# SETH GYANIRAM BANSIDHAR PODAR COLLEGE

## Podar Educational Campus, Nawalgarh, Jhunjhunu (Rajasthan)

*Online International Conference on*

*"Recent Trends in Science, Humanities & Engineering"*

*18-19, June 2021*

*in association with*

*Advance Research Educational Society (ARES)*



*An IQAC Initiative*

*Proceeding of Conference*

# <u>Welcome to RTSHE-2021 and Nawalgarh, Jhunjhunu India</u>

This year we are celebrating the 100th Anniversary of Establishment of The Anandilal Podar trust. As an initiative of IQAC Cell, two days long **online International Conference on Recent Trends in Science, Humanities and Engineering (RTSHE-2021)** had been organized in multidisciplinary subjects by Seth Gyaniram Banshidhar Podar College, Nawalgarh on 18-19 June, 2021. The institution is leaving no stone unturned in encouraging the spirit of research and innovations for the learners and thus strengthening the academic environment among them. This event attracted number of participants from India, and other countries like Malaysia, Namibia, Nigeria, as we continue to evolve, adapt and develop new collaborative programs between various institutions in India and foreign Nations.

Innovative original research papers and write up and articles are invited on the topic covered under various areas like Physics, Chemistry, Mathematics, English, Geography, History, Economics, Biology, Statistics, Engineering, Data Science, Machine Learning, Artificial Intelligence, Computer Science, Social Science, Management , etc.

A total of 98 participants presented their views in two days conference.

## MESSAGE FROM EXECUTIVE DIRECTOR



  I am happy to announce that Seth Gyaniram Banshidhar Podar College, Nawalgarh Jhunjhunu has been organizing two days Online International Conference on Recent Trends in Science, Humanities and Engineering (RTSHE-2021) from 18/06/2019 to 19/06/2021 in Nawalgarh. I hope proceedings of the conference will inspire the young generation and promote further stronger relationship between the researchers of India and other participant from abroad.

I wish all the best for the success of International Conference.

PATRON

Shri M. D. Shanbhag

Director (Executive)

The Anandilal Podar Trust, Nawalgarh

Jhunjhunu, Rajasthan, India

## FROM THE CONVENER'S DESK



It gives me great pleasure to extend you all a very warm welcome on behalf of Seth Gyaniram Banshidhar Podar College, Nawalgarh, District Jhunjhunu. We are grateful to all the speakers, delegates, organizers and guests, who have accepted our invitation to participate in the **online International Conference RTSHE - 2021**. It is an opportunity to renew contacts and to discuss mutual interest with delegates from India and other foreign countries such as Malaysia, Namibia, and Nigeria.

It is gratifying to note that the agenda of the Conference covers a wide range of very interesting topics related to new era in higher education. No matter how much we can do by ourselves on the national level, whether it be research or development, it is never enough.

We are proud of nurturing past and present civilizations and culture. We must join in an action oriented effort to recognize and capitalize on the opportunities in the higher education sector in the world. The utter sincerity and dedication of the management, the teaching faculty, non-teaching staff and the students at Seth Gyaniram Banshidhar Podar College has brought this event to great success. It is an outcome of the hard work and persistent efforts of all our colleagues. We hope that their efforts shine through, and all the delegates and participants have a fulfilling and rewarding experience here, that carries forward long after the event itself is over.

I hope that this event will further strengthen bonds between the people of India and other participant from foreign countries.

**Dr. Satyendra Singh**

**Principal & Convener RTSHE-2021**

## ADVANCE RESEARCH EDUCATIONAL SOCIETY (ARES)



It gives me immense pleasure that Podar College Nawalgarh (Rajasthan)in collaboration with Advance Research Educational Society is organising an Online International Conference on "Recent Trends in Science, Humanities &Engineering", 18-19 June 2021. Besides conducting quality teaching and research, organising conferences, workshops, and seminars is considered an integral part of academic responsibilities of an institution. Holding of such periodical conferences offers an excellent forum for scientists to exchange knowledge and ideas besides an opportunity to participate in potent debates over the issues and to identify areas that warrant priority research attention. We are confident that the conference would come up with some fruitful recommendations for further improving the academic excellence and quality of research in all interdisciplinary areas. Thanking Podar College Nawalgarh (Rajasthan) for taking the initiative to organize this International Conference. I also congratulate the organizers, delegates and the participants and wish the historic event a grand success.

**Dr Priyanka Bansal**

**Secretary-ARES**

## MA-01

### Fuzzy Rough Information Measures and their Application

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### Abstract

The degree of roughness characterizes the uncertainty contained in a rough set. Also, the rough entropy is defined to represent the roughness of rough set which is effective, but not accurate enough. Some author used information measure in place of entropy for better understanding of the amount of uncertainty in fuzzy rough set. In this paper three new fuzzy rough information measures are proposed and their validity is verified. The application of the proposed information measures in decision making problem is studied and also compared with other existing information measures.

## MA-02

### Fixed Point Theorems in Intuitionistic Fuzzy Metric Space

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### Abstract

The concept of Fuzzy sets was given by L.A.Zadeh in 1965. As a generalization of fuzzy sets, Atanassov introduced the notion of Intuitionistic fuzzy sets in 1983.In this paper, we determine some common fixed point theorems for 5-tuples along with (CLR) property in Intuitionistic fuzzy metric space.

**Keywords:** intuitionistic fuzzy metric space, $(CLR)$ property, weakly compatible maps, common fixed point.

## MA-03

### A Generalization of Black Scholes Formulas with Discrete Dividend

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### Abstract

Unfortunately, there does not exist closed form solution of Black Scholes formulas for European options when dividends are paid with fixed amount during the life of option. As a result, there are many approximation methods have been established to seek more accurate price of European options with discrete dividends.S. P. Zhu and X. J. He (2018) derived an accurate approximation Black Scholes formulas for pricing the European options with discrete dividend payments for plain vanilla options having payoffs max{S-K,0} and max{K-S,0} of call and put options respectively, where S is the value of asset price at the expiration time of option and K is the striking price of option. This paper contributes to the derivation of Black Scholes formulas for the European options with discrete dividend payment for payoffs max{$S^p$–K,0} and max{K-$S^p$,0} of call and put options respectively, where pis a positive real number. This is a generalization of plain vanilla options. The accuracy of the formula has been checked numerically through graphs using Mathematica.

## MA-04

### Existence and convergence results for the system of generalized mixed variational-like inequalities with multi-valued mappings

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## Abstract

The goal of this article is to study generalized mixed variational-like inequalities with multi-valued mappings over the product of sets  andthe system of generalized mixedvariational-like inequalities with multi-valued mappings in topological vector spaces, moreover both the problems are equivalent. By employing auxiliary principle method, we develop an iterative algorithm to determine the approximate solutions of our problems. Under some suitable conditions and well-known theorems, we prove existence and uniqueness of solutions for our problems. Finally, we analyze the strong convergence of approximate solutions to the unique solution of the system of generalized mixed variational-like inequalities with multi-valued mappings. These results are more general than some known result in this field.

## MA-05

## Analysis of an $M/E_k/1$ queue with N-policy re-service and admission control

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## Abstract

An $M/E_k/1$ queueing model with N-policy, re-service and admission control is considered in this paper. All the arrivals must pass through all the k phases of service before leaving the system. When the system becomes empty, the single server stays dormant and waits for the

accumulation of N customers to start the service. When the $N^{th}$ one enters the queue, the server begins an exhaustive service. After the completion of service, every unsatisfied customer may demand for immediate re-service. During the busy period, all the arrivals are not permitted to enter into the system. The transient system size probabilities are derived for the proposed model using generating function and Laplace transform.

**Keywords:** $M/E_k/1$ queue; N- policy; Re-service; Admission control; Transient system size probabilities

## MA-06

**Application of Sawi transform in Partial differential equations with variable coefficients**

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### Abstract

Now a days many researchers try to find the solution of advance problems of biology, medicine, physiology, economics,engineering andphysical science by using various integral transforms like  Laplace transform,  Elzaki transform, Aboodthtransform , Sumudutransform, Kamal transform , Mohand transform , Fourier transform , Shehu transform , Sawitransform, etc. In this paper we study the convolution theorem for Sawi transformand application of it to solve wave equation.

## MA-07

**Some Maclaurin symmetric mean aggregation operators based on Schweizer-Sklar operations for Picture fuzzy numbers and their application to decision making**

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**Abstract**

Schweizer-Sklar T-norm and T-conorm (SSTT), as an important class of the T-norm (TN) and T-conorm (TC), have greater flexibility in the information fusion process, and the Maclaurin symmetric mean (MSM) has a prominent advantage that it can take into account the interrelationships among the multi-input arguments, including multi-attributes or multi-experts in the multi-attribute group decision making (MAGDM), and it is also the generalization of many existing operators. In order to make full use of the advantages of both SSTT and MSM, we extend SSTT to Picture fuzzy numbers (PFNs) and define Schweizer-Sklar operational rules of PFNs. Then, we combine the MSM with Schweizer-Sklar operational rules, and propose the Picture fuzzy Schweizer-Sklar Maclaurin symmetric mean (PFSSMSM) operator, the Picture fuzzy Schweizer-Sklar weighted Maclaurin symmetric mean (PFSSWMSM) operator, respectively. Furthermore, we study some desirable characteristics of them and develop a new method based on these operators to deal with some MAGDM problems. Finally, some examples of practical applications are presented to show the availability and advantages of the proposed method by comparing with some existing methods.

**Keywords:** Picture fuzzy set, Schweizer-Sklar T-norm and T-conorm, Maclaurin symmetric mean, Multi-attribute group decision making (MAGDM)

**MA-08**

**E-Bayesian estimation for two-parameter bathtub-shaped lifetime distribution based on upper record values**

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## Abstract

This article presents the expected Bayesian (E-Bayesian) estimation of two-parameter bathtub shaped lifetime distribution with upper record data using Squared error loss function and gamma distribution as a conjugate prior distribution for the unknownparameter are used to obtain the E-Bayesian estimators. Also, three differentprior distributions for the hyperparameters for the E-Bayesian estimators areconsidered. Some properties of the E-Bayesian estimators are studied. Using minimummean square error criteria, a simulation study is conducted to comparethe performance of the E-Bayesian estimators with Bayes Bayesian estimators. The numerical results show that the E-Bayesian estimators perform better than the Bayesian estimators.

**Keywords:** A two-parameter bathtub-shaped distribution, Bayes estimation, E-Bayes estimation, squared error loss function, record data.

## MA-09

## Multiobjective Optimization for Sustainable Supply Chain Management under Fuzzy Environment

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## Abstract

Supply Chain Management (SCM) is critical to the advancement and progress of any manufacturing industry. Sustainable supplier selection is one of the cardinal points to the achievement of the SCM. This study presents a supplier selection problem under a fuzzy environment—three different fuzzy goals with priorities considered and modelled as a multiobjective optimization problem (MOOP). The study uses the weighted root power-mean aggregation technique, converted the formulated (MOOP) model into a single model and solved using three memberships functions-linear, exponential and hyperbolic. The results are compared, and the hyperbolic membership function has the most promising satisfying solution. The numerical example illustrated the proposed model effectiveness, and the solution obtained gives a valuable suggestion to the decision-markers in the manufacturing sectors. Moreover, the approach is efficient and easy to apply.

*Keywords:* Sustainable Supplier Selection, Fuzzy Programming, Membership Functions, Multiobjective Optimization.

## MA-10

## Bayesian Inference for the Number of Species in a Stochastic Abundance Using Poisson Lindley Model

**Manoj Kumar**

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## Abstract

In this paper, we proposed an empirical and hierarchical Bayesian estimator for the number of species is based on Poisson Lindley stochastic abundance model. We used the Markov Chain and Monte Carlo (MCMC) method within Gibbs algorithms to obtain the proposed estimators. Also, we compared the empirical and hierarchical Bayesian approach to biological data sets.

## MA-11

# SOME FIXED POINT THEOREMS IN S-METRIC SPACES WITH NEW CONTRACTIVE MAPPINGS

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## Abstract

The purpose of this paper is to introduce new contractive mapping in S-metric space using new class of function. We establish some fixed point theorems in context of these new contractive mapping in S-metric spaces. Moreover, we present some examples to support our result.

## MA-12

# FIXED POINTRESULTS FOR VARIOUS CONTRACTIVE CONDITIONS IN b-MMM (MULTIPLICATIVE METRIC SPACE)

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## Abstract

The aim of this paper to prove several fixed point results for various contractive condition in b-MMS (Multiplicative Metric Space).

**Keywords:** Fixed Point, b-MMS (Multiplicative Metric Space), Contraction Mapping,

## MA-13

### AREA OF LINEAR ALGEBRA

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### Abstract

Linear algebra is vital in multiple areas of science in general, because linear equations are so hard to solve. Practically every area of modern science contains models where equations are approximated by linear equations. I have no idea how people abuse the power of linear algebra to approximate solving equations as a synonym for practical problems. This can be very useful.

