

PAPER-1**Applying Association Rule Mining and Apriori Principle for Mining Infrequent Sets and Negatively Correlated Patterns for Analyzing the Use of Herbal Medicines**Aarti Kumar¹ Sanjay Agrawal²

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Abstract: Apriori algorithm and Association rule has generally been employed in mining frequent item-sets and in promotion of sales although it finds other uses also. This paper presents a different dimension of ARM and Apriori because although it will use similar concepts but will be mining infrequent item-sets instead of frequent ones so that the loopholes can be detected and analysis can be done. The example dataset pertains to use of Herbal medicines by people and tries to analyze the categories which are not aware of its benefits or are not using it.

Keywords: Association Rule mining, apriori algorithm, pruning, frequent item-sets, infrequent item-sets, candidate sets.

PAPER-2**Isolation and Structural Study of the Saponin: β -AMYRIN****-3-O- β -D-GLUCOPYRANOSYL [1 \rightarrow 4]-O- α -L-RHAMNOPYRANOSIDE from the Seeds of Maesa Indica Wall**Shrivastava Archana¹, Gangwal M.L.² & Jadhav Raina³

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Abstract: The plant Maesa Indica wall, is known as Nagapadhera in Kumaon, in Malyalam, Kiriti, and Jiundali in Garhwal. It belongs to natural order Myrsinaceae. Its Berries are anthelmintic while roots are used to cure syphilis. It's leaves are used as antidote to fish poison. The plant is very common in North East Himalayas and occurs in through at India up to 6000 feet. It also occurs in East Bengal, Darjeeling, Manipur, Kanara and along, the ghats. In the present communication the isolation and structural study of the saponin ; β -Amyrin -3-O- β -D-glycopyranosyl[1 \rightarrow 4]-O- α -L-rhamnopyranoside, isolated from the seeds of Maesa indica wall has been described.

Key Words: Maesa indica wall, Myrsinaceae; saponin; β - Amyrin -3-O- β -D-glycopyranosyl [1 \rightarrow 4]-O- α -L-rhamnopyranoside.

PAPER-3**Detection of Terahertz Signals via Direct Current Generation in a Semiconductor with a Magnetic Wiggler**Rajendra Pathak¹, R.K.Jain², J.Parashar^{3*} and Sanjay Katarey⁴¹Department of Mathematics, ³Department of Physics, ⁴Department of Mechanical Engineering,

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Abstract: An electromagnetic wave with frequency and wave vector (ω, \vec{k}) propagating through a semiconductor in the presence of a magnetic wiggler $(0, k_w \hat{z})$ produces electron velocity and density perturbations \vec{v}', n' respectively at $(\omega, \vec{k} + \vec{k}_w)$. \vec{v}' and n' mixes nonlinearly to produce a direct current. The process is sensitive to wiggler field strength and the electron concentration. The generated direct current decreases with the frequency of the signal electromagnetic wave at a given value of wiggler field strength. This scheme can be employed to design tunable detectors for THz radiation.

Key words: THz radiation, d.c. field generation, THz detection, wave mixing, magnetic wiggler, semiconductor

PAPER-4**Stiff Fluid Homogeneous Cosmological Models**Ghanshyam Singh Rathore¹, Anita Bagora², Sushil Kr. Gandhi³1,3-Department of Mathematics and Statistics, University College of Science,
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Abstract. Tilted Bianchi type I cosmological models for perfect fluid distribution in presence of magnetic field with bulk viscosity are investigated. To get a determinate solution, it has been assumed that the universe is filled with stiff perfect fluid distribution. The coefficient of bulk viscosity is assumed to be power function of mass density. Some physical and geometrical aspects of the models are discussed in presence and absence of magnetic field. The tilted nature of the model is preserved due to magnetic field.

Key words: Cosmology, Bianchi type-I universe, Tilted models, Magnetic field, Bulk viscosity.

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PAPER-5**Construction With Lightweight Material — A Real Model Study**A. K. Garg¹, Radhika Keerthi N.², Vijay Shanker G³.

