dispersion equation of Love waves propagating in an initially stressed layer of orthotropic material which is coated over an initially stressed semi-infinite space of orthotropic material. Rectangular irregularity of height H and width b at the interface is

considered in this paper. Surface of layer is supposed as traction free. To find the numerical results, semi-infinite space is assumed of topaz material and layer is assumed of olivine material. Based on dispersion equation, numerical values of dimensionless velocity against the dimensionless layer thickness is calculated. Comparison of velocity curve for different values of initial stress has been examined graphically. Graphs for one and two modes of velocity are drawn. Effect of irregularity on velocity of Love waves has shown graphically. It is shown that second mode of velocity shows more variation than first mode of velocity. Matlab programming language is used to plot graphs. It is demonstrated that initial stress and irregular interface significantly affects velocity of Love waves.

Keywords: orthotropic, irregularity, initial stress, Love waves, velocity.

ICRTST-93

A COMMON FIXED POINT THEOREM FOR COMPATIBLE MAPSOF TYPE (E)IN L -FUZZY METRIC SPACE CHELLIAH S1& REVATHY B[2]

S Chelliah and B Revathy

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Abstract:

In this paper, we introduce the notion of compatible of type (E) in L -fuzzy metric space and prove a common fixedpoint theorem of self maps with the property of (C) in the complete L -fuzzy metric space Keywords: compatible of type(E), fixed point, self maps,complete,L-fuzzy metric space

AMS Subject Classification:54H25, 47H10.

ICRTST-94

NEIGHBOURHOOD PRIME LABELING IN PRODUCTDIGRAPH

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Abstract:

Let D(p,q) be a digraph. A function f:V→{1,2,…,n} is said to a neighbourhood prime labeling of D if it is both in and out degree neighbourhood prime labeling. In this paper, we investigate the existence of neighbourhood prime labeling in product digraphs.

Keywords: Neighborhood prime labeling, Cartesian, Strong, Product.

AMS Subject Classification:05C78.

ICRTST-95

Radio Labeling of Some Splitting Graphs

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Abstract:

Let G=(V,E) be a simple graph with p vertices and q edges.For a connected graph G of diameter d, a radio labeling is a one to one mapping f from V(G) to N ∪ {0} satisfying the condition d(u, v)

+ |f(u) − f(v)| ≥ 1 + diam(G) for every u, v ∈ V(G).The span of a labeling f is the maximum integer that f maps to a vertex of G. The radio number of G, rn(G) is the lowest span taken over all radio labelings of the graph G. In this paper, we analyze some splitting graphs for radio labeling.

Keywords: Radio, Radio Number, Radio Labeling.AMS Subject Classification:05C78.

ICTRST -96

Techniques Employed To Detect and Localize Partial Discharges in Solid and Liquid Dielectrics- A Comparative Study

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Abstract:

Partial Discharges (PD) are the electrical discharges occurring in the insulations of equipment's, which are mainly caused because of the presence of voids within the insulation. When considering a High voltage system and if the voltage at the voids increases, the PD creates severe damages to the system. If the normal voltage in a system exceeds above the threshold level, then there occurs the partial discharge and it occurs in insulations of solids, liquids and gases. The resulting PD current completely relies on the form of discharge and also on the type of system leading to degradation in insulation materials. The PD in a system is measured either by On-line or Off-line techniques. The online technique aids in enhancing the reliability of the system; also protects the system from large damages and is performed at certain frequencies, while the offline techniques are performed at different frequencies. In this paper, a comparative study is carried out amidst the different online and offline technique which employs various topologies to detect

and localize the partial discharges occurring in a system with high accuracy, better sensitivity and with good clarity.

Keywords -High Voltage Direct Current (HVDC), Partial Discharges (PD), Partial Discharge Inception Voltage (PDIV), SAR (Synthetic aperture radar) and Ultra High Frequency (UHF).

ICRTST-97

Propagation of Love waves in Dry Sandy Medium Laying over Orthotropic Semi-infinite Medium with Imperfect interface

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Abstract:

The prior objective of the present work is to explore the propagation of Love wave considering a dry sandy layer lying over an orthotropic semi-infinite medium. Dispersion relation for Love waves is derived by using variable separable method by considering the bonding between layer and semi-infinite medium to be imperfect. Effects of various parameters like sandiness, imperfectness, thickness of layer on Love wave propagation are investigated graphically by plotting phase velocity against the wave number by using MATLAB. The study may be useful for various applications in seismology, geophysics and engineering.

Keywords - Dispersion; imperfect; Love waves; orthotropic; sandy; wave number.

ICRTST-98

Fuzzy∗- Extremely Disconnected Ideal Topological Spaces

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Abstract:

The present paper extended the concept of ∗-extremely disconnectedness due to Ekici and Noiri [7] to fuzzy ideal topological spaces and presents their study.

Keywords: Disconnectedness in ideal topological space, fuzzy ideal topological spaces, extremely disconnectedness, extremely disconnectedness in fuzzy ideal topological spaces, fuzzy R-I-open and closed.

ICRTST-99

Existence and extremal solution for fractional order differential equation in Partial order nonlinear space

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Abstract:

In this paper, we study the existence and extremal solutions for fractional order differential equation in Partial order nonlinear space under mixed Lipchitz and caratheodory conditions by using hybrid fixed point theorem. The results are illustrated
by a concrete example.

ICRTST-100

Stack layer & Bidirectional Layer Long Short -Term Memory(LSTM) Time Series Model with Intermediate Variable for Weather Prediction

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Abstract:

Weather forecasting is always a challenging problem for the researcher since many years. Emerging new and fast algorithm help to researcher for better approximation of weather forecast. This problem attract researcher because changing behavior environment, increase of earth temperatureand changes in ecosystem drastically. Now almost everywhere the world is facing many nature disasters in the form of storm, in land and sea, damaging infrastructure and loss of much life.Machine learning and deep learning algorithm created hope for the researcher and societyto buildfast application and predict weather alarm on real time. Combination of deep learning and the huge amount of availabilityof weather data, motivates researchers to analysis the hidden patterns of weatherin forecasting. In this paper proposed model will analyzethe intermediate variables along with weather forecast variables. It affects accuracy of prediction using single layerLong Short-TermModel (LSTM), stacked layerLSTM& Bidirectional LSTM.This model isanassociate extension of LSTM model by adding intermediate signal variable into LSTM memory block. The premise is thattwoextremely connected patterns in input dataset can rectify the input patternsand build easier for the model to search and acknowledge the pattern from the trained dataset. In every trial to comprehend a durable model for learning and recognize the pattern of weather. It uses to analyzed visibility as predicted information along with temperature, pressure, humidity, saturation as intermediates information. Highest accuracy 0.9355 and RMSE 0.0728 achieved in bidirectional LSTM.

Keywords—Time Series, Bidirectional and Stack layered LSTM, Tensor Flow, Weather forecast.

ICRTST-101

Minimum Hop Dominating Energy of a GraphK.

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Abstract:

Let G=(V,E) be a (p,q) graph. A subset S⊆V(G) is a minimum hop dominating set of a graph G if for every v∈V-S, there exists u∈S such that d(u,v)=2. The minimum cardinality of a hop dominating set (MHD) is called the hop dominating number. Motivated by the definition of minimum dominating energy by Rajeshkanna et.al.,[11], in this article the concept of minimum hop dominating energy E_h (G) is introduced and minimum hop dominating energies E_h (G) of some standard graphs and a few well-known families of graphs are computed. Also we establish an upper bound and lower bound for E_h (G).

Key words: MHD Eigen values, minimum hop dominating energy, minimum hop dominating matrix.

AMS subject classification: 05C50, 05C90, 15A18.

ICRTST-102

Unsteady MHD free Convection Flow between Two Heated Vertical Parallel Plates in the Presence of a Uniform Magnetic Field

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Abstract:

The problem of unsteady viscous incompressible MHD free convection flow of an electrically conducting fluid between two heated vertical parallel plates in the presence of a uniform magnetic field applied transversely to the flow is considered. The induce field along the lines of motion varies transversely to the flow and the fluid temperature changing with time.An analytical solution for velocity, induced field and the temperature distributions are obtained for small and large Magnetic Reynolds numbers. The skin-friction at the two plates is obtained. Velocity distribution, induced field and skin-friction are plotted graphicallyagainst the distance from the plates. It has been observed that with the increase in mR, the Magnetic Reynolds number, at constant M, the Hartmann number, leads to an increase in the skin-friction gradually. But with the increase inM, at constant mR, the skin-friction decreases.

Key Words: Fully developed flow; Conducting fluid; induced field; Skin-friction; Magnetic Reynolds number.

ICRTST-103

Real Time Human-Human Interaction Recognition Using Convolution Neural Networks

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Abstract:

In this modernera,several methods have been implemented for the identification of interaction between two humans. Real time Human-Human interaction recognition using CNN is a method to identify the interaction between two humans. This method uses Mobilenet SSD trained model for Human object detection, Open functions for videoprocessing, and ResNet 50 CNN model for interaction recognition and there are many applications that can be implemented by using this

method. For example, we can make use of this system to identify the interacted people with COVID affected person. The CNN Model is Trained with 6000+ images and tested with images.

Key Words: Human interaction, Open Source Computer Vision Library (OpenCV), Convolution Neural Networks, Deep Learning, Tensor Flow.

ICRTST-104

Cyclic Decomposition of Unicyclic Graphs

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Abstract:

Let G = (V, E) be a connected simple graph of order p and size q . A decomposition of a graph G is a collection of edge disjoint sub graphs H 1, H 2, . . . , Hn of G such that every edge of G belongs to exactly one Hi . An H –decomposition is a decomposition of G such that each Hi in the decomposition is isomorphic to H . A decomposition H of a graph G into sub graphs H1, H2, . . . , Hn is said to be cyclic if there exists an isomorphism f of G which induces a cyclic permutation fV of the set V = V (G) and satisfies the following implication: if Hi ∈ H , then fHi ∈ H for some sub graph Hi of H . Here f Hi is the sub graph of G with vertex set {fu : u ∈ V (Hi)} and edge-set {fw : w ∈ E(Hi)} . In this paper we concentrate the cyclic decomposition of unicyclic graphs into stars and paths.

Keywords: Decomposition, H -decomposition, Cyclic decomposition, Uncyclic graphs.

ICRTST-105

Social Distancing Monitoring for COVID 19 with Person Detection and Tracking

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Abstract:

Social distancing (SD) also called as Physical distancing is the process of maintaining a minimum of 6 foot or 2 meters distance between the individuals in public areas. It also involves avoiding or minimizing the contact between individuals. As per WHO (World Health Organization), SD is the current best known solution to slowdown the spread of Corona Virus. Most of the governments, national and international health specialists have prescribed a minimum distance of separation must be at least 2 meters in order to ensure safety in schools, shopping centres and other covered zones. SD is an applicable non pharmaceutical step against this new COVID-19 (Corona VIrus Disease 2019) pandemic. Conversely, it is not so easy for the common people to keep an imaginary safety space around them. Thus a system that can check and warn the individuals will help them to achieve the purpose of managing SD easily.

In this effort, we are making use of a generic deep neural network based standard for detecting the people automatically, tracking, and estimating distance between the people in the crowd. The implementation can be much easier and economical by using the already fixed private or public CCTV cameras. The intended scheme utilizes inverse perspective mapping and YOLOv3 based algorithm for detection of people accurately and to implement social distancing.

Keywords – *Social Distancing, Physical distancing, COVID-19, People Detection and Tracking.*

ICRTSTS-106

Role of Technology in Covid-19 Pandemic

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Abstract:

As the COVID-19 pandemic continues unfolding, technology solutions and government initiatives are multiplying to help monitor and control the virus‟s journey. Their aid includes reducing the load on the health system and reinforcing the efforts of overworking and burned-out healthcare workers. While smart technologies cannot replace or compensate public institution measures, they do play a crucial role in emergency responses. Take a look at the promising use cases of how technology can help fight the novel corona virus outbreak. Smart technologies like the Internet of things (IoT), big data, and artificial intelligence (AI) are being massively adopted to help track the disease spread and contagion, manage insurance payments, uphold medical supply chains, and enforce restrictive measures. Let‟s go step by step to see how IoT, AI, big data, and mobile solutions are actually enhancing medical care.

Keywords: COVID-19 , Technology , AI, IoT , Big Data, Cloud Mobile, Pandemic.

ICRTSTS-107

An explorative study of causal influence of self-beliefs on emotional intelligence using Fuzzy Relational Map model and WASPASmethodin Picture fuzzy environment

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Abstract:

Cognitive processes such as decision making, reasoning andapproximation involve a great deal of uncertainty and vagueness. The existing multicriteriadecision making methods have their own advantages and limitations. Some of the methods do not consider the weights of the attributesor the interrelationship among the attributes which may have an impact on the decision-making process and decisions. In order to overcome these limitations researchers have developed hybrid methods to incorporate the weight of the attributes and its influence on other factors. One of the approaches is to include the weight obtained from the steady state vector of the dynamical system which is represented by the decision matrix. This study attempts to construct hybrid approach using fuzzy relational map model and Weighted Aggregated Sum Product Assessment (WASPAS) ranking method with picture fuzzy information. This hybrid approach is applied to explore the causal influences of self-beliefs on the traits of emotional intelligence in undergraduate students. The problem is studied in the picture fuzzy environment including the weight information and considering the interrelationship among the attributes.

Key Words: Fuzzy relational map, steady state vector, picture fuzzy sets, WASPAS, beliefs, emotional intelligence.

ICRTST-108

The effect of magnetic field on convective flow and mass transfer of visco-elastic fluid in the periodic suction of porous medium bounded by infinite vertical porous plate

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Abstract:

This paper is devoted to the study of the effect of magnetic field on the convective flow and mass transfer of a viscoelastic fluid in the periodic suction of porous medium bounded by infinite vertical porous plate. The governing boundary layer equations have been solved by using finite difference technique. The expressions for dimensionless velocity profile, temperature profile, skin friction and concentration profile at the wall have been obtained for several values of the parameters involved in the solution.

Keywords: Velocity profile, Viscoelastic fluid, Periodic Suction, Convective flow.

ICRTST-109

A long term study on Atmospheric Aerosols over Indian Subcontinent

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Abstract:

Atmospheric aerosols are small particles present in the atmosphere and their size ranges from few nanometres to micrometers. Though atmospheric aerosols have short life time it is found from different studies that they impact the climate change in a considerable manner. They may scatter, reflect or absorb solar radiation and hence alter the heat budget on the earth. They are produced due to different natural and anthropogenic process. The study of their impact on climate change is very complex as the chemical composition varies and depends on their origin. They impact human wealth as well as our climate. Satellite measurements of aerosols give us an opportunity to study atmospheric aerosols over a large region. There are different satellites measuring aerosol loading at different spatial and temporal resolutions. We have used MODIS

(Moderate Resolution Imaging Spectroradiometer) onboard Terra, AOD data for a long period of twenty years (2001-2020). The validation details and quality of MODIS AOD is described in detail in the paper. Decadal, Inter annual, seasonal and monthly variation of Atmospheric aerosol loading is studied and the results are discussed in detail in the paper. The study indicates that the atmospheric aerosol loading is more during monsoon and less during winter. It is also noticed that northern part of India is highly loaded with aerosols when compared to southern India. Anthropogenic activities have decreased to a large extent everywhere owing to forced lockdown in the year 2020. This caused a major decrease in aerosol loading in the atmosphere indicating that the major pollutants are due to industrial emissions. The results show that the decrease in loading for a single year did not have any influence on the climate. It gives an indication that the aerosol loading has to be decreased and this process should continue for a long time to restore a clean environment.

ICRTST-110

DEVELOPMENT OF SMART PORTALUSINGHTML, CSS, PHP-"QUICKSTORE"

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Abstract:

This is our proposed algorithm for Online Shopping website –"Quick Store", the basic idea is that a customer can easily buy products online. One can easily create an account with their e-

mail id and can set their password. The system accepts the customer's submission of a purchase order for the item in response to a time of submission being before the order cut off time. This algorithm will allow the person to buy any item they are interested in. This will reduce their time as they can buy any product anytime from anyplace just by having internet connection. This algorithm will fulfill the needs of the customer. They can also see products categorically like men, women, children, electronics, furniture etc. Also they can add as many items to their cart, also can increase the number of similar product if they want more than one product of same type. One can easily checkout their purchase by filling shipping address and contact details. One can do online payment to avoid any kind of hustle during receiving the products. This website will be helpful to anyone who wants to buy things online without creating chaos.

KEYWORDS:HTML, CSS, PHP, jquery, SQL, net beans.

ICRTST-111

MODELLING THE CAUSAL INFLUENCE OF SELF-BELIEFS RELATED TOEMOTIONAL INTELLIGENCE ON LEADERSHIP USING FUZZY RELATIONALMAP BASED ON HESITANT FUZZY SETS

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Abstract:

Fuzzy Relational Map is a relational structure between two disjoint fuzzy sets. The relation between any two fuzzy sets is represented with a fuzzy se which denotes the edge strength of the relation between the nodes of the sets. This paper proposes a new approach to construct a fuzzy relational map with hesitant fuzzy set, an extension of regular fuzzy set. The hesitant fuzzy

relational map is way more effective in capturing the uncertainty of the problem and the hesitancy of the expert than the regular fuzzy relational map. Effective leadership is the guiding force of a civilised society an high-performance institutions. Emotional intelligence capabilities are most closely linked to effective leadership. In this paper, the influence of beliefs and values related t emotional intelligence on effective leadership is studied with Hesitant Fuzzy Relational Map.

Index Terms - Fuzzy Relational Map hesitant fuzzy set, beliefs, emotional intelligence, Leadership.