**Key words: -** linear equation, synonym practical problem.

## MA-14

### A Common Fixpoint Implication in Gravity-Free Field Equations

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### Abstract

The famous field equations, proposed by Albert Einstein in the year 1915, were become the benchmarkexpressions of the geometry of spacetime with distribution of matter in general relativity. In these equations, Einstein tensor is corelatedwith stress-energy tensor. For a

particularagreement of stress-energy-momentum, the metric tensor can be evaluated.This includes the relations between metric tensor and Einstein tensor to be represented in the form of some non-linear partial differential equations. The complexity of these equations reduces when gravity-freespace is taken under consideration in place of a general space-time with gravity, which gives, $G_{\mu v} = 0$. To resolve such a non-linear formulation, fixpoint approach relied on contraction theory, has been a functional technique for last few decades. To further scrutinize the applicability of the notion ofinvariant point, in obtaining a solution of aforementioned problem through common fixpoint approach, is the viewpoint of this treatise.

*Keywords: Gravity-free space, field equations, metric tensor, common fixpoint theorem.*

## MA-15

## A FIXED POINT THEOREM IN G-METRIC SPACES FOR NEW TYPE OF AUXILIARY FUNCTIONS

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### Abstract

In this manuscript, we prove some fixed point theorems for new type of auxiliary functions in G-metric space satisfying a general contractive condition. For the application purpose some important corollaries have been derived from our main result.

Keyword: fixed point, auxiliary functions.

## MA-16

## A Case Study on Course Scheduling Problem with Preference Optimization

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## Abstract

Scheduling is a very demanding and time-consuming task for any organization. Many educational institutions prepared scheduling of exam, course, meeting, sports event, etc. In which course scheduling is challenging tasks for optimizing all resources. This research paper presents a linear programming approach to the course scheduling problem, in which courses have to be assigned to faculties as per the administrator preferences, faculty preferences, student's feedbacks, etc. The main aim is to solve multiobjective course scheduling problem using weight function. Thus, to optimize several objectives simultaneously solutions are often conflicting. In such type of situation, optimization of several objectives becomes the problem of multi objective problem which is solve using lingo.

**Keywords:** Multi-objective optimization, scheduling problem, zero one decision making and LINGO.

### MA-17

### A Study on Two-Stage Transportation Problem Using Lingo

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## Abstract

The study of the optimum distribution of goods between sources and destinations is one of the important problems in transportation. This importance comes as a result of minimizing the transportation cost, time, etc. It may contain one or more objective function, one or more stage to

transport, one or more type of commodity with one or more means of transport. First stage of transportation problem is of supply product to wholesalers from field, and second stage from wholesalers to retailers. Thus, to optimize each stage objective using triangular membership function the problem becomes multi objective transportation problem which is solve using fuzzy membership function.

**Keywords:** Multi-objective optimization, transportation problem, zero one decision making and LINGO.

## MA-18

### An overview on Isomorphic Group

**Shilpa Barak[1], Dr. A.K Malik[2]**

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### Abstract

In this research discussed the overview on isomorphic group.In algebra, a group isomorphism is a function between two groups that sets up a one-to-one correspondence between the elements of the groups in a way that respects the given group operations. If there exists an isomorphism between two groups, then the groups are called isomorphic. From the standpoint of group theory, isomorphic groups have the same properties and need not be distinguished. Conclusion and further investigation are also discussed.

**Keywords:** Isomorphism, Homomorphism, isomorphic groups.

## MA-19

### Unsteady stagnation-point flow past a stretchingsurfaceand heat transfer with thermal slip effects

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## Abstract

In this analysis, the effects of thermal slip and heat transfer in the presence of velocity on unsteady boundary layer stagnation-point flow over a linearly stretching surface has been examined. The set of governing equations are reduced to the ordinary differential equations by using similarity transformations, and then solved numerically by applying fourth order Runge-Kutta method with shooting technique. Effects of various physical parameters such as the velocity and thermal slip parameters, unsteadiness parameter and the velocity ratio parameter on the velocity and temperature distributions have been discussed throw graphs. The reported results are in good agreement with the available published results.

**Keywords:** Unsteady stagnation-point flow, Stretching surface, Heat transfer, Thermal slip effects.

## MA-20

## Case study of Valuation theory

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## Abstract

Valuations have been around in Mathematics since ancient times. When Euclid had proved the uniqueness of prime decomposition of a natural number, then this result permitted to code the natural numbers by the exponent, with which the various primes $p$ occur in these numbers. These exponents in fact represent $p$-adic valuations used in number theory.

However, Valuation Theory as a separate and systematic mathematical research, based on a set of axioms started in the year 1912 when the Hungarian mathematician JOSEF K$\ddot{U}$RSCH$\acute{A}$K announced at the Cambridge International Congress of Mathematicians the first abstract structure theorem on valued fields. It is intended to give a brief description of the development of valuation theory.

## MA-21

## ON COMMON FIXED POINT THEOREMS IN COMPLETE METRIC SPACES USING E.A. AND CLR PROPERTIES

### NISHA KUMARI

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### Abstract

In 2011, Jay G. Mehta et al. proved some common fixed point theorems for four compatible self-maps in complete partial metric spaces, In this paper, weextend these theorems using E.A. property and (CLR)-property in complete metric spaces with continuity of maps.

**KEYWORDS AND PHRASES**.Complete metric space, Common fixed point, Contractive modulus, weakly compatible, E.A. property, (CLR) property.

## MA-22

### Rational Type Contractionin rectangular metric spaces

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### Abstract

In this paper, first we prove a common fixed point theorem for a pair of weakly compatible and compatible maps under rational contractive condition. Secondly, we prove common fixed point theorems for weakly compatible mappings along with $(E.A.)$ and $(CLRg)$ properties in rectangular metric spaces.

**Keywords:** Compatible maps, weakly compatible maps, $(E.A)$ property, $(CLR)$ property, rectangular metric spaces.

## MA-23

### Earth System Model On Climate Change With Time Delay

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### Abstract

As we know climate change is one of the major challenge for whole over the world. However there is no realistic approach to this climate problem. Global warming and Greenhouse gases are two responsible factors for climate change. Many of the authors used a conceptual climate model that describes the study of delayed feedback system with delay differential equations. So, in this paper a study is based upon Earth system model which describes climate change with time delay. Sensitivity analyses is implemented for estimating how parameter identifies the model simultation.The most sensitive parameters that affect the climate are precipitation, temperature , evaporation over land and over oceans. So, the results obtained from this would give a better understanding between climate change and time delay in future.

## MA-24

### Swing Trends in Mathematics and its handouts to other streams

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**Abstract**

The approach of this paper is to study the current trends in present-day mathematics and role of mathematician other streams. In first part of this paper is Introduction. In second part these is hopes of application areas of mathematics at the grow up of the $20^{th}$era, Next part looks at the changes in mathematics application as an outcome of the latest approach to mathematics and findings in other fields. $2^{nd}$ last part of the paper tells us the Present thinking of collaborative and interdiscipline mathematics and the last part of this paper gives some examples of application are as where mathematics is growing up as a great component with great opportunities for inters discipline research.

**MA-25**

**Mathematical Modeling and Environmental Problems**

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**Abstract**

Mathematics is the universal language of environment, helping mankind explain and create. From playing games to playing music, mathematics is vital to helping students fine tune their creativity and turn their dreams into reality. Without mathematics nothing we can do. Everything around us is mathematics. In order to solve our environmental problems, which cover a wide area including ecological systems, weather and oceans it is effective to quantitize and analyze these systems as mathematical models. Thus development of the technique to construct, apply and estimate the mathematical models is of great importance. Mathematics has gained growing importance in order to analyze and estimate mathematical models for environmental

problems. Such fields as discrete optimization and combinatories, mathematical modeling via algebras, topology and various equations. The purpose of this paper is to study the role of mathematical modeling in environmental problems. This introduction to mathematical modeling of environmental problems starts with an explanation of basic concepts and ideas, which includes definitions of terms such as system, model, mathematical model, reflection on the objectives of mathematical modeling, on characteristics of good mathematical models and a classification of mathematical models.

**Keywords:** Environmental problems, Ecological, Analyze, Algebras, Topology, Mathematical modelling

## SC-01

## Effects of Marine Exhaust Water on Algae

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### Abstract

Toxicity was determined by means of the standard bottle or "batch" bioassay technique. Scenedesmus qaudricauda and Ankistrodesmus sp. were used as the test organisms. This project in its present form is the result of bioassay experimentation on the effects of two-cycle marine engine exhaust water on certain green algae. The initial idea was to determine the toxicity of outboard engine lubricant. Some success with lubricants eventually led to the formulation of "synthetic" exhaust water which, in turn, led to the use of actual two-cycle engine exhaust water as the test substance. Toxicity was measured in terms of a decrease in the maximum standing crop. The effective concentration – 50 % (EC 50) for Scenedesmus quadricauda was found to be 3.75% exhaust water, for Ankistrodesmus sp. 3.1% exhaust water using the bottle technique. Anomalies' in growth curves raised the suspicion that evaporation was affecting the results; therefore, a flow through system was improvised utilizing the characteristics of a device called a Bio monitor. Use of the Bio monitor lessened the influence of evaporation, and the EC 50 was found to be 1.4% exhaust water using Ankistrodesmus sp. Mixed populations of various algae

gave an EC 50 of 1.28% exhaust water. The contributions of this project are twofold. First, the toxicity of two-cycle marine engine exhaust was found to be considerably greater than reported in the literature (1.4% vs 4.2%). Secondly, the benefits of a flow-through bioassay technique utilizing the Biomonitor were demonstrated.

## SC-02

### Synthesis, characterization of transitionmetal (II) complexes with bidentate thiocarboxamide ligand

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### Abstract

The bidentate ligand N-(2-pyrimidal)-qunoline-2- thiocarboxamide (L) and its different mixed ligand complexes with transition metal(II) having specific formula $[ML_2Cl_2]$have been synthesized . The investigated complexes have been characterized by micro analytical measurments, and spectral studies. All the synthesized complexes were non-electrolyte having octahedral geometry.Antimicrobial study suggests that the metal complexes are better antibacterial agents as compared to the ligand and the antimicrobial activity trend of the investigated complexes is:  Cu-complex > Ni-complex > Co-complex > Ligand

**KEYWORDS:**  Bidentateligands, thiocarboxamide, transition metals

## SC-03

### Innovative measures for qualitative imrovement in higher education

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**Abstract**

The future of our country and indeed that of mankind is in the hands of the millions of youngmen and women who have the privilege of having higher education. Therefore, I would like todivert the attention to certain issues which should be given great emphasis to improve the qualityof higher education by including skill based contents of curriculum. The modern youth expect high quality education from the foundation stage and beyond. Thusthere is need to enhance the quality of education so as to make it more competent because mostinstitutions provide only a feeble learning with no impact. In the scenario of Liberalization, Privatization and Globalization, the task of youth inprofessional world is becoming immeasurably most difficult, so there is a need of givingknowledge power, work power, and moral power to the students to improve the quality of highereducation. By making curriculum applied, learners would be able to become good entrepreneur anddefinitely they will be able to think over for self-employment and as a result they will be jobprovider rather than job seekers.

**SC-04**

**Screening of the phytochemicals, antioxidant, antimicrobial and anticancer activity of different solvent extracts of *Rheum emodi wall*.ex Meissn leaves: growing wild in Kashmir Himalayas**

**Aadil Khursheed[1*] and Vikrant Jain[1]**

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**Abstract**

The main purpose of this research investigation was to assess the phytochemical composition and pharmacological activities like antioxidant, antimicrobial and anticancer, of *Rheum emodi wall*.ex Meissn leaves using different solvent extractions. Three different solvent extracts were prepared for the dried leaves including aqueous, methanolic and hexane via refluxing. The standard tests were carried out to qualitatively analyse the presence of

phytochemicals including phenols, alkaloids, terpenoids, saponins, flavonoids, proteins, glycosides, steroids and tannins. Results showed the presence of diverse phytochemicals in the leaf extracts of *Rheum emodi wall*.ex Meissn. The extracts showed significant antioxidant activity by inhibition of DPPH radicals and oxidation of ferric ions but highest inhibition was recorded for methanolic extract at 240 µg/ml (FRAP = 2.6±0.003 (absorbance); DPPH = 85.53±0.07 mm (inhibition-zone)). All extracts reported substantial antimicrobial activities against *Streptococcus pyogenes, Staphylococcus aureus*and *Escherichia coli*besides methanolic extract strong inhibition with MIC value of 0.60 µg/ml was more active and comparable then other two extracts and reference control norfloxacin. The *Rheum emodi wall.* ex Meissn leaf extracts exhibited strong anticancer activity against pancreatic carcinoma PC-1 cells with an $IC_{50}$ concentration of 35.93 µg/ml, 66.94 µg/ml and 67.81 µg/ml for methanolic, aqueous and hexane extracts, respectively.

**Keywords:** Medicinal plant, *Rheum emodi wall*.ex Meissn, antioxidant, antimicrobial, anticancer, cell proliferation

**SC-05**

## Treatment of Pneumoconiosis by the Interaction of Demethyldeoxypodophyllotoxin with the Tubulin Receptor

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**Abstract**

Pneumoconiosis is one of a group of interstitial lung disease caused by breathing in carbon particles in atmosphere especially in coal mines that damage the lungs of human beings very badly. Since we are likely to encounter these particles only in the work place, therefore pneumoconiosis is called an occupational lung disease. Antimitotic drugs such as the demethyldeoxypodophyllotoxin and other vinca alkaloids show a promising result in cancer

therapy. However, the toxicity of these drugs as well as acquired drug resistance allows foran opportunity to develop agents with increase tolerability and specificity to the body cells. My investigation has opened the pathways ofcancercell resistance to antimitotic drugs that will result in the subsequent identificationof novel biomarkers for future chemotherapy possessing increased efficacy in an innovative way for today's cancer therapy.

