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## IJSTR Volume 2- Issue 11, November 2013 Edition - ISSN 2277-8616

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mahyati

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**Mahyati, Abdul Rauf Patong, Muh. Nasir Djide, dan Paulina Taba.** KEYWORDS. Keyword: biodegradation, lignin, white rot fungi and corn cob. ABSTRACT.

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- December 2021 Edition
- November 2021 Edition
- October 2021 Edition
- September 2021 Edition
- August 2021 Edition
- July 2021 Edition

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## Generalised Test For C- Matched Samples

Umeh, Edith. U, OyekaI. C.A, Onyiorah, I.V., Onyiorah, A. A., Efobi,C.C

**Abstract:** This paper proposes a generalized statistical method for the analysis of multiple responses or outcome data in case control studies including situations in which the observations are either continuous or frequency data. Test statistics are proposed for assessing the statistical significance of differences between case-control response scores. The proposed methods are illustrated with some sample data. When there are only three possible response options in which the proposed method and the Stuart/Maxwell test can be equally used to analyze the data; the proposed test statistic is shown to be at least as powerful as the Stuart/Maxwell test statistic.

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## On Chip Calibration For A 7 Bit Comparator Based Asynchronous Binary Search (CABS) A/D Converter

Vikash Kumar Singh, Kumari Archana

**Abstract:** An on-chip calibration technique has been proposed for a 7-bit Comparator Based Asynchronous Binary Search (CABS) A/D Converter. The proposed design is verified using an 8-bit, 3.3V, 10 MS/s Asynchronous SAR A/D Converter by integrating the calibration scheme into the A/D Converter. The 8-bit Asynchronous SAR A/D Converter consists of a track-and-hold followed by a two-step conversion process. The two-step architecture consists of a 1-bit course and a 7-bit fine converter. The 1-bit coarse converter is implemented using the SAR-CC principle and the 7-bit fine converter is implemented using the CABS principle. The 7-bit CABS sub-A/D converter consists of 127 comparators with different threshold voltages. All these 127 comparators with different threshold voltages are calibrated using a calibration technique in which the thresholds are adjusted to the desired value by tuning the total current flowing through the differential pair in the comparator circuit. The calibration technique and the A/D converter have been designed in 0.18 mm CMOS technology with a supply voltage of 3.3 V. The simulation results showed an ENOB of 6.7 for SNDR of 42.09 dB at Nyquist frequency.

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## **Evaluation Of The Magnetic Basement Depth Over Parts Of Middle Benue Trough Nigeria By Empirical Depth Rule Based On Slope Techniques Using The HRAM**

Nwosu O.B, Onuba L.N

**Abstract:** The new High resolution aeromagnetic data (HRAM) of parts of the middle Benue trough Nigeria have been interpreted to determine the magnetic basement depth and appraise its hydrocarbon accumulation potential through the empirical depth rule methods employing the maximum and half slope techniques. The regional field was modeled with a first order polynomial and the residual field regarded as an error between the model and the data using the polifit program. The residual data was contoured into a map and the preliminary qualitative analysis on it revealed areas of low frequency anomaly probably related to deep seated bodies which are areas of thicker sediment; and areas of high frequency anomaly for shallow seated bodies. Then profiles were then taken along these most prominent anomaly closures of the map and labeled profile OO', NN', WW',BB' and AA' respectively for the purpose of depth determination. The Maximum slope techniques employed using an empirical constant of 1.82 estimated an average depth of 3.66km for the deep magnetic basement and an average of 0.80km for the shallow depth. The half slope technique also employed using an empirical constant of 0.63 estimated an average depth of 3.74km for the deep magnetic source. The results obtained with this method compares favorably with that obtained through spectra analysis for the area. Predominant NE-SW trend in the orientation of the magnetic contour closures were equally found within the study area which is an attribute of the Pan - African Orogeny trends. The significance of this result is that, this study area with an average depth to basement of 3.70km and the oldest geological formation being marine sediment of Albian age, may be promising for hydrocarbon accumulation if other conditions are met.