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Abstract: This paper deals with the benefits of application of Lightweight construction in buildings. To achieve the objective, extensive study has been made on the available literature and a Real Model Study has been performed on the Executive hostel building of NICMAR. Certain demerits of lightweight construction such as low resistance to fire have also been discussed. In today's world, where space is a major constraint, lightweight construction provides a better alternative for achieving more floor area within a given built-up area of any building. Lightweight construction also helps us to reduce the duration of construction and employs eco-friendly materials. The paper also suggests that further research is necessary for improving the efficiency of the existing Lightweight construction technology.

Keywords: Lightweight construction, Real model study, Lightweight construction technology

PAPER-6**TEC Response during Moderate Geomagnetic Storm Occurred on 10 July 2005 At Bhopal**Richa Trivedi¹, Sudhir Jain², Amit Jain¹ and A.K. Gwal¹

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Abstract The dual frequency signals from the GPS satellites recorded at Bhopal (23.2°N, 77.4°E, Geomagnetic 14.2°N) near the Equatorial ionization anomaly crest in India have been analyzed to study the ionospheric variations in terms of Total Electron Content (TEC) for moderate geomagnetic storm occurred on 10 July 2005 (SSC: 0337 UT, SymH: -114nT). The negative deviation in VTEC was found for the July 10, 2005 and 11 July, 2005. This is mainly due to the thermospheric composition changes by joule heating effect at auroral latitudes that generate electric field disturbance at low latitudes. The strong reversal in Equatorial Electrojet Current and total suppression of EIA were found, which indicates the presence of strong westward electric fields over the low latitude regions. In this storm whole EIA region ionospheric TEC is suppressed for the three days including the day of main phase storm.

Keywords: Total Electron Content (TEC), Ionospheric disturbance, penetration of electric fields.

PAPER-7 **λ -Statistics for Modeling Anti-HIV-1 Activity of 1-Alkoxyethyl-5-Alkyl-6-Naphthylmethyl Uracils as HEPT**Basheerulla Shaik¹, Meenakshi Jha¹, Izhar Ahmad², Vijay K. Agrawal¹¹ Dept. of Applied Sciences, NITTTR, Shamla Hills, Bhopal-462 002 (M.P.) India² Dept. of Chemistry, Govt. P.G. College, Amarpatan, Satna, (M.P.) IndiaCorresponding author: apsvka@yahoo.co.in, basheerulla.81@gmail.com

Abstract: The present paper deals with the performance of λ -Statistics for modeling anti-HIV-1 activity of 1-alkoxyethyl-5-alkyl-6-naphthylmethyl uracils as HEPT. For that correlation analysis was carried out using combination of Balaban type indices and quantum chemical parameters. A detailed regression analysis has indicated that best model is obtained using ΔE , E_{LUMO} , and Balaban G parameter yielding $R^2 = 0.9339$. λ as well as ridge statistics has indicated absence of any collinearity defect.

Key words: λ -Statistics, condition number, Balaban index, quantum chemical index, correlation analysis, ridge statistics.

PAPER-8**Campus Recruitment: what Indian campus recruiters are looking for?**

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Abstract: Campus recruitment is increasingly becoming an essential feature of the present-day higher education domain in India. Most national and international ranking systems use campus recruitment as an important criterion to rank management programmes and institutions. In order to enhance the effectiveness of campus recruitment activities, it was decided to investigate what campus recruiters in India expected of their prospective employees. A sample of 25 campus recruiters visiting the Symbiosis International University in Pune was administered two questionnaires and subjected to structured interviews. The outcomes indicate that campus recruiters use very specific employment competencies and personal attributes as yardsticks to assess candidates. Information was also gathered about the job application documents the recruiters expected candidates to submit and the important characteristics of these documents.

Keywords: competency modeling, MBA programmes, campus recruitment, job application documents, resumes, assessment and accreditation.

