The ICFAI Foundation for Higher Education (IFHE),

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Proceedings of National Conference on "Advances and Innovation in Applied Sciences and Humanities" on 6th December, 2021

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Dr. J. Mahender Reddy
Vice-Chancellor, ICFAI Foundation for Higher Education

Message from the Vice-Chancellor

Greetings!

It is with great pleasure that I welcome you to the ICFAI Foundation for Higher Education (IFHE) declared as a Deemed-to-be University established under section 3 of the UGC Act, 1956.

IFHE is a premier Educational Institution in Telangana State which is accredited by NAAC with 'A' grade. It is dedicated to the cause of teaching and research of global standards. It offers B.Sc, B.Tech, B.Arch, M.Tech, BBA, BBA-LLB (Hons), BA-LLB (Hons), LLM, MBA and Ph.D. programs. The students are from all parts of India. In fact, there is a mini India on the campus. The University has a student strength of about 6,100 and a faculty strength of about 300. We envision developing a new cadre of professionals who will not only command a high level of domain proficiency but also have the ability to integrate activities for developing scientific and technological solutions and work standards.

The quality of the programs offered at the University is ensured by the following five factors:

- Designing a relevant curriculum including soft skills and Internship Program.
- Student-centric academic delivery.
- Continuous evaluation and feedback.
- Focus on research by the faculty.
- Industry and foreign collaborations.

The University maintains a balance between academic, co-curricular, extra-curricular and social activities so as to enable the students to become well rounded persons with concern from the society.

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Dr K.L Narayana
Director, IcfaiTech

Message from the Director

Greetings!

IcfaiTech (Faculty of Science & Technology) is a constituent of the ICFAI Foundation for Higher Education (IFHE). IcfaiTech aims at nurturing graduates and researchers who will become critical thinkers and innovators with holistic education experience. At the first degree and higher degree levels, students are given the flexibility to choose their academic courses from a wide range of electives offered to them. Innovative methods of teaching, cutting-edge curriculum, workshops and internships further broaden the intellectual and global outlook of the students.

The Internship Programs are a unique feature of education at IcfaiTech. Internships help graduates become more practical oriented and innovative. Dedicated Faculty and industry experts supervise the student performance and assess them during the Internship Program.

IcfaiTech integrates courses like Principles of Economics, Principles of Management, Dynamics of Social Change and Introductory Psychology into their curriculum for the overall

personality development of their students. This proactive approach has earned IcfaiTech respect from employers, educationalists and professional institutions.

I invite all the aspirants to seek admission into the IcfaiTech Programs and become technology-driven professionals.

IcfaiTech
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Dr A.Vadivel
Dean, IcfaiTech

Message from the Dean

Greetings!

It gives me immense pleasure to greet and welcome you all on behalf of the IcfaiTech family. Your decision to join IcfaiTech is just the beginning of a highly rewarding professional career.

IcfaiTech is inherited with a rich experience in engineering education for about two decades. Over the years, it has established itself as a favourite destination for students across the country. It has state-of-the-art infrastructure, fully developed laboratories, a library with a wide range of collections and a large pool of highly qualified and experienced faculty.

IcfaiTech graduates are strong communicators and effective leaders with the adaptability and entrepreneurial drive to keep pace with evolving technologies and the demands of the marketplace. IcfaiTech faculty members are recognized for exemplary teaching and trailblazing research. As a community, we are collaborative by nature, innovative in spirit and focused on making a difference. Together, we have built an environment for learning and discovery unlike any other.

I welcome you to the IcfaiTech and invite you to be a proud member of this ever-growing fraternity.

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S.No	Title of the paper	Page No

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INDEX – SCIENCES & HUMANITIES

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Work Life Balance - An Investigative Study on Textile Industry.

Dr. Ravi Varma Desai

ABSTRACT

The concept "Work life balance" is gaining momentum day by day. Quality work life balance reduces fatigue in employees and improves efficiency. Striking balance with personal and family life is also important as a healthy and happy employee contributes for organization's productivity. Labour laws and labour legislations impact the quality of work life. This study revolves around the influence of various Indian labour legislations on work life balance of the employees working in textile industry as it provides a great number of jobs compared to other industries.

Keywords: Work life balance, textile industry, labour laws & legislation, working environment, levels of experience.

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Insertion in Missing: An Optimality Theoretic Perspective

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Abstract

The paper outlines the establishment of the framework Optimality Theory (Prince & Smolensky, 1993) along with an investigation and demonstration of the relevant positional markedness and positional faithfulness constraints. The paper concentrates on the process of epenthesis, which is the insertion of a sound in between the other two sounds. Epenthesis is a well-known process in phonology, which is used as a repair strategy to attain a desirable state of a candidate to present it as the optimal one. Mostly, in epenthesis, the inserted segment is a vowel. Vocalic epenthesis is such a conventional method that consonant epenthesis is almost not regarded as epenthesis. Although consonant epenthesis is rare, approximants are regarded as the most suitable for this purpose, if any consonant epenthesis takes place. Mising has shown consonant epenthesis /j/ and /w/ which is used to repair a condition of having a syllable without onset, to have a satisfying faithful candidate with a syllable having onset, starting with a consonant. ONSET is the most important constraint used during the process of epenthesis for an OT analysis.

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High Performance Human Resource Management Operations and Organizational Performance

Mr. GRK Prasad

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ABSTRACT

Recently, significant attention has been given to high performing universities — those Universities that consistently out-perform their competitors — in an attempt to determine what factors contribute to their success. The challenges of market saturation, changing mindset of students, and the economic downturn of India may require Universities to adopt human resource management practices capable of improving the Effectiveness of Universities. Adopting the validated scale of Sun et al., (2007) and an adapted scale of Chand and Katau, (2007) , a sample of 100 employee from a state of India were surveyed to ascertain the best HR practices capable of high performance of the university. The result of the survey suggested that clear and transparent job description, incentive based reward, promoting internal mobility, encouraging team work, and assuring employment security can enhance effectiveness of the university. However, the bureaucratic organizational culture along with the expected role of a 'model employer' for both faculties and students will make the journey of the universities towards designing a HPHRP more difficult and challenging.

Keywords: High Performing Human Resource Practices; Organizational Effectiveness; Higher Education Industry; Clear Job Description; Incentive Based Reward

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Assimilation in Mising: An Optimality Theoretic Perspective

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Abstract

This abstract outlines the establishment of the framework Optimality Theory. An investigation and demonstration have been made of the relevant positional markedness and positional faithfulness constraints considered throughout the work to show the positional asymmetry through the process of assimilation. This paper further investigates the direction of assimilation and discusses regressive assimilation and progressive assimilation as repair strategies. Nasal assimilation is shown as a trigger of progressive assimilation in the paper. Onsets are stronger and privileged by nature and resist assimilation. Onsets trigger the process of assimilation in regressive assimilation. Progressive assimilation is cross-linguistically rare as stated by researchers. Mising is one of those languages which prefer progressive assimilation in the language. During progressive assimilation, the coda resists a change and triggers the assimilation, while the onset of the following syllable gets triggered by the assimilation. Nasal assimilation in Mising shows opposite characteristics of the universal process of nasal assimilation. Universally, nasals undergo the process of assimilation by acquiring the place or manner feature of the neighboring consonant. But in Mising, nasals play the role of assimilator rather than an assimilee. Even the universal concept of nasal-obstruent cluster preferring regressive assimilation and marked cluster, obstruent-nasal preferring progressive assimilation in nasal assimilation is also reversed in Mising. AGREE constraint plays a pivotal role in analyzing the process of assimilation in Mising in the light of Optimality Theory.

Keywords: Optimality Theory, Assimilation, Markedness, Faithfulness, Repair Strategy.

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Surveying the Determinants of Empowerment Climate in Indian Higher Education

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ABSTRACT

The majority of research on empowerment has focused on the individual's psychological experience of empowerment and linking this with various job-related outcomes.Job context capable of promoting empowerment has been neglected by researchers**.** Extensive literature survey explored Information sharing, autonomy through boundaries, team responsibility, reward system, workplace independence and flexibility and skill acquisition and development as Job context (managerial structures and practices) and conceptualized as empowerment climate construct. Regression analysis indicated autonomy through boundaries has the greatest influence on empowerment, followed by team accountability, workplace independence and flexibility, Reward system, information sharing and then skill acquisition and development.