KEYWORDS: Pneumoconiosis, demethyldeoxypodophyllotoxin, G-protein, tubulin, interaction, firefly, PM3, polymerization, inhibitors, competitivemechanism.

## SC-06

## Phytochemical analysis, antioxidant and hepatoprotective effects of different solvent extracts of *Malvasylvestris* L. leaves: growing wild in Kashmir Himalayas

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## Abstract

The aim of this investigation research was focused upon phytochemical analysis, antioxidant and hepatoprotective effects of methanolic and acetone extracts of *Malvasylvestris* L. leaves. High ethnopharmacological importance coupled with dearth of knowledge about hepatoprotective effects of *Malvasylvestris* L. motivated us to select this plant.Firstly, we prepared the methanolic and acetone extracts *Malvasylvestris* L. leaves by continuous stirring while refluxing. Next, we implemented standard tests to qualitatively recognize the presence of different phytochemicals in methanolic and acetone extracts of the leaves. Antioxidant activity was investigated by using DPPH scavenging and NBT assay. Hepatoprotective effects of the extracts were determined by using by WST-1 assay against the HuH7 hepatocellular carcinoma cells.The extracts showed rich phytochemistry with the presence alkaloids, terpenoids, flavonoids, quinones, saponins, steroids and tannins. The methanolic extract showed higher antioxidant activity than that of acetone extract but separately both showed significant DPPH scavenging (82% inhibition at 100 µg/ml) and NBT reducing (70% inhibition at 100 µg/ml)

activity. The results from WST-1 assay showed significant dose-dependent cytotoxic/hepatoprotective effects of the methanolic and acetone extracts. The $IC_{50}$ values determined for methanolic and acetone extracts were 11.45 µg/ml and 23.28 µg/ml, respectively.

**Keywords:** Phytochemistry, Medicinal plant, phytochemicals, antioxidants, hepatoprotective, cytotoxic

## SC-07

### Recent Trends in Science, Humanities & Engineering

**Rakesh kumarJangir**

### Abstract

Trends are general directions of data, such as an overall increase in global temperature. A pattern don't necessarily involve data going one way or the other, but rather describe a repeating observation.A trend is what's hip or popular at a certain point in time. While a trend usually refers to a certain style infashion or entertainment, there could be a trend toward warmer temperatures (trends associated withglobal warming).A pattern is a repeated shape, event or way of doing something. Repeat means to do something again and.again or many times. Patterns are in nature. Natural patterns include symmetries, trees, spirals, meanders,waves, foams, tessellations, cracks and stripes.Science encompasses the systematic study of the structure and behaviour of the physical and naturalworld through observation and experiment, and technology is the application of scientific knowledge forpractical purposes.The Today's Science bridges the gap between the sciences taught in class and real-world discoveriesgiving in-depth explanations of important advances in biology, chemistry, the environment, space,physics, and technology.

**Keywords:** Tools & Techniques, Living Factor, Scientific approaches.

## SC-08

### PHARMACEUTICAL STUDIES OF THE BARK OF *PARKINSONIA ACULEATA*

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## Abstract

The bark of Parkinsonia aculeata (fam. *Leguminosae*) was studied to fix the parameters for pharmacognostical standards. The results of pharmaceutical study offer a scientific basis for the use of P. aculeata which possess characters like brown colour, characteristic odour and slightly bitter taste. The fluorescence analysis under visible light & under UV light by treatment with different chemical reagents showed different colour changes. The presence of alkaloids, flavonoids, tannins, steroids, and reducing sugars was confirmed during preliminary phytochemical screening.

**Keywords:** Supernatant, degenerative diseases, bio-friendly plant.

## SC-09

## Treatment of HumanPancreatic cancer by the Interaction of Steganacin with the Tubulin Receptor

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## Abstract

Plant derivative steganacin is an herbal therapy natural medication isolated from the Staganotaenia araliacea plant. Used to treat a different variety of cancer and also fulfill the gaps of knowledge and explore future research needs and provide a new scientific way and dimension regarding drug-receptor interaction of steganacin. It is a dibenzocyclo-octadiene lactone. It includes pancreatic cancer, vaginal cancer, skin cancer etc. This treatment is administered to the patient through intravenous injection. Optical ultracentrifuge studies of steganacin treated tubulin

show a small reduction in 24S to 30S peaks at 0℃. In electron microscopic studies the ring structure of tubulin is seen at 0℃ but it disappears if the temp. of tubulin incubated with steganacin is raised to body temp. Steganacin repels the replication of Henrietta, lacks cancer cells in mitosis, and inhibits colchicines binding to tubulin receptors. Here we are using firefly software through the EHT method. The quantities of various quantum chemical parameters will also be evaluated with the same software using the PM3 method. Through this work, it has been proved that the antimitotic drug steganacin shows an auspicious result in pancreatic cancer therapy. The interaction studies discussed in this research paper will also be boon for treating the problems caused by the COVID-19 virus.

**Keywords:** Steganacin, demethyldeoxypodophyllotoxin, G-protein, tubulin, interaction, polymerization, inhibitors, competitivemechanism.

## SC-10

### Antibacterial activity of *Adhatodavasica*leaves extract against multidrug - resistant Gram-negative bacteria

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### Abstract

Pathogenic Bacteria have always been considered as a major cause of morbidity and mortality in humans. Even though Pharmaceutical companies have produced a number of new antibacterials in the last years resistance to these drugs has increased and has now became a global concern. *Adhatodavasica* belongs to the family Acanthanceac and is commonly known as malabalnut / Vasaka and it a traditional medicinal plant native to Asia, widely used in Siddha, Ayurvedic and unani systems of medicine. The present study evaluation of antibacterial activity of leaves extract of *Adhatodavasica* on *E-coli* and *Pseudomonas aeruginosa*. The result of the present study support the traditional use of studied plants in the treatment of bacterial infections. It also provide an important basis for the use of leaves extract of *Adhatodavasica*used to control infections deseases caused by Gram-negative bacteria.

**Keywords:** Pharmacauticals, *Adhatodavasica*, antibacterial*, E-Coli.*

## SC-11

## Determination of Antioxidant Activity and Phenolic Contents of Pineapple (*Ananascomosus*)

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### Abstract

Antioxidants are defense against free radicals and oxidative attacks. They act as free radical scavengers and slow down not only oxidation of radical but also accompanying damaging effects in the body. Pineapple is a good source of Vitamin C.a commonly known antioxidant that protects the body from free radical damage and boosts the immune system. This protects cells from oxidative damage that leads to aging and various diseases. The majority of the antioxidant capacity of a fruit or vegetable may be from compounds such as flavonoids, isoflavones, flavones, anthocyanin, polyphenols, catechins and isocatechins rather than from Vitamin C, Vitamin E, Vitamin A, phytate and phytoestrogens have been recongnized as having the potential to reduce disease risk. The body uses Vitamin C to help metabolize fat and cholestrol, absorb iron and synthesize amino acids and collagen. Collagen is one of the primary building blocks of skin, cartilage and bones. Free radicals are simply reactive molecules created as a waste by the body's metabolic processes.Antioxidant can scavenge free radicals before they cause damage. The antioxidant defense systems in the human body are extensive and consist of multi layers that protect at different site and against different types of free radicals. The antioxidant activity of fruits varies considerable according to the type of fruits.The value of the polyphenolic contents is high.

## SC-12

### Thermoluminescence properties of natural minerals

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**Abstract**

Thermoluminescence (TL) is the emission of light from an insulator or semiconductor when it is heated. TL is the thermally stimulated emission of light following the previous absorption of energy from radiation. There are three essential ingredients necessary for the production of TL. Firstly, the material must be an insulator or high band gap semiconductor; metals do not exhibits luminescence properties. Secondly, the material must have at some time during exposure to radiation. Cathodoluminescence is due to emission of light during electron irradiation (CRO & TV Screen Phosphors). In the beginning of the last century, it was observed that invisible cathode rays, produced by electrical discharges in evacuated tubes, produced light when they struck the glass walls of the tube. The modern name for cathode rays is electrons and this type of luminescence has retained the name cathodoluminescence. Electrons beams are used for many purposes. The electron microscope employs electrons beams to produce high resolution images of small specimens. In some cases, the beam produces cathodoluminescence from the specimen. This is particularly useful for the study of minerals in rocks where the presence of transition metal trace elements can cause the mineral to give of a distinctive color light. Often the presence of the trace element cannot be detected in any other way. Chemiluminescence is produced as a result of a chemical reaction usually involving an oxidation-reduction process. The most common mechanism for such an emission is the conversion of chemical energy, released in a highly exothermic reaction, into light energy in the visible region.

**Keywords:** Chemiluminescence, Luminol, Cyalume, dosimetry

**SC-13**

**Melt processing and microstructure of NdBCO superconductor**

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## Abstract

In this research the optimization for melt processing of NdBa2Cu307_£ (Nd-123) superconductor with respect to the processing atmospheres, temperatures, and low temperature oxygen loading is described. The microstructural features just after melting at the pro-peritectic stage and after the final stage of processing (i.e, after completion of the peritectic reaction) are discussed as a function of increasing Nd4Ba2Cu20io content in the starting material. Effect of fast cooling through peritectic temperature (Tp) on the microstructural features is also discussed. Apart from the processing conditions and the features of conventional melt processed NdBCO samples, this chapter describes a new melt processing technique, called Infiltration and Growth (IG) process.

## Synthesis of Nd-123 and Nd-422 powder in large scale NdBa2Cu3O7 phase

In NdBCO system, Nd4Ba2Cu20io (Nd-422) insulating phase exists, but in other REBCOsystems the corresponding phase is RE2BaCu05 (RE-211). The following compositionshave been chosen with increasing molar ratios of Nd-422 as given below :

(i) NdBa2Cu307 (Nd-0)

(ii) 90% NdBa2Cu307 + 5 mol% Nd4Ba2Cu2Oi0 (Nd-10)

(iii) 80% NdBa2Cu307 + 10 mol% Nd4Ba2Cu20io (Nd-20)

(iv) 70% NdBa2Cu307 + 15 mol% Nd4Ba2Cu2O10 (Nd-30)

(v) 60% NdBa2Cu307 + 20 mol% Nd4Ba2Cu2010 (Nd-40)

**Keywords;** NdBCO, microstructural, peritectic, stoichiometric

## SC-14

## A Research Study on 3-D Soliton in Photonic Lattice and Photonic Crystal Fibre

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## Abstract

Theoretically investigated is the short introduction of a supercontinuum in photonic crystal fibres with 0-dispersion waves and non-stop pumping. it's proven that when the pump wavelength is shipped among the 0-dispersion wavelength, extensive and uniform growth of the variability is completed due to instability modulation, an era of every blue-shifted and red-shifted wave dispersions, after which a shift withinside the herbal frequency of the soliton. Thus, this method is restricted to 2 wave dispersions, which allows you to control the bandwidth due to the nice dispersion of fibres. For instance, we expect that fast (1050-1600 nm) non-stop mild could also be a totally quick duration of microstructural fibre pumped the usage of a 10-V ytterbium fibre laser. The impact of the preliminary frequency chirp is numerically investigated for acquiring powerful supercontinuum radiation in photonic crystal fibres with carefully spaced 0-variance waveforms. It's fantastic to possess a fine signal, 0 or bad chirp, thanks to the very fact self-segment modulation and 4-wave blending could also be mitigated through the usage of fine and chirp signals. As compared to the complicated and abnormal spectrum, which generates bad chirped pulses, the spectrum generated through undoubtedly chirped pulses is popping into an increasing number of frequent. Most of the electricity among 0-dispersion wavelengths could also be transferred withinside the regular vicinity of dispersion from the vicinity of 0-dispersion wavelengths, furnished that the preliminary fine chirp is very large enough.

**Keywords:** Crystal, Photonic, THIRD, Solutions, Fibre, Positive, Large.

## SC-15

## Role of 4,7-Dihydroxycoumarin based dyes in Textile Industry

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## Abstract

Coumarin (2H-1-benzopyran-2-one) is a plant-derived natural product, are one of the most important class of heterocycles that occupies important position in synthetic, pharmaceutical, dye sensitized solar cell, optical brightners, natural dye. Dyes with heterocyclic diazo components have received much attention because of their high tinctorial power and excellent brightness. Hydroxy azo dyes & acid dyes are the most widely used class of colouring materials because of their massive application in various fields of pharmaceutical chemistry and dyestuff industry. They exhibit strong fluorescence in the UV– Vis region that makes them suitable to use as colorants, dye laser media and nonlinear optical chromophore. Due to its Broad spectrum in UV-visible region, coumarin has attracted researchers to work on this moiety. This review includes the recent research in synthesis methods of coumarin systems, investigating their biological properties.

**Keywords:** Coumarin, brightners, tinctorial, diazo.

## SC-16

### E-waste: Environmental Problems and Management

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## Abstract

In this paper the environmental problems related with the discarded electronic appliances, known as e-waste, are reviewed. Moreover, the current and the future production of e-waste, the potential environmental problems associated with their

disposal and management practices are discussed whereas the existing e-waste management schemes in Greece and other countries (Japan, Switzerland) are also quoted.