ICRTST-112

FEA of Thermal Behavior of Fibre Reinforced Polymer Composites with Graphite and Sintered Bronze Filler- A Review

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Abstract:

Finite element method has been widely applied in modeling natural fibers and natural fiberre in forced composites. This paper is a comprehensive review of finite element models of natural fibers and natural fiber reinforced composites, focusing on the micromechanical properties (strength, deformation, failure, and damage), thermal properties (thermal conductivity), and macro shape deformation (stress–strain and fracture). Representative volume element model is the most popular homogenization-based multi-scale constitutive method used in the finite element method to investigate the effect of microstructures on the mechanical and thermal properties of natural fibers and natural fiber reinforced composites. The representative volume element models of natural fibers and natural fiber reinforced composites at various length scales are discussed, including two types of geometrical modeling methods, the computer-based

modeling method and the image-based modeling method. Their modeling efficiency and accuracy are also discussed. Carbon fibers are now becoming a technologically and commercially important material in various fields such as aerospace, military, turbine blades, construction, medical, automotive, sporting goods industries and even for the application in the electronics industry. In this project, the effect of the fiber orientations on the thermal behavior of the carbon fiber composite by using Finite Element Analysis (FEA) has been studied. With the analysis, the thermal behavior of the composite like temperature distribution and thermal gradient have been evaluated. The model and the thermal analysis of carbon fiber composite are developed by using ANSYS Mechanical APDL. Thermal conductivity, convective heat transfer and heat source are the important element in thermal analysis. The temperature distributions show that the thermal conductivity in the perpendicular direction is lower than that in parallel direction.

ICRTST-113

A Review on Thermal Characterization of Fibre Reinforced Polymer Composites with Graphite and Sintered Bronze Filler

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Abstract:

The present paper deals with the effect of volume fraction of fibers on the effective thermal conductivity (keff) for polymer composites. This work sees an opportunity of enhancement on insulation capability of a typical fiber reinforced polymer composite. A mathematical correlation for the effective thermal conductivity of polymer composites reinforced with fiber is developed using the law of minimal thermal resistance and equal law of the specific equivalent thermal

conductivity. To validate this mathematical model, two sets of epoxy based composites, with fiber content ranging from 0 to 15.7 vol % have been prepared by simple hand lay-up technique. For one set of composite, natural fiber i.e. banana fibers are incorporated in epoxy matrix and for another set a well-known synthetic fiber i.e. glass fiber is taken as a filler material whereas matrix material remains the same. Thermal conductivities of these composite samples are measured as per ASTM standard E-1530 by using the Unitherm™ Model 2022 tester, which operates on the double guarded heat flow principle. Further, finite element method (FEM) is implemented to determine the keff of such composites numerically using a commercially available finite element package ANSYS. Experimentally measured values are then compared with the values obtained from the proposed mathematical model, the numerical values and also with models established earlier, such as Rule-of-Mixture (ROM), Maxwell's model, Nielson-Lewis model and Bruggeman model. From This study validates the proposed model and also proves that finite element analysis can be an excellent methodology for such investigations. With light weight and reduced heat conductivity, these insulative, fibers reinforced polymer composites finds their potential applications in insulation boards, food containers, thermo flask, building materials etc.

Keywords: **c**omposite material,HybridComposite, Sisalfiber,Jutefiber, Bamboo,SiliconCarbide,Mechanicalproperties,Thermalproperties,Epoxy.

ICRTST-114

Challenges in Ultra-fine Pitch Wire Bonding

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Abstract:

As the microelectronics industry moves into the nano era, the main target is beingMiniaturization which results in very small sizes of dice; bond pad and bond pad pitch (BPP)and increase in numbers of I/Os. It emerges new challenges in wire bonding due to reduction in wire sizes; bond pad and bond pad pitch which results in the development of ultra-finepitch wire bonding. As the device bonding pad reduces to 50µm and lesser and bond pad pitch also shrinks to 40µm and lesser, there is a critical requirement for fine pitch bonding. With normal bonding, there were chances of shorting the pads and I/Os. Also reducing the ball sizes for such critical requirement results in smashed ball & looping problems, in consistent bonding and sticking problems. In this article, the requirements and new challenges in Ultra-fine pitch wire bonding are discussed. Also the problems faced in ultra-fine pitch wire bonding are analysed. Ultra-fine pitch wire bonding requires new capillary design. Compared to the standard capillary, new capillary design has a reduced inner chamfer, a smaller chamfer diameter and a smaller chamfer angle with bottle neck construction at the tip. This new capillary design has proved to improve bondability and control over smaller ball size. Actual bonding experiments using the Ultra-Fine pitch capillaries were carried out using 25µm gold wire. It requires very precise machine parameter setting with reduced ball size. Wire feeding through small cone diameter is very challenging. More number of trials was carried out for setting parameters for ball, loop and wedge. Analysis was carried out for trial bonds which showed more wedge failures.

Studies are conducted to set parameter for wedge. The consecutive failures were due to theless contact area on wedge crescent side. It was due to slim line construction of capillary. Itwas resolved by using an alternate technique. The main challenges are small ball size control and setting of higher parameter could result in peeling of bond pad site; while lowerparameter settings lead to sticking problems. Precise setting of parameters solved the issue. Ultra-fine pitch Wire bonding technology can produce more compact and high-density chips without modifying the existing assembly process. This process met all standard reliability tests. The main benefits from fine and ultra-fine pitch wire bonding is increased I/O numbers, reduced sizes of dice & package, reduced pitch with a reliable bond. This technique increases the integration density of Hybrid Microcircuits.

Key words: Wire bonding, Bond Pad Pitch, Capillary, wedge, loop, chamfer.

ICRTST-115

Shelf Life Evaluation of Solder Paste for Reflow Applications

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Abstract:

Solder paste are employed in reflow applications for the attachment of SMD devices. Solder paste namely Sn 63 and Sn 62 are employed for the attachment of the SMD components where Sn 62 are employed mostly for RF boards so as to prevent gold scavenging. SMD components such as IC's are body grounded apart from pin soldering. The main concern of employing the solder paste in the production line is the inherent limited shelf life which depends upon multiple factors such as storage conditions, applications, purity etc. As the bulk procurement is generally carried out so the paste is stored well beyond the shelf life which can be detrimental for the reliability. Shelf life of solder paste is not properly documented resulting in the usage of expired solder paste without implementing the manufacturers' guidelines resulting in arbitrarily storage period. The re-certification of the solder paste depends on various parameters and needs methodological approach so as to maintain the quality of electronic boards. This article details the sequence of steps taken for re-evaluation of the solder paste which have well past its shelf life. The reflow processes of the board related with solder paste are carried out successfully which validates the evaluation process.

Keywords: Solder paste, attachment, reflow process, SMD (Surface Mount Devices)

ICRTST-116

Laplacian Matrix of More Power 3 Mean Graphs

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Abstract:

In this paper, we investigateLaplacian matrix of some more power 3 mean graphswe prove the Laplacian matrix of Bullgraph, Triangular graph, and Hurdle graph which are power-3 mean graphs.

Keywords: Power-3 means graph, Bull graph, Triangular graph and Hurdle graph.

AMS Subject Classification: 05C78 .

ICRTST-117

Diffusion of Ions and Solutes in Nano-filtration Systems

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Abstract:

In this study, a novel method applied to obtain membrane parameters, reflection coefficient (σ) and solute permeability (Ps). The values of σ and Ps are usually estimated by fitting the experimental data of observation rejection (Ro) and volumetric flux (Jv) in Spiegler Kedem equation. Unfortunately, this equation not applicable to represent results with low rejection values. In present work, these parameters are determined by plotting (Ro) vs permeate volumetric flux (Jv) which obtained from experimental data. The results are compared to those determined by fitting observation rejection (Ro) vs (Jv). This approach is able to find above parameters especially at low retention and monovalent solute. Moreover, it is much easier way to calculate membrane parameters however fitting (Ro) vs (Jv) involves some errors, and it does not give realistic data. The success of this procedure was confirmed by comparing its results with those available in open literature where an excellent agreement was found. Moreover, this

approach was capable of finding the values of the reflection coefficient and the solute permeability that some researchers could not determine.

The experimental data showed that as the solute concentration increases the rejection decreases. The values of σ are inversely proportional to the concentration. Ps values, however, are proportional to the concentration until a certain concentration is reached after which the effect diminishes. The results also show that as the valence of the cation increases both σ and Ps increase. The results showed that AlCl3 has the highest value of σ and NaCl has the lowest value. The values of σ follow the following order: $\sigma AlCl3 > \sigma MgCl2 > \sigma Na2SO4 > \sigma NaCl$. The dependence of Ps on the solute type follows the following order Ps, NaCl> Ps, Na2SO4 > Ps, MgCl2 >Ps, AlCl3.

ICRTST-118

Ionic Liquid Mediated Synthesis of 5-arylidine-2,4-Thiazolidinediones and Antibacterial Evaluation

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Abstract:

Knoevenagel condensation of various aromatic aldehydes with 2,4-thiazolidinedione has been carried out in ionic liquid 4-methyl pyridinium tosylate as a eco-friendly medium. The isolation procedure is very simple with better yields. A series of 5-arylidine-2,4-thiazolidinediones derivatives (3a-3j) were evaluated for antibacterial activity. Derivatives 3b and 3c show good activity 3a, 3d and 3j show moderate activity against S.aureas whereas 3d and 3j show moderate activity against B.subtilis.

ICRTST-119

A Fuzzy Economic Inventory Model of Substitutable Joint

Complementary Items Using Non-Linear Programming Techniques

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Abstract:

In the multi-items sales process, when a particular item is a shortage the existence of substitution by another similar product is natural. The consideration of this situation in classical inventory models may be difficult to understand and the level of need for substitution depends on different items and is completely vague. To express those vague parameters fuzzy numbers are the best tools while using crisp numbers. This paper describes the fuzzy economic inventory model for two substitutable items jointly fulfill the demand of both items involving vague substitution levels. In order to find the fuzzy total cost, the proposed model calculates the fuzzy order quantity and fuzzy total cost for different cases by using non-linear programming techniques. Some theorems are derived to obtain the condition for the pseudo-convexity of the fuzzy total cost in different cases. The numerical example is also included for illustrating the reliability of the proposed model in the real life situation.

Keywords: Generalized Quadrilateral Fuzzy Number; Classical Equivalent Fuzzy Mean; Substitutable Items; Complimentary Items; Fuzzy Order Quantity; Fuzzy TotalCost; Non-Linear Programming.

MSC 2010 No.: 90B05, 49M37, 03E72.

ICRTST-120

Wet Dark Fluid Cosmological Model in Self- Creation Theory

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Abstract:

In this paper, we have studied Bianchi type-VI0 cosmological model with wet dark fluid in Self - Creation theory formulated by Barber [1]. Exact cosmological model in the theory are obtained with the help of relation between metric coefficient and equation of state. Various physical features of the model are also discussed.

Keyword: Wet Dark fluid, Barber self-creation theory, Bianchi type VI0, space time.

ICRTST-121

RELIABILITY ANALYSIS OF A COMPETING RISKSYSTEM SUBJECT TOA WAITING THRESHOLD

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Abstract:

In his paper the reliability and other measures of a competing risk system is evaluated which is inspected periodically. The system may fail due to multiple modes of failure and has to wait for a certain time to get repaired. At the occurrence if the failure, the failed component joins the M/G/1 queue with awaiting threshold. In this type of queuing system failed components leave the waiting line after waiting for a threshold time K, where K is a constant. The repair is done with a single serviceman and repair times follow general distribution. Various reliability characteristics like availability, long run maintenance cost rate have been estimated for the considered system. Also, with the help of a case study results have been presented analytically to depict the utility of the proposed model.

Keywords: Reliability; Waiting threshold; M/G/1 queue.

ICRTST-122

Magnetized String Cosmological Model in Rosen's Bimetric Gravity

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Abstract:

We have presented the solution ofLRS Bianchi type IIIspace-time with magnetic field and with string viscous fluid by solving the field equations of Rosen's bimetric theory of gravitation. It is observed that the magnetic field could have the cosmological origin of the model and it is agreed with Harrison (1973). The small value of magnetic field originated the universe and starts evolving it with maximum density and ending with zero density. The strong magnetic field ruled out the existence of the universe. Other geometrical and physical behavior of the model have been studied in the evolution of universe.

Keywords: Gravitation theory, Magnetic field and Cosmology.

PACS: 04.20-q, 41.20-q, 98.80-k

ICRTST-123

DEVELOPMENT AND STANDARDIZATION OF BANANA BEER

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Abstract:

Beer is the world's most widely consumed alcoholic beverage; it is the third-most popular drink overall, after water and tea.

Beerisproducedbythesaccharificationofstarchandfermentationoftheresultingsugar.

Beer is a portable alcoholic beverage fermented from malted barley and flavored with hops. The alcoholic content is 3% to 5% and is known to be a very refreshing drink especially in summer. Bananas are rich in potassium and fiber. They may help to prevent asthma, cancer, high blood pressure, diabetes, cardiovascular disease, and digestive problems Most of the vitamins namely Vitamin A, Vitamin C and riboflavin are present in fair quantity in banana. Thus from nutritive point of view, banana can be considered as the cheapest, plentiful and most nourishing of all fruits. Based on these incredible benefits of banana towards health in human, the present study was under taking to develop and formulate the banana beer. The basic ingredients required for the development of formulated banana beer were banana, sorghum, sugar, yeast. The fruits washed cleanly and made in to purees later add sugar and yeast, and ferment it.

Key words: Alcohol, Beer, Banana, sorghum, sugar, yeast.

ICRTST-124

Mathematical Solution of Imbibition Phenomenon in Vertical Heterogeneous Porous Medium

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Abstract:

The phenomenon of imbibition is of great importance in the petroleum industry. In this analysis, we have studied the Counter-current imbibition through mathematical modeling in a double non-miscible phase in the vertical heterogeneous porous medium, which ensues in the process of oil recovery. The non-linear partial differential equation of second order is the result of the mathematical formulation. Variational iteration approach is applied to attain approximate analytical solution of the governing equation. The solution's numerical outcomes and graphical representations are identified with the help of MATLAB.

Keywords: Porous medium, Imbibition phenomenon, Secondary oil recovery, Variational iteration approach.

AMS subject classification: 35A15, 65M99, 76S05

ICRTST-125

Security Prerequisites and Ideas for Intelligent Networks (IN)

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Abstract:

Keen organizations are a premise to build up and market administrations through media transmission organizations. Selling administrations and data through an organization not just increment impressively the measure of data moving through the organization, yet additionally its classification. In this show we will zero in on the security parts of administrations offered by Intelligent Networks. First we will take a gander at the expected dangers and their probabilities, and we will determine the appropriate safety efforts to be taken against these dangers. In the second part a few rules and plan ideas to be utilized for the execution of safety will be introduced.

Key words: Intelligent Network, Call Diversion, Security Concepts

ICRTST-126

Human Action Recognition using Multimodal CNN

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Abstract:

This paper aims to identify the various actions and expressions portrayed by a human in the input video stream. Firstly, we transform the depth data into Sequential Front view Images (SFI) and fine-tune the pre-trained Alex-Net on these images. Then, inertial data is converted into Signal Images (SI) and another Convolutional neural network (CNN) is trained on these images. Finally, learned features are extracted from both CNN, fused to make a shared feature layer, and these features are fed to the classifier.

Index Terms—Convolutional neural network, data augmentation, multimodal fusion.

ICRTST-127

Existence and Extremal solution of Fractional order Functional Differential Inclusions in Banach Algebras

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Abstract:

In this paper, we study the existence the solution for a fractional order neutral functional differential inclusion by using a fixed point theorem. Hybrid fixed point principles for the sum of two multivalued operators in a Banach space are applied to differential inclusion for proving the existence results. Further the existence of extremal solution is studied under mixed Lipschitz and Caratheodory conditions.

Key words:functional differential inclusion, fixed point theorem, extremal solution.

ICRTST-128

Boundary Value Problem for Nonlinear Fractional Order Functional Differential Equation in Banach Algebras

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Abstract:

In this paper, we study the existence and extremal solutions for Nonlinear fractional order functional hybrid differential equation in Banach algebras under mixed lipschitz and caratheodory conditions by using hybrid fixed point theorem due to B.C.Dhage.The results are illustrated by a concrete example.

Key words: Fractional order, Functional differential equation, Banach Algebras, Fixed point theorem, Existence and Extremal solutions, Green function, Riemann–Liouville fractional integration and derivative.

ICRTST-129

A Study on Opinion of Students towards E-learning

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Abstract:

The purpose of this research paper is to know the students' opinion towards e-learning which is substitute of traditional education. E-learning is performed a very important role in the present educational situation. Technology discovers a new way for teaching and learning method which depend on information technology. As per researchers view today's world is interested in online education because they think that online education is very flexible and very useful for them in pandemic situation there are many institutions they want to customization in modern technology for improvement in online education.In this research paper, researchers studies about the opinion of students towards E-learning. The researchers have collected primary data from undergraduate students and postgraduate students by using questionnaires.

Key-words:-E-learning, Students opinion, Pandemic, Traditional Learning.

ICRTST-130

Social Mental Disorder Detection Via Social Media Mining

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Abstract:

As society becomes more technologically advanced, we are more into the digital world. But as result people feel more comfortable to outlet their thoughts and emotions on platforms like twitter which offers user a level of anonymity and provides users to be more uninhibited in their expressions. The objective of this paper is to propose depression detection and analysis of users based on Twitter data using sentiment analysis. Our research to date shows that such dataset that is readily available was too simplistic and most of the labelled depressive entries had a word depression, which proves to be major obstacle to the development of this project, so we also aim to create our own a dataset that is designed specifically for depression identification based on tweets. We have evaluated the efficiency of our proposed method using various features and also show that our proposed method can significantly improve accuracy and classification error rate.

Keywords: Social Network Sites (SNS), Natural Language Processing(NLP), convolutional neural network (CNN).