Keyword : Psychological Empowerment, Empowerment Climate

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Onset-coda Asymmetry in Mising in the light of Optimality Theory

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In the arrangement of segmental speech sound in any language, segments in privileged or prominent positions such as syllable onsets, roots, and root initial syllables are considered to resist and trigger alternation whereas segments in non-privileged or non-prominent positions, such as codas, are neutralized and go under alternation (Beckman, 1998). The current study endeavors to address a phonological matter best known as onset-coda asymmetry resulting in positional asymmetry found in Mising, a Tibeto-Burman language spoken in Assam. The onset-coda licensing and positional asymmetry are best evident in the phonological processes of assimilation and deletion in Mising. Thus, the assimilatory processes (voicing and devoicing assimilation as regressive as well as progressive assimilation) and three types of deletions, (i.e. word-final velar nasal deletion, word-final vowel deletion, and syllable initial vowel deletion) are taken into consideration for the analysis. These phonological processes have been interpreted, discussed, and analyzed in the framework of Optimality theory. The study finds that, though the phenomenon of positional privilege or positional faithfulness is observed cross-linguistically, there is a natural class of segment, i.e. Nasals in Mising which are not prone to alternation, rather they resist and trigger alternation despite occurring in the coda, a non-privileged position. This is evident in the instances of both progressive and regressive assimilation which goes against the well-established view of positional faithfulness and positional privilege and adds crucial characteristics to the debate on onset-coda and positional asymmetries.

Keywords: Onset-coda asymmetry, positional asymmetry, Directions of Assimilation and deletion, Vowel hiatus, Mising Phonology.

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A Needs Analysis Based ESP Syllabus Design for Architecture Students in ESL Context

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Abstract

Needs Analysis is one of the essential elements for any type of syllabus design. Need Analysis is carried out by all the syllabus designers so that the syllabus design meets the requirements of students for both academic and professional purposes in terms of language use. The current study is carried out with this perspective of Needs Analysis. The study aimed to understand the English language skills requisites of the architecture learners at ICFAI School of Architecture - Hyderabad, with respect to the Target Situation Analysis and Present Situation Analysis. The data for the current study was collected using the tools of questionnaires, semi-structured interviews with the students and the faculty members at the institute along standardized English language tests for the students. The analysis of the data revealed that the receptive skills of English, reading, and listening were important in academic fields and the productive skills of writing and speaking in English were important in both academic and professional fields of architecture. Based on these findings the study outlined certain parameters for the designing of English for Specific Purposes syllabus for the architecture students and a syllabus was designed.

Keywords: ESP, Needs analysis, Productive skills, Receptive Skills.

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A REVIEW STUDY ON CONSUMER PERCEPTION TOWARDS E-SHOPPING

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ABSTRACT

Recent research has shown an interest in investigating consumer motivations that affect the online shopping behaviour. It is yet to understand what factors influence online shopping decision process. The objective of this study is to provide an overview of online shopping decision process by comparing the offline and online decision making and identifying the factors that motivate online customers to decide or not to decide to buy online. It is found that marketing communication process differs between offline and online consumer decision. Managerial implications are developed for online stores to improve their website.

A quantitative method is used in this research in order to investigate the impact of consumer perception in E-shopping on buying behaviour. The data of 111 respondents is collected through questionnaire and results were analysed through the SPSS. The students of different universities as respondents has been taken to know their perception regarding the E-shopping and its attributes and the impact of online on their buying behaviour . It is concluded that consumer of online are more attractive than there retail outlets. Moreover, the tested attributes of online show positive

Index Terms: Online Shopping, Perception,decision making process

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Understanding Differential Psychology and its impact on both Student Achievement Rates and Teaching Strategies

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Abstract

The objective of any education system is to empower learners in a holistic manner and to make them proficient in their fields of study. In order to accomplish this, appropriate teaching and learning strategies should be designed and implemented. But, we understand that not all learners achieve the goals of education equally; despite the teacher practicing standardized and well-researched teaching strategies. There are learners who achieve beyond the set goals and there are learners who underachieve. Various educational and Psychology theorists have extensively researched and theorized that there are certain factors that affect learners' achievement. These factors are studied under a separate branch of psychology called Differential Psychology or Individual Differences. This field of science is concerned with understanding and learning the differences in humans, how each individual systematically differs from one another. This present paper focuses on understanding the major components of Individual Differences that impact student achievement rates and their implications on teaching strategies.

Key Words: Differential Psychology, Individual Differences, Achievement rates, Teaching strategies

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ADVERTISING IMPACT IN STUDENTS CHOOSING A PRIVATE DEEMED UNIVERSITIES IN TELANGANA and A.P.

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ABSTRACT

Publicizing is a type of advertising correspondence utilized by organizations to advance or sell items and administrations. Generally, promoting is one of the parts or subsets of showcasing. The essential objective of publicizing is to impact the purchasing conduct by advancing an item, administration or organization.Advertisements are important for students to enroll/enrolled in AP private deemed universities. Most of the students are influenced by recommendation by family/friends/campus visits. Advertisements are playing a crucial role to enroll the students in private deemed universities.

KEYWORDS:

Advertising, Private Deemed Universities in A.P, Primary survey.

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Second wave of COVID-19 and its impact on India's Recovery

Round Table (All Faculty Members in the Department)
IBS, Hyderabad

ABSTRACT

The global economic recovery continues, but with a widening gap between advanced economies and many emerging markets and developing economies. In india,Vaccinations will provide no relief in the short term as supply cannot meet demand; in a positive scenario, still "only" 35% of the population will be vaccinated by the end of 2021.The impact on the economy will mainly come through a drop in private consumption following significant declines in mobility amid rising fears of infection.The government is constrained in providing additional stimulus due to relatively high debt levels which already increased significantly in 2020.If the Indian government increases spending in the form of a second Covid-19 stimulus package it will probably prevent a loss in economic output in the short term, but this simultaneously puts more pressure on the sustainability of debt in the longer term

Key Words: Vaccination, Private Consumption, Stimulus package

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Innovation, Internationalization and Energy Efficiency: A study of Indian manufacturing firms

Dr Harvinder Pal Singh
IBS, IFHE, Hyderabad

ABSTRACT

Analysing the determinants of energy efficiency is an emerging area of research in environmental economics. This study proposes to examine the role of firm-level innovations, innovation activities, and firm internationalisation in improving energy efficiency of firms in the Indian manufacturing sector. Using a unique data set of Indian manufacturing firms from the Enterprise Survey (WBES) database maintained by the World Bank, the proposed study investigates the role of different types of innovations - process, product, and organizational innovation, in improving energy efficiency. The face-to-face interviews were conducted with business owners and top managers from August 2013 through December 2014 to collect firm-level data. The sample for India was selected using stratified random sampling. Three levels of stratification were used in this country: industry, firm size, and region. The final sample of innovation survey consisted of 3493 firms. Besides this, the study considers the impact of different types of innovation activities such as R&D, training and purchases of new equipment, machinery, or software for developing innovative processes or products on energy efficiency. Further, the role of firm internationalisation, via foreign investment and export intensity in improving firms' energy efficiency will also be examined. To the best of our knowledge, this is the first study that analyses the role of different types of innovations and firm internationalization on improving firm-level energy efficiency in the Indian context.

Key Words: Energy-efficiency, firm internationalization, innovation, innovation activities.

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Curriculum Design Aspects for the 21st Century Hybrid Classrooms: An Explorative Study

Dr Swathi Mulinti

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Abstract

The curriculum is a crucial part of any educational system. It defines the values, knowledge, content to be taught, guides teachers in developing teaching strategies and highlights the various ways of assessing students at various levels of education. In the current century the value systems, the knowledge requirements, the contents are no longer the same as they were a few years ago. We are surrounded by various plagues, environmental issues, globalization, changed value systems, advancing technologies etc. The volatile conditions of post-COVID gave rise to new methods of teaching and assessing as well. A consequential rethinking should be carried out in the curriculum design aspects for 21st-century classrooms. It should include a full range of skills and competencies that fit the current society which is constantly turbulent and evolving at a fast pace. The current paper highlights some of the important 21st-century values, skills and competencies that ought to be considered for curriculum design and development and a few suggestions for their implementation in the current hybrid educational environment.

Keywords: Curriculum, Hybrid classrooms

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Monetary and Fiscal Policy Coordination during the Fiscal Dominance Regimes

Dr Vighneswara Swamy
IBS, IFHE, Hyderabad

ABSTRACT

This study evaluates the conduct of monetary and fiscal policies for the post-liberalization period 2005: Q1– 2017: Q1 in India and explores the need for the coordination. As quantifying the extent of coordination,mostly depends on the appropriate policy mix that responds effectively to different shocks, this study empirically examines the interaction between monetary and fiscal policy by using Vector AutoRegressions (VAR) and a Vector Error Correction Model (VECM). Further, this study discusses the Stackelberg interaction model with government leadership to know the strategic interaction between monetary and fiscal policy. The estimates show that an unexpected increase in the monetary policy effect: (i) has a contractionary impact on the economic growth; (ii) leads to a gradual decline in inflation; (iii) tightens the liquidity conditions; and (iv) rise in the bond yields. On the other hand, an unexpected increase in the fiscal policy effect: (i) has a positive effect on GDP growth; (ii) has an initial decline, but a gradual rise in inflation levels; and (iii) leads to falling bond yields. Monetary policy is found to be more responsive to fiscal policy effects. The results imply that there is a greater need for effective coordination between monetary and fiscal policy as a sufficient condition to achieve economic stability.