*Keywords*: e-waste management, environmental pollution, recycling.

## SC-18

## MOSQUITO CONTORL BY BIOLOGICAL METHODS

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### Abstract

Mosquitoes are flying insects and are vectors of numerous diseases including malaria, yellow fever, dengue, encephalitis, Chikungunya, West nilevirusand Zika (the newest mosquito borne disease).represent the major arthropod vectors of human disease. Unfortunately there are no treatments available for most of these diseases. Vector control is still the main form of prevention. The limitations of traditional insecticide-based strategies, particularly the development of insecticide resistance, have resulted in significant efforts to develop alternative eco-friendly methods. Biocontrol strategies aim to be sustainable and target a specific range of mosquito species to reduce the reliance on insecticide based Mosquito control. Biocontrol, also known as biological pest control is the use of the natural enemies of pests to manage the pests' populations. There are several types of biocontrol including thedirect introduction of parasites, pathogens to target mosquito. The most commonly used biological control agent is a naturally occurring soil bacterium called Bacillus thuringiensis. Bio control agents also include predatory fish that feed on mosquito larvae likeas mosquito fish (Gambusiaaffinis) and some cyprinids (carps and minnows) and killifish.

**Keywords**: Mosquito Borne diseases, Bio-control, Bacillus thuringiensis.

## SC-20

# ANGULAR DEPENDENCE OF PHOTONIC BANDGAP IN 1-D CHALCOGENIDEPHOTONIC CRYSTAL

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## Abstract

Thephotonic band structure of 1-D chalcogenide photonic crystal consisting of As-S-Se/air multilayered structure is studied. The photonic band structure is calculated using plane wave expansion method (PWEM). The effect of angle of incidence on the photonic bandgap for transverse electric (TE) and transverse magnetic (TM) mode for thickness of dielectric layer 0.2a is studied. We observed that as the angle of incidence increases from normal incidence ($\Theta = 0°$), the photonic band structure for TE and TM mode are different. So, the photonic band structure for both TE and TM mode are studied separately.

## SC-21

## Science: - on the criterion of Psychology and Philosophy

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## Abstract

The meaning of science has been discussed in the article titled "Science:-on the criterion of Psychology and Philosophy". Philosophy plays an important role in the distinction between reality and virtual, and the state of psyche plays an important role in the realization or perception of reality, so to define and interpret science in the true sense, it is very necessary to test it on the basis of philosophy and psychology.If one wants to know the true facts about any person or about anything or about any event, he has to observe and contemplate them with a calm mind and devoid of all impulses.On the contrary, what is observed in the situation is only false or incomplete truth.Therefore, if serious consideration is given to the true definition of science, then

it will be considered essential to meet the psychological and philosophical criteria.With this type of teaching-learning genre, not only new and useful but amazing multi-faceted research will be developed by trained scholars.Hence, the need to think beyond the convention, leaving prejudice in this subject, should be considered.

**Keywords:** Science, Psychology, Philosophy, Teaching-learning genre, Multi-faceted research.

## SC-22

### Indian Technical Textiles: A review

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### Abstract

Technical Textiles provide new opportunities and directions for advancement to the Indian textile industry to meet the present growth and boom in near future. In contrast to traditional textiles, technical textiles are competent to meet the challenges posed by critical requirements as of today. However, technical textiles have not received adequate importance in India, albeit it is a potential area where the textile industry can excel. Technical textiles include engineered textile materials and products which have functional and performance properties rather than for their aesthetic or decorative characteristics. This paper reviews emerging sectors of technical textilesand also touches their global and Indian market size. The paper also discusses constraints for technical textile industries and the government initiatives and schemes to boost technical textiles industry and market.

Keyword: Technical textile, functional properties, industries, market

## SC-23

**Ab initio Study of electronic properties of doped Silicon Carbide nanoribbons**

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### Abstract

Silicon Carbide Nanoribbons are estimated to have unique and useful properties in the form of nano structures.We have undertaken a systematic spin unpolarised first principle study based on Density Functional Theory (DFT) of the electronic properties of Silicon Carbide nanoribbons (SiCNRs)with H termination doped with two different impurity atoms.We have studied the stability of SiCNRS. After doping of impurity atom at three different substitutional sites of Silicon(Si), Carbon(C) and Hydrogen (H), the band gaps have been found to shows half-semiconducting behavior with Pristine SiCNR, and metallic behavior with doped impurity atoms at subsitutional site. The result shows that doping affect the electronic properties.The potential application of the doped material may be in fabrication of nano electronic devices such as spintronic, Field Effect Transistor(FET), spin-filter devices.

## SC-24

**Binding Energy, Lattice Excitation and Compressibility**

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### Abstract

In this research work, the excitation of an electron to the switch of a sure electron to a greater energetic, however it iscertain to. This mayboth be achievedthrough photoexcitation (E) whilst an electron absorbs a photon and it's going to take all of her power thereto, or through the excitation current (EC), wherein the electron getspower from another, the electron power. All through a non-stoparea lattice, thermal stimulation can be a techniquewherein lattice vibrations offersufficientpower for the switch of the electron to a higherpowerkingdom, excessivepower sublevel powerkingdom. When an excited electron returns to a decreasepower level, it undergoes an e mail to relax. The powerlaunched is ok to the powerdistinctionamong the powerranges of the electrons. In quantum physics, an excited kingdom of a machine (which includes an atom, particle or nucleus) can be a quantum kingdom of a machine with a higherpower than the lowestkingdom (i.e., greaterpower than really the minimum). The stimulation becomes anupward pushin thepowerranges of asmoothpower sources. In physics there may bea specific technical time period for the powerkingdomthat'snormallyassociated with the transition from the atom to an excited kingdomdue to the fact the temperature of a bunch of debriscan be a degree of the signal (exceptstructures that show offpoor temperature).

## SC-25

## Superconductors, its applications and A Short Review on Cuprate-Perovskite Ceramic, Liquid nitrogen (LN2), Mercury (Hg) and Hydrogen sulphide (H2S)

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### Abstract

Superconductivity is a Phenomenon of exactly zero electrical resistance and explusion of magnetic fields occurring in certain materials when cooled below a characteristic critical temperature (Tc). It was discovered by Dutchphysicist Heike Kamerlingh Onnes on April 8, 1911 in Leiden. Like ferromagnetism and atomic spectral lines, superconductivity is a quantum

mechanical phenomenon. It is characterized by the meissner effect, the complete ejection of magnetic field lines from the interior of the superconductor as it transitions into the superconducting state. The occurrence of the meissner effect indicates that superconductivity cannot be understood simply as the idealization of perfect conductivity in classical physics. The electrical resistivity of a metallic conductor decreases gradually as temp. is lowered. In ordinary conductors, such as copper (Cu) or silver, this decrease is limited by impurities and other defects. Even near absolute zero, a real sample of a normal conductor shows some resistance. In a superconductor, the resistance drops abruptly to zero when the material is cooled below its critical temperature (Tc). An electric current flowing through a loop of superconducting wire can persist indefinitely with no power source. The resistance of a sample of mercury (Hg) is zero at very low temperature and it is a superconductor up to the temperature of about 4.2K. Hydrogen sulphide (H2S) becomes a superconductor at the surprisingly high temperature of 203 K (-70). In the persent world, superconductors are being used in almost all the field such as telecommunication, medical, space, defense etc.

## SC-27

# STRUCTURAL AND THERMAL PROPERTIES OF LASER BEAM IRRADIATED POLYCARBONATE/POLYSTYRENE BILAYER FILMS

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## Abstract

Polycarbonate/Polystyrene (PC/PS) bilayer films prepared by solution mixing method and irradiated with laser beam at different fluences ranging from 1 hr to 5 hrs. The structural, surface morphology, optical and dielectric properties of these films were investigated by X-ray diffraction (XRD), UV–visible spectroscopy, Fourier-transform infrared (FTIR) spectroscopy,

optical microscopy and dielectric measurements. The XRD pattern shows that the percentage of crystallinity decreases while inter-chain separations increase with irradiation of laser fluences. UV–visible spectroscopy shows that the energy band gap decreases and the number of carbon atoms in nanoclusters increase with the increase in laser fluences. The refractive index is also found to decrease with the increase in the laser fluence. Optical microscopy shows that after irradiation polymeric bilayer films color changes with laser irradiation. The FTIR spectra evidenced a very small change in cross-linking and chain scissoring at maximum time leaser irradiation. Dielectric constant decreases while dielectric loss and AC conductivity increase with irradiation fluences.

**Keywords:** Laser; bilayer; energy band gap; refractive index

SC-28

**The role of botanical gardens in scientific research, conservation and citizen science**

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**Abstract**

Plant diversity is currently being lost at an unprecedented rate, resulting in an associated decrease in ecosystem services. About a third of the world's vascular plant species face the threat of extinction due to a variety of devastating activities, including, over-harvesting and over exploitation, destructive agricultural and forestry practices, urbanization, environmental pollution, land-use changes, exotic invasive species, global climate change, and more. We therefore need to increase our efforts to develop integrative conservation approaches for plant species conservation. Botanical gardens devote their resources to the study and conservation of plants, as well as making the world's plant species diversity known to the public. These gardens are play a central role in meeting human needs and providing well-being. In this mini review, a framework for the integrated missions of botanical gardens, including scientific research, in/ex situ conversation, plant resource utilization, and citizen science are cataloged. We also discuss the future challenges and responsibilities of botanical gardens in a changing world, including: the

negative effects of outbreeding and/or inbreeding depression; promoting awareness, study, and conservation of plant species diversity; accelerating global access to information about plant diversity; increasing capacity building and training activities. We hope this mini review can promote understanding of the role of botanical gardens.

**Keywords:** Botanical gardens; Citizen science; Conservation biology; Endangered plants; Germplasm; Horticulture

## SC-29

### Recent Trends in Science Humanities and Engineering

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### Abstract

Humanities and social sciences along with mathematics and natural science are in core of liberal learning. In humanity we study subject such As art, history sociology and psychology and in engineering we study mathematics, And science but the role of humanities and social science is not well understand and appreciated by many student and faculty. In broad education it necessary that engineer to think critically about issues confrontly and develop Solution that are informed not only by math science and engineering but bu humanities and social science as well to implement those solutions effectively with I Real social context and to evaluate them In humanistic as well as technical term.

## SC-31

### Macroscopic Quantum Phenomena Decay in LTS and HTS Josephson Junction

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**Abstract**

Macroscopic quantum phenomena leave their quantum signature in the switching process from the zero voltage to the finite voltage branch in the current voltage (I-V) characterstics. Macroscopic effects encode their fingerprints as well in the I-V curve. We investigate escape dynamics in junction of reduced dimensions, characterized by different levels of dissipation. In moderately damped junctions phase diffusion processes coexist with thermal activation and macroscopic quantum tunneling. Measurements are carried out both on high and low Critical temperature superconductor Josephson systems, characterized by different type of barriers, i.e. grain boundary and standard insulating layers. Experimental data are compared with numerical outcomes giving proof of quantum coherent transport and size effects. Flavors of novel features appearing in escape dynamics are discussed.

**HM-01**

**English Studies and the New Humanities in India**

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**Abstract**

The English Studies in India started with a view to creating a class of persons, Indian in blood and colour, but English in taste, in opinions, in morals, and in intellect. It was also for '*communicating and disseminating European knowledge*' as '*a single shelf of a good European library was worth the whole native literature of India and Arabia*'. Thus what started with the 'English Education Act of 1835'made India one of the first nations to systematically impart education in English Studies. However, though we have a come a long way and the world has moved ahead in redefining English Studies to include New Humanities, our obsession with the colonial constructs of curriculum does not seems to end. While the departments, teaching

English Studies, around the world have already started teaching and exploring the New Humanities, we are yet to update. The present paper makes a historical investigation into how English Studies started in India, an analytical study of what it has been and an ethical speculation of what it ought to be in future.

Keywords: English Studies, European Knowledge, English Education Act, New Humanities, Investigation, Speculation etc.