ICRTST-131

Multi-objective Optimization in Water Flood Management using NSGA-II Algorithm

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Abstract:

Water flooding is a common oil recovery method used in many oil fields in the world in which water is injected into an oil reservoir using strategically placed injectors to maintain pressure and sweep oil to production wells. Production optimization is an area which has increasing attention which aims to find optimum operating condition in order to achieve different objective functions such as maximizing oil production or maximizing net present value (NPV) and minimizing water production. The objective function is evaluated using the numerical reservoir simulator, which requires extensive computational power, especially for real field cases. This study will focus in investigating different multiobjective functions for the short-term waterflood management applied in Brugge field benchmark model using the Non-dominated Sorting Genetic Algorithm, second version (NSGA-II). The short-term waterflood management study is defined with four time-steps of two years period with total of 120 decision variables as bottom-hole pressure (BHP) for the producers and the injection rates for the injectors in each time-step. Three multiobjective function optimization cases are investigated in this study (i.e. maximizing total oil production and minimizing total water production (Case-1), maximizing total oil production and minimizing total water cut (Case-2) and maximizing total oil production, maximizing net present value (NPV) and minimizing total water cut (Case-3)). Pareto optimal solutions are obtained with NSGA-II in all three Cases by 50,000 function evaluations using the reservoir simulation model. The results show that the highest oil production obtained from the Pareto front is in Case-1 with small difference compared to the other two Cases. The highest NPV is also achieved in Case-1 because of lower water production and lower water injection compared to Case-2 and Case-3. The obtained Pareto front solution for the three cases provide multiple optimum solutions for the decisionmaker to select based on the requirements and constraints.

ICRTST-132

MULTI-OBJECTIVE OPTIMIZATION OF A CHEMICAL PROCESS USING NONDOMINATED SORTING GENETIC ALGORITHM II

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Abstract:

Multi-objective optimization is a popular optimization technique in the area where multiple criteria decision making involving more than one objective function to be optimized simultaneously. This technique is applied in many fields of physical, chemical and biological science, engineering, economics and logistics where optimal decisions need to be taken in the presence of trade-offs between two or more conflicting objectives. In this study, multi-objective optimization of industrial gas sweetening process was carried out by using NSGA-II algorithm. Natural gas is one of the major source of energy. Raw natural gas contains methane, ethane, propane, butanes, pentanes and other impurities such as hydrogen sulfide (H2S), carbon dioxide (CO2) etc. These impurities need to be cleaned before send it to end users. MDEA based gas sweetening process is considered to purify the natural gas from H2S and CO2. Seven process operating parameters are considered as decision variables to tune the process and get better objective values. The decision variables are as follows, feed gas temperature and pressure, lean amine temperature and pressure, regeneration feed temperature and pressure and feed gas molar flow. Three objective functions namely, H2S removal, CO2 Removal and profit which are required to optimize as it become a global issue. Hysys model for gas sweetening process is developed and it is interlinked with Excel-VBA interface. Two objective optimization problems are formulated and solved with Excel based NSGA-II algorithm. In this paper one economic objective and two process objectives are successfully optimized for industrial gas sweetening process.

Keywords: Multi-objective optimization, NSGA-II, Hysys, MDEA, Natural Gas sweetening.

ICRTST-133

MULTI-OBJECTIVE OPTIMIZATION OF ACID GAS SWEETENING TREATMENT PROCESS

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Abstract:

The existence of acid gases in petroleum refining and in natural gas is a well-known problem. Acid gases may consist of H2S and/or CO2 and they may cause a significant damage to industrial areas including operating, machines, staff, etc., which leads to a catastrophic failure of pipelines. This acid gas removal treatment step encounters emitting several gases to the atmosphere, those may negatively affect the human health. An acid gas removal process, which was simulated using ProMax 4.0, that uses DEPG as solvent was selected for multi-objective optimization (MOO) using NSGA-II. The MOO case aims to minimize the human toxicity (HT) and maximize the profit simultaneously. Several decision variables were selected like the pressure and the flow of the sour gas and the temperature of the lean and semi lean DEPG solvent. The desired Pareto front was achieved and it was found that there is a high potential for enhancing the selected process with respect to the considered objectives.

Keywords: Multi-objective Optimization, Acid Gas Removal Process, DPEG

ICRTST-134

A Review on Brain to Brain Communication Using Brain Computer Interface

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Abstract:

A Brain Computer Interface (BCI) is a communication system that translates brain signals produced from different activity into commands for a system. [1]Without doing any physical activity we can just use our brain to give commands to the system and that will do work for us. [2]This activity being generally measured by ElectroEncephaloGraphy(EEG). We can use this method to create a non-verbal communication between two or more people. BCI is one of the recent research and scientists are still try to develop it better so that in future disabled can easily do their work. [3]We need to understand BCI's due to the challenges regarding ethics presented by new technology.

Keywords: BCI (Brain Computer Interface), Electroencephalography, Neurons, Machine Learning, MRI, Transmitter, Brain signals.

ICRTST-135

Structural, Dielectric, Magnetic and Ferroelectric Properties of Nd doped 0.7BiFeO3–0.3PbTiO3 Solid Solution

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Abstract:

The solid solution 0.7Bi1-xNdxFeO3–0.3PbTiO3 i.e (BNFPT)x with x=0.05, 0.10, 0.15, and 0.20 was successfully synthesized using the standard solid-state reaction method . The effect of Nd doping on structural, dielectric, micro structural, ferroelectric and magnetic properties of 0.7BiFeO3-0.3PbTiO3 have been investigated. The XRD analysis for the samples under study revealed the existence of morphotropic phase boundary between polymorphs of rhombohedral and tetragonal symmetries for all (BNFPT)x compounds. The SEM analysis revealed a homogeneous grain distribution in all (BNFPT)x samples. The high dielectric constant and low

tangent loss of the rare earth Nd modified 0.7BiFeO3-0.3PbTiO3 compound with regard to temperature and frequency validate the material as a promising choice for electronic device invention. Magnetic analysis of the samples under investigation revealed two magnetic contributions indicating the coexistence of ferromagnetic and anti-ferromagnetic order in the 5 to 300K range. At 5 K, however, residual magnetization rises steadily as Nd doping increases for all (BNFPT)x samples. The magnetization result was found to be better than that of other rare earth doped BiFeO3-PbTiO3 compounds. The pinning effect was observed in hysteresis loops with low remnant polarization and coercive field in a ferroelectric investigation, which can be linked to the energy storage ability of the samples in electronic device applications.

Keywords: (BNFPT)x, Rhombohedral, Dielectric constantRemnant magnetization, Pinning effect.

ICRTST-136

First Order Integral inclusion in Banach Algebras

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Abstract:

In this paper, we study a volterra integral inclusion and we prove existence theorem by using fixed point method. The obtained result is illustrated with an example. Further the existence of extremal solution is studied under certain monotonicity conditions.

Keywords: integral inclusion,hybrid fixed point theorem, extremal solution.

ICRTST-137

IMPROVED SECURITY WITHIN TRANSACTIONS IN CLOUD USING EXCESS 3 ENCRYPTION AND COLLISION HANDLING APPROACH

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Abstract:

Financial transactions within crypto currency often suffer from security issues. To tackle the issue of security, block chaining mechanism generally accommodated with encryption mechanism. This paper presents a unique approach of encrypting the data within individual block along with the multiple tag support. The procedure followed in this paper first performs binary encryption of the data presented and then applies Excess 3 code for the final encryption. This work largely removes the issues associated with bloom filter that was used to count the words accessed from the cloud storage. This mechanism although useful but cannot be used to handle multiple accounts held by a single user or multiple users. The block chaining approach with multiple tag support handle this issue corresponding to bloom filter. The result of block chaining with multiple tag support is presented in the form of encryption, decryption time and throughput. Encryption time and throughput improves through the suggested approach proving worth of study.

Keywords: Block chaining, security, cloud.

ICRTST-138

Video Forgery Detection Using Tangent Based Approach

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Abstract:

Video processing is one of the key aspects associated with applications like accident detection, abnormal activities detection, moving vehicles detection etc. this paper proposed a novel approach f or detection of forgery within a frame. The frame analysis using static frames is

accomplished using mean framing mechanism. The problems of this mechanism are highlighted and changes in terms of preprocessing by improving color contrast levels using color scaling scheme. After color enhancement, tangent motion detection mechanism is applied to extract the object from moving frames correctly. The frame extraction requires additional external software. The additional software makes the entire process of detection easy. During the extraction, noise could be introduced within the video frames. In order to handle the noise within the video frames, pre-processing mechanism is required. Color scaling mechanism is applied to adjust all the colors within the video frames. After color enhancement, critical and non-critical segments are separated. The feature extraction mechanism is applied to extract the statistical features. The correlation mechanism is applied to check the highest correlation features. The tangent based approach is applied to compare the extracted features with the test features. The matched features could yield forged region from within the videos. The result is presented in the form of classification accuracy, mean square error and peak signal to noise ratio. Overall result is presented in the form of peak signal to noise ratio and classification accuracy.

Key words: Mean framing, Color scaling, Tangent career, detection, PSNR, Alignment accuracy.

ICRTST-139

Recovery of Precious Metals from e-waste for Sustainable Development

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Abstract:

With the emerging and enabling technologies, the demand of electronics has increased many folds during last few decades. E-waste has been created a lot during last few decades and is expected to increase in future globally. At present, more than 25 million tons per year of e-waste

is generated and therefore, it has been suggested to minimize the environmental impact strategies of waste prevention, recycling and reuse. Precious metals which are present in e-waste include gold, silver, gallium, platinum which can be recovered using different methods to extract valuable metals for sustainable development. Extraction of precious metal like gold from e-waste is very useful as gold is the most popular precious metal and its cost is increasing day by day. Now putting that in perspective, a PCBs (cell phones and personal computers printed circuit boards) contains gold of about 280 g/ton-waste. Waste of about 44.7 million tons, it means that there are about 12,000 tons of gold in that waste, which varies considerably from 10-1600 ppm of Au depending on type of waste. However, the main problem lies in extraction of gold using chemical leaching, precipitation, ion exchange, solvent extraction, and flotation as these processes generate secondary toxic wastes that require proper disposal. Moreover, these processes use toxic chemicals, high reagent and affects the environment too. In this paper, a greener and eco-friendly process will be used for the extraction of gold from e-wastes towards achieving sustainable developmental goals of United Nations.

Keywords: E-wastes, sustainable development, Gold recovery, eco-friendly.

ICRTST-140

A Novel Methodology for Decipher Mixed Constraint Fuzzy Linear Programming Problem

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Abstract:

In this paper a mixed nature LP model is taken for study. In real life very often we come across mixed type LPP. And the irony is these type of LP Problems are difficult to be solved by usual techniques. Therefore, we have made an effort to develop a new approach of Simplex technique to obtain an optimum result of mixed nature FLP models of trapezoidal, as well as trivial FN.

This method is very stress-free to decipher mixed nature FLP models. At times it has less iterations than the existing simplex technique. And an attempt is made to showcase the same with few numericals.

Keywords: Fuzzy number, Simplex technique, Fuzzy ranking method, Trivial fuzzy numbers, Fuzzy linear programming problem, Mixed trapezoidal fuzzy numbers.

ICRTST-141

Effect of lockdown on protein intake and sleep patterns in adults aged 40-60 years in Jain community

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Abstract:

Sleep is an important part of life. A person spends one-third of his life sleeping. Having a quantity and sound sleep is essential for a person just like food and water. Sleep is important for a person's brain cells to function and communicate with other cells. Objectives: To assess the protein intake and sleep pattern on adults aged 40-60 years in the Jain community in Mumbai city and to compare the effect of lockdown on protein intake and sleep pattern. Methodology: 100 subjects were selected through the purposive convenience sampling method. The data was collected using a questionnaire which included a list of foods with high tryptophan content to assess the sleep pattern in the subjects on a theoretical basis. Results: Data was analysed, and results showed that there was a significant increase in consumption of cereal (p=0.000); pulses, dals, and legumes (p=0.000); nuts & oilseeds (p=0.008), and fruits (p=0.014) during the lockdown. Insomnia was high before lockdown but had even increased during the lockdown. A significant effect (p=0.06) was observed between the consumption of dals, pulses, and legumes and sleep patterns amongst the subjects an increase in sleep may be due to the consumption of dals, pulses, and legumes which are rich in tryptophan amino acid. Hence sleep pattern can be

improved by a balanced diet which includes tryptophan-rich food for inducing sleep. Diet, meditation, and exercise awareness also can help for better sleep.

Keywords: Tryptophan, sleep pattern, lockdown, COVID-19, stress, protein intake

ICRTST-142

THE HYBRID BLOCK-SWAP RAIL FENCE ALGORITHM

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Abstract:

Transferring the data securely over any medium needs to concentrate on the three important principles of information which are Confidentiality, Authenticity, and Integrity. A high level of security can be achieved with various algorithms based on various cryptographic principles. Cryptography can be defined as a technique that develops ciphertext, based on specific algorithms that make the data unreadable unless decrypted by algorithms that are predefined by the sender. A rail fence cipher is a form of transposition cipher which is also referred to as a zig-zag cipher. It comes under symmetric key algorithms where the same key is used for both encryption and decryption. In this paper, the author modified the traditional rail fence cipher and fixed the key size as two. The Hybrid Block-Swap Rail Fence Algorithm gives the best randomness in the cipher. The key used in this technique is 64-bit random alpha-numeric characters. In the proposed method, the plain text is divided into blocks and each block consists of four characters, and the characters in the block are represented as 2*2 matrix representation.

The position of the characters in every block is swapped internally. Then rail fence technique is applied along with an Exclusive-OR (XOR) operation is performed between the generated result after swapping with the random 64-bit key. The ciphertext generated in the traditional rail fence will be in the range of the plain text only. The limitation of the formation of the ciphertext overcame with the proposed technique. Every character of the ciphertext generated using this proposed algorithm will be in the range of 0 – 127 ASCII values.

Keywords— cipher, confidentiality, authenticity, integrity, encryption, decryption, rail fence, transposition.

ICRTST 143

DEPARTMENTAL LIBRARY RESOURCE MANAGEMENT USING ANDROID APP

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Abstract:

An Android app serves as a powerful tool which can help in modifying the workplace. The current ongoing pandemic environment has made us realize how important it is to keep a backup and be ready for such a situation. This paper gives an insight into the workings and components of the android app which can be used as an inter-departmental tool to keep all the resources in one place and make the use of it so as to reduce the operational cost and provide students with best possible services. The development of an android app needs various tools like an IDE (Integrated Development Environment), SDK (Software development kit), Android Studio and the working knowledge of various programming languages like KOTLIN and XML (Extensible markup language). KOTLIN can be used to develop the backend of the app and XML is used to develop the User Interface or front end of the app. The various tools and services an app can provide can be ground breaking in terms of development in the field of education and provide a

great breakthrough. This paper dwells on developing the app for the Aeronautical engineering department in particular, but the scope of the app can be extended further to various departments.

Keywords: IDE (Integrated Development Environment), SDK (Software development kit), Android Studio and KOTLIN.

ICRTST-144

EFFECT OF SOCIO ECONOMIC STATUS ON ANTHROPOMETRY MEASUREMENTS AND FOOD CONSUMPTION FOR WOMEN AGED 35-45 YEARS

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Abstract:

The female gender plays an important role in a family, managing children and other family members. In this course, the health of the women is adjusted to a large extend. Socioeconomic status plays an important role in maintaining a healthy lifestyle. Socio economic status (SES) could indicate a difference in dietary diversity in individuals The following study was conducted to know the nutritional status of the women in Mumbai. The purpose of the study was to assess the consumption of different food groups among the higher socio-economic status and lower economic status sample. The study was conducted to find the correlation between the food consumption and anthropometric measurements. Consumption of the various food groups by different socio-economic status was noted using the semi quantitative Food Frequency Questionnaire. Due to the prevalence of COVID-19 lockdown, the string method was used

(Ashwell, 2010), which indicated the preponderance of abdominal obesity in women. Socioeconomic status was calculated using BMC classification which included Ration Card details, Annual Income detail. Results showed that low socioeconomic status women did not focus much on healthy eating habit, and were found to have less abdominal fats ($p = 0.002$). Prevalence of high calorie food consumption was found in higher socioeconomic status.($p= 0.001$). Imbalance of food group consumption was observed between different SES and quality of food consumption was compromised. It can be concluded that healthy food options should be made available at lower rates for lower SES, making changes in government policies can help to achieve a balance in nutrition among different SES.

Key Word: Women, Socio economic status, dietary pattern, Anthropometry.

ICRTST-145

A study on the dietary consumption pattern of adolescents and intake of high salt foods and duration of mealtimes during the covid-19 lockdown

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Abstract:

Background: The lockdown restrictions due to Covid-19 led to increased level of stress and reduced physical activity. The relationship between sodium intake and arterial blood pressure (BP) values in adolescence is well studied. The intake of high sodium processed foods has increased globally especially during lockdown. Objectives: The present study aimed to analyze the dietary pattern of adolescents during the covid-19 lockdown, and to assess the changes in the consumption pattern of adolescents for high-salt foods and the risk of overweight during the covid-19 lockdown.

Methodology: A food frequency questionnaire was prepared to obtain a general idea about the adolescent population's dietary pattern with relation to high salt foods. Due to the lockdown and social distancing, an online form was created using Google Forms. 75 samples participated in the study and all of them belonged to middle to high socio-economic status. Results: It was reported

that all the subjects added salt in their meals. Adolescents reported consuming 1- 3 servings of frozen ready-to-eat foods, papads, pickles and ready-to-eat packaged foods which are high in sodium content. There was no significant difference observed between salt intake and Body Mass Index in the adolescents (p=0.56), except for the consumption of packaged crisps (p=0.04). A highly significant correlation was obtained (p=0.00) between the increase in the frequency of meals and the risk for metabolic syndrome.

Conclusion: It was concluded that excess consumption of salt in the long term may cause hypertension and increases the risk of metabolic syndrome. Staying at home and direct access to food during the Covid-19 lockdown has led to the increase in the frequency of meals consumed and which had a direct effect on BMI.

Keywords: Adolescents, covid-19, high-salt foods, lockdown, mealtimes, overweight

ICRTST-146

Effect of COVID-19 Lockdown on Dietary Behaviour and Physical Activity in Young Women between 20-30 years.

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Abstract:

COVID-19 is a lower respiratory tract disorder which is caused by the virus SARS-CoV-2. As a precautionary measure, lockdown was imposed and all the outdoor activities and gatherings were restricted. This study was undertaken to evaluate the effect of lockdown on dietary behaviour and physical activity in young women between 20-30 years. Methods: 100 young women between the age of 20-30 years and residing in Mumbai City were selected using Purposive Convenience Sampling. Data was collected using online Google forms and circulated to the participants through social media handles. Participants were asked to fill data for before and during lockdown. Lockdown has contributed to the sedentary lifestyle of the subjects. A reduction in physical activity was found in the study. Minimal improvement was noted in the dietary behaviour of the subjects.