Key Words: Monetary Policy, Fiscal Policy, vector Error Correction Model

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Women Entrepreneurial engagement in rural India - an empirical analysis

G Vijayudu

ABSTRACT

The present empirical study examines the major dimensions that drive the rural women towards entrepreneurial skills followed by the second, to analyze the entrepreneurial dimensions impact on their entrepreneurial engagement mediating through entrepreneurial attitude. The study collected the sample from 350 rural women entrepreneurs from Andhra Pradesh and Telangana states of Rural India through a structured questionnaire using convenience sampling method. Structural Equation Model is used to test the proposed model 'Women Entrepreneurial Engagement'. SPSS and AMOS software's are used to empirically test the relationship among three constructs namely Women Entrepreneurship Dimensions, Entrepreneurial Attitude and Entrepreneurial Engagement. The study findings proved that the women's entrepreneurship dimensions such as, Societal support, Individual skill set, Financial & Legal support have a positive impact on their entrepreneurial engagement, but partially mediated through women entrepreneurial attitude that has been based on theory of planned behavior. This study can be helpful for the Government and Non-Government Bodies (NGOs), Not-for-Profit organizations, and other voluntary organizations for developing/ renewing policies and strategies. To facilitate, train and build the entrepreneurial attitude among women entrepreneurs, the present study has proposed a model that has been proved empirically. The results can be given a path to the women entrepreneurship in rural India, promote rural entrepreneurship, create job opportunities that can be led to sustainable development of rural India.

KEY WORDS: Women Entrepreneurship Dimensions, Entrepreneurial Attitude, Theory of planned behavior.

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Another Short Proof of Huckaba and Marley

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Abstract

Let (A, m) be Cohen-Macaulay local ring and I be an m− primary ideal in A. Let $e^I_j(A)$ denote the i^{th}−Hilbert coefficient of A with respect to I and $G_I(A)$ denote the associated graded ring of A with respect to I. Let J be a minimal reduction of I. A result due to Huckaba and Marley,

$$e^I_1(A) \leq \chi_{\lambda I^n/JI^{n-1}}.$$

Their proof relies on the in-depth study of homology modules of complex similar to the koszul complex (see, [5]). In [14] we have developed some new techniques to study the Hilbert-Coefficients and Hilbert functions. So in this paper, we will provide a short proof of Huckaba and Marley's result by applying our techniques developed in [14]. *a*

Keywords: Hilbert functions, Hilbert coefficients, Blow up Algebra, Rees Al gebra

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Redbull: Giving Wings to People and Ideas

Pankaj Singh and Sourav Borah

IBS, IFHE, Hyderabad

ABSTRACT

Increased urbanization, rising disposableincome and growing health consciousness among the Indian youth has increased the demand for non-carbonated drinks called energy drinks. At the same timelong and erratic working hours and the increasing occurrence of socialgatherings are driving Indian consumers towards consumption of energy drinkswhich are primarily classified as non-alcoholic, caffeinated beverages andsports drinks. Over the past few years, the sale of energy drinks has beendriven by changing consumer lifestyle and increasing demand for alcohol mixers. The market size of energy drinksin India is estimated at about Rs 700 crore, growing 20-25% year-on-year. Thecarbonated drinks market is close to Rs 6,000 crore and is growing by 10-12%annually, says a report. According to Euromonitor International, with changing lifestyles and increasing paucity of time, urban consumers are relying on Energy drinks to cope up with fast paced lifestyles. Most of them would continue to use energy drinks to boost stamina and energy levels. However, it noted that the high price of energy drinks would restrict its growth in tier IIand tier III cities.

Key words: Increased urbanization, disposable Income, Energy drinks

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A study of Behavioural aspect of adventure tourism in India

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ABSTRACT

Indian Tourism sector is the third largest foreign exchange earner for the country, while contributing to 7.5 per cent of the GDP. COVID impact on tourism and Adventure tourism in particular was enormous in the first two quarters of the financial year 2020-2021. The 3 rd Quarter has shown some signs of rebooting, with airlines as well as hotel bookings picking up. But to bring it to the levels of growth of pre COVID times, CRM can play a big role in understanding consumer behavior and as a strategy for searching, attracting and providing better facilities to the tourists. It requires updated software that bridges the gap between the CRM and existing information systems. The study with a qualitative approach has endeavored to fuse consumer behaviour insights with a CRM model, and will be useful for revival of the adventure tourism industry and customers in COVID times.

Key Words: Adventure Tourism, CRM approach, Consumer behaviour

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Deep Learning in Wheat Diseases Classification

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Abstract

The main goal of this paper is to review systematically the recent studies that have been published and discussed Wheat Disease (WD) prediction models. The literature analysis is performed based on studies published from January 1997 to February 2021 by following kitchenham instructions. After inclusion/exclusion and quality assessment criteria screening, a total of 74 studies have been selected. The literature shows that WD is categorized into three (fungal diseases, bacterial diseases, and insect diseases) types. The research analysis shows that most of the work in the literature has been found on wheat stripe rust (60.81%) disease and the most used prediction technique is ANN (13.32%). The results show that accuracy (67%) is the most prominent performance metrics and in the year 2020, a maximum number of papers are published on WD. Also, only five studies have used hybrid approaches which are the combination of SVM and NN techniques.

Keywords: Deep Learning, Neural Networks, Support Vector Machine, Wheat Diseases

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The growth story of Spotify

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ABSTRACT

The growth story of Spotify is really an incredible one. It was launched in October 2008 as a streaming service and by 2019, it had 248 million monthly active users. It made some great use of AI based technology for recommendations to its customers. However, Spotify was in a bit of a bother. Even though it had a 36 percent share of the global market and led the streaming service industry, it had some competitors in hot pursuit and they were none other than Google, Apple and Amazon- some of the world's biggest companies. Google and Amazon were cutting at Spotify's main profit model by creating new, free, ad-based tiers of their music services, Spotify's shares fell and there were serious concerns about its ability to turn traffic into money. All of these meant that the investors were uneasy about the company's future. Spotify was at that point in its journey where it had some big decisions to make.

Key Words: AI based technology, Music service industry

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AI and IoT Readiness: Inclination for Hotels to support a Sustainable Environment

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Abstract

The idea of Smart Cities has been one of the key driving factors for the urban transformation to a low carbon climate, sustainable economy, and mobility in recent years because of the alarming situation of Global warming. The hotel industry being one of the fastest-growing industries is a major carbon emission generator and leaves environmental footprints. The new emerging concept of sustainable tourism is envisaged as an important part of the Smart Cities paradigm. Improving sustainability by saving on energy is becoming a priority for many hotels. Artificial Intelligence (AI) and Internet-of-Things (IoT) technology provide the opportunity to integrate various systems on a platform, encouraging and assisting hotel guests to operate them through a single device and also optimizing hotel operations. The purpose of this paper is to identify the strategic positions of a hotel in terms of sustainability, AI, and IoT technology. Components that will be considered by Hotels for the strategic intention of adopting AI and IoT for environmental sustainability. Different development and modification needed to be taken if management wants high sustainability readiness and/or IoT readiness. This conceptual paper constructs the comprehensive study and systematic review of different areas where the Hotels can feasibly implement AI and IoT for improving sustainably and the new technology-based products that are available to guide them to do so. When it comes to AI and IoT related sustainability readiness this paper identifies that it is related to the internal and external conditions of the hotel This study also indicates that a hotel is more likely to adopt AI and IoT if (a) the focus of the hotel is energy conservation because of green certificates (b) it is part of international hotel group (c) Sustainability is considered an important as a customer decision-makers (d) the hotel focuses more B2B (business) than B2C (leisure) guest (e) it is a five-star property (f) More International guests. The path of development within sustainability is focused on saving energy and not on the social dimension of sustainability. The amount of investment needed for the various positions and unique AI and IoT resources will be addressed. These limitations can form the basis for future research.

Keywords: Sustainability, Artificial Intelligence, Internet of Things, Hotel Management, Sustainability readiness

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Industry 4.0 digital transformation journey

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ABSTRACT

Industrial Revolution has begun from the end of 18th century and today we are in the 4th Digital Industrial evolution and moving forward with Information and Communication Technologies components being integrated in almost all the walk of humane work known as Digital Transformation. Today's seminar we will try to understand this journey and future prospect for Education and Research in this Digital Transformation.