PAPER-9**Our Picture Book and Learning through Reflection**Purushothaman P¹, Suresh E S M²¹ Director, Center for University Industry Interaction, Periyar Maniammai University,² Department of Civil Engineering & Education Technology, National Institute for Technical Teachers Training and Research (NITTTR), Taramani, Chennai,Corresponding author: dircuii@pmu.edu

Abstract: Our picture book or vignette is a photo album and notes made after teaching workers and youth during post relief works of Sumatra Tsunami of the year 2004 and appended with our recent training photos of S-REACT model training program, which was prepared for two-way learning that is both by the teacher and the taught. At individual level as a teacher-learner it is a powerful medium of learning through reflection. The teaching and learning experience is re-lived, revived and progress is made further. Reflection of this type could be taken as a powerful medium for critical thinking and evolving theories of revolution and implementing development interventions in adult education and training of workers.

Keywords: Vignette, learning through reflection, pedagogy of oppressed, United Nation Development project (UNDP), S-REACT Model Training Program

PAPER-10**Photometric Characteristics of Led based Cap lamp for underground coalmines**Ramjee Prasad Gupta¹ Upendra Prasad¹

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Abstract : The paper deals with the optical characteristics of solid-state Light Emitting Diode(LED) based cap lamp for underground coalmines.. The purpose of the paper is to ensure numerous complex and interrelated factors that must be considered to design and implement a LED based efficient lighting system suitable for underground coalmines which will satisfy human needs for good vision and comfort. For LED based lighting system the LED must operate at constant and sufficient current to generate adequate luminous flux. In order to design a lighting system for underground coalmines it is important to have the knowledge of electrical ,thermal and optical features of LED for fire proof, flame proof and better illumination. In this paper different photometric features have been discussed for selection of LED.

Keywords : LED, Cap lamp, Correlated Colour Temperature (CCT)

PAPER-11**Role of Corporate Social Responsibility in Public Sector Enterprises**

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Abstract: Public Corporations have legal responsibilities to maximize shareholder profits; but a shift in corporate mindset led by social expectations and pressure is causing business leaders to rethink their responsibilities with respect to corporate performance measured in terms of economic impact, social impact and environmental impact- commonly called the Triple Bottom Line. The public sector has been playing a vital role in the economic development of the country. In fact the public sector has come to occupy such an important place in our economy that on its effective performance depends largely on the achievement of the country's economic and social goals. In this paper, the author has tried to focus on the role played by corporate as their Social Responsibility in Public Sector Enterprises which can only be implemented through proper guidelines and has to be amended periodically with the approval of the competent authority not only in terms of economic impact but social and environmental effect also.

Key Words: Legal Responsibilities, Corporate Social Responsibility (CSR), Public Sector Enterprises, CSR activities, Role of CSR in Public Sector Enterprises

PAPER-12**On the use of Dualist of Polycenes for Estimating Padmakar-Ivan Index of Febonancenes and Helicenes**Hansa Acharya¹, Sapana Pandit¹, Padmakar V. Khadikar¹, Vijay K. Agrawal², Basheerulla Shaik²,
Parimeeta Chanchani¹¹Research Division, Laxmi Fumigation & Pest Control, Pvt . Ltd. 3 Khatipura , Indore- 452001, MP²Department of Applied Sciences, National Institute of Technical Teachers' Training & Research, Shaml Hills ,
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Abstract. The present paper describes a method for calculating Padmakar -Ivan index of febonancene and helicene using Padmakar -Ivan indices of polycenes and their dualists.

Keywords: carbon nanotube, topological index, non-benzenoids , semi-benzonoids, correlation analysis.

PAPER-13**Meta-Heuristic Simulation for Protein Folding in 2D HP Lattice Model*****Improved Algorithm with Customized Parameter Tuning***Sudhanshu Shrivastava¹, Gulshan Wadhwa², Navita Srivastava¹, Garima Srivastava¹

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Abstract: Heuristics represent an essential ingredient of methods in applied optimization, being the only applicable approach to many complex real world problems. In this paper we simulate a meta-heuristic genetic algorithm for determination of minimum energy protein conformation on a 2D HP Lattice Model. This implementation improves upon the past work done by Unger and Moulton [3]. We have used a novel binary representation for amino acid pattern as benchmark strings. The parameters are changed and investigated in order to test and increase the percent success rate of the algorithm. Multiple executions with 50 independent tests were conducted in every 22 different parameter setup for chain length {20,24,25,36}. It is found that Mutation rate=2, with $C_{kmc}=3.0$ and $C_{kga}=0.3$ is the optimum choice with higher population and number of generations for maximum gain in the percent success rate. The empirical results enhance precision of [3] serving as base algorithm for several derived variants [4-12], hence strapping the origin useful for further research.