Key words:COVID-19, DietLockdown, Pandemic, Physical Activity

ICRTST-147

Impact of online purchase of food items on diet pattern of adults between 25-35 years of age in Central Mumbai

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Abstract:

In the context of online purchasing of Grocery and other food items it was observed that the major advantage was the ability to purchase things from any location at any time with convenience and reduced use of time which made it more practical than visiting stores and very easy. Objectives:- To know the type and quantity of food purchased online and assess the effect of online food purchasing on body composition and Body Mass Index.

Methodology:- The respondents being studied belonged to the age group of 25-35 years, the samples were selected by purposive random sampling. The number of participants were 100. Food frequency questionnaire was the tool used and The frequency of the food products that the participants purchase online and consume included categories such as groceries, frozen food, canned foods, ready to cook meals, packaged foods, chocolates and candies, desserts, jams and conserves, beverages, fast food.

Results:- It was observed from BMI (Body Mass Index) that 23% of the participants were overweight and 51% of were Pre obese indicating that their consumption of processed energy dense food was high. It was observed that more than (50%) participants preferred to Purchase food items online on a monthly basis and (28%) preferred it on a weekly basis. Thus Indicating that the participants are used to purchasing food items online and find it more convenient Than offline shopping. When BMI was correlated with the frequency of Online purchase of food items it was not significant (p-value=0.29). Also participants mostly preferred to purchase Fast food

(34%) online followed by Grocery (29%) on the other hand the least purchased food item Was frozen food indicating that the consumption of Frozen food is not much. The difference in Percentage of Body Mass Index (BMI) in relation to the purchase of groceries and other food items was not significant (p-value= 0.43). It was also noted that (41%) of the participants gained weight after purchasing food items online however there was no significant relation in the BMI and weight status of the respondents.

Keywords: online purchase, Body Mass Index (BMI), Groceries.

ICRTST-148

Network Routing Problem and Study of Routing Algorithms and Implementation Based on Intelligent Algorithm

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Abstract:

With the rapid development of the Internet, people are not satisfied with sharing information only on the local network; instead, they intend to maximize the use of various types of network resources in different regions in the world. Intelligent network increasingly strong demand, put forward new demands on intelligent routing protocol. Intelligent routing protocol model not only need to have self-perception, self-learning, self-decision and self configuration ability, but also with the business model, modulation, power control, spectrum sensing technology, joint optimization. This paper designs a routing algorithm and routing mechanism as the research content, to the user's Cos (Quality of Service) communication demand, energy saving, load balancing as the optimization objective, the optimization theory, mufti objective decision, machine learning, intelligent search algorithm based on the theory of research on intelligent routing protocol in wireless ad-hoc networks. Therefore, routing technology has become a crucial part of network technology, and it has become the most important network equipment. On the basis of relevant domestic and foreign theories and researches, in view of the existing

problems, a computer network routing configuration method based on intelligent algorithm was proposed in this paper; meanwhile, the feasibility of the method was verified by simulation experiment.

Keywords-Intelligent algorithm; Computer network; Router configuration.

ICRTST-149

Edge Independent Function on Intuitionistic Fuzzy Graphs

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Abstract:

Let G=⟨V,E⟩ be an intuitionistic fuzzy graph. A function f:E→[0,1] is called an edge independent function if d_(N_μ) [e]=1, d_(N_ν) [e]≠1 for every e∈E, where μ_1 (e)>0, ν_1 (e)≠1. An edge independent function f is maximal if d_(N_μ) [e]≥1, d_(N_ν) [e]≠1 for every e∈E, where μ_1 (e)=0, ν_1 (e)≠1. The parameters of an intuitionistic fuzzy graph, such as the edge independent domination number (i_if^') and the edge independence number (〚β_0〛 _if^'), are also defined.

Key words: Edge independent function, Edge independent, domination number, Edge independence number.

ICRTST-150

Development, Characterisation and Evaluation of Burdock Root Extract Loaded Solid Lipid Nanoparticles Based Formulation for Rosacea using Quality by Design

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Abstract:

Burdock root extract is a medication which got from the roots of Articum Lappa belongs to the family Asteraceae. It is a promising medication applicant dependant on its great bioactivity. The solid lipid nanoparticle dispersion and gel containing burdock root extract were obtained by High shear homogenization and ultrasonication method. Distinct surfactants and co-surfactants were screened dependent on their ability to solubilize for creating a plan. Different formulations were obtained by using quality by design software. The stable SLN formulations were further characterized for thermodynamic stability, pH, drug content, practical size, PDI, zeta potential, and TEM. The qualities acquired were promising. Run 3, which show a very good release profile and had average droplet diameters between 50 to 200 nm. The results feature the high effectiveness of Run 3, formulation which gives the best permeation results. Burdock root extract loaded solid lipid nanoparticle dispersion and gel showed an improved permeability profile. The developed formulation was found to be stable to different stress conditions. Therefore, this formulation looks very promising for clinical application.

Key words: Solid Lipid, Nanoparticle, Rosacea, Burdock Root Extract (BRE).

ICRTST-151

Data Science: Fundamental Approach to Implement a Data Science Project

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Abstract:

As the world entered the age of huge information, the requirement for its storage collectively grew. It had been the most challenge and concern for the enterprise industries. The most focus was on building a framework and solutions to store information. Currently once Hadoop and

different frameworks have with success resolved the matter of storage, the main focus has shifted to the process of this data. Data Science is that the secret sauce here. All the ideas that you see in Hollywood sci-fi movies will truly become reality through data Science. Data Science is that the way forward for computing. Therefore, it's vital to grasp what's data science and the way will it add price to your business.

Keywords: Data Science, Business Intelligence, EDA, Machine Learning.

ICRTST-152

ANTIULCER ACTIVITY OF GINSENG NANOPARTICLE

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Abstract:

The aim of the present research work is to prepare, characterize and evaluate ginseng polymeric chitosan coated nanoparticles system for oral delivery in trail to achieve effective, pro-long and rapid antiulcer therapy. Chitosan coated nanoparticles(CS-NPs) are prepared by ionic gelation of chitosan using calcium chloride. The chitosan coated nanoparticles are characterized for surface coating, particle size, polydispersity index, drug loading, and entrapment efficiency using TEM, Zeta sizer, FTIR and DSC techniques. The performance of optimized enoxaparin loaded CS-NPs was evaluated by in-vitro drug release studies using dialysis membrane. Coating of the CS-NPs improved the release profile of ginseng from the nanoparticles for successful oral delivery.

Key words: Ginseng ionic gelation, dialysis membrane, Chitosan, Calcium Chloride.

ICRTST-153

Factors Influencing Adoption of e-Payments by One Parametric Intuitionistic Fuzzy Measure

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Abstract:

We are living in the time when everything can be easily available through the internet. Many things can be done quickly by anyone, anytime and anywhere. Social networks are the main trend for the new generation in the form of communication. Business and Banking also start to move towards online with the introduction of e-Commerce. E-Commerce is basically a method of modern business, which addresses the requirements of Business organizations. Broadly we can say that it is a process of selling or buying goods or services by using an electric medium. e-Commerce sites use electronic payments. Electronic payment system has received different acceptance level across the world. The e-payment transaction has given security, efficiency and certainty of payment to the customer. It also saves time, contains no risk and has flexible transaction. There are a lot of advantages of e-payments for the whole society. There is variety of ways of e-payments. Every type of e-payment is used (more and less) by customers according to their interest and suitability. Here, we purpose a mechanism for the selection of type of e-payment by applying one parametric uncertainty measures in intuitionistic fuzzy set theory. The whole process is based on the relation between various types of e-payments and factors affecting the convenience of customers. For the process, we use a case study with selected degree of membership function and degree of membership function and degree of nonmember ship function. The term π is also included.

Keywords: Intuitionistic fuzzy relations, Max-min-max approach, Types of e-payments, entropy

ICRTST-154

Geodetic Hop Domination Number in Join and Corona of Graphs

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Abstract:

A subset S of vertices in a connected graph G is called a geodetic hop dominating set of G if S is both a geodetic set and a hop dominating set of G. The minimum cardinality of a geodetic hop dominating set of G is its geodetic hop domination number and is denoted by γ_hg(G). In this paper we studied the concept of geodetic hop domination number in join and corona of graphs.

Key words: Geodetic hop domination number, hop domination number, join corona.

ICRTST-155

On the Number of Fuzzy Subgroups and Fuzzy Normal Subgroups of S2,S3 and A4

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Abstract:

To find the number of fuzzy subgroups of abelian and non -abelian groups is a good task for many authors. The number of fuzzy subgroups of any group is infinite without an equivalence relations. Therefore first we define an equivalence relation on the set of all fuzzy subgroups of a group G. Sulaiman and AbdGhafur defines such an equivalence relation for counting fuzzy subgroups of a group G. We will use this relation for counting fuzzy subgroups and fuzzy normal subgroups of S2,S3and A4. We find the total number of fuzzy subgroups of S2,S3 and A4 are

2,10 and 24 respectively. We also find the total number of Fuzzy normal subgroups of S2,S3 and A4 are 2,4 and 4 respectively.

Keywords: Fuzzy Subgroups,Fuzzy Normal Subgroups,Equivalence Relation,Chain,Subgroup Lattice,Symmetric Group, Alternating Group.

ICRTST-156

IMPACT OF WASTE MARBLE DUST AS RAW MIX COMPONENT ON MICROSTRUCTURE OF CLINKER PHASES

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Abstract:

Marble slurry/dust (MDW) is a waste generated by marble processing industries, which creates problem to environment as well as ecology. Chemically and mineralogically, MDW showed their compatibility to the cement system and could be a potential material in the manufacture of Portland clinker. In the present study different cement raw mixes were designed by replacing the conventional limestone with varying doses of MDW, in the range of 8.5% to 84.2% collected from different marble clusters. Designed raw mixes were maintaining clinker parameters with such as LSF, SM, AM and potential phases; tricalcium silicate-C3S, dicalcium silicate-C2S, tricalcium aluminate-C3A and tetra calcium alumina ferrite-C4AF comparable to conventional Portland clinker. Burnability study of raw mixes showed improved lime assimilation even at the temperature of 1350oC. The results showed that the addition of MDW has not only shown reduction in clinkerisation temperature but also showed development of fine grained Alite and Belite phases with and average grain sizes of 21-22 and 24-27 μm respectively, this might increase in the reactivity of clinker. Performance evaluation of ordinary Portland cement, prepared using about 84% MDW as raw material in the manufacture of Portland clinker, showed their conformity to Indian standard IS: 269-2015, specified for ordinary Portland cement.

Keywords: Marble dust, Limestone, Free lime, Clinker microstructure and granulometry.

ICRTST-157

Average Domination on Anti Fuzzy Graph

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Abstract:

In this paper, we introduce the average domination on anti fuzzy graph. Further, we investigate the exact value of average domination number for some standard anti fuzzy graphs. Also, establish the relationship between the average domination number and independent domination number on anti fuzzy graph with suitable example.

Keywords: Anti fuzzy graph, Domination, Average Domination, Independence number

AMS Subject Classification: 05C72.

ICRTST-158

BE FIT OR FAT

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Abstract:

Fitness has always been the centre of attraction for the people of all age group, starting from young ones to the older ones, from many ages. Being healthy helps our body to be fit and mold our body into proper shape and this idea inspired us to why not present something to you people through which you can shape your body in proper texture and remain fit by following the diet plan according to your body weight and also which is easy to access by everyone. The android fitness application have personalized workout plans as well as diet plans to be healthy or follow a healthy routine. This fitness application is designed to counterfeit a smart way to do exercises which one may perform varying to the masses of muscles to be healthy and fit. This Android fitness application is powered by Machine Learning and predicts the fat and muscle mass percentage of the individual over a long period of time if they follows a particular lifestyle which is stated in our application. This fitness app emerged like a machine which interacts with the humans in terms of health and exercise like what body type they want and respond them with the exercises accordingly.

Keywords – Clustering, Feasibility analysis, Segmentation TPB.

ICRTST-159

Cosine Similarity, Distance and Entropy Measures for Fuzzy Soft Matrices

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Abstract:

Imprecise data is effectively deal with fuzzy sets, soft sets, and fuzzy soft sets. Whereas matrix theory is an important tool in Mathematics that has a wide range of applications in research. Fuzzy soft matrices have widened the scope for application in various decision-making problems. Keeping this in mind, we define cosine similarity, distance and entropy measures for Fuzzy Soft Matrices (FSM). Some properties of cosine similarity, distance and entropy measures for fuzzy soft matrix have also been proved between two or more fuzzy soft matrices. In

addition, a decision-making algorithm is studied to solve decision-making problems under the FSM. In the medical field, a specific case study of the proposed similarity measure is studied. The application of the proposed entropy measure in the decision-making problem is also demonstrated.

Key words: Fuzzy Soft Matrices (FSM), Similarity measure, Distance measure, Entropy measure, Decision- making problem.

ICRTST-160

Convergence Analysis of Some Iterative Schemes

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Abstract:

The current paper establishes some new results for three step iterative schemes under contractive mappings for fixed point in Banach space. Also, the analysis of the rate of convergence is done for these iterative schemes with appropriate examples and the results are validated with the observations obtained by programming.

Keywords: Rate of Convergence, Fixed Point Iterations, Banach Space Contractive Mappings.

ICRTST-161

Molecular Docking, Synthesis and Anticancer Activity of Thiosemicarbazone Derivatives against MCF-7 Human Breast Cancer Cell Line.

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Abstract:

To synthesize, characterize and evaluate the anticancer activity of 2-hydroxybenzaldehyde and 4-hydroxybenzaldehyde thiosemicarbazone (2-HBTSc and 4-HBTSc) against MCF-7 breast cancer cell line.

Materials and methods: The ligands were prepared and characterized by IR and NMR. MTT assay was used to assess the viability of cells. RNA isolation, extraction, and c DNA synthesis were done. RT-q PCR for Gene expression and western blot for protein expression were done. Also, to determine the best binding mode of the tested compounds molecular docking was done. Two-way ANOVA with Tukey posthoc test was employed to test the significance using Graph Pad Prism.

Results: The IC50 values were 3.36µg/ml and 3.60µg/ml for 2-HBTSc and 4-HBTSc treated MCF-7 tumor cells respectively. Tumor cell growth inhibition ranged from 38 to 49.27% in 4-HBTSc treated cells, and 19 to 25% in 2-HBTSc treated cells with an increase in doses from 5 µg/ml to 20 µg/ml. The protein and gene expression result showed a significant up regulation in tumor suppressor and apoptosis-inducing genes while on cogene activity was significantly down regulated. Specifically, BRCA2 and pRB genes showed the highest expression in 4-HBTSc and 2-HBTSc treated cells respectively. Conversely, the RAS oncogene was down regulated significantly. Docking result showed that both 2-HBTSc and 4-HBTSc have the potential to inhibit Estrogen Receptor Alpha Ligand Binding Domain, Human 17-Beta-hydroxysteroid dehydrogenase type 1 mutant protein and Human Topoisomerase II alpha that are expressed more during Breast Cancer.

Conclusion: The findings of this study imply that the test compound has potential drug candidates for further study.

ICRTST-162

Mathematical Model for Estimating Flood Disaster Effect on a Population by using Differentia Equation

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Abstract:

Disaster management is very much needful topic for discussion. Disasters are mainly of two kinds manmade or natural, but their impact on human life are very much lethal. Natural disasters are earthquake; floods, hailstorm etc. and manmade disaster are pollution, war, terrorism, fires, power failure etc. The main objective of this study is to prepare a suitable mathematical model for estimating the effect of flood disaster on a population. India is one of amongst country which is suffering from many kind of natural and manmade disaster from time to time. Many state of India specially Uttrakhand, Bihar, Bengal etc. are facing natural disaster problems like earthquakes, sea storms, floods, landslide, hail storm, snow avalanches etc. it is very much essential that a proper system should exist in order to decrease the loss of human life as well as infrastructure.

Keywords- Population, Flood disaster, prone, Population size, Limits, Integration, Convergence, India.

ICRTST-163

Impact of Online Job Portal on Hiring Process

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Abstract:

Our product is an online Job Portal, a web application through which job seekers can register and apply for jobs. As we know finding jobs that best suits the interests and skill set is quite a challenging task for the job seekers. The difficulties arise from not having proper knowledge on the organization's objective, their work culture and current job openings. In addition, finding the right candidate with desired qualifications to fill their current job openings is an important task for the recruiters of any organization. Therefore, we came up with an application which will allow the person to apply for a job in the company for the interested vacancy which would be available at the company and there are various filter available for user to reduce time like user can filter the job according to there need like salary wise.

Keywords—Job portal, job seekers, candidate.

ICRTST-164

STATISTICAL ANALYSIS OF COVID 19 WAVES IN NAVI MUMBAI MUNICIPAL CORPORATION AREA AND PREDICTION OF THIRD WAVE

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Abstract:

Navi Mumbai Municipal Corporation is established in 1991 with Government order dated December 17, 1991. NMMC came in to existence on January 1, 1992. The researcher compiled the data published by the corporation regarding the COVID-19 spread in the corporation area from 6th April 2020 to 31st May 2021. The researcher has analyzed the data on the basis of Number of tests done, daily positive, negative cases, recoveries and deaths. An attempt has been made to predict the third wave of COVID-19 spread in the area by establishing a non-linear relationship between the days and positive cases. This may help the authorities to prepare for the third wave of COVID-19 pandemic possibly occurs from August 2021.

KEYWORDS: Pandemic, COVID-19, Positive Cases, Pandemic Wave, Regression, Forecasting.

ICRTST-165

An Introduction to Numerical Methods to Solve Differential Equations of First Order and First Degree

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Abstract:

In this paper, differential equations, initial value problems, boundary value problems and different numerical methods to solve them are introduced. After that, contributions of numerical methods and their preference in various fields are explored. Then some numerical methods to solve differential equations are discussed. After that, different numerical methods have been compared according to their accuracy and rate of convergence.

Keywords: Differential equations; Numerical methods; Successive Approximations.