Key Words: Industry 4.0; Industry Transformation;

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Capacity management, sourcing and location decisions

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ABSTRACT

In this seminar, I will present a mathematical model to examine the capacity investment, sourcing and location decisions for a multi-market manufacturing firm with reference to Lu & Van Mieghem (2009). We analyze a firm that manufactures two products to serve two geographically separated markets using a common component and two localized final assemblies. We examine a key strategic question for the firm that has to decide the location of its component manufacturing facility in the multi-market production network. Based on the location of component manufacturing facility, we develop four possible production network configurations such as hybrid, market-focused, and centralization (onshore and offshore). We show under deterministic demand situation that it is optimal to centralize the component manufacturing facility in the low-cost market (i.e., offshore) when manufacturing cost outweighs the transportation cost of centralization. However, under stochastic demand situation, it depends on price and cost differentials, demand size and uncertainty.

Key Words: Capacity Management; Sourcing; Decision Support Systems

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Influence of social capital on knowledge sharing

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ABSTRACT

Social capital is put forward as a suitable theoretical framework to explain knowledge sharing in organizations and communities. The aim of this paper is to summarize the different contexts where social capital dimensions have been used to explain information and knowledge sharing. Literature review is done for social capital in the contexts of business organizations, virtual worlds, and higher education institutions. The dimensions of social capital have been found useful when exploring knowledge sharing practices. The studies illuminate important aspects on how the combination of structures, relations and contents support sharing of knowledge. They also underline the importance of the contextual dimension. The role of the social capital dimensions are focused differently depending on the context.

Key Words: Knowledge Sharing; Social Capital

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Exploring the effects of social media overload on academic performance

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ABSTRACT

Social media has deeply penetrated into graduate students' daily lives, persuading excessive usage that can result in social media overload. However, only few studies have explored the adverse consequences of social media use from a pedagogical perspective in different countries. This paper aims to investigate the effects of social media usage on students' academic performance and the underlying mechanism in Indian context. The proposed model is built to investigate the direct effect of Excessive Social Media Usage, Communication, Overload, Social Overload and Social media exhaustion on academic performance of the student. This study deepens social media literature by identifying a more inclusive classification of social media-related overload among graduate students and investigating the exact mechanism of excessive social media use in educational environment.

Key Words: Social Media; Academic Performance

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Lung Nodule Detection and Classification based on Feature Merging and Genetic Algorithm

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Abstract

The purpose of this study is to increase the accuracy of the early detection of lung nodes through the design of Computer-Aided Detection (CAD). Comparative studies of the effectiveness of the most commonly used methods for extracting and classifying features were conducted, and methods that give the highest accuracy and the least false-positive results were identified. To develop an accurate automatic detection system for the early detection of lung nodules, we directly investigated candidates for lung nodules without removing blood vessels. The feature is extracted by using feature extraction methods. To utilize the extracted features, the extracted features were connected using the feature merge technique, and the features were selected by the new hybrid feature vector. The genetic algorithm (GA) search based on the classification accuracy rate of the used classifier was also applied to the hybrid feature vector. To archive, high classification accuracy was selected three classifiers and performed a comparison of their performance.

Keywords: Computer-Aided Detection, Genetic Algorithm, Classification, Lung nodule

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Effect of Environmental Concern on Adoption of Organic Farming in India

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ABSTRACT

The concept of organic agriculture is the most viable approach to protect the environment, human health, soil health, and animal welfare during the farming process. This study attempts to examine the environmental concern among organic and conventional farmers and analyze the impact of environmental factors in adopting organic farming. The primary data was collected through a structured questionnaire from 200 organic and conventional farmers, and statistical tools such as ANOVA, paired sample T-Test, and Logistic Regression model has been applied. The study revealed that Natural Food and Chemical Free Farming were the most important environmental issues among the organic producers whereas, conventional farmers resulted overall Environmental Benefit in practicing organic farming. Further, logistic regression model shows that Less Irrigation required, Soil Fertility improve and Sustainable Climate were more influencing factors to adopt organic farming. The result suggests that there is a need for proper training and permanent advisors to sensitize the more environmental concern which influenced farmers to adopt organic farming. The growing worldwide demand for organic food has led to numerous opportunities for the small farmers to gain organic price premium too which could ensure their sustainable livelihood along with the environmental protection and economic growth of the nation.

Keyword: ANOVA, Environmental Concern, Organic Product, Logistic regression

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Impact of Technological Innovations on Agricultural Output

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ABSTRACT

In modern India, only 0.7% of the cultivable agricultural land is used for organic farming. One of the many reasons that could be attributed to less number of organic farmers is the marketing challenges faced by them in selling and distribution of organic produce. This study seeks to find out whether the marketing problems differ between organic farmers and conventional farmers, according to land size and derive policy implications specific to fostering organic farming in India. In this study, a sequential form of mixed method design has been used. In the first phase, an exploratory study was convened to first handed comprehend the different kinds of marketing challenges experienced by farmers during the selling and distribution of their produce. Six marketing challenges emerged from this study. In the second – quantitative phase, we sought responses on organic as well as conventional farmers on perceived intensity of these problems. Two-way ANOVA has been used to find out whether the farmers experience marketing problems differently based on their method of cultivation and land holding pattern. In the third phase, focus group discussions have been conducted to qualitatively explain the significant mean differences that were found in the second phase. Based on the collective insights from three studies, policy implications to promote organic farming in India are derived.

Keyword: Agricultural output, Organic farming, Two-way ANOVA, Technology

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Devops – Scaling Ideas and Implementing Cloud Automation

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Abstract

The automation and cloud have independently taken things in a very fluent and smooth way like never before. Employing cloud platform has changed the outlook on the utilization of data in everything. The number of individuals who are employed to perform a single task is now reduced with the help of automation getting implemented. In order to achieve cloud automation, DevOps is the new methodology that the software circle is adapting to. DevOps enables speed along with quality and risk management in cloud. Only knowing the programming or only working on the operational knowledge base will not accomplish today's need of automating the cloud procedures but a bit more dwelling up and integrating the development and operational pools will make it and that's what the DevOps will be radiating. This culture of DevOps is an approach to introduce new methods and bring all the ideas and different wings of work under one roof. Cloud technology is the revolutionary phase the industry is going through and many major organizations have seen profits as well as fast growth adapting to this. The various industries like Genetic, manufacturing, construction, service, and many more but, these are using automation in and out by deploying cloud at some end in it. DevOps uses various tools and technologies like Git, Jenkins, Docker, and many more, improving the security concerns thus giving the best result. In the perspective of companies offering cloud as a service, they really have a lot that can be automated. Though we have taken the services up to the cloud, the ratio of the dedicated employees and the manpower needed to maintain it has increased very much and thus become very expensive. Therefore, automating the workflow in cloud will result in better cloud architecture and service to be delivered promptly.

Keywords: Devops, Cloud, Automation, Git, Docker, Jenkins

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Women CEOs and Executive Compensation

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ABSTRACT

Abstract: In this study, we examine the impact of CEO gender on the compensation of Indian corporate employees. Based on the theoretical and empirical research in business ethics and leadership styles, which argue that females are 'care' and 'relationship' oriented, we hypothesize a positive impact on compensation. Our results show that the average compensation increased by about 14% when females took over the leadership and they pay a significantly higher compensation as compared to the industry averages. This increase is observed irrespective of the size, performance and growth of firms. However, the positive impact is weaker for highly levered firms.

Keyword: CEO gender, board diversity, Indian firms, Compensation

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Human Competencies for Disaster Relief Management: A Study

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Abstract

Effectiveness of humanitarian assistance often depends on the effectiveness of the resources utilized such as predictive logic, relief partners, logistics technology and relief personnel. Analysis of the most recent yet more vulnerable disasters have pointed out that the relief workers often created a difference. Lack of appropriate access to standardized models to train the relief workers has created a need to develop a competency model which can further be validated with the relief organizations to create a standard. The current study aims to develop and test a hypothetical model that proposes a relationship between the competencies of the emergency relief workers, job performance and job satisfaction through empirical analysis of primary data. The study reveals a good relationship between the competencies, job performance and job satisfaction and shows a significant impact of the three variables on each other. The study culminates into recommending the key findings of the personnel to be able to improve the efficiency of the relief operation.

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Career Decisiveness: The Role of Motivational Factors and Career Planning Attitudes

Dr. Prerna Chhetri

ABSTRACT

Drawing from the Motivational Systems Theory (Ford, 1992), this study investigates the mediating role of career planning attitudes (career optimism, career adaptability and perceived knowledge of job market) on the relationship between motivational factors (goal, emotion, context belief and capability belief) and career decisiveness. The study tested two research models, one hypothesizing the mediating role of individual dimensions of career planning attitude, and, the other hypothesizing the mediating role of collective career planning attitude (operationalized using career future inventory scale) between motivational factors and career decisiveness relationships. The findings of the study suggested that individual components of career planning attitudes as well as the collective career planning attitudes fully mediate dimensions of motivational systems theory and career decisiveness relationship. The theoretical and practical implications of the finding of the study are discussed.