Keywords: Heuristic Technique, Meta-Heuristic, HP Lattice Model, Monte Carlo Algorithm, Genetic Algorithm.

PAPER-14**Roles and Challenges for Human Resource Professionals during Global Recession**Archana Singh¹, Lokendra Vikram Singh², Dr. Peeyush Khare³,

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Abstract: Recession is the time when HR needs to come in to its own to help company during tough time. It's the time when the HR needs to develop and retain talent amidst retrenchment, salary-cuts, and fall in budgets. Most of the organizations across industries are under tremendous pressure to sustain. The beleaguered economy seems to have affected the entire globe including developed and developing countries. This Paper is an attempt to cover the challenges and role of HR professional during recession.

Key words: - Recession, HR professionals, Human Resource roles and challenges, HR policies.

PAPER-15**Characterization and Properties Evaluation of Polyimide (PMDA / ODA) Nano-composites using different clay**Sandesh Kumar Jain¹, G. Dixit² and Ajay K Nema³¹ Central Institute of Plastics Engineering & Technology, Aurangabad (M.S.) India² Department of Applied Mechanics, MANIT, Bhopal (M.P.) India³ Central Institute of Plastics Engineering & Technology, Bhopal (M.P.) IndiaCorresponding author: sandesh_cipet@hotmail.com, cipetabad@gmail.com

Abstract: The Polyimide nano-composite films were prepared by using Cloisite Na⁺(UT), Cloisite 20A(TA), Cloisite 30B(TB) in the percentage of 1,3 and 5. These clays were solution mixed with Polyamic acid (PMDA/ODA) and film were prepared by casting on glass plate followed by vitrification and then thermal imidization. The vitrification process was adopted by thermal means. The thermal imidization process was optimized by altering heating time before and after vitrification. The film prepared with Na⁺-MMT showed slight improvement of mechanical and thermal properties in comparison of neat Polyimide film and films with Cloisite 20A showed increase in tensile properties up to 3% of clay loading and increase in thermal Properties up to 5% clay loading. The films with Cloisite 20A had higher properties in comparison with Na⁺-MMT and Cloisite 30B because of availability of compatible organic modifier which impart compatibility in clay and Polyamic Acid. The films were characterized by FTIR, TGA and UTM.

Keywords: Polyamic acid (PMDA/ODA), Imidization, Vitrification, Clays (Na⁺-MMT, Cloisite-20A and Cloisite-30B), Dimethyl acetamide (DMAc), FTIR spectrum

PAPER-16**Study of Phase Transition in some Supertonic Systems**Satyendra Singh¹, Shalini and Kanchan Gaur¹

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Abstract: The study of phase transition has been done in the temperature range 500 K to the melting point of the studied materials of the systems $(1 - x) \text{Li}_3\text{PO}_4 \cdot x \text{Li}_3\text{VO}_4$, with $x = 0.0, 0.33, 0.50, 0.67$ and 1.0 and $\text{Li}_3\text{PO}_4 \cdot x \text{Li}_3\text{VO}_3$ with $x = 0.0, 0.33, 0.50, 0.67, 1.0, 1.5$ and 2.0 . The molar magnetic susceptibility (χ_{QM}) and dielectric constant (K) measurements have been performed for the study of phase transition. At phase transition materials undergo from normal to superionic phase. An anomaly appears in χ_M and $\log K$ vs temperature (T) plots at phase transition. This is also reflected in electrical conductivity (σ) and Seebeck coefficient (S) studies. All the studied material remains diamagnetic throughout the measurement.

Keywords: Phase transition, Magnetic susceptibility, Dielectric constant