## HM-02

### देवनागरी लिपि का मानकीकरण : पुनरवलोकन की आवश्यकता

डॉ. अनूप सिंह

सह आचार्य, हिंदी विभागए राजकीय स्नातकोत्तर महाविद्यालय, थानागाजी (अलवर)

### सारांश

देवनागरी लिपि विश्व की सर्वाधिक वैज्ञानिक लिपियों में से एक है। इसकी वैज्ञानिकता का आधार इसकी ध्वनियों की कतिपय विशिष्टताएँ हैं। जैसे वर्णमाला का सुव्यवस्थित क्रम, प्रत्येक ध्वनि के लिए पृथक अनिवार्य लिपि चिह्न, एक लिपि चिह्न से केवल एक विशिष्ट ध्वनि की अभिव्यक्ति, संयुक्त व्यंजनों की समृद्ध विरासत, अन्य भाषाओं की ध्वनियों का सहज ही समावेश, किसी भी ध्वनि का अनुच्चरित न रहना तथा सौन्दर्य की दृष्टि से विश्व की श्रेष्ठतम लिपि होने का गौरव जिसके अंतर्गत वर्णों की बनावट तथा स्वरों के स्थान पर निश्चित स्थान पर उनकी मात्रा का प्रयोग होना शामिल है आदि विशिष्टताएँ इसे वैज्ञानिक लिपि बनाती हैं। आज देवनागरी का जो स्वरूप है उसके लिए सैंकड़ों वर्षों का परिश्रम है। लिपि में सुधारों का एक लंबा सिलसिला चला तथा स्वतंत्रता के बाद इसके मानकीकरण के प्रयास हुए। मानकीकरण की प्रक्रिया में लगभग 90 प्रतिशत समस्याओं को सुलझा लिया गया है जैसे एक ध्वनि के लिए केवल एक ही लिपि चिह्न को मानक माना गया। उदाहरण के लिए अ तथा में 'अ' तथा झ में 'झ' तथ ण में 'ण' रव तथा ख में 'ख' तथा ध में 'ध', तथा भ में 'भ' को मानक माना गया है। इन सबके बावजूद मानकीकरण की प्रक्रिया अभी सम्पूर्ण (।इेवसनजम) नहीं है।

देवनागरी लिपि में अभी भी हस्त लेखन में ध्वनियों के द्विरूप प्रचलन में हैं। संयुक्त व्यंजनों पर अभी और विचार होना चाहिए तथा इसी प्रकार य तथा व के साथ विशेषकर इ, ई, ए, ऐ तथा ओ, औ का उच्चारण भ्रामक है। हलन्त का अभी भी अधिकाधिक प्रयोग जारी है। जैसे महान, जगत, श्रीमान आदि में हलन्त की कोई आवश्यकता नहीं है। इसी प्रकार 'ट' वर्ग के साथ 'र' के संयुक्त व्यंजन में हलन्त की आवश्यकता नहीं है। इन्हें अन्य व्यंजनों की तरह परम्परागत तरीके से ही लिखा जाना चाहिए जैसे ट्रक, ड्रम आदि। इस प्रकार हम देखते हैं कि देवनागरी लिपि के मानकीकरण की प्रक्रिया की निम्न दृष्टियों से पुनर्समीक्षा होनी चाहिए–

1. संरचनात्मक स्तर पर जिसमें वर्णों की मानक आकृति पर ध्यान दिया जाना चाहिए। विशेषकर सयुंक्त व्यंजनो ं के मामले में। विद्या को विद्या लिखा जाना अटपटा लगता है, इसी प्रकार विद्वान को विद्वान, उद्धत को अद्धत आदि। अनावश्यक हलन्त का भी प्रयोग करना पड़ता है। हलन्त से नीचे की पंक्ति प्रभावित होती है। त्र को त्र लिखा जाना चाहिए जिससे स्रोत व सहस्र का सही उच्चारण हो सके।

2. उच्चारण के स्तर पर अभी भी 'अ' को 'आ' बोलने की प्रवृत्ति है तथा ऋ को रि या र् या रु। सबसे बड़ी समस्या 'ज्ञ' को ग्य बोलने की है जबकि इसका उच्चारण ज्ञ की तरह होना चाहिए।

ऐसे ही कुछ प्रश्न हैं जिनके आधार पर देवनागरी लिपि के मानकीकरण का पुनरवलोकन अपेक्षित है।

## HM-03

## पुनर्जागरण और नाथ संप्रदाय–एक विश्लेषण

### प्रमिला द्विवेदी (मिश्रा)

बी आर डी बी डी पीजी कालेज आश्रम बरहज देवरिया

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### सारांश

एक ओर जब अखंड भारत विदेशी आक्रांताओं की मार झेल रहा था तो वहीं आदिकाल से चले आ रहे सन्यासियों के विभिन्न समुदाय सामाजिक व सांस्तिक सुधारों को लेकर आंदोलित थे जिनमें नाथ संप्रदाय का प्रमुख योगदान था। नाथ संप्रदाय का उद्भव वैसे तो आदि देव महादेवशंकर से माना जाता है परंतु इसके नवीनतम स्वरूप और विभिन्न पन्थों के उद्गम का श्रेय योगी मत्स्येन्द्रनाथ व उनके शिष्य गुरु गोरक्षनाथ को जाता है। नाथसंप्रदाय, जो नवनाथों और चौरासी सिद्धों की परंपरा के रूप में जाना जाता है, को अपने वर्तमान स्वरूप में स्थापित करने के लिए महायोगी गुरु गोरक्षनाथ ने एक सफल नेतृत्व कर्ता के रूप में मध्यकाल में अविस्मरणीय प्रयास किया। गुरु गोरक्षनाथ व अन्य नाथ योगियों ने समाज में फैले विषमताओं और कुरीतियों पर कठोर प्रहार करते हुए उसक निष्कर्षण का कार्य किया तथा सामाजिक मूल्यों की स्थापना कर उनमें नई चेतना का विकास किया। प्रस्तुत विश्लेषण पत्र नाथ संप्रदाय के उन अवदानों का विश्लेषण है जिनसे कालखंड में नवचेतना का अभ्युदय हुआ।

प्रमुख शब्दः नाथसंप्रदाय, अवदान, सामाजिकमूल्य

## HM-04

## Lakshminarayan Lal and his novels

**Anil Kumar Sharma**

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**Abstract**

Dr. Laxminarayan Lal was a writer of versatility.  Drama and novel are the main genres of his literature.  In both, his art has developed.  In the field of drama, he is the leading playwright of Hindi, the use of novels has been very strong and popular, his novels show the diversity of subject matter and style.  At the same time, his character traits also have, to be praised.  Most of his novels deal with the dire situations of life and world, especially in India. Laxminarayan Lal was a Hindi playwright, and critic as well as a story writer and novelist. Despite creating in many genres of literature, he got fame as a playwright.  His contribution as a reviewer is also significant. What attracts about Dr. Lal's writings is the fact that there has been a lot of discussion in his theatrical works.  There was no joint evaluation in their fiction.  It seems that the Hindi world is yet to pay the dues for writing his novels.  His novel literature was still expected to be studied independently.  With this in mind, I made his novels the subject of my dissertation.  This is my effort in this direction.  He has also authored a large number of novels. Many of his novels were published.  Among which famous are – Devina, Shringar, Green Salamander, Gopichandar, Love, impure river, Waiting for spring, Apna own demon, Big brother, Boy's nest, Rupajiva, Black flower plant, BadiChampa, ChotiChampa, Mana Vrindavan, GaliAnar bud in  The background of the novels is often of middle-class civic life and sometimes even rural life.  Various moods of love are also at the center of these novels.  In these novels, there are realistic and poignant glimpses of life, somewhere the story of culture struggle has been told in the middle class conflict, and somewhere new situations and orthodox ideals collide.  The formulation of many new and old problems in changing contexts is not only extroverted but also portrayed with a deep humidity of the inner self.  Along with the inclusion of folk life and folk elements in the style, symbolism has also been included.

**HM-05**

**Impact of Pandemic on Agricultural Export**

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## Abstract

The COVID-19 outbreak has shocked the world's economies in the year of 2020. As this pandemic spreads around the globe, many experts feared that the global food supplies might start running short, especially if supply chains were disrupted. COVID-19 also added to the uncertainty of the business operation. Therefore, it is critical to understand how COVID-19 pandemic affected global food supply and market. In this study, we investigate the impact of COVID-19 on agricultural export companies in China using a unique firm-level survey data. We found that although on average agricultural businesses experienced declines in the exports, exports of some agricultural products especially grain and oil held strong and even increased, implying the essential demand for staple food during the pandemic. Not surprisingly, exports of medicinal herb also increased significantly during the pandemic. However, exports of goods such as edible fungus and horticultural products sharply decreased. Our results also showed that in general, impact of COVID-19 on smaller firms was more severe than that on larger firms. The results of this study can provide useful guidance and implications for agricultural businesses and policy makers on their COVID-19 mitigation efforts to navigate this global pandemic.

**Keywords:** COVID-19, pandemic, agricultural exports, business survey, international trade, China

**HM-06**

**A study on financial performance on PNB and HDFC bank**

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## Abstract

My research Paperwork under this title is separated into two portions (1) Comparative assessment of the financialperformance of PNB and HDFC Banks (2) Spot out the factors

accountablefor either better or poor financial performance of either private orpublic sector banks or of both banks.

**(1) Comparative assessment of the financial performance of both private and public sector banks (PNB & HDFC):** For investigating the financial performance of both private and public sector banks all private sector banks as well as all public sector banks are taken into concern. Private sector banks consist of old private sector banks as well as new private sector banks. Public sector banks include PNB and its associates along with all nationalized banks. To assess the financial performance of the above-mentioned banks,diverse financial performance parameters are chosen. Financial information of averagely last 12 years are gettingtogether for computing and analyzing the financial performance of diverse parameters.

**(2) Spot out the factors accountable for either better or poor financial performance of either private or public sector banks or of PNB & HDFC banks:** On the source of the outcome of financial performance analysis, the second part of research is to take ahead for recognizing the factors accountable for deviation in the financial performance of both private and public sector banks. For recognizing the factors accountable for either better or poor financial performance of either private or public sector banks or of both banks, parameters are decomposed using their well-defined definitions.

So on the quit of these stages of comparative studies, I won perception into the weather that decides the superb or worst monetary overall performance of private or public banks or each bank altogether monetary indicators. The financial organization is lower back heading within the right direction with the monetary machine of the economy. Investment may be a main monetary necessity. Banks and different monetary establishments play a main position in investing withinside the countrywide economy. In a fresh international economy, banks are a secure supply of profits for people and corporations. Financial overall performance data assists, in decision-makers, forecasting, evaluating and comparing a corporation's management ability. The corporation offers monetary data thru annual reviews and monetary reviews. The monetary overall performance of an organization could also be decided via way of means of analyzing and studying the knowledge supplied in its annual reviews and monetary bulletin. This examination

explains and analyzes naturally. Data utilization for this examination is 2d handiest to nature. during this examination, the monetary overall performance of PNB and HDFC Bank analyzes and compares. Research indicates that PNB goes through sales troubles and PNB NPAs are increasing. Studies display that the monetary overall performance of HDFC Bank is above PNB. Profitability relies upon on real use of high-increase increase strategies. This day studies paper is an attempt to behaviour a comparative examine among the rising price in Punjab Nationwide to a financial organization and HDFC banking. As an evaluation of the rise of every bank for duration of 10 years, so from 2004 to 2014, it becomes done. The utmost crucial increase elements in banking increase are clean increase, increase generally assets, ROA (Return on Assets) and NPA.

**Keywords:** Net Assets, Net Profit, Future Value, Present Value, Capital Adequacy Ratio, Credit Deposit Ratio

<div align="center">HM-08</div>

<div align="center">**Machine Learning का शिक्षा प्रणाली पर प्रभाव**</div>

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Machine Learning कम्प्यूटर प्रोग्रामिंग की एक ऐसी तकनीक है, जिसमें किसी कम्प्यूटर प्रोग्राम खुद से नई–नई चीजों को सीखा जा सके और जरूरत पड़ने पर खुद से कोई निर्णय ले सके। कम्प्यूटर प्रोग्रामिंग क्षेत्र की इसी तकनीक को मशीन लर्निंग कहा जाता है। मशीन लर्निंग का अर्थ होता है मशीन को सीखाना या मशीन सीख रहा है इसमें किसी भी Application या Software को इस तरीके से विकसित किया जाता है कि उसके प्रोग्राम में बिना किसी तरह का हस्तक्षेप किये बिना नई चीजो को याद कर सकता है और समय आने पर उस डाटा से जुड़ी जानकारी को प्रस्तुत कर सकता है।

उदाहरण के तौर पर हम ल्वनज्नइम की कार्य प्रणाली को देख सकते है क्यों कि इसमें अगर हम किसी ज्वचपब को सर्च करते है या विडियों देखते है तो उसी के अनुसार हमारे होम पेज पर विडियों दिखाई देंगे एक तरीके से ल्वनज्नइम हमारी आवश्यकता या खोज के हिसाब से हमे होम पेज पर उसी से जुड़े विडियों दिखाता है।  वर्तमान समय के तकनीकी युग ने मानव जाति के प्रत्येक क्षेत्र को प्रभावित किया है जिनमें शिक्षा का क्षेत्र भी है, आज यदि किसी शिक्षक, छात्र या शोधकर्ते के सामने कोई समस्या या प्रश्न उपस्थित होता है तो वह डंबीपदम स्मंतदपदह तकनीक का उपयोग करता है अर्थात वह अपना

सवाल या समस्या को ळववहसम या ल्वनज्ञइम पर सर्च करता है तो ळववहसम एवं ल्वनज्ञइम उससे सम्बन्धित सामग्री उनके सामने प्रदर्शित करता है और उसकी समस्या का निदान प्रस्तुत करता है। परिणाम स्वरूप डंबीपदम स्मंतदपदह का उपयोग दिन–रात बढता जा रहा है क्यों कि इसमें एक ही जगह हर क्षेत्र एवं विषय से जुड़ी सामग्री आसानी से उपलब्ध हो जाती है, अलग–अलग विशेषज्ञों को खोजने की आवश्यकता नहीं होती। किन्तु ये इस तकनीक का एक पक्ष है जो लाभदायक प्रतीत होता है, इस तकनीक में व्यक्ति की भावनाओं, आशाओं एवं संज्ञानात्मक प्रवृतियों की उपेक्षा होती है क्योंकि इसमें व्यक्ति अपनी समस्त जिज्ञासाओं का समाधान उस तरह से प्राप्त नहीं कर सकता जिस प्रकार वह कक्षा–कक्ष मे बैठकर अध्यापक से वार्तालाप करके कर सकता है अतः इस तकनीक में बालक का सामाजिक व भावनात्मक पक्ष कमजोर ही रहता है।