Key words: career decisiveness, motivation, career optimism, career adaptability, capability beliefs, goals, emotion, perceived knowledge of job market

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Progression towards Society 5.0: Internet of Things (IoT) based Wireless Sensor Network for Tracking & Monitoring Wetlands of Odisha

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Abstract

Today we live in a world with increasingly complex societal problems and only sustainable development goals can be a trade-off which Society 5.0 talks about. Ageing society with huge industrial advancements, improper wealth distribution, increased carbon footprint, and inadequate Artificial intelligence-based approaches in the agriculture domain and urbanization accomplishments have hugely impacted the level and quality of natural groundwater resources around the globe. Here, we especially address - Odisha, an eastern state of India. It has about 78,000 wetlands which have a huge impact on the socio-economic activities in the region. Water from these wetlands is used for agriculture and domestic use as well. Wetlands are important for carbon sequestration, flood control, groundwater recharge, and biodiversity maintenance. They directly impact society in terms of employment and the quality of livelihood. The state of Odisha has two important wetlands, namely - Bhitarkanika Mangroves and Chilika Lake that are extensively monitored. However, there is no mechanism to monitor the entire wetland system as a whole. An Internet of Things (IoT) based heterogeneous wireless sensor network can be deployed in an economically viable manner for monitoring these water bodies. The huge amount of data generated by these sensors can be collated into a cloud system. A software system is modeled here, which can use the data collected by sensors and efficiently report the changes in the salinity, pollution levels, groundwater level, and the changes in biodiversity of the state. When the change in the values reaches a certain threshold as per the proposed system design, necessary alarms would be raised that could aid in taking effective decisions for agriculture-related activities.

Keywords- Society 5.0, Internet of Things (IoT), Wireless Sensor Network (WSN), Wetland Monitoring

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Economic Analysis of Different Variants of Unreliable Server

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Abstract

This paper analyzes a finite capacity queueing system with a single server in a Markovian environment for different variants of the unreliable server. Three different cases are discussed using the queueing-theoretic approach and nomenclatures based on the characteristics of the unreliable server. For each case, the Chapman-Kolmogorov differential-difference equations are demonstrated. Further, to depict the steady-state queue-size distribution, the matrix method is used. Additionally, explicit closed-form expressions of the various quality performance measures are provided, which are used to construct an expected total cost function. A cost optimization problem is developed to determine the optimal combination of system design parameters with the minimal expected cost of the service system. To ascertain the solution of the developed cost optimization problem, the classical optimizer: Quasi-Newton method is used. Lastly, several graphs and tables are provided for the validity of the research findings.

Keywords: Markov chain, Server breakdown, Working breakdown, Service pressure condition, Threshold-based recovery policy, Quasi-Newton method.

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Employee engagement and commitment: Analyzing the role of spiritual leadership

Dr. Asha Binu Raj

ABSTRACT

With the growing realization of the significance of positive workplaces, institutions emphasize on HR processes and practices resulting in a range of positive emotions and attitudes among employees. Cameron et al. (2003) state that positive organizational scholarship (POS) factors lead to positive outcomes, processes, and attributes of organizations and their members. In the contemporary organizational perspective, POS emphasizes positive workplace processes that create positive employee/organizational outcomes. This approach provides a scope to examine positive work-related attitudes such as employee engagement and organizational commitment through workplace practices. Relating to emerging patterns of workplace spirituality, leaders who can support and enhance positive expressions among employees at work, may lead to positive employee outcomes such as engagement and commitment. In this context, spiritual leadership may result in proactive employee behavior (Chen et al., 2019) by encouraging the meaning and purpose of life/work at the individual and organizational level. This can further elevate organizational commitment and productivity (Fry et al., 2005; 2010) through engaging the employees. Various conceptualizations of employee engagement establish its linkage with positive emotions at the workplace, which is a fundamental element of positive psychology and POS. Spirituality at the workplace is responsible for employees' subjective happiness (Rajesh et al, 2019) and hence their well- being. Happiness being perceived from a POS angle can potentially improve the emotional and affective quotient among employees. Engagement strategies of organizations trigger the positive emotions, thereby influencing their connectivity to their jobs and organizations. Hence from a contemporary perspective, there is a need to investigate employee engagement and commitment dimensions and how they are influenced by spiritual leadership in organizations.

Key words: Employee engagement, Positive psychology, Spiritual leadership

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Does smartphone affect work-life balance, stress, and satisfaction among school teachers during online education?

Dr. Akbar Jan

ABSTRACT

COVID-19 pandemic has made tremendous changes in the lives of individuals across the globe. People have gradually accustomed to adapt to a new normal situation. It has also tremendously impacted mkeeany professions, particularly the teaching profession which has transformed from traditional practices to digital-enabled platforms. Hence, the teachers are forced to learn the use of online teaching tools due to the pandemic and its continued impact on the education sector. The online work environment demands the teachers and students, both to rapidly adapt themselves to remote teaching. An unprecedented and forced transition among teachers' mode of work from face-to-face to online interaction has entailed numerous challenges and opportunities as well. Specifically, the school teachers who had been experts with traditional methods and have good teaching skills face struggle in delivering their classes on the online platform because of the lack of familiarity with the digital education applications, and digital classroom environment. The role of smartphones in the adoption of digital education is significant due to their familiarity, and affordability to both student and teacher communities while compared to all other electronic gadgets. School teachers are expected to live in complex work and personal life environments due to sudden transitions and technological advancements; therefore, work-life balance is a key concern in the present pandemic context. The education field is drastically changing and for teachers to achieve their true potential, well-being is required which is determined by work-life balance (Soni and Bhakru, 2019). Smartphone technology provides more flexibility by connecting employees with their families even during office hours, and vice-versa. Hence it integrated with the employee's personal and professional life. Work-life balance is one of the critical concerns among employers and employees, and its absence would result in severe professional and personal problems which may cause dissatisfaction in employee's personal life and job. Hence, this paper attempts to develop a comprehensive model to investigate the effect of smartphone usage on work-life balance, work stress, personal life satisfaction, and job satisfaction among school teachers during the online mode of teaching in the COVID-19 context. This study focuses on substantial arguments for better utilization of smartphones to set the new benchmark standards to have a healthier work-life balance among the school teachers.

Key words: Smart phone technology, work-life balance, stress

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Markovian Analysis of Finite Capacity Queue with Unreliable Server

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Abstract

In this paper, we analyze a queueing system that is composed of impatience of customers, working breakdown under service pressure condition with threshold-based recovery policy. Customers arrive in the system in a Poisson manner, and service rendered follows an exponential distribution. When the queue length is large enough, the server under pressure conditions increases the service rate in order to reduce the queue length. The arriving customers have a tendency to behave impatiently and leave the system without getting service. Further, the matrix analytic method is used to calculate the steady-state probability distribution. The profit maximization problem is formulated, and the classical optimizer: The Quasi-Newton method, is used to calculate the optimal values of system design parameters. Lastly, several graphs and tables are provided to show the quality performance of the service system.

Keywords: Single server, Customers' Impatience, Unreliability of the server, Working breakdown, Service pressure condition, Threshold-based recovery policy, Quasi-Newton method.

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Duality Theorems for k-Invex Functions

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Abstract

For a class of k- invex functions we present duality theorems, namely the weak duality, strong duality and converse duality. Lagrangean duality, Wolfe's duality and Frenchel's duality are taken into consideration. We have generalized the existing results for convex, k- convex and invex functions. The concept of k - convexity is analyzed for both smooth and non- smooth cases which are important in vector optimization.

Keywords: k- convex functions, invexity, duality, vector optimization

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Interpersonal transgression and Wellbeing: Moderating Role of Recovery

Dr. Raghavendra S

ABSTRACT

Interpersonal transgressions are an inevitable part of the work environment. The previous findings suggest that transgression is associated with negative impact on the physical, behavioral, and mental health of the employee who encounters transgression. Therefore, it is important for organizations to address the issue of interpersonal transgression. The aim of the study is to examine the moderating role of recovery between interpersonal transgression and well-being in the work setting. The proposed model would be tested by using regression analysis. This study contributes to recovery and interpersonal transgression research.