ICRTST-166

Credit Card Fraud Detection System using Machine Learning Techniques and Data Science

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Abstract:

Technical advancement has created a world of infinite possibilities. Numerous advanced systems have been made in different fields. In respect to the financial transaction, credit card is one such advancement which has made transactions easy and simple. But criminal minded people have been attempting to find loopholes in the system and exploit the credit card details of others for their own benefit. An efficient credit card fraud detection system is needed to combat with these frauds. However, there are several challenges to detect credit card fraud as in real life the fraud transactions are not of the same nature and also very less compared to the genuine transactions. The most challenging problem is the class imbalance. To detect credit card fraud, a number of machine-learning algorithms can be used. This study demonstrates two distinct algorithms for determining whether or not a transaction is valid. The experiment made use of Kaggle's Credit Card Fraud Detection dataset. The SMOTE technique is used to solve the highly unbalanced dataset. In the experiment, the Logistic Regression and Random Forest algorithms are used. According to the findings, both algorithms can be used to identify credit card fraud with high accuracy.

Key Words-Credit Card Fraud, Machine learning, synthetic minority oversampling technique (SMOTE), Logistic Regression, Random Forest.

ICRTST-167

Emotion Recognition and Depression Detection

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Abstract:

Emotion detection systems are based on facial gesture action that allows real-time analysis, marking, and real-time capture of face-to-face video recordings. It is thought that facial expressions discourses are caused by the moment when the emotion encounters it, so the discovery of emotions can be achieved by finding the related facial expression. Of all the six major emotions present, depression plays a key role. Depression is considered a disorder of the mind. It can be defined as feelings of sadness, anger, or loss that interfere with one's daily activities. People deal with depression in different ways. In some cases, stress may be fatal. To avoid all of this, depression should be treated promptly and the victim should be treated with appropriate medications. The purpose of the project is to detect depression using real time video of user. This is achieved through Convolutional Neural Networks [CNN] model followed by DSM-5 questionnaire. If the symptoms are diagnosed as depression, then they should be treated early. As the symptoms worsen, the mental capacity of the person emerges from the control that leads to the disorder. If emotion is analyzed as depression, then some mood uplifting recommendations are given and help the user get out of this mood.

Keyword: Artificial Intelligence, Machine Learning, Emotion Recognition, Depression, Convolutional Neural Networks, FER, Tkinter.

ICRTST-168

(∈, ∈∨qκ)-anti-intuitionistic Fuzzy Soft b-ideals in BCK/BCI-Algebras

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Abstract:

In BCK/BCI algebra, the concept of an anti-intuitionistic fuzzy soft b-ideal (AIFSBI) is discussed. A set of conditions is provided for an anti-intuitionistic fuzzy soft b-ideal to be an anti-intuitionistic fuzzy soft ideal (AIFSI). The definition of quasi-coincidence of an intuitionistic fuzzy soft point with an intuitionistic fuzzy soft set (IFSS) is considered in a more general form. Characterizations of $(\in, \in \vee q\kappa)$-AIFSBI are discussed using the concept of an AIFSBI with thresholds. Finally, conditions are given for a $(\in, \in \vee q\kappa)$-AIFSBI to be a $(\in, \in)$-AIFSBI.

Key words: BCK/BCI-algebra, Intuitionistic fuzzy soft set, Anti-intuitionistic fuzzy soft b-ideal, $(\in\in \vee q\kappa)$-anti-intuitionistic fuzzy soft b-ideal.

ICRTST-169

Book-hub (An online book Application)

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Abstract:

Reading is the one of the most efficient way of gaining abundant knowledge only if you are ready to take it on. In today's highly scheduled life bombarded with meetings, assignments,

projects it's really difficult to take some time out for books, especially when you don't possess much or aren't so much into reading. As fetching a book personally from a book store can be a lot of work, taking into account the mere time that people are left with after a hectic day at work and the jampacked streets they go through on their way back home. With the advent of mobile phone era and the frequent use of them to perform everyday task makes it a really integral part of modern-day life. Therefore, we as group decided to develop an application which would provide a list of books of various genres and help them re-imbibe the practice of reading a book which has taken a back seat over the years with availability of many other applications to pass one's time.

Keywords: Android application.

ICRTST- 170

Classes of Estimators for Estimation of Ratio of two Population Means under non-response Using Mean and Rank of the Auxiliary Variable

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Abstract:

In this research article, classes of estimators have been suggested for estimating the ratio of two population means under non-response by utilizing mean and rank of the auxiliary variable. The bias and mean square error of suggested classes of estimators have been calculated by conventional method. Conditions to get minimum mean square error have been derived and value of minimum square error has been calculated. Comparisons of efficiency of suggested classes of estimator with relevant existing estimators have been made theoretically and proved empirically.

Keywords: Ratio of two means, auxiliary, mean, rank.

ICRTST- 171

INFLUENCE OF YOGIC INTERVENTION ON ADJUSTMENT LEVEL OF WORKING WOMEN

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Abstract:

Adjustment for a working woman is a process by which she maintains balance between her needs and the circumstances that influences the satisfaction in her life. A sequence of adjustment begins when a need is felt and ends when it is satisfied. Practice of Yoga helps in bringing harmony in the life. Research done in the area of psychological problems and their management through yoga provides a background to conduct a study to observe the effect of yogic practices on the adjustment level of the working women. The study was conducted over 100 working women in the area of Sivagangai District. They were further divided into two groups (50 experimental and 50 Controls). The study duration was of three months. A set of Asana Pranayama and Meditative was given to the experimental group and the result was compared with control group. A significant change has the result was compared with control group. A significant change has been observed at adjustment level between experimental and control group. It can be concluded that practices of Yoga improves the adjustment level in the working women if practiced regularly and systematically.

Key words: Asana, Pranayama, Meditation and Adjustment.

ICRTST-172

A Robust Novel Hemo Group Detector modelling using MicroElectronicsPSoC Embedded System

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Abstract:

A novel idea that enables the detection of blood group by anyone, anytime, anywhere, including the physically impaired, using a personal portable smart robust tactile handheld biomedical electronic gadget without drawing blood is presented. The research uses biomedical optical sensors - an optical near infrared point light sources, high fidelity sensors and the processor is a high speed and also planned to transmit result to cell phone processor for information. Detecting and notifying the user about blood group. The antigens positive type or negative type are rich with proteins , we should be smart enough to transmit the wavelength and find the operating frequency of the protein and code classifiers with well-trained network for validation which makes gadget itself to act like an intelligent sensor when in analysis mode. It also utilizes other architectural features of microcontroller at PSoC integrated with MEMS level design included battery, display and audio unit for the cited purpose. The research application and adopts optimized energy saving algorithms such as adaptive sampling and lossless data compression, which makes it consume negligible power from the power source battery for processing sensor signals. Concepts of sensor Processing, Signal Processing are used for checking genuineness of blood group detected medical standards. According to a recent survey, detection of blood group for aged, younger kids and victims met with accident finds difficult to inject vein with fluids or medicine .My research product counter measures all these issues. All the measures taken at present, aims at stopping the life killing emergency procedures during medical emergency .The scheme presented provides a cost-effective, easy-to-use, energy efficient detection of blood group at “individual level”. It benefits all sections of society and will indeed curb the medical emergency process at nurse level to a remarkable amount and hence can reduce the medical time to appreciable amount. Since the proposed scheme works on portable battery and uses low power consumption techniques for processing, approximately 45% of energy can be saved when compared with the currently available standalone detection units which mostly work on medical hospital.

Key words:MEMS,ADAPTIVE SAMPLING, MICROELECTRONICS, OPTICAL SENSOR TECHNOLOGY, PSOC.

ICRTST-173

Stresses caused by vertical dip-slip fault embedded in an isotropic half-space joined perfectly with an orthotropic half-space

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Abstract:

In this paper, analytic expressions for stresses caused by a vertical dip-slip fault embedded in a homogeneous, isotropic, perfectly elastic half-space joined perfectly (welded) with a homogeneous, orthotropic, perfectly elastic half-space are obtained. Results are numerically discussed with the help of 2-D graphs and 3-D mesh grids using dimensionless approach.

Keywords: Stress vertical, dip-slip, fault isotropic, orthotropic, dimensionless

ICRTST-174

Glance Enlightening Scrutiny of Big Data Exploration in unpredictable Universal Technological Scenario

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Abstract:

The present time is the data time in global technological scenario where extensive volume of information in Exabyte is rising each day. Big Data is a system to deal with the voluminous unstructured, semi organized and organized information in more productive and orderly way. This paper is about the security of Relational Database assurance and security structures, to go

about as an outline of how web application security can be arranged and realized for express Database Authorization. In this paper, we review the Big Data Analytics and security of Relational Database Security. This investigation was directed to recognize the issues and threats in Relational Database insurance security, essentials of Big Data security, and how Big data and Database Relations is used at different levels to give the security.

KEYWORDS: Big Data Analytics, Database Security, Encryption estimation, Visualization

ICRTST-175

The Edge-to-edge Geodetic Edge Chromatic Number of a Graph

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Abstract:

A set S ⊆E(G) is called an edge-to-edge geodetic edge chromatic set of G if S is both an edge-to-edge geodetic set and edge chromatic set. The minimum cardinality of its edge-to-edge geodetic edge chromatic sets of G is called edge-to-edge geodetic edge chromatic number of a graph G and is denoted by χ_egee(G). Any edge-to-edge geodetic edge chromatic set of order χ_egee(G) is called χ_egee-set of G. Some general properties satisfied by this concept are studied. Connected graphs of size m with edge-to-edge geodetic edge chromatic number 2 or m or m - 1 are characterized.

Keywords: edge-to-edge geodetic edge chromatic number, edge-to-edge geodetic number, edge chromatic number, geodetic number.

AMS Subject Classification: 05C12.

ICRTST-176

Antimicrobial Activity of Nanoparticles: A Review

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Abstract:

Metal nanoparticles have been employed for antimicrobial purposes since the dawn of time. Metal nanoparticles have gotten a lot of interest as the need for nanotechnology has grown due to their wide range of applications. Physical, chemical, and biological methods can be used to produce nanoparticles. Chemical and biological methods are preferred as they possess great efficiency, low production costs, and environmental friendliness. Precursors, reducing agents, and stabilizers can all be used in the chemical production of nanoparticles. Fungi, bacteria, yeast, plant components, and plant extracts are all used in biological methods. Researchers have turned their attention towards inorganic disinfectants due to the toxicity of organic chemicals. Although silver is thought to have the best antibacterial activity, other inorganic metals such as ZnO, CuO, Gold, and TiO2 have also attracted researcher's attention. Microorganisms are microscopic living organisms that are found all over the world. Bacteria, fungi and yeast are the most common microorganisms. Antibacterial capabilities of nanoparticles have been discovered for both Gram-positive and Gram-negative microorganisms. Metal nanoparticles antibacterial and antifungal mechanisms involve the production of metal ions that damage the intracellular membrane, causing reactive oxygen species (ROS), and then intrude the bacterial cell membrane, damaging bacterial DNA, and causing cell death. The efficiency of the antimicrobial action of nanoparticles depends on the shape and size of the particle. This review focus on the literature, advancement in antimicrobial action of nanoparticle, the antibacterial activity of nanoparticles, the action of nanoparticles on microbes and commercial applications of metal nanoparticles are all explored in this paper.

Keywords: Metal nanoparticles, Microbes, Biological synthesis, Metal oxide

ICRTST-177

Deep Learning Techniques for Extracting Dental Features and Classification

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Abstract:

Dental diseases are spread across the globe affecting both infants to adults. Amongst all diseases, dental caries and dental periodontitis are the most prevalent ones. Proper diagnosis of Dental Images has some difficulties as compared to other medical images. Deep convolutional neural networks (CNNs) are a rapidly emerging new area of medical research, and have yielded impressive results in diagnosis and prediction in the fields of radiology and pathology. The objective of this study was to design a deep learning-based artificial intelligence (AI) model to detect the dental caries and periodontitis from Dental RVG (RadioVisioGraphy) images. For this purpose, a database of nearly 500 Dental RVG images is collected which included enamel caries, dentin caries, pulpitis, mild periodontitis, moderate periodontitis and severe periodontitis. The features are extracted using SURF feature extraction and for classification purpose a pre-trained model of CNN Resnet 101 is used. The hamming score for this model obtained is 0.6.

Keywords: Dental Diseases, Caries, Periodontitis, RVG Images, Resnet 101

ICRTST-178

AN ANALYSIS OF PREDATOR-PREY MODEL FOR ITS GLOBAL STABILITY WITH MICHAELIS MENTEN PREDATION

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Abstract:

In this paper, we aim to study the global stability behavior of a predator-prey system with prey refuge. The infected prey with linear transmission of disease within its species competes for food with the susceptible one but does not contribute to the growth of the prey population. The predator following Michaelis Menten type functional response is divided into two categories as Juvenile and mature. The young predator depends on its parents for their food which are specialized in choosing only the healthy prey . Considering these factors, the system of differential equations is analyzed for its global stability property at the four equilibrium points by constructing appropriate Lyapunov function. Numerical simulations are done to verify the analytical results.

Key words : Global stability, Michaelis Menten, Stage structure, Refuge.

ICRTST-179

Trans fatty acids in partially hydrogenated vegitable oil

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Abstract:

Fatty acids are the most common type of lipid in the human diet, and they are mostly found in nature as glycerol esters that form triacylglycerols. Fatty acids contain cis unsaturation in both the plant and animal kingdoms having hydrogens attached on the same side of double bonded carbons. The hydrogens are coupled to un saturations in another potential form, called trans.

Trans fatty acids (TFA) are fatty acids that have a trans configuration, having hydrogen atom on other side of double bond. In this study TFA content of different varieties of Vanaspati sample is studied. Fatty acid profile is of different vanaspati were studied by many researchers and here we are studied the trans fatty acid contents of different types of vanaspati sample. Fatty acid profiling of Vanaspati samples was done by Gas chromatography. The trans fatty acid (elaidic acid) level ranged from 5.9 to 30.0 %, according to the fatty acid analysis on GC. TFA levels in Vanaspati samples were much higher, ranging from 14.2 to 34.3 %. TFA amounts in shortenings ranged from 7.3 to 31.7 %. TFA levels in hard-type Table Margarines ranged from 1.6 to 23.1 %, whereas TFA levels in soft Table Margarines were less than 4.1 %.

Keywords: Trans Fatty acid, Vanaspati, Table Margarine, Elaidic acid, MUFA, PUFA.

ICRTST-180

HAZARDUS EFFECT ON HUMAN HEALTH BY IMPROPER DISPOSAL OF E-WASTE

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Abstract:

E-Waste is informal name for Electronic products nearing the complete useful life. The electronic products contains the number of heavy metals (Americium, Arsenic, Beryllium, Cadmium, Chromium, Lead, Lithium, Mercury, Selenium) of excess quantity present in the Environment by improper disposal of E-Waste and gives their hazardous effect on Human Health. This paper highlights the Hazardous effects of heavy metals on Human Health by improper disposal of E-Waste.

KEYWORDS:- Effect of heavy elements, human health, improper disposal of E-Waste.

ICRTST-181

Role of Palm Oil & Its Impact on Different Sectors

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Abstract:

From last so many years, there's great rise in demand of PO industry as demands for food, cosmetic, and hygienic products increasing day by day. As a result, there's great expandation in cultivation of the PO making it globally the prime source of oil & fats. Nowadays PO is majorly produced in Southeast Asia as Malaysia does the largest production and export of PO. PO is having an excess of 50 million tonnes of world annual production which makes it the prime oil produced. PO nearly provides one-fifth of the global production of oils and fats. Around 85% of worldwide PO produced is used in food applications. PO is widely used as basic cooking oil in many countries, but it is often used in a number of industries. Ingredients derived from PO and palm kernel oil can be used in about half of all grocery store products, including both food and non-food items.(1),(2) Apart from PO, the industry produces a large amount of waste which is recycled in producing bio-fuel. Many things are more are under development to turn PO and PO wastes into biofuel, looking at the requirement for finding sustainable & green energies options.(3)It is important to consider the evolving state of the market and technical advances in order to better improve these innovations. There are some health issues are supposed to be being related with PO as well as due to use of PO in different sectors, Environmentalist's are concerned about the high oil yield has promoted b roader production, led to the clearance of forests .It also led to air pollution, soil pollution, water pollutions ,conflicts over land & social agendas. The objective of this paper is to give a review of the PO industry, study existing technologies for processing PO and PO wastes into bio -fuel & to find out the obstacles which must addressed for additional progress.

Keywords:PO-Palm Oil TAG- Triacylglycerol
CPO-Crude Palm Oil
FFB -Fresh fruit bunches RBDPO - Refined Bleached and Deodorized Palm Oil

OPT-Oil Palm trunk PKS-Palm kernel shells

OPF-oil palm frond MF-Mesocarp fruit fibre

IUCN- International Union for Conservation of Nature WHO- World Health Organization

PO°-Palm Olein

LDL-Low Density lipoprotein

HDL-High density lipoprotein LCA-Life Cycle Anlysis

PKO-Palm kernel oil FFA-Free Fatty Acid.

ICRTST-182

STUDY ON PRIME GRACEFUL LABELING FOR SOME GRAPHS

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Abstract:

In this paper, we discuss the concept of Prime Graceful Labeling introduced by Selvarajan.T.M & Subramoniam.R motivates us to extend the existence of Prime Graceful Labeling for some graphs such as Pan Graph, Helm Graph & Triangular Snake Graph and also generalize the cardinality of the edges for Triangular Snake Graphs.

Keywords: Prime Graceful Labeling, Pan Graph, Helm Graph, Triangular Snake Graph and cardinality of the edges.

ICRTST-183

The Forcing Star Chromatic Number of a Graph

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Abstract:

Let S be a χs -set of G. A subset $T \subseteq S$ is said to be a forcing subset for S if S is the unique χs -set containing T. The forcing star chromatic number $f\chi s$ (S) of S in G is the minimum cardinality of a forcing subset for S. The forcing star chromatic number $f\chi s$ (G) of G is the smallest forcing number of all χs - sets of G. Some general properties satisfied by this concept are studied. The forcing star chromatic number of some standard graphs are determined. Connected graphs of order $n \geq 2$ star chromatic number 0 or 1 or (G) are characterized.