## HM-09

## शिक्षा और नई प्रोद्योगिकियां : डिजिटल दुनियां में शैक्षणिक चुनौतियां

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## सारांश

हाल के वर्षो में समाज और शैक्षिक प्रणाली में नई सूचना और संचार प्रोद्योगिकियों की उपस्थिति एक निर्विवाद तथ्य रही है। इसके प्रभाव ने अर्थव्यवस्था, राजनीति, समाज और संस्कृति में एक तरह की क्रांति ला दी है, जिसने धन पैदा करने, सामाजिक :I से बातचीत करने, पहचान को परिभाषित करने और ज्ञान के उत्पादन और प्रसार के तरीकों को गहराई से बदल दिया हैं। जैसा कि लेव मनोविच बताते है, डिजिटलीकरण के कारण हुए परिवर्तनों की ओर इशारा करते हुए, सिनेमा के उद्भव के दौरान जो हुआ उसके विपरीत, आज इस क्रांति के महत्व के बारे में व्यापक और ग्रह जागरूकता है, हालांकि इसके कोड, प्रक्रियाओं के बारे में अभी भी एक सामान्य पढ़ना है और सुनवाई के स्वागत के तरीके।  इस क्षेत्र की शैक्षिक प्रणालियों के भीतर, हमारे पास शिक्षण अधिगम प्रक्रियाओं में आईसीटी की शुरूआत में दो दशकों से अधिक के कई और समृद्ध अनुभव हैं। अधिकांश समय, कार्यक्रम और परियोजनाएं शिक्षा में नई तकनीको को शामिल करने के लिए मजबूत सामाजिक और आर्थिक दबाव से प्रेरित होती हैं। तथ्य यह है कि दबाव या इंजन मुख्य रूप से शैक्षिक प्रणालियों के लिए बाहरी था, कम से कम शुरू में, कुछ संभावित योजनाओं को बड़े पैमाने पर परिवर्तनों की दीर्घकालिक योजना माना जाता था। यह बड़े हिस्से में परिवर्तनों की त्वरित गति के कारण है, जिसने इस मुद्दे को उन परियोजनाओं में, संसाधित करने से पहले ही लागू कर दिया था जो भविष्य के विकास की उम्मीद करते थे। इस आधार पर 'शिक्षा तकनीकी' में यन्त्रो या मशीनों का प्रयोग हो भी सकता है और नहीं भी। वास्तव में शिक्षा और नई प्रोद्योगिकियां प्रत्येक क्रिया को छोटे–छोटे भागों में विभाजित कर, उन भागों को क्रमबद्ध करती है। जब शिक्षण के उद्देश्य निर्धारित हो जाते है, तो उनको प्राप्त करने के लिए शिक्षा ओर नई प्रोद्योगिकियां अस्तित्व में आती है।

HM-11

**Modern English teaching techniques students and teachers.**

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**Abstract**

Basically, Teaching must include two major components sending and receiving information. Ultimately, a teacher tries his best to impart knowledge as the way he understood it. The use of innovative methods in educational institutions has the potential not only to improve education but also to empower people, strengthen governance and galvanize the effort to achieve the human development goal for the country. The innovation that the researcher talks in the paper certain both to methodology and materials use in language teaching. Moreover, this paper brings out the subtle distinctive between the scholarly perception of language as treated in research and pedagogy. The paper proceeds with trends of education with specific reference to the Indian Scenario, methodologies adopted, the by gone methods, the peer practice, the present trend, new teaching design, new devices, the need for change, The ICT and English Language India's different mother tongue issues led another method that is called Audio Lingual method. The direct method is natural method of teaching foreign language it makes use of Audio visual-aids. Another method is Web Based learning which is one of the fastest developing areas. The students can correspond with native speaker of the target Language using email by creating a personal email account. The roles of modern teachers are just like a facilitator, in dependent participant needs analyst counselor Group processing manager. At the last as conclusion we can say that Across the world information technology is dramatically alerting the way students faculty and staff learn and work. Using Modern Teaching Technologies, learners are now able to participate in the activities of the learning communities throughout the world. They may learn collaboratively share information, exchange their learning experiences. Modern Teaching Technologies facilitate teaching and learning process in more productive fashion. In a nut shell,

Modern Teaching Technologies are restructuring the teaching learning process to meet the International standards.

## HM-12

### कृत्रिम बुद्धिमता और शिक्षा

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### सारांश

कृत्रिम बुद्धिमता, जैसा कि शब्द से ही पता चलता है बुद्धिमता को कृत्रिम रूप से बनाया जाता है ताकि मशीनो को बुद्धिमता के प्रसंग में, मनुष्यों की तरह व्यवहार करने के लिए बनाया जा सके। मशीनों को यदि बुद्धिमता के आदेशों के साथ प्रक्रिया में लाया जाता है तो वे 100 प्रतिशत परिणाम देते है, क्योंकि वे कुशल है मानव मस्तिष्क उसी तरह की क्षमता के लिए सक्षम हो सकता है या संभव है कि नहीं भी हो सकता है क्योंकि यह उस दौरान मस्तिष्क के कार्य करने पर निर्भर करता है। कृत्रिम बुद्धिमता जिसे हम अंग्रेजी में ।तजपपिबपंस प्दजमससपहमदबम (आर्टिफिशियल इंटेलिजेंस) भी कहते हैं उसका जन्म वर्ष 1950 में हुआ था। जॉन मैकार्थी पहली बार कृत्रिम बुद्धिमता जैसा कोई शब्द बनाने वाले पहले व्यक्ति थे, इसलिए उन्हे (AI) का जनक माना जाता है। यह ब्यउचनजमत को एक इंसान के रूप में सोचने, समझने और प्रदर्शन करने में सक्षम बनाने की प्रक्रिया है साथ ही डेटा को प्दचनजे और ब्यउउंदक के रूप में करके प्रदर्शन किया जाता है। कृत्रिम बुद्धिमता मशीनों की क्षमता को बढ़ा रहा है ताकि वह उसी तरह से काम कर सके जिस तरह से कोई इंसान करता है। विभिन्न उभरती हुई प्रौद्योगिकियां कृत्रिम बुद्धिमता को उत्कृष्ठ बनाने में अपेक्षाकृत मदद कर रही है। कम्प्यूटर, मोबाईल और अन्य उपकरणों के रूप में मशीन एक सहायक उपकरण होती है। मशीन को दिए गए प्दचनज के रूप में डेटा को अलग से किसी भी कार्य को करने में मदद करता है। इसलिए एक बेहतर तरीके से हम आपको यह बता सकते है कि कृत्रिम शिक्षण में डेटा का एक सेट विकसित करके मानव बुद्धि के साथ मशीनों को अंतर्निहित किया जाता है। यहाँ पर कृत्रिम शिक्षा के तमाम उदाहरण है। केवल बोलकर किसी भी चीज की खोज करना वाकई में एक स्मार्ट तरीका है, साथ ही समय की बचत करना भी है। लेकिन परिणाम देने से पहले मशीन उसका विश्लेषण भी करती है। कृत्रिम बुद्धिमता में कई तरह की उन्नति हो रही है। यह मापदंड शोधों में भी काफी ज्यादा उपयोगी है। अन्त में कृत्रिम बुद्धिमता प्रणाली से आसानी से प्रत्येक छात्र की व्यक्तिगत सीखने की जरूरतों को अनुकूल बना सकते हैं और उनकी ताकत और कमजोरियों के आधार पर निर्देश को लक्षित कर सकते हैं। शिक्षकों के लिए अर्थहीन काम करना कम हो जाएगा और छात्रों के लिए अधिक सार्थक सीखने का अनुभव हो सकता है।

## HM-14

## RECENT CHANGES IN BUSINESS AND MANAGEMENT: IN INDIAN CONTEXT

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### Abstract

Today every type of business organization influence by the information technology. The management of technological system like other resources has become important part of business strategy in the every type of business. This technological advancement put the stress on business organization to adopt it in their operations. Today the Indian business and management system more effect by this technological advancement. With the help of this paper we will focus on the major recent changes in business and management due to the advancement of information technology and also highlights the challenges before the business and management such as: diversity of language, information and communication technology, awareness about government websites, population of India, confidence on Govt. websites and accessibility of internet service in all areas etc. This paper highlights the some important programmers launched by the Indian government to facing the challenges in business and management.

**KEYWORDS:** Information technology, digital literacy, digital India, make in India.

HM-15

## Language Proficiency Assessment of first year technical college students from west U.P. India

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### Abstract

As we know English language plays an important role in our life. It is the language which is known as a second language of the world. We all see the importance of English language in today's world especially in the areas of Computer and Internet. English language proficiency

define as the ability level of a person to use a language both for basic communication with others and academic purpose. In this study we selected some first year technical college's students from Uttar Pradesh West region to perform English language proficiency assessment to find out English proficiency in the form of speaking and writing. The overall result was observed that students were much strong in writing in comparison of speaking.

HM-16

## Physicochemical evaluation of *Dryopteris nigropaleacea* leaves

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### Abstract

Traditional medicine using herbal drugs exists in every part of the world. The major areas are European, Chinese, and Indian traditions. The philosophies of these traditional medicines have some resemblance to each other but widely differ from modern Western medicine. Herbal drugs have the advantage of being available for all patients in the geographical area of the special traditional medicine. *Dryopteris nigropaleacea* has been selected for present study. It is a species of perennial leptosporangiate fern endemic to parts of Afghanistan, Pakistan, western Nepal, and Himachal Pradesh and Uttar Pradesh in India. The physicochemical evaluation was carried out along with morphological and microscopical evaluation to set standards and to ensure quality and purity of the crude drug. Physicochemical parameters like Total ash, Acid insoluble ash, Alcohol soluble extractive and water soluble extractive value, Loss on drying were determined on the powder of *Dryopteris nigropaleacea* leaves as per Indian pharmacopoeia.

## HM-17

समकालीन सामाजिक–सांस्कृतिक परिवर्तन एवं वृद्धावस्था समायोजन में परिलक्षित असंतुलन

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## सारांश

धरा पर मानव जीवन विकास की एक सतत् स्वाभाविक प्रक्रिया रही है। इस प्रक्रिया की लम्बी श्रृंखला माता के गर्भ से प्रारम्भ होकर शैशावावस्था, बाल्यावस्था, किषोरावस्था, प्रौढ़ावस्था एवं वृद्धावस्था को पार करती हुई, मृत्यु को प्राप्त होती है। इनमें वृद्धावस्था जीवन का आखिरी एवं अंतिम पड़ाव है। व्यक्ति प्रत्येक कालखण्ड में समाज द्वारा निर्धारित कर्त्तव्यों एवं सामाजिक मूल्यों से निर्देषित एवं प्रभावित होता है। समाज द्वारा निर्मित सामाजिक मूल्य व मान्यताएँ समय के अनुसार परिवर्तित होती रहती है और ये प्रत्येक आयु वर्ग के सदस्यों पर अपना प्रभाव डालती हैं। परम्परागत भारतीय समाज में वृद्ध लोगों का सर्वोपरी स्थान था उन्हें समाज में अति सम्माननीय व आदर्ष माना जाता था इसका कारण परम्परागत भारतीय समाज में सामाजिक मूल्यों का प्रभाव व वृद्ध लोगों के कार्यात्मक अनुभव का महत्व था। युग परिवर्तन के साथ–साथ सामाजिक मान्यताओं एवं जीवन मूल्यों में भी परिवर्तन होते रहे है तथा उन्हीं के अनुरूप वृद्धजनों की सामाजिक एवं पारिवारिक स्थिति भी बदलती रही है। वर्तमान समय में भौतिकवाद पूर्णरूप से हावी है जिससे सभी पूर्व आदर्ष जीवन मूल्य एवं मान्यताओं में क्रान्तिकारी रूप से परिवर्तन हुआ है। पाष्चात्य संस्कृति के प्रहार, प्रिंट मिडिया, इलैक्ट्रीक मिडिया एवं क्षीण होते भारतीय सामाजिक मूल्यों के कारण आज वृद्ध व्यक्ति अपने आप को अस्तित्वहीन समझ रहा है। आज समाज में हो रहे सामाजिक परिवर्तन से वृद्धावस्था एक चुनौती के रूप में उभर रही है। वर्तमान में वृद्धजन अनेक समस्याओं से ग्रस्त केवल पारिवारिक ही नहीं सामाजिक उपेक्षा से भी पीड़ित हो रहे हैं। वृद्धजनों की एकमात्र समस्या शारीरिक षिथिलता, शारीरिक शक्ति का ह्रास होना या मानसिक रूप से कमजोर होना ही नही है बल्कि सामाजिक, आर्थिक, संवेगात्मक व सामाजिक समस्याएँ भी है। वृद्धावस्था एक सामाजिक समस्या के रूप में विकराल रूप धारण करे इससे पूर्व ही हमें इसके समाधान के प्रयास करने होगें और समाज के विलुप्त होते सामाजिक मूल्यों व मान्यताओं को पुनः समाज से स्थापित करना होगा तभी भारतीय संस्कृति की विषालता बनी रहेगी।