Key words: Interpersonal transgression, well-being, recovery

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Emotion Regulation Strategies and Job Search Behaviour: The Role of Job Search Anxiety and Job Search Self-esteem

Dr. Chetna Priyadarshini

ABSTRACT

Job search is a stressful process, especially for the job seekers having involuntary job loss and for the ones in the phase of school-to-work transition. The university leavers' anticipation of difficulties due to perceived internal and/or external barriers in transition to work has been shown to lower feelings of control over career and trigger anxiety (Monteiro & Almeida, 2015). Past studies have also reported the adverse impact of economic macro events like recession on the psychological well-being and career related behaviour of university graduates. However, it has been argued that the impact of Covid-19 pandemic would be much stronger on the emotional reaction and behaviour of the job seekers; due to sudden and unexpected changes in work preferences and shrinking job prospects as a result of global economic downturn. The upcoming uncertainty associated with career and job attainment may therefore lead to feelings of anxiety. This is consistent with psychological theories of stress, which show an association between anticipation of difficulties and emotional wellbeing (Lazarus & Folkman, 1984). In this regard, the present study intends to examine the influence of emotion regulation strategies on job search behaviour of university graduates via job search related anxiety and job search self-esteem as perceived by the new entrants to the job market.

Key words: Job search behavior, Self-esteem, emotion regulation strategies

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A Parametric Non-Convex Optimization Approach to Machine Learning Problem

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Abstract

In recent times, in the field of signal processing and machine learning the non-convex optimization approach has proved itself to be efficient in finding optimal solutions to problems which were thought of as NP-hard. Stochastic optimization, gradient descent, relaxation methods, expectation maximization algorithm are some of the techniques which are frequently used in non-convex optimization. In this presentation we generalize some of the existing application oriented problems to functional domain so that the preview and scope is broadened to a large scale of problems. The paper studies the basic tools theoretically with an analytical approach. We also propose a non-convex vector optimization model for a generalized machine learning problem. Here we have used parametric non-convex programming.

Keywords: Parametric non-convex optimization, machine learning, vector optimization

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The Impact of Police Trust and Integrity on Police performance and Community Happiness: Mediating Role of Procedural Justice

Dr. Mohd Abdul Nayeem

ABSTRACT

There is a lot of research done on community policing in terms of how close the police are to the community; the best practices; effect on crime rates; external strategies and security. However, there is still a need to investigate the effect of community policing on a general and very crucial level, that of community happiness, a concept which has evolved in the Telangana context from "satisfaction". This exploratory research is to examine the relationship between trust and integrity on police performance and community happiness and the mediating role of procedural justice in the context of Telangana police.

This research will be conducted using mixed method research, a survey instrument to collect data from sample residents from the population under study, and will employ correlation and regression analysis to evaluate the relationships between the variables. The research expects to provide useful and usable insights and recommendations on making community policing more effective in generating community happiness.

Key words: Police trust, integrity, community happiness, procedural justice

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Second Law Analysis of Mixed Convective Eyring-Powell Nanofluid Flow Between Porous Parallel Plates with Hall and Ion Slip Currents

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Abstract

This present article investigates the entropy generation on an unsteady mixed convective Eyring-Powell Nano fluid flow confined between parallel plates in a porous medium with Brownian motion and thermophoresis, Hall and ion slip currents. Considered there be a periodic suction and injection along with the plates and the temperature and concentration are changing periodically concerning time. The governing set of flow field partial differential equations (PDEs) are reduced into nonlinear ordinary differential equations (ODEs) by using feasible suitable similarity variables then solved numerically using the shooting method with Runge-Kutta 4^{th} order method. The results are discussed in detail for Non-dimensional velocity profiles, temperature, concentration profiles, entropy generation number and Bejan number for various fluid and geometric parameters and presented in the form of graphs. Skin friction coefficient, heat and mass transfer rates are also calculated and presented in the form of tables.

Keywords: Eyring Powell fluid; Brownian motion; thermophoresis; shooting method; Hall and ion slip effects.

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Does workplace wellbeing mediate the relationship between workplace spirituality and job satisfaction?

Dr. Asha Binu Raj

ABSTRACT

Due to the increased organizational expectations of high employee performance and productivity, workplaces are experiencing rising stress, burnout, and negative psychological, emotional, spiritual and physical outcomes due to high performance-related pressure. These work-related issues faced by individuals and organizations affect the overall wellbeing of employees and communities. In this context, workplace spirituality offers alternatives to employers and employees which help balance between performance and wellbeing. Almost all areas in organizational behavior and human resource management can be effectively managed through spiritual practices involving compassion, meaningful work and transcendence at the workplace. This is relevant from a positive organizational perspective as it facilitates positive emotions among employees resulting in internal and physical wellbeing and further positive employee outcomes such as job satisfaction.

Key words: Does workplace wellbeing mediate the relationship between workplace

spirituality and job satisfaction?

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Second Law Analysis in Squeezing Flow of MHD Casson Nanofluid Between Parallel Disks with Thermal Radiation

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Abstract

This paper discusses the second law analysis of an unsteady squeezing flow of MHD Casson nanofluid confined between two parallel disks under the influence of thermal radiation. The lower disk is porous and the upper one is impermeable. The governing partial differential equations are converted as nonlinear ordinary differential equations by using similarity variables then the reduced ordinary differential equations are solved with the help of the shooting method along with the Runge-Kutta 4^{th} order method. The effects of various non-dimensional fluid and geometric parameters on the velocity components, temperature components, entropy generation number and Bejan number are studied in detail and presented in the form of graphs and also the skin friction at lower and upper plates are presented in the form of tables.

Keywords: Entropy generation; Casson Nano fluid; MHD; thermal radiation; shooting method.

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Teachers' Satisfaction with Life during the Pandemic

Dr. S. Raghavendra

ABSTRACT

Throughout the COVID-19, teachers, school counselors, and other faculty members have been providing services to students that include remote teaching, supporting students to learn, counseling them to be emotionally and mentally strong. This kind of support help students to maintain their mental health and wellbeing but little or no emphasis has been given to maintaining the mental health and wellbeing of teachers. On the flip side, teachers are trying to balance the new way of living with the pandemic, face the challenges of remote teaching like learning new technical skills to do their job and other personal life issues. The professionals like teachers who help others often experience stress, that may lead to depression, burnout, and in more severe cases post-traumatic stress disorder. The current study aims to explore the teacher's satisfaction with life during the pandemic.

Key words: Pandemic Teachers' Satisfaction Depression, Burnout

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Heat and Mass Transfer of Mixed Convective MHD Micropolar Nanofluid Flow between Parallel Plates in a Porous Medium

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(Deemed to be University under section 3 of the UGC Act, 1956)

Abstract

In this present study, thermophoresis and Brownian motion effects on Micro-polar fluid flow between parallel plates are discussed. The boundaries of the plates are maintained at distinct temperatures and concentrations while the fluid is being sucked and injected periodically through upper and lower plates. The system of governing partial differential equations is converted as a system of ordinary differential equations by using similarity transformations. The shooting method with Runge-kutta fourth-order scheme is used for solutions. The dimensionless velocity, heat and mass profiles are analyzed for various fluid and geometric parameters and shown graphically.

Keywords: Micro-polas nanofluid; thermophoresis; Brownian motion; shooting method.

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Experimental Study of Nanofluids Heat Transfer Characteristics for Application in a Car Radiator

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Abstract

The study of heat transfer characteristics of heat exchangers in a car radiator is used nanofluids as heat transfer media. The convective heat transfer of water-based CuO nanofluid flowing through a uniformly heated tube has been investigated. The thermal conductivity and dynamic viscosity of the prepared nanofluids have also been measured and modelled at different temperatures and nanoparticle concentrations. This model has investigated the effects of particle concentration, particle diameter, and particle and base fluid material on the heat transfer rate at different Reynolds numbers. The investigated results can be very useful to annualize the potential application of nanofluid-based car radiators.

Keywords: Nanofluid, Convective heat transfer, Experimental study, Car radiator.

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A study of the Impression Management Strategies used by Women

Dr. G. Ashok Kumar

ABSTRACT

This proposed study attempts to understand the impression management strategies used by women in Indian organizations. The extant research on gender differences in impression management, primarily conducted in Western cultures, has been inconclusive. This may be a result of attempting to generalize across cultures. India provides an interesting context with high power distance culture, low social status of women as well as an emerging women's movement. These factors set the context for the choice of impression management strategies by women in Indian organizations. The nature of the job role and the attitude towards gender stereotypes provide a conceptual framework to understand the impression management strategies of women in Indian organizations. The proposed framework is explained and relevant hypotheses are suggested.