Keywords: forcing star chromatic number, star chromatic number, chromatic number.

AMS Subject Classification: 05C15.

ICRTST-184

Optimal sizing of standalone microgrid system

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Abstract:

This paper focuses on the minimization of overall cost (installation plus annual maintenance cost) of hybrid standalone system using the advantages of geo inspired optimization techniques and mathematical modeling of considered energy sources (PV, wind, battery and diesel generator) of the system. The system operation is managed in such a way that the system can harvest maximum amount of energy from renewable sources and the diesel generators are utilized in the case when renewable sources are failed to meet the load demand. The analysis is carried out by considering Gaussian distributed hourly load demand. The monte-Carlo simulation is carried out in order to verify the system robustness with derived optimal number of renewable sources considering the uncertainties of wind speed and solar irradiation over the period. Finally, a plot of probability of failure vs unmet load is generated using the software MATLAB in order to support the results of monte-Carlo simulation.

Keywords- mathematical modelling, Geo inspired optimization, monte-Carlo simulation, probability of failure

ICRTST-185

Convergence results for fixed point of multivalued monexpansive mappings in sequence space

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Abstract:

The aim of this research article is to prove the existence of fixed points and to establish some convergence and approximation results for the fixed points of multivalued nonexpansive mappings for bounded sets in sequence space. In the end, we provide two numerical examples to establish our results.

Keywords: Multivalued nonexpansive mappings, Fixed point, Sequence space.

2010 MSC: 46B45, 47H09, 47H10 .

ICRTST-186

Synthesis and Portrayal of Impurities Of An Anthelmintic Drug, Albendazole

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Abstract:

The control of drug contaminations is right now a basic intention to the drug business. The Internation Conference on Harmonization has defined a functional rule with respect to the control of impurities. Albendazole is an expansive range of parasiticidal drug. Albendazole impurity A ,Albendazole Impurity B (Albendazole Sulfoxide), Albendazole Impurity C and Albendazole impurity D are metabolic impurities or degradation while contamination E and pollutant F are measure related debasements. Albendazole meddles with the multiplication and

endurance of helminths by hindering the arrangement of microtubules from tubulin. This prompts a debilitated take-up of glucose, a consumption of glycogen stores, and results in the worm's passing. Albendazole is utilized in the treatment of canine and pork tapeworm-causing sicknesses, including hydatid infection and neurocysticercosis. An all around acknowledged certainty is that a few contaminations are unavoidable and will be available in follow sums subsequently ICH comes into picture and through its rules and strategies sets up as far as possible, assessment and control of debasements. The administrative bodies and medication advancement specialists admire these rules for dispatching a quality medication into the market. Approval of insightful interaction for contamination distinguishing proof is performed to set up the pollutant profile of any medication substance. Albendazole may likewise be utilized to treat an assortment of other roundworm contaminations. (NCI05)

Keywords: Albendazole,Active pharmaceutical ingredients, International Conference on Harmonization (ICH), . Impurities, Gastrointestinal tract (GI tract).

ICRTST-187

Synthesis of TiO2 and Graphene oxide

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Abstract:

Graphene oxide (GO) films with two-dimensional plan were adequately masterminded through the changed Hummer procedure. It is exhibited that redox procedure is a promising strategy to incorporate GO films for a gigantic degree. Sweeping depictions of the properties of GO films were driven.TEM and DFM assessments showed that GO sheets orchestrated in this examination had single and twofold lamellar layer structure and a thickness of 2∼3 nm. X-bar diffraction (XRD) was picked to measure the diamond plan of GO sheet. Fourier-change infrared spectra analyzer (FT-IR) was used to ensure the presence of oxygen-containing helpful social events in GO films. The preliminary of UV-VIS spectrometer and TGA analyzer showed that GO sheet had dumbfounding optical response and surprising warm relentlessness. Characteristic analyzer

(EA) and X-pillar photoelectron spectroscope (XPS) inspected the parts designed material. Meanwhile, substance development of GO sheet was depicted in this assessment. Discussion and references for extra investigation on graphene are given. A progression of titania nanoparticles was effectively integrated by means of sol gel strategy utilizing titanium tetraisopropoxide as an antecedent. In this paper, information concerning the impact of pH towards the advancement of TiO2 nanoparticles is accounted for. The examples were portrayed by x-beam diffraction (XRD) and Scanning Electron Microscopy (SEM). XRD results showed the presence of nanocrystalline anatase stages with crystallite size going from 7-14 nm. Surface morphological examinations get from SEM micrograph showed the particles with rodlike shape are rutile while the round shapes are anatase in nature. It was likewise discovered the pH of the arrangement influence the agglomeration of the particles. A consequence of photocatalytic considers displays that Titania powder arranged at pH 9 has a fantastic photocatalytic action with corruption 74.7% inside an hour.

ICRTST-188

DEVELOPMENT OF POLYMERIC MEMBRANES FOR DIVERSE APPLICATIONS

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Abstract:

A film is an interphase between two nearby stages going about as a specific hindrance, directing the vehicle of substance between the two compartments. The layer innovations are quick creating and bleeding edge division advances that could be widely utilized in natural remediation, environmentally friendly power energy, food, synthetic and drug areas. In any event, when fired, metal and fluid films are increasing more significance, most of layers is and will be produced using strong polymers. Layers can likewise be utilized as supports or layouts for the arrangement of novel layers with a selectivity controlled by polymeric materials. Two unique kinds of

business films near such an ideal structure are as of now accessible, track-scratched polymer 4 and anodically oxidized alumina layers. The cycle includes two fundamental advances:

(I) the light with quickened hefty particles, and

(II) A controlled synthetic scratching of the debased areas

(III) The boundary structure of films can be ordered by their permeable character. Dynamic improvement is likewise worried about the mix of nonporous or permeable films with extra partition components, and the most significant ones are electrochemical possibilities and fondness coperations

Keywords: Layer, Films, polymer

ICRTST-189

Assessment of diet and physical activity pattern using Lawton Daily Activity Scale in Geriatric population, aged 60-70 years in Central India

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Abstract:

Geriatric population, being a vulnerable age group, can be seen dealing with high risk of deficiencies and metabolic changes. Major changes seen are, changes in eating behavior which creates an impact on the palatability, food choice, social features, as well as psychological factors of the person leading to anorexia (a common and frequent change) that lowers the recommended dietary intake/daily requirements. The purpose of this study was to analyze the association between the diet and physical activity in geriatric population aged 60-70 years.This purposive analysis included 100 samples of both male (n=55) and female (n= 45) gender. The dietary habits of all participants were assessed using a food frequency questionnaire (FFQ) and 24 hour dietary recall. The cognitive and physical function of the elderly was evaluated using The Lawton Instrumental Activities of Daily Living Scale (Lawton IADL Scale), using online and telephonic mode.

Results: The evaluation of nutrient intake was found to have a significant correlation with physical exercise of the active participants (n=77) which included dairy products (p=0.05), green

leafy vegetables (p=0.024), other vegetales (p=0.022), root vegetables (p=0.018), fruits (p=0.047) and sugar (p=0.003). However, the optimum daily requirement of nutrients (energy, protein, calcium and vitamin C) was determined to be inadequate.

Conclusions: Recommended dietary requirements can be beneficial in performing physical exercises to reduce the risk of frailty and the risk of comorbidities by including certain daily physical activities. These findings are beneficial in adopting an active lifestyle.

Keywords: Nutrient intake, Geriatric population, Physical activity, Lawton Activity Scale.

ICRTST-190

Analytical study on factors affecting MapReduce performance in Cloud-Based Environment

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Abstract:

In the current era, global data has been rising at a very high speed due to the proliferation of technologies including Cloud and IoT. It leads to the development of Big Data that can handle and analyze a vast amount of data regularly. Cloud computing provides a reliable, available, and scalable environment for the processing of this huge data. MapReduce has become a popular computing model for processing and generating huge data sets on a cluster of machines. It allows distributed processing along with important features like flexibility, scalability, load balancing, fault tolerance, etc. Despite these advantages, this framework performance gets affected by multiple factors existing in the Cloud-based environment such as Indexing, Data skew, Joining, Caching, Input data parsing, Data size (input data, shuffle data, and output data), Input data storage, the I/O mode (Direct I/O, Streaming I/O) and Load Balancing. Hence the main objective of this paper is to identify these factors to resolve its performance issues and uncover the less explore areas. The paper is divided into four major sections: the first section describes the

concepts and features of the MapReduce programming framework. It also explains the description of the MapReduce architecture and its open- source implementation, Apache Hadoop. The second section describes the factors affecting MapReduce performance in the Cloud- based environment. The third section provides a comprehensive review of the literature. Finally, the fourth section explains the conclusions drawn from the work done so far on these factors. It helps in identifying the areas where further research can be advanced.

Keywords— Bigdata, MapReduce, Hadoop, HDFS, Cloud computing.

ICRTST-191

EFFECT OF PHYSICAL ACTIVITY ON OBESITY IN MALES AGED BETWEEN 35-55 YEARS IN MUMBAI

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Abstract:

Obesity is the fastest developing public health problems due to sedentary lifestyle, unhealthy food choices and low physical activity. The present study suggest that regular exercise plays a crucial role in the prevention of weight gain and successful maintenance of weight loss. The objective of this study is to determine the effect of physical activity on obesity and to provide a complete assessment of the role of effect of exercise in the prevention and treatment of obesity. The study was conducted within the Mumbai Metropolitan city. The study group consisted of subjects between 35-55 years from the heterogeneous population. The subjects were selected through purposive convenience sampling. Sample size included in the study were 100 participants. The data was collected with the help of a well-structured online questionnaire designed for this study. Background data, Data related to physical activity and lifestyle patterns were collected for the study. Data was analyzed and results showed that physical activity in the form of exercise or yoga was effective for obesity control by improving anthropometric and

psychological parameters such as weight, percentage body fat, level of cholesterol. Thus, the study concluded that there exists a positive relation of physical activity on obesity in males.

Keywords: Obesity, exercise, yoga, weight loss, cholesterol, body fat, sedentary, physical activity.

ICRTST-192

Effect of Nutritional Intervention on Dietary Pattern in Adolescents (13-19 Years) in a Mumbai Urban Community

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Abstract:

Humans are facing major shifts in dietary patterns and physical activity which contribute to their body composition and changes in body structure, these changes are paralleled to changes in health status, demographic and socio-economic status. Adolescents' lifestyles have altered dramatically as a result of increased urbanization, rendering them more vulnerable to noncommunicable illnesses. As a result, there is a clear need to monitor the severity of these risk factors in this age group and design relevant, realistic, and effective intervention approaches to improve quality of life. Objective: To compare the dietary pattern with the follow-up taken before and after the Nutritional Educational Program. Methodology: 61 adolescents between 13-19 years were selected from Mumbai using purposive sampling method. Data was collected using a web based Semi- qualitative Food Frequency Questionnaire (FFQ) method. Nutrition educational program was imparted on the participants after every 15 days for 5 months. Statistical analysis was performed by using SPSS software. The data evaluate the dietary patterns. Results: It was shown that 30% of the participants usually skipped breakfast and mid-morning meals. Following the NEP, there was a considerable decrease in the frequency of

breakfast being skipped. More than 50% consumed roots and tubers everyday than other vegetables. Majority of the adolescents followed non-vegetarian diet. Further, 35% consumed egg frequently in a week and 40% consumed chicken once a week. The participants did not consume complex carbohydrates in their diet except whole wheat as per the data. It was observed that most of the participants (50%) used to consume sugary products once a week and fried food products fortnightly. A significant difference was seen in the consumption of fried foods and sugary products (p value < 0.005). The current study findings revealed that adolescents were encouraged to improve their food pattern and behavior following the nutrition program.

Key words: dietary pattern, breakfast, simple carbohydrates, fried food, nutrition program.

ICRTST-193

Assessment of protein intake in females aged 20-40 years of Muslim Community

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Abstract:

Background data: The covid-19 pandemic led to an enforcement of lockdown throughout the country which led to closure of supply of non-vegetarian foods, thereby, reduced availability to consumers.

Results: The data collected showed that non-vegetarian foods were not available during lockdown while some feared consuming Non-vegetarian foods due to Covid-19 which further led to sudden decrease in the consumption of chicken, meat and fish consumption (p=0.001). Also minimal decrease in the consumption of eggs during lockdown was noted as compared to before lockdown period. There was also increased consumption of protein source vegetarian foods such as pulses, legumes, milk and milk products during the lockdown period (p= 0.002) although nuts and oilseeds consumption decreased. The Body Mass Index (BMI) of participants were also improved during the lockdown period (p=0.306). The sudden decrease in high biological value protein rich foods consumption developed health problems in participants such as joint pain, muscle pain, fatigue, skin problems, hair fall, depression, eye and bone related issues and

decreased immunity. Also decreased haemoglobin levels, Vitamin B12 deficiency, Iron deficiency, Calcium and Vitamin D deficiency were reported. Thus, total protein intake was decreased during the lockdown period.

Conclusion: Awareness must be created among participants about protein rich vegetarian sources and the ways to increase its bioavailability so as to mitigate health issues.

ICRTST -194

Web Crawler: An Integrated Tool for Efficient Web Searching

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Abstract:

World Wide Web is a plentiful source of information. Popularity and easy availability of internet makes it a preferable choice to access required information in simple clicks. Faster browsing imposes a big pressure on search engine to dig out needed data from giant web; hence searching meaningful and relevant data from millions of web pages is most challenging task for search engine. One important component of search engine is web crawler also known as web robot, its prime task is to search the URLs and it uses different web crawling algorithms to search them. Web contains documents, audio, animations and unrelated data and often searched result is less applicable to users due to wide size of web. It is expected from web surfers that search engine will find relevant web content in minimum span of time. Web crawler is an integrated component of search engine that browse web in an automated manner. It uses different crawling strategies for the accessing web. Web crawling has gained marvelous worth and directly associated with the considerable development and success of search engine. In this review paper a detailed overview of web crawler, its development and different crawling approaches are discussed.

Key words: Crawling Algorithm, Web Crawler, Search Engine, URL, World Wide Web.

ICRTST-195

Survey on energy efficient cluster based routing protocols for Wireless Sensor Networks

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Abstract:

Wireless sensor networks has presently momentous consideration due to their endless impending and has great value of applications such as not narrowly connected environmental monitoring and target tracking. Recently many researchers have contributed their work in designing energy efficient routing protocols to the desired network operations. Currently many research works have been contributed to enhance the performance of clustering technique by optimizing heuristic algorithm to improve energy efficiency. This paper focuses on analyzing different energy efficient cluster based routing protocols and their issues related to network lifetime and connectivity.

Keywords - Wireless Sensor Network, Clustering, Optimization, Routing I. INTROD

ICRTST-196

Secure Hybrid Encryption Scheme Based on SPN and Feistal Structures

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Abstract:

A hybrid encryption scheme based on SPN and Feistel structures is proposed. In his algorithm, Addround and Subbyte round functions are introduced to achieve high resistivity of encryption against cryptanalytic attacks. The round functions of AES are modified by considering block size 3X3 bytes instead of 4x4 bytes. The input to the algorithm after Addround and Subbyte round functions is divided into two equal halves. Then the Addround function is applied on each half part of input plaintext, in order to make 3x3 block plaintext. The Add function is used in each round to make 3x3 bytes block during encryption and the last byte is deleted in each round before getting final round output. The challenge is to get back the byte element which is to be added in each round during decryption. A mathematical logic is formulated to get back the byte element for each round. The cryptographic strength of proposed encryption scheme is analysed with respect to avalanche criterion, randomness tests, and cryptanalytic complexity. It is seen that the proposed hybrid encryption scheme possesses similar cryptographic characteristics and has high cryptanalytic complexity.

Keywords: Information security, Encryption, Block cipher, Avalanche criterion, Randomness, Cryptanalytic complexity.

ICRTST-197

Analysis a Securable Virtual Student's Feedback System to Prevent the Unethical Comments

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Abstract:

This Student's Feedback System allows the students to give feedback for their faculties in a virtual manner. In this digital era, where everything is handled online, we have created this system so that students can give feedback by simply filling an online feedback form. Moreover, it is easy to manage large amounts of data and the system is more secure. Besides, we have included an offensive language detection that prevents the use of unethical languages in comments. Hence, the teachers can improve their teaching skills by examining the feedbacks and

it saves the complex task of collecting, reviewing, and maintaining the feedbacks manually. This paper implements using various technologies in a real-life project and furthermore, it used the MD5 algorithm for securing the system.

Keywords—Virtual, Feedback, System, Language, Security.

ICRTST-198

Stock Market Prediction

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Abstract:

Stock trading is one of the most important practices in the financial world. The act of attempting to forecast the future value of a stock or other financial instrument traded on a financial exchange is known as a stock market prediction. The majority of stockbrokers use technical and fundamental analysis, as well as time series analysis when making stock predictions. Python is the programming language used to use machine learning to forecast the stock market. In this project, we propose a Machine Learning (ML) method that will be trained using publicly accessible stock data to obtain intelligence, and then use that intelligence to make an accurate prediction. The project focuses on the use of Regression and LSTM based Machine learning to predict stock values. Factors considered are open, close, low, high, and volume.

Keyword:- Stock market analysis, linear regression, Recurrent neural network, LSTM, Future graph

CONSUMER'S PERCEPTION OF ELECTRIC FOUR-WHEELER VEHICLES IN TELUGU STATES

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Abstract:

Background: - With the current depletion of fossil fuels and its price hike, there is a need for alternative energy resources to run the vehicle. The automobile sector is considering Electric Vehicles as a solution to the industry and environment in Telugu states. However, the current market consumption of EV is relatively low in spite of governments implementing EV policies. Through this paper potential scope of Electric vehicles in Telugu will be studied and Consumer perception for the same will be analysed. The main objective of this study is potential scope of Electric vehicles in Telugu states will be studied and Consumer perception for the same will be analysed. Design: Research study is target group oriented, online data collection through Google form. Online survey was conducted (n=153) using a structured questionnaire with multiple-choice questions. Statistical analysis used: Descriptive statistics, data visualization through Ms-Excel, Chi-square test through python. Results: Responses of the survey have indicated that 83.66% of the respondents know about electric vehicles, 28.10% of the respondents reveal that electric vehicles will be more costly than vehicles that are available today in the market, 33.99% of respondents reveal that electric vehicles are not costly and the remaining respondents have no idea about this cost. 37.25% of respondents have a chance to own an electric vehicle based on the contemporary situation.