## HM-18

## कोटा जिले की जल संसाधन गुणवता एवं प्रबन्धन

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## सारांश

जल का उपयोग, सिंचाई हेतु एवं उद्योगों में किया जाता है। प्रत्येक के लिए अपने अलग–अलग गुणवता मापक हैं। पैतृक चट्टान खनिजों के साथ ही मानवीय गतिविधियों भी भू–जल की प्राकृतिक गुणवता में परिवर्तन कर उसे बिगाड़ देती हैं। कोटा जिले में सतही एवं भूमिगत जल की गुणवता के सर्वेक्षण एवं परिक्षण के लिए विभिन्न जल स्रोतों से नमूने लेकर गुणवता स्थिति ज्ञात की है। जिले में पी.एच. मान एवं घुलनषील ठोस स्वीकृत सीमा में हैं। सतही जल स्रोतों में मानवीय क्रियाओं के फलस्वरूप नकारात्मक प्रभाव उत्पन्न हुये हैं। जल गुणवता की स्थिति के सामान्य मापकों जैसे फ्लोराइड, नाइट्रेट, टीडीएस व क्लोराइड आदि की स्वीकृत सीमा से अधिक मात्रा वाले गाँवों की स्थिति का अध्ययन करना शोधकार्य का प्रमुख

उद्देष्य है। मूल बिन्दूः जल गुणवता घुलनषील संघटक  सतहीजल  भूमिगत  टी.डी.एस.  न्यूनतम स्वीकृत सीमा  गुणवता मानक  प्रबन्धन।

## HM-19

### मानवाधिकार एवं पुलिस प्रशासन

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उपप्राचार्य, पोदार कॉलेज नवलगढ़

### Abstract

मानवाधिकार की धारणा अत्याधिक प्राचीन है और यह धारणा लगभग उतनी ही प्राचीन है जितना कि प्राकृतिक न्याय पर आधारित प्राकृतिक अधिकारों का प्राचीन सिद्धान्त। इन सब बातों के होते हुए मानवाधिकार अभिव्यक्त की द्वितीय विश्व युद्ध की समाप्ति के पश्चात उद्भव होने वाली, बाद की उत्पति है।  सभी मानव स्वतंत्र हैं तथा उनकी गरिमा और अधिकार समान है। जिस प्रकार अमेरिका में 'बिल ऑफ राईट्स' वहां के संविधान की एक बहुत बड़ी उपलिब्ध मानी जाती है, उसी प्रकार जब भारतीय संविधान में संयुक्त राष्ट्रसंघ के मानवाधिकार घोषणा–पत्र के समकक्ष भारतीय नागरिकों को मौलिक अधिकार प्रदान किये तथा संविधान निर्माताओं ने राज्य के नीति निर्देशक तत्व भी वर्णित किये जिससे भारतीय संविधान की प्रस्तावना की जो भी भावना है उसके अनुरूप भारत एक समपन्न एवं कल्याणकारी राष्ट्र बन सके। मानवाधिकारों को अनेक दृष्टियों से देखा जा सकता है या बांटा जा सकता है। जैसे – 'मानवाधिकार और पुलिस'  'समाज की सुरक्षा के लिए अपराधियों को अभियोजित करना एक सामाजिक आवश्यक है। समाज की यह मांग है की अपराधियों को उनके कृत्य के लिए दण्डित किया जाये''। यदि हम उच्चतम न्यायालय के इस निर्णय को गंभीरता से लेते है। तो पुलिस का महत्त्व बढ़ जाता हैं इस संदर्भ में हमें पुलिस को समाज का एक अंग मान लेना चाहिए।

## HM-20

### Assessment of Customers' Post COVID-19 Perception & Attitude towards Online Shopping

### Harshit Sharma

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### Abstract

The effects of COVID-19 spread in India have many implications on the online shopping business environment.  The implication is not only for the economy but has consequences on the

buying pattern and behaviour of the consumer. The spread of this pandemic has impact on the consumer perception and attitude towards buying online. It is expected that the findings of the research will clarify on the on-going trends of the online shopping business in the COVID scenario and how it will shape in near future i.e. post COVID outbreak. Thus, the research will be able to identify the pandemic impact on Indian consumer online buying. The findings will highlight how, why and to what level there is change in perception and attitude of Indian consumers. It is also expected that the findings will identify the factors that affect the buying behaviour change in Indian consumers after pandemic. The research findings will also inform on the elements that are contributing and hampering the online shopping retailers in India. Thus, the findings will provide knowledge on the challenges faced by the online retailers in the outbreak period and can suggest ways to promote online shopping business in the country. Accordingly, these outcomes will increase the knowledge on changing consumer perception and attitude after COVID outbreak and its impact for online shopping environment and on how the online retailers can uphold themselves in the Indian marketplace post COVID.

Keywords: COVID-19, Customer, Online, Buying.

## HM-21

## THE RECENT TRENDS OF SOCIAL COMMERCE

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### Abstract

Internet is regarded as the most revolutionary discovery and invention of the human civilization till date. Its impact in each and every sphere it has affected is incredible and dramatic. There is hardly any area of human activity where internet has not left its deep imprint. When it comes to the world of commerce, Internet has proved to be a boon even in this area. The idea of ecommerce just started to work wonders, when it was modified to combine with another interesting aspect of internet, viz social media, to give rise to its improved version of the Social Commerce. Social Commerce is the platforms which facilitates online shopping through the

Plateform of social media It proved to be a wise initiative as it comprehended two of the most favorite activities, viz. online shopping and social media The concept has gained enough prominence in due course of time and has proved to be really promising for every form of business enterprises. The paper discusses the basic concept of social commerce and throws Light on the various prominent platforms for it. Moreover, the very logic behind the emergence of the concept and its ingrained advantages have been discussed along with the challenges that it faces in the way of it's growth and development

HM-22

रांगेय राधव की कहानियों के पात्र एवं चरित्र – चित्रण

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सारांश

चरित्र या पात्र कहानी का महत्वपुर्ण तत्व है। कथानक के पश्चात कहानी के पात्रों या चरित्र–चिरण का महत्वपूर्ण स्थान होता है। पात्र हमारे सामाजिक जीवन का ही हिस्सा होते है जो मानवीय संवेदनाओं को यथार्थ अभिव्यक्ति देते है। चरित्र, ''वस्तुतः मनुष्य का वह आत्मतत्व होता है जो अनिवार्य रूप से सामाजिक माध्यम से विकासशील अथवा क्रियाशील रहता है। डॉ. रांगेय राधव की कहानियों में पात्रो की विविधता मिलती है। उनके पात्र अन्यन्त सजीव है , क्योकि वे यथार्थ धरातल से ही चुने गये है। उनमे मनुष्यगत आकांक्षाऍं, इच्छाऍं, विषय, वासना और अहम है। वे समय – समय पर क्रोध, ईर्ष्या, मोह, प्रेम आदि को व्यक्त करते है। समाज के सभी वर्गों के पात्र उनकी कहानियों में मिलते है। उनमें ग्रामीण जीवन के सीधे –साधे, लोग धुर्तता और चालाकी से भरे पात्रों के व्यंग्यपुर्ण चित्रण। रांगेय राघव ने निम्न, मध्य एवं उच्च वर्ग तीनो मे से आवश्यकतानुसार पात्रो का चयन किया है। वे निम्न वर्गीय पात्रों का चित्रण अधिक तन्मयतापूर्ण और सम्पूर्ण  सहानुभूति से करते हो उनकी कहानियों के पात्रो रहन – सहन पर प्रकाश डाले तो जान पड़ता है। कि वह एक लघु भारत है। नारी चरित्रों में भी विविधतापूर्व पात्रों की सर्जना की गई है। जिसमे गदल जैसी मुखर, ढीठ, निडर एवं स्वाभीमानी नारी पिसनहारी जैसी अपार सहनशील और अटूट जीवन निष्ठा का परिचायक नारी, और सविता जैसी आधुनिक, प्रगतिशीलनारी चेतना वाले पात्र।पाठ उनकी कहानियों के चरित्र–चित्रण सजीव चित्र सा पाठकों के सामने उपस्थित होता है। पात्र की शारीरिक बनावट, चाल–ढ़ाल रहन–सहन, पहनावा का बारीकी से चित्रण करते है। पात्रो के क्रियाकलाप, बातचीत और उनके विषय में दूसरे पात्रो के कथन से भी वे पात्र का चरित्र चित्रण करते है। पात्रों के मन में उतार–चढ़ाव,उहा–पोह का चित्रण मनोवैज्ञानिक ढंग से बड़ी बारीकी से करते हैं। वे पात्रो के चरित्र चित्रण में वातावरण और भाषा शैली दोनोंको हमारे सामने रखते है। ''डॉ. रांगेय राघव पात्रों के चयन के उपरान्त कथानक का ढांचा तैयार करते हैं जीवंत पात्रो का चित्रण में तालमेल बना रहता है।इसलिए कथानक और चरित्र चित्रण में तालमेल बना रहता है।

HM-23

# A CRITICAL REVIEW OF ENVIRONMENTAL ACCOUNTING AND REPORTING PRACTICES IN OIL AND GAS COMPANIES

**Jyotish Kumar Sharma**

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## Abstract

The business is now not only confined to reporting its financial performance but also recognizing its accountability and responsibility towards environment from which it takes lot of benefits and in return provide lot of hazards. In the past decade there has been a huge demand on financial and economic data about environmental and natural resources. However there has an inconsistency in adopting environmental accounting practices in companies. The after effects of business practices call for accountability of corporations in the direction of natural environment. In the recent years environmental degradation has been acute and the shareholders are realizing that the company should follow environmental accounting however approach towards environmental accounting is not generalized one. Legal authorities, standard setting bodies have not come into consensus regarding conceptual framework of environmental accounting and disclosure. In this paper an attempt has been made to find out the level of environmental disclosures present in the company. A proper study has been conducted to find out whether company is serious in environmental compliances or it is just statutorily required disclosures. A content analysis is done across the reports filed by the companies to examination is done to ascertain the quality and level of disclosures.

## HM-24

## IMPACT OF GOODS AND SERVICE TAX ON HEALTHCARE

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## Abstract

The impact of Goods and Service Tax on healthcare is mixed although financial experts feel it will be ultimately positive Restructuring is still in progress, getting stabilize slowly. But concern like GDP contribution, FDI, GST on blood components, devices used in Dialysis, orthopedics, cancer, life saving and cardiac procedure need consideration. Under the range of GST, healthcare services cover diagnosis treatment, Usage of ambulance services by the patient

to and from hospital, but excludes hair grafting and cosmetic surgery, except when undertaken to restore or to reconstruct anatomy or functions of body affected due to by birth defects, developmental abnormalities, injury or trauma.

HM-26

# TRENDS OF E-COMMERCE IN INDIA: SOME ISSUES, PROSPECTS AND CHALLENGES

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## Abstract

Since 1991, after economic reforms explicitly took place in India as a result of opening-up of the economy with a view to integrate itself with the global economy, the need to facilitate international trade both through policy and procedure reforms has become the foundation stone of India's trade and fiscal policies. E-commerce as part of the information technology revolution became widely used in the world trade in general and Indian economy in particular. India, being a rapid adaptor of technology is apace with the current scenario of electronic data exchange and has taken to e-commerce. Although business to business transactions play an important part of e-commerce market, a share of e-commerce revenues in rapidly developing countries like India is generated from business to consumer transactions. E-commerce provides multiple benefits to the consumers in form of availability of goods at lower cost, wider choice and save time. People can buy goods with a click of mouse button without moving of their house or office. Similarly online services such as banking, ticketing, bill payments, hotel booking etc. have been tremendous benefit for the customers. E-commerce involved in various means of relationship within the business processes. It can be in the form of electronic advertising, electronic payment system, electronic marketing, electronic customer support service and electronic order and delivery. The role of government should be to provide a legal framework for e-commerce so that while

domestic and international trade are allowed to expand their horizons, basic rights such as privacy, intellectual property, prevention of fraud, consumer protection etc. are all taken care of.

## HM-25

## GST: Impact and Implicatons on Various Industries in Indian Economy.

### Krishna Chobdar

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### Abstract

GST that is Goods and Service Tax is the Latest kind of indirect tax which is proposed to be in force from 1st July, 2017 which is already in force on many countries around the world and they all were considering it as their sale tax system .The GST will be levied on manufacture, sale and the consumpton of goods and services in India including Jammu and Kashmir (in force from 8th July 2017) . This said to be the biggest form of reform in indirect taxaton aspect ever since 1947. The council of the GST will be headed by the Union Finance minister. The Tax will be very much useful for the consumers in the aspects of payment of Taxes that is, we all have to pay separate tax at state level and center level for the goods and services purchased and afer the GST their will be only one tax to be paid for the goods and services consumed which is the GST .The GST is mainly implemented to remove all other taxes like VAT , Excise duty ,Sale Tax and service tax.