Key words: Impression Management Strategies, Gender differences, power distance culture

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Numerical and Experimental Study on Heat Transfer Enhancement in Car Radiator by Using Nano Fluid

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Abstract

This study review heat transfer enhancement in car radiators by using different types of nanofluids like CuO, Al_2O_3, etc. applying the car radiator industries. In the present world, it requires powerful water-cooled engines in modern cars. Currently, it created problems of insufficient rate of engine cooling. So that, it requires a compact design of a radiator which being small in size and equivalent capacity of engine cooling. For enhancing the cooling capacity, whereas many approaches are used in the design and there is no more scope in this area to enhance heat transfer. So, there is a gap to study modern technology. Heat transfer enhancement of nanofluid is more than conventional fluids. This reduced or compact shape may result in improving the fuel economy and reducing the weight of the vehicle.

Keywords: Car radiator, Experimental study, Heat transfer enhancement, Nanofluid

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Thermal Convection Analysis in an Inclined Porous Layer with the Effect of Mass Flow

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Abstract

The present study is analyzing the influence of mass flow on thermal convection in an inclined fluid-saturated porous layer. Also, examine the thermal instability effect on inclined porous layer by applying the linear stability analysis. The stability to small-amplitude distributions is analyzed concerning longitudinal and transidental rolls by using three dimensional normal modes. The resultant eigenvalue problem is solved numerically by using the Chebyshev-Tau method for evaluating the critical thermal Rayleigh number with respect to various flow governing parameters.

Keywords: Linear stability analysis, heat source, inclined porous layer.

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Improved Ferroelectric, Piezoelectric and Conductivity Properties of Sm, Na Substituted Strontium Bismuth Titanate Lead-Free Piezoelectric Ceramics

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Abstract

Lead-free Bismuth Layer-Structured Ferroelectrics (BLSF) ceramics, Sr1-2xSmxNaxBi4Ti4O15 (x=0.0 to 0.4), are synthesized by solid-state reaction method via mechanical ball milling for 10 hours. The role of Sm, Na on ferroelectric, piezoelectric and electrical conduction of these Lead-free piezoelectric ceramics, are investigated. The XRD and SEM studies are employed to identify the phase composition and morphology of the samples, which confirms single phase formation and typical orthorhombic sheet-like structure of the material. The ferroelectric (P-E loop) and piezoelectric properties (piezoelectric coefficient and electromechanical coupling factor) are studied at room temperature. These results show improved ferroelectric (2Pr) and piezoelectric properties with an increase of Sm, Na content in SrBi4Ti4O15 ceramics. The optimal properties are achieved at x=0.4 with a maximum remnant polarization (2Pr) of 0.63 μC/cm2, piezoelectric coefficient (d33) of 17 pC/N and electromechanical coupling factor (kp) of 0.67. The temperature and frequency dependant electrical conductivity studies are carried out between room temperature and 650oC, in the frequency range 1 kHz to 100 kHz. The activation energies (Ea) are determined from Arrhenius plots, and it is observed that there is an increase in Ea with increasing concentrations of Sm, Na which can be attributed to the decrease in oxygen vacancies due to doping at the A-site of the BLSF ceramics.

Keywords: Ferroelectricity, piezoelectric coefficients, activation energy and AC conductivity.

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Effect of Ball Milling Duration on Structural and Dielectric Properties of Sm, Na Substituted SBTi Ceramics

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Abstract

$Sr_{1-2x}Sm_xNa_xBi_4Ti_4O_{15}$ (x=0.0 - 0.4) lead-free piezoelectric ceramics were prepared via a solid-state sintering approach using a high energy planetary ball mill. The milling time was for 10 hours for one batch of samples and 20 hours for another. The ball-mill was operated at a constant speed of 200 rpm. XRD (X-Ray Diffraction) studies reveal a single-phase formation, and there was no significant difference in the XRD between 10 and 20 hours' samples. The average grain size was effectively reduced from 5μm to 2 μm with increasing milling duration. Temperature-dependent dielectric properties were carried out at different frequencies. Although both the batches showed improved dielectric properties due to Sm, Na substitution, a pronounced lowering of dielectric constant and increase in Curie temperature was achieved with an increase of milling time. This is due to the reduction of granular size and better homogeneity seen in the micrographs of the 20 hours' samples.

Keywords: Ball mill, grain size, Curie temperature, dielectric constant and homogeneity.

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Controlling Non-Autonomous Matter Waves in ``Smart'' Transient Trap Variations

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Abstract

In this paper, we study the controllable behaviour of non-autonomous matter waves in different "smart" transient trap variations in the context of the cigar-shaped Bose-Einstein condensates. By utilizing a novel self-similarity transformation, we reduce the non-autonomous Gross-Pitaevskii (GP) equation, to the familiar elliptic equation with soliton solutions. This process leads to a consistency equation which is in the form of a Riccati equation. The connection between the Riccati and the linear Schroedinger equation through the Cole-Hopf transformation is exploited here to introduce temporal trap variations. For our study, we explore the possibility of using one dimensional exactly solvable potentials and their newly constructed rational extensions, as functions of time, to introduce interesting temporal trap modulations. The regular potentials and their rational extensions being structurally different, leads to different temporal modulations. It is exhibited that the soliton behaviour with respect to compression/amplification etc., in both these cases is different.

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Non-abelian Chern-Simons Spinor Electrodynamics in the Light-Cone Gauge

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Abstract

We investigate the one-loop quantum corrections of Non-abelian Chern-Simons spinor electrodynamics in the light-cone gauge. For this investigation, we have used a hybrid regularization consisting of a higher covariant derivative regularization and dimensional continuation. To handle the spurious light-cone singularity in the gauge field propagator we make use of the Mandelstan-Leibbrandt prescription.

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Sustainable Human Resource Management: Making human resources more responsible

Dr. M. Bhaskara Rao

Abstract

Literature on human resource management (HRM) in general, and strategic HRM in particular, focuses on firm's business strategy and architecture for matching HRM with organizational strategies, creating HR strategy and HR systems. The need to respond to the sustainability of organizations requires paradigm shift in all aspects of HRM. Thus the debate is on human resources playing critical roles in addressing the sustainability concerns. This paper is a response to the demands of sustainability of organizations, society and environment; of which the role of human resources is critical.

Key words: HR strategy and HR systems, Paradigm shift, Sustainability concerns

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Experimental Investigation of Laser-Induced Shock Waves from Polymers

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Abstract

Characterization of the new polymers is not an easy task as the conversion of optical energy to kinetic energy is essential in understanding the laser ablation of polymers. Polymers are considered to be cleaner, environmentally friendly replacements for older perchlorate-based propellants and hence used as plasma thrusters. For e.g., energetic hydroxyl terminated polybutadiene (HTPB) is being used as a binder for high-performance composite propellants. The energy released in the process and the propagation speed of the gaseous products can be understood by studying the laser ablative shock waves and blow-off shock waves. Propagation of Laser Ablative Shock Waves and contact front from the polymers into the ambient atmosphere was studied using time-resolved defocused shadowgraphy technique. Second harmonic of Nd:YAG laser of wavelength 532nm, pulse duration 7ns and repetition rate 10Hz is used to create laser ablative shock waves by ablating energetic polymers of HTPB (~ 260μm thick) and its variants with energetic additives taken in the form of a sheet were studied over 0.2-30 μs time scales. The results were compared with non-energetic Poly Vinyl Chloride polymer (PVC) (130μm) under the same experimental conditions.

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Rational Calogero Model: Bound State Problem with Exceptional Gegenbauer Polynomial Solutions

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Abstract

The three-body calogero model is a separable problem in the Jacobi coordinates. The angular part can be mapped to the Scarf potential, which displays band and bound spectra based on the range of the potential parameter. In this study, we construct the rational extension of the Calogero model for the bound state spectrum in the angular variable. The corresponding eigenfunctions are in terms of the rational Gegenbauer polynomials. A similar extension of the radial part leads to the exceptional Laguerre polynomials.

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Fractional Statistics in 1D with Exceptional Gegenbauer Polynomial Solutions

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Abstract

The angular part of the separable three-body Calogero model exhibits a band spectrum for a certain potential parameter range. It is rationally extended using the isospectral shift method. The band-edge eigenfunctions of the new rational periodic potential are in terms of the exceptional Gegenbauer polynomials. The new periodic potential is discussed in the context of fractional statistics by applying the anyonic boundary conditions.

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Nickel and Sodium Phosphate Composite with Wall Putty Substantive as Energy Saving Decorating Material

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Abstract

A phosphate-based inorganic mixture of Nickel and Sodium has been synthesized and various measurement techniques were used to characterize it. Composite mixtures of this mixture were synthesized with assimilation of wall putty. The DSC (Differential Scanning Calorimetry) of the mixture was studied in two thermal cycles from 298 K to 223 K at 10 K min^{-1} in a normal atmosphere and found endothermic behaviour after a cycle, Cp = 75.13 J g^{-1} K^{-1}. The specific heat capacity (Cp) of 4.42 % composite mixture is found to exhibit a lower Cp value as compared to wall putty by 20% at 343K. The Cp of wall putty is 4.96 Jg^{-1} K^{-1} at 300 K while Cp of 4.42 % and 12.11 % composite mixture is 2.70 Jg^{-1} K^{-1} and 4.00 Jg^{-1} K^{-1} at 300 K, respectively. This composite mixture can be used in exterior walls of the buildings instead of wall putty alone. So, coating material of 4.42% mixture can keep the buildings cooler than expected.