Keywords: Electric Vehicles, Chi-square, Consumers, Perception, Government.

ICRTST-200

AN OPTIMAL SOLUTION OF NANOGONAL FUZZY ASSIGNMENT PROBLEM USING AVERAGE RANKING METHOD

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Abstract:

Assignment problem is a subclass of transportation problem. Fuzzy assignment problem is an assignment problem in which the cost (time) is considered as a fuzzy numbers. In this paper a new ranking method is proposed for ranking the nanogonal fuzzy numbers. The optimal solution of the nanogonal fuzzy assignment problem is obtained with the help of proposed ranking method which is compared with existing solution.

Keywords: Average ranking method, Existing ranking method, Nanogonal fuzzy number,

ICRTST-201

IMPACT OF COVID 19 PANDEMIC ON FINTECH AND FINANCIAL INCLUSION IN INDIA

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Abstract:

The pandemic of Covid 19 has impacted every walk of the life in a great way. This research study seeks to investigate how this pandemic has impacted the FinTech sector and resultantly the status of financial inclusion in India. Our study is descriptive and analytical in nature and based

on secondary data. The data has been collected from RBI's website, Global FinTech reports, FinTech and financial inclusion company's' reports, articles, blogs, and other scholastic journals. The result shows that this pandemic has impacted the FinTech sectors and the financial inclusion positively. We found that pandemic has helped the individuals and organizations to use more of financial services with the help of the technology. The magnitude of using FinTech services has increased at an unprecedented rate and newer types of services are used more under this segment. As FinTech is a tool to bring people, under the ambit of financial services the level of financial inclusion has also increased. The findings of the study may help policymakers and FinTech companies to work on the indicators, which may increase the business of FinTech companies, financial services and, percentage of financial inclusion in India.

KEYWORDS- FinTech, Covid-19, Coronavirus, Financial Inclusion, Contactless Payments, Technology, Financial Transactions

ICRTST-202

Analysis of Anti-Diabetic Drugs using different Analytical Techniques

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Abstract:

Anti-diabetic drugs are used to cure diabetes mellitus. It is a type of metabolic disorder caused by increased sugar level in the blood. There are two types of diabetes mellitus i.e. Type 1 diabetes mellitus in which body does not produce insulin and Type 2 diabetes mellitus in which body is unable to use insulin properly for transfer of glucose. For the analysis of such anti-diabetic drugs, different analytical techniques have been used such as UV visible spectroscopy, High Performance Liquid Chromatography (HPLC), High Pressure Thin Layer Chromatography (HPTLC) and Infrared spectroscopy (IR). In this review, analysis of some antidiabetic drugs like Metformin Hydrochloride, Voglibose, Pioglitazone, Repaglinide and Rosiglitazone using the above analytical techniques has been discussed. In this report I have mainly focused on the analysis of Anti-diabetic drugs by HPlC, UV visible spectroscopy, FTIR techniques.

KEYWORDS: anti-diabetic drugs, analysis, techniques.

ICRTST-203

The Total Open Detour Monophonic Number of a Graph

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Abstract:

A set $M \subseteq V$ is called a total open detour monophonic set of G if $[M]$ contains no isolated vertices. The minimum cardinality of a total open detour monophonic set of G is called the total open detour monophonic number of G. Any total open detour monophonic set of cardinality (G) is called an$odmt$ -set of G. In this paper we determined the total open detour monophonic number of some standard and obtain some results.

Keywords: detour number, monophonic number, open detour monophonic number, total open detour monophonic number.

AMS Subject Classification: 05C38

ICRTST-204

FORMULATION AND EVALUATION OF PROLONGED RELEASE TABLET MELATONIN

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Abstract:

Melatonin is a hormonal drug introduced into the market for the treatment of insomnia and for jet lag, for adjusting sleep-wake cycles in people whose daily work schedule changes (shift-work disorder), and for helping people establish a day and night cycle. It has a hypnotic / sedative effect and increases propensity for sleep. As melatonin belongs to endogenous hormone therefore there was a need for the development of new drug delivery system; which will improve the therapeutic efficacy and safety of drugs by more precise, spatial and temporal placement within the body thereby reducing both the size and number of doses & improve patient compliance. Therefore, the development of prolong release-based tablet was undertaken to produce an extended release dosage form of melatonin, since this dosage forms is relatively better when compared to other. Different batches of melatonin tablets were manufactured by different compression technique and evaluated for Pharmacopoeial and non-Pharmacopoeial specifications. Dissolution testing was done for various formulated batches and formulation F5 gave optimum results. Polymer used in this formulation was HPC, Eudragit RSPO type 2.. The results of dissolution studies were compared with that of the innovator and formulation showed similar results comparable to the Innovator product. Stability testing was carried out at 400C ± 2 0C/75% ± 5% and 250C ± 20C/ 60% ± 5% and indicated that the product was stable. The developed F5 showed nearly similar results comparable to the Innovator product.

Keywords: Melatonin, insomnia, prolonged release tablets, Dissolution testing etc.

ICRTST-205

Study of Relationship between Eigenvalue & Connectivity of Graph with help of Laplacian Matrix

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Abstract:

The matrix of a graph is a non-pictorial representation of a graph. This raises the natural question. What is the highly developed theory of a graph of Matrix. The eigenvalue of the matrix is one such concept. In the area of research, people attempt to find out to what extent the eigenvalue of a graph reflects the properties of the graph. In this investigation, we will develop some tools to understand the relationship between eigenvalue and connectivity of graph with help of the Laplacian matrix. Further, we will discuss the multiplicity of eigenvalue. Then we will show that for a connected graph the algebraic multiplicity of eigenvalue. At last, we will be using the adjacency matrix of a graph and study to count the number of simple paths in a given graph.

ICRTST-206

Degree Boundaries and Model of Coin Splitting System in Anti Fuzzy Graph

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Abstract:

The objective of this paper is to analyze the nature of effective edges in anti fuzzy graph and its complement. This investigation computes the boundaries of minimum and maximum effective degree of vertices in anti fuzzy graph. A necessary and sufficient condition is proved for a vertex in anti fuzzy graph is incident with effective edges are to be an isolated vertex in its complement graph for ($n \geq 1$). An application of effective edges in coin splitting system is evaluated through complete anti fuzzy graph. More over this paper compares the order and size of anti fuzzy graph with its complementary graph to attain the inequality relationship.

Keywords: Anti Fuzzy Graph (AFG), minimum and maximum degree, Order, Size, Effective edge, Complement Anti Fuzzy Graph (CAFG), Complete AFG (Kn).

ICRTST-207

Mathematical Model on Diabetic system With the Effects on Meal Disturbance -Simulation Study

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Abstract:

Bio-medical signal processing has grown rapidly, and that is the extent of the research and the subsequent use of the relevant fields. Diabetes mellitus research is one of the largest segments within this region, which has been studied for several decades. One of the most important functions of the pancreas is to regulate the concentration of glucose in the blood by releasing enzymes to the diet. A theoretical analysis was performed in order to monitor the blood sugar levels in patients with diabetes and is a ready-to-use, simple mathematical model, the dynamics, the interaction of glucose and insulin in the bloodstream. In this article, the focus, with the objective to regulate and manage the concentration of glucose and insulin in the blood of diabetic patients. The model was modified to allow for a period of time, referring to the exogenous insulin infusion. With this model, and, with the help of MATLAB / Simulink to develop, implement, and the feedback is closed, the feedback system that controls and manages your blood sugar levels. This system resembles the artificial pancreas in the day-in and day-out. A long and arduous series of experiments with diabetes have been carried out, and the results of their analysis have been carried out based on the medical parameters. The results showed a

significant regulation and supervision of the delivery of glucose and insulin in the blood. This is why we are quite confident that we are making a contribution to this field of research.

Keywords—Diabetes, Glucose-insulin regulatory system ,meal disturbance , Matlab Simulink.

ICRTST-208

IMPLEMENTATION OF HYBRID WIND AND SOLAR ENERGY SYSTEM FOR ELECTRICAL LOADS

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Abstract:

Photo Voltaic energy and wind energy are mostly used abundantly as a renewable energy source by different countries. These vigorously avails several advantages and has a little limitation due to the instability of energy. The main purpose of this is to order and occur the power flow of the specified hybrid system using two energy sources (PV and wind). The initial contribution of this work is represented by the use of an ANN (Artificial Neural Network) controller to produce the maximum power point at defined atmospheric situations. The second criteria are represented by optimization of the given system with respect to real-time constraints for increase of generating system performance. For the above result, the simulation and thus implementation of the given algorithm are skilled using MATLAB/SIMULINK and a (XSG) Xilinx System Generator. The results of simulation confirm the system which is considered represents execution of real time acceptable performance and precision. The designed model and the control strategy of proposed system to give the opportunity to optimize the performance of hybrid power system, of what is used in rural pumping and various electrical loads.

KEYWORDS: PV, Wind turbine system, Artificial Neural Network controller, MPPT.

ICRTST-209

Assessment of Eating Habits during COVID- 19 Lockdown in Adults Aged 40 - 60 Years in Gujarati Population

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Abstract:

On March 11, 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic. The aim of the study was to determine the impact of eating habitsduring lockdown. The main objective of the study was to compare if there wasany correlation between eating habits and weight changes during lockdown. It was an observational study in which data was gathered using an online questionnaire (G-forms). A food frequency questionnaire (FFQ) was used to analyze eating habits. FFQ was developed as per the guidelines given by Food and Agriculture Organization (FAO) /WHO Global Individual Food Consumption (GIFT) food groups and sub-groups. Weight assessment of participants was done using a string test guidelines given by Dr. Margaret Ashwell in 2015. The study included 100 participants, both male and female, from the Gujarati population, and those residing in Mumbai. IBM-SPSS version 20.0 was used to analyze the data. 65% of participants reported being overweight, 10% being underweight and 25% being in the normal weight category during lockdown. The participants included consumption of all food groups such as cereals, pulses, dairy products, vegetables, fruits, nuts and oilseeds, beverages, sweet and confectionary, snacks and farsan and immunity boosting foods. No significant correlation was found between eating habits and change in participant's weight (> 0.581).

Keywords:COVID-19 pandemic, eating habits dietary habits.

ICRTST-210

Effect of Yoga & Meditation on Stress measured by Perceived Stress Scale in Women between 40 – 60 years

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Abstract:

The psychological impact of the COVID-19 pandemic is of utmost concern. In today's times, emotional and mental health is at stake. Mental stress can cause severe disorders if not managed well. Women in the age group of 40 – 60 years undergo a transition from middle adulthood to old age, menopause, and are more vulnerable to stress. Hence, the study aimed to determine the effect of yoga and meditation on stress and wellness in women. 100 women between 40 to 60 years were selected as subjects by purposive sampling. 50 women who practiced meditation or yoga were included in the experimental group. 50 women who did not practice meditation were considered as the control group. Data was collected through a Google Form Survey. A questionnaire was used to assess the lifestyle pattern of the subjects. Cohen's Perceived Stress Scale was used to measure the extent of stress in the participant's life. Statistical analysis was done using one way ANOVA and t–test. It was found that subjects who did not practice meditation or yoga had higher stress levels as compared to those who practiced meditation or yoga ($p=0.045$). Lifestyle patterns such as sleep duration showed a statistically significant effect on stress ($p=0.048$). An increase in the stress levels was observed with prolonged sleep hours. A significant effect of meditation and yoga on stress and wellness in women was observed in the study. The results also suggested that there was a positive correlation between sleep duration and stress levels.

Keywords: Stress, meditation, yoga, lifestyle, health

ICRTST-211

A review study on stability of cosmetic products

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Abstract:

For any cosmetic product to be accepted and approved, stability tests ensuring product quality, safety, and efficacy over the shelf life are essential. The shelflife prediction plays an essential part in the formulation of all dosage forms of cosmetics goods, as well as identifying the proper storage conditions and providing label recommendations. The shelf-life forecast is an important aspect of the manufacturing process. It also creates cosmetics in all dosage forms, which are utilised to identify the appropriate storage conditions. The ability of a formulation to maintain its physical, chemical, microbiological, toxicological, therapeutic, and informational criteria in a certain container/closure system is known as stability of cosmetics. These cosmetics adhere to the guidelines established by the International Conference on Harmonization (ICH), the Food and Drug Administration (FDA), the World Health Organization (WHO), or other agencies. The need to regularly monitor the quality and purity of cosmetic goods led to the development of various stability test methods. The major goal of this research is to determine the self-life of cosmetics.

Keywords: Chemical analysis, Durability, Product safety, Self-life, Stress.

ICRTST-212

STUDY OF RELIABILITY MEASURES OFSYSTEM CONSISTING OF TWO SUBSYSTEMS IN SERIES USING LINEAR DIFFERENTIAL EQUATION

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Abstract:

In this paper we study a complex system which consists of two subsystems in a series configuration. The subsystem 1 consists of two identical units in parallel configuration and subsystem 2 has one unit which is connected to subsystem 1 in series configuration. All failure

rates and repair rates are assumed to follow exponential distribution. Linear differential equations are used for the statistical analysis of the system to calculate various measures of reliability such as Mean time to system failure "MTSF" and Steady state availability of the systemA(∞). Some particular cases have been evaluated by taking different values of failure rates. Effect of failure rate on Mean time to system failure and Steady-State availability have also been discussed graphically and consequently, conclusion have been done.

Keywords: Reliability, Steady -State Availability,Linear differential equation ,Mean time to system failure(MTSF).

ICRTST-213

EFFECT OF CHANGES IN THE DIETARY PATTERNS AMONG ATHLETES DURING COVID-19 PANDEMIC

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Abstract:

The ongoing global pandemic brought about by Coronavirus II (SARS-CoV-2 or COVID-19) has caused an ongoing cessation of sporting competitions and training facility closures, posing fundamental challenge for amateur and elite sporting professional. The research conducted consisted of questions in a differential format, with questions related to responses "before" and "during" confinement conditions. Food & Supplement consumption (macronutrient & micronutrient), snacks between meals, and intake of junk food were consumed more consciously during confinement, with alcohol binge drinking decreasing significantly. The COVID-19 home confinement had a negative effect on all Physical Activity (PA) & training intensity levels (vigorous, moderate, walking and overall); thereby changing the dietary intake in accordance with the changed regime during pandemic (54.4 %). Results indicate direct relationship between change in the dietary patterns altering the training regime & vice versa. Significant levels of

stress have been observed among the athletes regarding their performance due to the compromise in their training regime as a result of the ongoing global pandemic (39.9%).

Key words: Pandemic, Athletes, Confinement, Food, Supplements, Physical Activity,

ICRTST-214

Solution of Linear Fractional Programming Problem by Fourier-Motzkin Elimination Technique

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Abstract:

In this research paper, a new approach to find the optimal solution of linear fractional programming problem (LFPP) is proposed, which is based upon the concept of bounds. The proposed approach is computationally more efficient and easy to understand as compared to the traditional simplex method. An illustration has been given at the end.

Keywords: Linear fractional programming problem, optimal solution, inequalities, FourierMotzkin elimination technique.

ICRTST-215

A Role of IOT in Environment Monitoring: A review of Covid19 impacts on environment

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Abstract:

Internet Of Things technologies are able to monitor and give information about the environmental conditions. Researchers can easily track the different parameters, affecting environment and can control the situation. Environment is getting polluted day by day because of many reasons. Air pollution, water pollution and radiation pollution are major challenges to face by the environment. Contamination in real environment can be find and measured by IOT tools and techniques. This paper will provide a review on these factors which affect the environment badly and different IOT based sensor systems which can alarm us before getting too late. IOT can contribute in preparing guidelines of a country to minimize the pollution. Suitable monitoring is necessary for sustainable growth for any country. This paper also enlightens the positive and negative impacts of Covid19 on environment.

Keywords: Internet Of Things (IOT), Pandemic, Covid 19.

ICRTST-216

On the Convergence and Stability of AP Iteration Process in CAT(0) Spaces

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Abstract:

In this paper, we use the AP iteration method in the context of CAT(0) space to approximate fixed points for contraction maps. We also show that our iteration process is faster than the leading Picard-S iteration process for contraction map to demonstrate the proposed algorithm's convergence behaviour. To support the analytic proofs, numerical examples are given. Furthermore, we demonstarte that the AP iteration method is T-stable.

2010 AMS Subject Classification: 47H10, 54H25, 54E50.

Keywords:CAT(0) space, Iteration process, Stability

ICRTST-217

MULTI-OBJECTIVE OPTIMIZATION ASPECTS FOR RETROFITTING OF A CHEMICAL PROCESS PLANT

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Abstract:

Multi-objective optimization is an area of multiple criteria decisions that involve one or more objective functions to be optimized. It is an important method to solve two or more conflicting objectives. Retrofitting designs are considered to make any process efficient and economical. Retrofit designs make changes or additions to the existing plant in order to achieve expanded or more economical operation. It implies a change to the structure of the flowsheet or some equipment or sometimes even technology to increase profitability, economics, conversion of feedstock, improve operability of the process and reduce the impact on the environment. In this study, MDEA with Piperazine based gas sweetening process that involves purifying natural gas feedstock is optimized. This process involves purifying the natural gas from H2S and CO2. It is observed that the retrofit based aspects on chemical engineering processes and the method of multi-objective optimization complementing it. Several objective functions such as profit before tax, Net profit, ROI, % hydrocarbon recovery. % CO2 removal, % H2S removal, damage index etc. can be considered to optimize the plant. Decision variables include the feed gas pressure, feed gas temperature, lean amine temperature, Amine concentration in recycle (Piperazine) etc. Promax based modelled was designed and that is linked with Excel Visual Basic where NSGA-II algorithm. Two-objective functions were selected with maximization and minimization criteria. Profit before tax must be maximized along with % CO2 removal maximization. Finally two objective optimization problems are solved and discussed.

Keywords: Multi-objective optimization, Retrofitting, NSGA-II, Promax, Natural Gas sweetening.