**Keywords:** Goods and Services, Indirect tax.

## HM-27

## Measurement of performance of selected public sector banks

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## Abstract

Public sector banks are the banks whose complete ownership lies with the Government. Though the public sector banks still enjoy a higher market capitalization, their financial health continues to remain unsatisfactory. Several reasons are there which are responsible for this not doing well. Return on assets can be measured using the formula of net profit divided by the average total assets. However from the financial year 1996-97, the situation changed for good. In the year 1997-98, the return on assets of PSBs is seen to be 0.73%. SBI and its associate banks show a positive return on assets throughout the period, when the average returns on assets of SBI is .60%.

**Keywords:** capitalization, ownership, unsatisfactory, assets, financial.

HM-28

**A Review Paper on Development of Indian Banking Sector and its Effect on E-Commerce**

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## Abstract

This paper tries to evaluate the relationship between e-commerce and strategies adopted by the commercial banks in support of e-commerce in India, also the factors affecting the respective strategies. The study adopted a cross sectional design, and targeted commercial banks in Rajasthan, as governed by Reserve Bank of India (RBI). The basic tools used for data analysis are standard deviation and correlation analysis. The results indicated that there was a strong relationship between the usage of e-commerce strategy and infrastructure support from the side of commercial banks in Rajasthan. The findings also indicated that the main factors which influenced e-commerce are customer support service and the payment systems.

**Keywords:** e-commerce, performance, adoption

HM-29

**American Dream and literature**

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**Abstract**

American dream has always been one of the most popular issues in American literature. The narrow one means a kind of belief that everyone in the United States, if only make efforts and never give up, will get a better life, and his dream would come true, regardless of social class and circumstance of birth.The original concept of the American Dream was coined by writer and historian James Truslow Adams in his best-selling 1931 book "Epic of America". He described it as "that dream of a land in which life should be better and richer and fuller for everyone, with opportunity for each according to ability or achievement.we can see different reflection of American dream in literature . And, on the whole, all of them are the outcomes sharing common charicteristics of that age.

**Keywords:** American Dream, Epic of America.

**HM-30**

**A SURVEY ON TEACHERS OPINION ABOUT AND EXPERIENCES WITH ONLINE TEACHING IN HIGHER EDUCATION**

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**Abstract**

The study aims at analyzing the teacher's opinion about and experiences with online classes. The work tries to explain the perception of online teaching, their comfortability, support

received and challenges faced during online teaching. The survey was carried out using the data collected by preparing structured questionnaire for teachers in Bikaner district in Rajasthan. Moreover, the COVID – 19 pandemic has added to the relevance of online classes, hence it is necessary to understand the opinion and experiences of teachers regarding online teaching.

**Keywords:** Teacher, opinion and experience, online teaching

### Corporate social responsibility in India: An Overview

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### Abstract

India is the first country in the world to make corporate social responsibility (CSR) mandatory, following an amendment to the Companies Act, 2013 in April 2014. Businesses can invest their profits in areas such as education, poverty, gender equality, and hunger as part of any CSR compliance. The amendment notified in the Companies Act, 2013 requires companies with a net worth of INR 5 billion (US$70 million) or more, or an annual turnover of INR 10 billion (US$140 million) or more, or net profit of INR 50 million (US$699,125) or more, to spend 2 percent of their average net profits of three years on CSR. Prior to that, the CSR clause was voluntary for companies, though it was mandatory to disclose their CSR spending to shareholders. CSR includes but is not limited to the following: Projects related to activities specified in the Companies Act; or Projects related to activities taken by the company board as recommended by the CSR Committee, provided those activities cover items listed in the Companies Act. Businesses must note that the expenses towards CSR are not eligible for deduction in the computation of taxable income. The government, however, is considering a re-evaluation of this provision, as well as other CSR provisions recently introduced under the Companies (Amendment) Act, 2019 ("the Act"). CSR amendments under the Companies (Amendment) Act, 2019; Until now, if a company was unable to fully spend its CSR funds in a

given year, it could carry the amount forward and spend it in the next fiscal, in addition to the money allotted for that year. The CSR amendments introduced under the Act now require companies to deposit the unspent CSR funds into a fund prescribed under Schedule VII of the Act within the end of the fiscal year.

## HM-32

## A Qualitative Study Applying Strategy on New Breed of Corporate Learning Tools and their Various Parameters

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### Abstract

In this research paper a new strategic management incorporated regarding new breed of corprorate learning.tools is presented. Our main purpose is to explore about companies struggle to address the complex and constantly changing learning and performance needs of their employees. Driven by shifts in the available talent pool in the marketplace and the competitive landscape, skills and knowledge needed by a typical enterprise emerge as vast and continually changing.  There are a number of macro-trends contributing to a growing appetite for new approaches to learning and performance support. There are the business challenges of cost-effectiveness, measuring the return on training, and making sure your organization's technology stays relevant.

## EG-01

## Recent trends in Apparel Engineering- A new perspective for the Garment Industry

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## Abstract

Fashion and Garment Industry has always been at the forefront of innovation- from the invention of the sewing machine to the rise of e-commerce in the recent times. The apparel industries contribute significantly towards the national economy of many countries. Like Technology, fashion & apparel engineering is forward-looking and cyclical. Today, apparel sector is growing at a faster pace than ever due to the advent of the technological trends in the recent times. The apparel merchandise is influenced from the inception stage upto its reception at the consumer level. Technologies are changing the way people shop, through social media apps, retail shops and augmented realities. In this paper, we dive into the trends reshaping how our fashion oriented garments and accessories are designed, manufactured, distributed and marketed to the end consumers. An insight is taken into the Robotic technology for cutting fabrics & sewing apparels, AI algorithms that predict style trends for the upcoming seasons, VR mirrors in dressing rooms, and an array of other innovations show how technology is automating, personalizing and speeding up the fashion space.

**Keywords:** e-commerce, merchandise, augmented realities, accessories, style trends, VR mirrors.

## EG-03

## Smart and Secure Home Garden and Motor garage Design Using IOT with CISCO Packet Tracer 7.20

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## Abstract

In the given research paper, in which using the concept of Internet of Things, the home garden and motor garage can be made smart garden and motor garage. The data signal is transmitted in which we have the home gateway where the signals are sent in a completely logical way and how can I send the data signal from one network to another network where there is a wireless router, sprinkler, humidifier, humidity monitor. , Lawn Sprinklers, Motion Detectors, Sirens, Power Meters, Smoke Detectors, Water Level Monitors, Webcams and Switches. Simulate this complete function using Cisco Packet Tracer 7.2. Use a DHCP server to assign dynamic IP addresses to all networking components to transfer data and signals. In the research paper, it has been told how we can control all the devices through the Internet of Equipment.

**Keyword:** IOE, Smart and secure home, packer tracer 7.2, wireless sensor, Sprinkler.

## EG-04

### Machine Learning Applications in Cancer Diagnosis

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## Abstract

Artificial Intelligence and Machine Learning are the two important techniques in the current era, playing important role in almost each and every field of our daily life. These techniques are preferred because of their accuracy and predictability. Nowadays, Machine Learning is getting importance in Medical fields also. Due to the result accuracy, Machine Learning Techniques are used in even critical medical diagnosis application. These techniques are used in prediction of various types of cancers such as brain cancer, Lung cancer, Breast cancer, in Brain MRI, in CT scan and various critical diagnoses. In this paper a review is provided on the applications of Machine Learning techniques in various types of cancer

diagnosis. As a future work, we will implement some approach for medical diagnosis using ML Techniques.

**Keywords:** Machine Learning, AI, Medical Diagnosis, Machine Learning Models, Prediction Models

<div align="center">EG-05</div>

## Automatic Brain Tumor Segmentationby Intensity Inhomogeneity Correction for Magnetic Resonance Imaging

<div align="center">

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<div align="center">

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### Abstract

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Automatic segmentation of brain tumor data is a very important task for all medical image processing applications, especially in the diagnosis of cancer. This work deals with some of the challenging issues such as noise sensitivity, partial volume averaging, intensity inhomogeneity, inter-slice intensity variations, and intensity non-standardization. To deal with the above tasks, this work uses the 3D convolutional neural network (3DCNN) for automatic segmentation and a novel N3T-spline intensity inhomogeneity correction for bias field correction. The proposed work consists of four levels: (i) preprocessing, (ii) feature extraction, (iii) automatic segmentation, and (iv) postprocessing. In the first stage, a novel N3T-spline is suggested to correct the bias field distortion for reducing the noises and intensity variations. For the extraction of texture patches, the extended gray level co-occurrence matrix-based feature extraction is used. Then, the proposed 3D convolution neural network automatically segments the brain tumor and divides the various abnormal tissues. Finally, a simple threshold scheme is applied to the segmented results for correcting the false labels and to eliminate the 3D connected small regions. The simulation results in the proposed segmentation approach could attain competitive performance as compared with the existing approaches for the BRATS 2015 dataset.

**Keywords:** Magnetic resonance imaging Segmentation Brain tumor Deep learning Convolutional neural network

## EG-07

### A novel approach towards mutualauthenticationand keyexchange protocol

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### Abstract

Recently, Lee et. al. carried out the cryptanalysis of Juanget.al. two -fact or authentication key exchange protocol in Public wireless LANs.It was shown that Juang et.al. protocol is vulnerable to the stolen verifier attack, on line and offline dictionary attack and doesn't satisfy the user anonymity. Apart from this high computational over head of the server. This paper, proposes a novel approachtowards mutualauthenticationand keyexchange protocolbasedon Elliptic Curve Decision Diffie-Hellman (DDH) key exchange problem which ensures their strong resistance towards the existing weaknesses. Besides this, their security and performance analysis shows that the proposed protocol is more secure, efficient and also their applicability in Public wireless LANs and Internet of things.

## EG-08

### Study of I-V characteristics of a-IGZO based Thin Films Transistor

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## Abstract

In this work we have designed a thin film transistor with active layer of IGZO. The channel length was taken 20 micrometre initially and varied the thickness of this active layer for calculation of threshold voltage, transconductance and on/off ratio. For a good thin film transistor threshold voltage should be minimum transconduction should be high and on/off ratio should also be high for the optimum active layer thickness. After determining the optimum active layer thickness we will vary the channel length for different active layer thickness and observed that the threshold voltage on/off  ratio and transconductance of thin film transistor depends on Channel length and active layer thickness.

## EG-09

## Practical Random Number Generation in Software

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## Abstract

There is a large gap between the theory and practicefor random number generation. For example, on mostoperating systems, using /dev/random togeneratea256-bit AES key is highly likely to produce a key withno more than 160 bits of security. In this paper, we propose solutions to many of the issues that real software-based random number infrastructures have encountered. Particularly,we demonstrate that universal hash functions are a theoretically appealingand efficient mechanism for accumulating entropy,we show how to deal with for kingprocesses without using a two-phase commit, weexplore better metricsfor estimating entropy and argue that systems shouldprovide both computational security and information the oretic security through separate interfaces.

EG-10

# Optimum Configuration of Hybrid Renewable Energy System using HOMER Pro to Meet the Constant Energy Demand atDifferent Indian Regions

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## Abstract

Hybrid renewable energy system (HRES) consists of various renewable energy sources such as solar photovoltaic (PV), wind and bio-generator. As the availability of solar irradiance, temperature and wind speed changes with the change in geographical location, it is important to determine viable combinations, optimum sizing and techno-economic analysis of HRES before its procurement and installation. In this study HRES system was modelled using HOMER Pro (open-source version) to meetthe same electrical load demand of theenergy users located in thecapital citiesof all the states/UTs of India to get the minimum net present cost (NPC) of the proposed system.For this purpose, asample energy consumption pattern of energy consumers was obtained from Chennai (capital of Tamil Nadu). For the selected sample energy users, the maximum peak load demand, the average daily based annual energy demand, the total annual energy demand were obtained as 71.37 kW, 256.33 kWh/day, and 90841 kWh/year respectively from the recorded data taken from an online real time energy monitoring system for a period of one year.The same electrical load pattern was used for sizing optimization of HRES located in 37 selected cities in India. Jaipur has highest annual average solar irradiance as 5.43 kWh/m$^2$/day and Itanagar lowest as 3.95 kWh/m$^2$/day. Shimla has highest annual average wind speed as 3.42 m/s and Kolkata lowest as 2.2 m/s. Chennai has highest annual average temperature as 27.74ºC

and Kargil lowest as 5ºC.It has been found from the Homer Pro sizing optimization simulation done for HRES that the generation of energy from solar, wind and bio-generator all are not in same location. The optimization results show that most feasible HRES system configurationgiven for Imphalconsists of 109 kW Photovoltaics; 1 kW wind turbine; and 12 kW biogas generator has given maximum 95% energy generation through solar photovoltaic.Most feasible HRES system configuration given for Kargil consists of 60.6 kW Photovoltaics; 14 kW wind turbine and10 kW biogas generator has given maximum 17.8% energy generation through wind turbines. Most feasible HRES system configuration given for Srinagar consists of 68.9 kW Photovoltaics; 6 kW wind turbine and20 kW biogas generator has given maximum 7.27% energy generation through biogas generator.Based on this study, it can be said that different regions in India requires different capacity of renewable energy sources to fulfill same electrical energy demand. This approach can be adopted for finding the optimum system configuration of HRES with minimum NPC for any location in the world.

**Keywords:** Renewable Energy, Hybrid System, Size Optimization, Techno Economic Analysis, Homer Pro, Cost