Keywords: Composite mixture; Heat storage; Phosphate; wall putty; Differential Scanning Calorimetry (DSC)

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What motivate Students to Attend the Guest Lectures? A Comparative Study across Three Popular Disciplines in India

Dr. Chetna Priyadarshini

Abstract

The paper examines the student's motivation in attending the guest lectures and comprehends the factors that influence students to attend guest lecture across different disciplines. Qualitative data was collected by conducting focus group across different disciplines to generate themes and in quantitative method questionnaire pertaining to themes was prepared on a five-point Likert scale. The factor analysis of the themes resulted in identifying three factors viz., Knowledge, Skills, and Attitude. The ANOVA results indicate that knowledge is significantly important across all the discipline; Skills improvement is the main motive for medical and pharma students to attend the guest lecture. Attitude Improvement is the key reason for management, medical and pharma students to attend such guest lectures. The study helps academicians to understand the relative importance of knowledge, skills and attitude in conducting guest lecturers across different disciplines. This study is the first of its kind research that seeks to comprehend the student motivations behind attending guest lectures within the context of higher education.

Key words: Student motivation, guest lectures, Qualitative research

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Structural, Magnetic and Thermal Study of CoFe2O4/MnO2/C Core–Shell Nanoparticles

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Abstract

The synthesis of $CoFe_2O_4/MnO_2/C$ core–shell nanoparticles (NPs) was performed using a two-step method by vapour deposition. The diameter and crystallite size of the synthesized $CoFe_2O_4/MnO_2$ NPs were lower than 20 nm after sintering at 800^0C for a period of 5 hrs. Both phases were confirmed by XRD and Fourier transform infrared spectroscopy (FT-IR). Acetylene gas (C_2H_2) was used as a carbon precursor and coating was performed for 1, 2, and 3 h. After coating, the core size was below 30 nm and the thickness of the shell was below 8 nm. The composition, structure, and morphology of the fabricated NPs were characterized using X-ray diffraction (XRD), transmission electron microscopy (TEM), CHNS analysis. The vibrational sample magnetometer (VSM) was used to investigate the magnetic properties. To study the coated carbon, micro-Raman spectroscopy was used. A combined TG-DSC analysis was carried out to analyse the thermal behaviour which revealed endothermic behaviour of the NPs.

Keywords

Nano-composites; Precipitation; Vapor deposition; Raman spectroscopy; VSM; TG-DSC

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Phosphate and Sulfate Containing Inorganic Mixtures of Copper as Thermal Retardant: Synthesis, Characterization and Study of Thermal Behaviour

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Abstract

The phosphate and sulfate mixture of inorganic compounds such as $Cu_3(PO_4)_2$, $CuH(PO_4)_2$ and $NaHSO_4.H_2O$ was synthesized by charging copper sulfate pentahydrate with phosphoric acid. The specific heat capacity of this mixture was evaluated using Differential Scanning Calorimetry (DSC) at both high and low temperatures compared to room temperature at a rate of 10 K min^{-1}. The composite materials were prepared using this mixture with wall care putty alone as well as $CaCO_3$ along with glue. The thermal property of these composite materials was also studied in the N_2 atmosphere at a rate of 5 K min^{-1}. The thermal property of the mixture was measured from 303 to 573 K and vice versa in two thermal cycles and one thermal cycle at low temperature up to 173 K from 298 K. The evaluated specific heat capacity revealed that the mixture shows endothermic, while its composite materials show the same behavior with reduced magnitude of endothermicity. Due to this behavior, these composite materials can be used at the interface of any substance such as buildings in order to prevent the conduction of heat inside the substance. As far as the application is concerned, this composite is a better candidate compared to building decorating substances alone.

Keywords Coating, DSC; heat retardant; wall care putty, $CaCO_3$ with glue

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SnO2/LiFe2O4/Graphene Nanocomposites as Anode Materials for Lithium-Ion Batteries

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Abstract

SnO_2/$LiFe_2O_4$/Graphene nanocomposites have been developed by a one-step hydrothermal synthesis method for Lithium-ion batteries. The nanocomposites have good electrochemical performance due to the synergetic effect of graphene, $LiFe_2O_4$, and SnO_2 nanoparticles. The electrochemical performance was found to be better as the SnO_2 content was increased. After 50 cycles, the nanocomposite with 50 wt% SnO_2 typically has a high reversible capacity of 600.3 mA h/g at a current density of 195 mA/g, which can be as high as 76.9% of the first cycle. After 100 cycles, the material likewise has a discharge capacity of 613 mA h/g at 800 mA/g. The incorporation of SnO_2 in the host $LiFe_2O_4$-graphene oxide accounts for the increased electrochemical performance. Furthermore, graphene sheets can improve electrical conductivity and absorb volume changes to some extent, allowing the structure to remain intact while cycling stability and rate capability are improved.

Keywords:

Anode material; Li-ion batteries; Raman spectroscopy; TG-DSC; XPS

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Green Synthesis and Antimicrobial Activity of 3-Aryl-2-Methyl Quinazoline-4(3h)-Ones

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Abstract

A green DABAL-Me_3 microwave-assisted synthesis was developed for the synthesis of various 3-Aryl-2-methylquinazolin-4(3H)-ones. The method has significant improvement over previously reported methods for synthesis. All the synthesized compounds were characterized by IR, ^{1}H &^{13}C-NMR, mass spectroscopy and elemental analysis.

Keywords: DABAL-Me_3, Quinazolin-4(3H)-ones, Microwave irradiation method, antimicrobial activity.

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Spectrophotometric Studies of Cefotaxime (CFX) and their CFX- Cd (II) and CFX- Cu (II) Complexes

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Abstract

In the present investigations, the determination of Cefotoxime (CFX) and its Cd (II) and Cu (II) metal complexes was carried out by the spectrophotometric method. Effect of pH, the effect of concentration of metal ion, the effect of concentration of a drug, effect of time, the effect of organic solvents and the composition of the complex were studied by mole ratio and Job's continuous variation method. Interference studies were also carried out for the determination of metal ions and drugs. In this research work, it is clear that Cd(II) and Cu(II) form stable 1:1 colored complexes with CFX in basic and acidic mediums respectively. pH studies reveal that the formation of CFX-Cd(II) and CFX-Cu(II) complexes have taken place at pH 11.0 and 5.5 respectively. In these reactions, it is found that the metal ions are in the range 1.12 to 6.74 and 3.812 to 8.895 µg/ml for Cd(II) and Cu(II)complexes respectively whereas the drug is in the range 0.02 to 0.14 mg/ml respectively. Effect of time clearly suggests that the maximum absorbance is obtained only after heating the mixture at 40° and 60°C for CFX- Cd (II) and CFX- Cu (II) complexes respectively. It has been observed that the absorbance values remain constant thereafter which indicates the formation of 1:1 stable metal complexes.

KEYWORDS: Spectrophotometric technique, Cefotaxime, Cadmium (II) and Copper (II).

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Investigation on Corrosion Inhibition of Mild Steel Using CoPIm1.2 and CoPIm2.1 Nanocomposites

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Abstract

Herein, we report the synthesis, characterization of two $CoPIm_{1.2}$ and $CoPIm_{2.1}$ nanocomposites. The characterization was done by adopting various electro-analytical techniques such as elemental analysis (ICP-OES and C-H-N-S), X-ray Powder Diffraction (XRD), Thermogravimetric Analysis (TGA) and Derivative Thermogravimetry (DTG), Fourier Transform Infrared (FT-IR) Spectrometry, Absorption Spectrophotometry and Ultraviolet-Visible and near Infrared (UV–Vis-NIR), Scanning Electronic Microscope (SEM) and Transmission Electron Microscope (TEM). Two coating materials of $CoPIm_{1.2}$ and $CoPIm_{2.1}$ acrylic paint (black) have been fabricated. The weight-loss method was used to detect the corrosion rate of mild steel plates in an acidic environment (0.05N HCL) with and without coatings. The corrosion rates in the presence of $CoPIm_{1.2}$ and $CoPIm_{2.1}$ are 2.61% and 2.02% and with paint, the corrosion rate is 7.03% whereas, without coatings, it is 13.01%. Hence, these nanocomposites can be utilized as corrosion inhibitors for mild steel.

Keywords: Corrosion, Nanocomposites, Coating Material, Corrosion inhibitor