ICRTST-218

A Note on Contra Multifunctions in Nano Topology

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Abstract:

The notion of multifunction plays a vital role in general topology and it is also different from continuous function since it is defined from a point to a set. That is, inverse image of open set need not be open in continuous multifunction. The intention of this paper is to introduce and study various notions of continuous mappings interms of multifunctions in nano topological spaces. Further we have also characterised some of its propeties in nano topological space. We have also proved that the restricted multi function in both domain and codomain is upper(lower)N -contra continuous and N -contra continuous in nano topological spaces. We have also concluded the extended multifunction in codomain need not be upper(lower)N -contra continuous and N -contra continuous in nano topological space. Moreover the introduction of contra continuous multifunctions in nano topological space paves us a way to prove the well known result namely Pasting Lemma. Finally we have developed a model by considering the vaccine facts for preventing corona virus.

Keywords:upper(lower)N -semi continuous, N -semi continuous, upper(lower)N -contra continuous, N -contra continuous, upper(lower)N - clopen continuous, Pasting Lemma.

ICRTST-219

A Review of Development in Reliability Analysing Techniques

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Abstract:

Reliability of any system has got the attention of engineers and researchers as no one like to use an unreliable product. The advancement of technology and demand of market has increased the complexity of system. Due to which a lot of work has been reported in this direction. Increase in complexity of reliability models has motivated the researchers to use advance tool and techniques to solve their model and obtain expressions for various reliability parameters like RAM, MTTF, MTBF, Variance of time to failure etc. So, in this paper authors have tried to review the different techniques (like SVT, BFT, RPT, ANN, Genetic Algorithm, Fuzzy logic, Swarm optimization etc) used in reliability modelling and a comparative analysis has been done to identify merits and demerits of these techniques used.

Key Words: SVT, BFT, RPT, ANN, Swarm optimization, Fuzzy logic, RAM, MTTF

ICRTST-220

COVID-19: Forecasting Models for Districts in Tamilnadu

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Abstract:

The research is conducted based on the primary data available on the data portal which is gathered from different sources of the Government and the Private. There have been several efforts for analyzing and predicting future Covid-19 cases based on primary data. The present study is based on an inferential methodology which is one of the most widely used Data Science techniques in the study of events like Covid-19 Time Series Analysis. Analysing & predicting the Covid-19 cases in upcoming months utilizing SIR, ARIMA models and Forecasting. The implementation of the proposed approach is demonstrated on real-time data of districts in Tamilnadu. The current work serves to be of great importance in the prediction of the COVID-19 crisis in dayto-day life.

Keywords: Corona virus, SIR model, ARIMA, Moving average (MA), Forecasting, Time Series.

ICRTST-221

Coloring of SVN (ζ, η, θ)−cut graphs

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Abstract:

The SVN chromatic number and chromatic index of a SVN graph are described as SVN numbers in this paper using the (ζ, η, θ)- cuts of the SVN graph, which are crisp graphs. We use examples to explain these concepts.

Keyword: SVN (ζ, η, θ)-cut; r-SVN vertex coloring;r-SVN edge coloring; SVN chromatic number.

ICRTST-222

Invariant point theorems with PPF dependence for some contractions

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Abstract:

In this paper, some results are concerning the existence and uniqueness of invariant point with PPF dependence of a non linear mapping for θ − φ contraction and θ − φ Suzuki contraction in the complete metric space and setting of complete metric spaces. The new feature of this work is that the domain and range space of operator are not identical in question. The results provided in this research are on PPF dependent invariant points which are broaden and expand invariant

point results by Mohamed Jleli and Bassem Samet and Dingwei Zheng, Zhangyong Cai and Pei Wang.

Key words: Invariant point, Invariant point with PPF dependence,Existence and uniqueness, Complete metric space.

ICRTST-223

A class of all Constacyclic codes over Z5 + vZ5

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Abstract:

In the present paper, we study the structure of all constacyclic codes over Z5 +νZ5, where ν 2 = ν and establish relations to codes over Z5 by defining the Gray Map that is from considered ring to Z 2 5 where, Z5 is the field with 5 elements. Generators of such constacyclic codes for an arbitrary length are also determined. Also, some examples of constacyclic codes are cited in the paper.

2010 AMS Classification: 94B05, 94B15.

Keywords and phrases: Negacyclic codes, Gray map, Linear codes, Constacyclic codes.

ICRTST- 224

A Comparative Study of Gallium Arsenide and Gallium Nitride Semiconductors for Power and Optoelectronics Devices

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Abstract:

The advancement in technology in semiconductor materials significantly contributed in improvement of human life by bringing breakthrough in fabrication of optoelectronics and power devices which have wide applications in medicine and communication. The Gallium Arsenide (GaAs) and Gallium Nitride (GaN) are versatile materials for such applications but with relative merits and demerits. GaAs transistors are suitable for both narrowband and wideband applications due to very wide operating frequency range (30 MHz to millimetre-wave frequencies as high as 250 GHz). They are highly sensitive, generate very little internal noise and have power density typically around 1.5 W/mm. But low break down voltage (5x105V/cm), low output power (5-10W) and inability to withstand higher temperatures are the main limitations. On the other hand, GaN possess the improved physical and chemical characteristics, with high output power, high operating temperature (1000oC in vacuum), fast heat dissipation, high breakdown voltage (4x106V/cm), high power density (5-12W/mm), high frequency characteristics and large band gap (3.4eV) which allow significant reduction of devise size. Also high breakdown voltage increases the overall impedance which make it suitable in matching process and enables efficient operation in broad band region. The present paper critically analyses the GaAs and GaN semiconductors in relation to their significant physical and chemical properties, which make them suitable to make efficient power and optoelectronics devices for applications in communication, space and medicine.

Key words: GaAs, GaN, Band gap, Power devices, Optoelectronics

ICRTST-225

A Real Time Intelligent Application for Facemask detection and Notifying using Deep Learning

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Abstract:

An infection named Coronavirus is one among the group of infections that causes disease in creatures and people. Explicitly in people, prior a few infections assaulted that restrained respiratory contaminations are going from the regular virus to more serious sicknesses like the Middle East Respiratory Syndrome (MERS) and severe acute respiratory syndrome (SARS). The most recently originated Coronavirus has caused lots of deaths in and around the globe. This coronavirus disease, COVID-19, is clearly stated to be a dangerous disease if the attacked human has long-lasting diseases like diabetes, heart problems, kidney problems, lung failures, etc. Hence, it is finally concluded as pandemic disease. Ad-hoc, sensor networks, IoT-based, mobile networks became helpful in many critical applications like health checkups, traffic monitoring, disease surveillance, civilian monitoring, environment monitoring, etc. Efficiency has been a significant concern to monitor to introduce certain restrictions like mass gatherings, people movement in public places, less human interaction, etc. Wearing a face mask and social separating are the two improved wellbeing conventions choose by WHO to forestall the spread of the infection. Thus, to inculcate and implement the standard guidelines, the organizations are considered. We propose an efficient computer vision-based FMDN (Face Mask Detection and Notification) approach focused on real-time automated monitoring of people to detect face masks in working environments. The employees are monitored against their regular activity and detect violations captured through web cameras. Current profound learning calculations by utilizing the PyTorch library are utilized to recognize face masks that cover three parts: recognition, following, and approval. In this manner, the proposed framework FMDN favours general public by saving time and helps in bringing down the spread of covid. Thus, the proposed system FMDN favor's society by saving time and helps in lowering the spread of Coronavirus. It may be carried out successfully in current circumstances when lockdown isn't executed to assess in open social events, shopping centers, and so on. This work examines a bunch of video transfers/pictures to recognize people who are consistent with the public authority rule of wearing clinical masks. If a person is detected with no mask, it immediately sends an alert message to the administrator or higher officials, including the Individual to notify of wearing masks.

Keywords: Computer vision, Deep learning, face mask, pandemic, Pytorch, web camera.

ICRTST-226

OPTIMIZATION ASPECTS TOWARDS IMPROVEMENT IN BIOCHEMICAL PROCESS

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Abstract: This study presents the use of differential evolution algorithm for single and multi-objective optimization of the fermentation production processes of three industrial important bio-products, namely Astaxanthin, Lactic acid and Lysine. Differential evolution (DE) algorithm is used in validating the kinetic models, estimating the kinetic parameters and obtaining the optimal control of batch and fed batch fermentations of such production processes. In Astaxanthin production study, two different specific growth rates, substrate and product inhibition, and substrate saturation and product inhibition, are evaluated in order to determine the biochemical reaction kinetics corresponding to the optimum kinetic parameters using batch models. Coefficient of determination (R2) is used to check the model fitting with the obtained optimization data and experimental data in batch mode. Improved kinetic parameters are obtained and are reported. In Lactic acid production study, DE algorithm is used in the validation of the kinetic models of batch and fed batch fermentations of Lactic acid production. In fed batch fermentations, different feeding strategies such as exponential, modified exponential and feed forward controlled are tested. Improved kinetic constants for both fermentations are found by minimizing the least square error between the experimental data and the results of the simulated model. DE successfully improves the optimization results of batch fermentation bioreactor.

Keywords: Optimization, Biochemical Process, Astraxanthin, Differential Evolution

ICRTST-227

Some Improved Criteria for Oscillation of Second-Order Difference Equations with Neutral Arguments

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Abstract : In this paper, we discuss the oscillatory behavior of quasilinear second order neutral difference equation $\Delta(b(n)(\Delta(u(n) + c(n))u(n - z))\alpha) + f(n)u\ \beta\ (n - \sigma) = 0$. By delivering new monotone prosperities of its nonoscillatory solutions and use then for linearization of studied equations which lead to oscillation criteria. Examples are provided to show the applicability and novelly of the obtained criteria.

2020 AMS Subject Classification: 39A10
Keywords and Phrases: Second-order neutral, linearization oscillatory.

ICRTST-228
Cricket Score Forecasting using Neural Networks

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Abstract:
Today, Sports is not what it used to be a decade ago. Technologies like Machine Learning and Artificial Intelligence have dominated it. Now there are sensors in all types of sports equipment like cricket bats, stumps, flannels, etc., which analyse the data and provide analytics, which may or may not be helpful, but we, as spectators, thoroughly enjoy the game. The terms such as Cric-Science (Cricket + Data Science) and Cricket Analytics are the fruit of ML/AI. In the last decade alone, cricket has witnessed many changes, such as the addition of a new format like T10, which is yet to be recognised by ICC, along with the introduction of many other international leagues such as IPL, BBL, PSL, CPL, apart from the widely recognised formats like Test Match, One day International and T20. With so much cricket played, the data generated is also massive. But even with these technological advancements, run rate is conventionally used to predict a team's score in the upcoming overs. So, in this research paper, we aim to predict a team's score using Neural Network by using the data from past balls.
Keywords— Cricket analytics, Cricket Score Prediction, LSTM, Neural Network, Sports Analytics, RNN, Cricket Score Forecasting

ICRTST-229

Difference created by External effect (Input and output) on Groundwater infiltration phenomenon in horizontal direction by differential transform method

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Abstract:
The nonlinear problem that arises in the phenomenon of infiltration with External effect (Input or output) in unsaturated soil is addressed in this paper. In unsaturated soil, the infiltration phenomenon with External effect (Input and output) is defined by a second ordered partial differential equation, which gives the soil moisture content under suitable conditions. The moisture content was determined and can be analysed using the Differential transform method. We used the Differential Transform method to investigate groundwater infiltration with an external effect (Input and output). The analysis, as well as its numerical and graphical representation, are also discussed. We used MATLAB for this.

Keywords- Moisture content, Differential Transform Method, Infiltration phenomenon, MATLAB, Non-linear partial differential equation, External effect (Input and output)

ICRTST-230

Morphological and Electrochemical Behavior of Green-TiO_2 Nanoparticles for Supercapacitor Applications

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Abstract:

The 3D nanostructured TiO_2nanoparticles are successfully synthesized by an ecofriendly green synthesis method and annealed at 500 ºC. The microstructural, optical and electrochemical

properties of annealed TiO_2 nanoparticles are studied. The XRD data exhibited (110) predominant orientation peak at $2\theta = 28.1°$ corresponding to tetragonal structure of $TiO_2$with $P4_2/mnm$ space group and an estimated crystallite size of 15 nm. The FESEM analysis reveals that the annealed sample consists of 3D flower like nanostructure with an average grain size of 200 nm. The vibrational studies from Raman and FTIR measurements are confirmed the presence of Ti-O bonding. The optical band gap of annealed TiO_2 nanoparticles are examined using UV-vis spectroscopy and found to be 3.05 eV. The electrochemical behavior of annealed TiO_2 nanoparticles exhibited high specific capacitance of 257 Fg^{-1} at a scan rate of 10 mV s^{-1} in 3M KOH aqueous electrolyte with 80% of capacitive retention after 2000 cycles, indicates that the annealed TiO_2electrode holds a good electrochemical stability and capacitance retention capability. The results suggest that the annealed TiO_2 nanoparticles are the better electrode in 3M KOH electrolyte for supercapacitor applications.

Keywords: TiO_2 nanoparticles, green synthesis, HRTEM, KOH, specific capacitance.

ICRTST-231

Green Synthesis and Characterization of Zinc Oxide Nanoparticles and Anticancer Activity Against on Human (A341) Skin Cancer Cells

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Abstarct:

Globally different researches have been conducted to find the best therapy for different cancer types to kill this disease. However, these research findings are still with limitations of toxicity to the normal cell

lines. In this study, we have synthesized zinc oxide nanoparticles (ZnONPs) from prunus nepalensis fruit extract and elucidated its activity against MCF-7 human cancer cell line. Nanoparticles have been characterized with UV-Vis spectroscopy, SEM, and XRD analysis methods. Anticancer activity of ZnONPs was determined by QTR - PCR and MTT Assay against MCF-7 cell line. ZnONPs have shown significant inhibition of cancerous cells in both tests. 56.4% of cancer cell line inhibition was confirmed at 100µg/mL at 48 hours. ZnONPs have shown significant cancer cell inhibition than the standard drug (Doxorubicin) ($P<0.001$). Hence it can be further examined for therapeutic options to treat different cancer cells.

Keywords: Green synthesis, Zinc oxide, Nanoparticles, Cancer,Cell viability, Gene expression.

ICRTST-232

To Study the Various Methodologies Involved in Powder Coating Technology

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Abstract

Many ingredients in powder coating technology plays an important role. So, the study of the testing is a very essential stage in paint industries. The paint is used in large number of day-today products such as coolers, freezers, washers, microwaves, architectural products, lawn and as garden tools in fact they are also used in anti- corrosion valves like drill pipes, valves and fixtures and used many things. Out of all the above-mentioned techniques, extruder and grinding mill are the most important steps in paint industries and plants. And moreover, analysis of various pigments is also important as it is a very crucial constituent of paints that imparts colors to paints. The thermoplastic resin in these powders e.g. polyethylene used very much. Pigment is used to give color there are two types pigments used in paint industries organic and inorganic pigments. Epoxy powder used to cover pipelines, posts and columns just as to cover steel rebars utilized in high burden - bearing substantial design. Hardener is one in every of the foremost necessary ingredients of powder formula the hardener is chargeable for the solidification of the powder and dictates. Polyester is that the most typically used powders and supply unbelievable incentive for money. The two most typically used forms of polyester powder TGIC and non-TGIC. Powder covering could be a top-notch end found on large number of items you are free contact with day by day. Powder covering ensures the harshest, hardest apparatus moreover on the grounds that the home things you depend on day by day. Comparatively these polymers provide an additional durability better than any other liquid paints and still has the capacity of providing a beautiful finish. Powder coated products provides an additional proof which results in reduction in coating quality and also has adverse effects on the moisture content, chemicals ultraviolet absorption strength and there is an alternate climatic condition. There is an additional advantage that it reduces the chances of scratches, chipping, abrasions, corrosions, fading and alternative wear problems.

Keywords: Powder coating, Thermosetting coating, Epoxy powder, Acrylic powder, Polyester powder, Hardener, Resin, Additives, Color and extender, Extruder, Grinding mill, TGIC-Triglycidyl isocyanurate.

ICRTST-233

Securing Artificial Intelligence Applications using Protector Hiding

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Abstract: - Artificial Intelligence (AI) has a vast extent of advancement, and researchers are continuously working on the development scope of AI instruments. AI is associated with the existing research and has the area of the incoming research topics. AS the name AI suggests, some intelligence, insight appeared by the machines to work as people and work on accomplishing the objectives they are being furnished. Another utilization of AI could be to provide safeguards against the present day's cyber threats. AI explains some intelligence theoretically, but inside the implementation, it too contains a lot of code that must be secure from intruders. The technologies used to implement the AI code must be protected. Several types of research have been done, like a default defence system, etc., but that system is still not so secure. The authors of this paper propose a term called "Protector Hiding" as an alternative for securing Artificial Intelligence.

Keywords: Cyber Security, Artificial intelligence, Protector hiding

ICIRTST-334

A System of coupled hybrid nonlinear functional differential equation with fractional order in Banach algebras

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Abstract :

In this paper to prove the existence solution for coupled system of nonlinear hybrid functional differential equation in fractional order in Banach algebras along with the locally attractivity and extremal solutions under the Lipchitz conditions.

Key words: Coupled fixed point, Fractional derivatives, existence solutions, extremal solutions, and Lipschtiz conditions.

ICRTST-235

Kinematic Analysis and Real Time Control of NBC Sample Collection Manipulator

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Abstract:

This paper describes the modelling and real-time control of a Nuclear, Biological, and Chemical sample collection manipulator. In this work, the manipulator has three links shoulder Arm, Middle Arm, and Fore Arm and the end effector which is a Linear gripper. The manipulator is designed in such a way that it has to pick a crucible from the turret, scoop the sample, and place it back in the turret. Therefore, it has six individual actions to collect the samples. The mechanical modelling was carried out to verify the kinematics of the manipulator. The obtained kinematic analysis helps to find the angle of rotation of each actuator for real-time positioning. This manipulator is mainly designed to collect samples from dexterous areas. The actuation of each joint is done using Stepper Motor and Brushless DC Motor. The GUI is developed so that the user can control the manipulator from the control station wirelessly.

Keywords—manipulator; dexterous task; control; modeling; graphical user interface