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19-29

## **Linguocultures in M.O. Auezov's Dramatic Works**

Ainur Kushkimbaeva, Altynai Tymbolova, Akmaral Tukhtarova, Balkenje Karagulova, Gulaim Aiapova

**Abstract:** A language preserves and sets a national culture. There are different words and images which have recently appeared in linguistic consciousness, and the main, the most significant part of them were acquired by language in its infancy like children learn basics of native speech with breast milk. Typically a native language is called "a mother tongue" in many languages. Many Old Kazakh words reflect mythology images and an ancient Kazakh man's worldview. The knowledge marked in words forms the basis of human common sense, it defines his behavior and character, - all the things that scientists call mentality. There is knowledge common to all mankind, above all it is scientific knowledge, and knowledge that is specific to a particular nation. The knowledge is hidden in the word and linguists call it background knowledge. At all times the main source of words and phrases with cultural background knowledge was Kazakh folk art: fairy tales, songs, proverbs, counting rhymes, riddles, nursery rhymes, etc. They form the basis of the Kazakh language consciousness and national stereotypes of thinking and behavior. Having analyzed linguocultures in dramatic works of a famous writer and playwright M.O. Auezov, we would like to identify pragmatic level of the writer's linguistic personality in this article.

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## **Street Children Struggle For Survival Where Protection Of Human Resource Development: (A Study On Khulna City, Bangladesh.)**

Md.Sirajul Islam, Md.Esfaqur Rahman, Razia Khatun

**Abstract:** Children involved in multiple economic activities due to mostly for plain survival have been found almost in each and every developing country. On the other hand, the nature and intensity of child struggle vary from region to region, depending on the socio-economic condition of a particular society in which the children live. However, Street children mostly work as beggar or assistant to beggar, day laborer, fish seller or assistant to fish seller, wanderer (floating), rickshaw-pusher, shoe-shiner, porter waste-collector, hawker, etc. But changing the job is very frequent among the street children found Notun Bazar, Boyra, Nirala, Railway Station in Khulna city. Therefore, this Study has been made possible because of the support of many poor working and street children. Furthermore, Primary data has been collected through questionnaire survey. Secondary data has been collected through Constitution of Bangladesh, Bangladesh Code, Publication of UNICEF, books and journals. The collected data has been analyzed through statistical packages. We are very grateful to the children for allowing us to document their life experiences. In fact, the present paper attempts to derive a participatory monitoring tool for progress towards sustainable human resource development of street children of selected area in Khulna City of Bangladesh.

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## **Characterization Of Abiotic Status Of Lake Mansar At Surinsar- Mansar Ramsar Site In The NW Himalayas**

S.M. Zubair, A.H. Ahrar

**Abstract:** Lake Mansar is a cherished tourist destination due to which many business outlets have been established along its bank. A greater portion of its catchment area has been converted into agricultural and residential purposes due to which silt and soil eroded from the catchment area is washed into the lake. Consequently the lake has been reduced to a mere sink for domestic as well municipal sewage, detergents, soaps, faecal matter, cow dung, agricultural run-off from the fields in the catchment area and nutrients from the cremation ground and deer park located along the bank of the lake. To further aggravate the problem of the lake, Department of Public Health and Hygiene is abstracting 3 lac gallons of water a day from the water body to supply potable water to 20 thousand people. Subsequently the present study revealed that lake water remains hard all throughout the year with BOD values fluctuating from clean to fairly clean category and hardness values varying from moderately hard to hard water body, total phosphates varying its trophic status from mesoeutrophic to hypereutrophic and values of Nitrate Nitrogen placing it in eutrophic category.

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## **Faculty Performance As A Function Of Teaching Goals And Organizational Commitment**

Merlita Castillo Medallion

**Abstract:** Seventy faculty members were surveyed to determine the correlates of faculty performance using the variables of faculty teaching goals, organizational commitment, and the profile. Using standardized instruments data were subjected to correlation analysis. Results show that faculty performance is not significantly related to age ( $p=0.368$ ); years of teaching ( $p=.732$ ); education level ( $p=.095$ ), and specialization ( $p=.083$ ). Higher order thinking skills is significantly related with the level of education of the faculty respondents ( $p=.042$ ). Basic academic success ( $p=.003$ ) and discipline-specific knowledge and skills ( $p=.019$ ) are also significantly related to the education level ( $p=.003$ ). Basic academic success skills is also significantly related to the years of teaching experience ( $p=.027$ ) and age ( $p=.043$ ). Teaching goal achievement in Liberal arts and academic values is significantly related to the specialization ( $p=.043$ ). There is no significant relationship between the level of commitment and the profile of the respondents. The faculty performance is directly related to the use of higher order thinking skills ( $p=.005$ ), basic academic success skills ( $p=.028$ ), discipline-specific knowledge and skills ( $p=.021$ ), and work and career preparation ( $p=.009$ ). The relationship is weak and is not significant with Liberal arts and academic values ( $p=.500$ ) and on personal development ( $p=.110$ ). Relationship is very weak but direct between FPE and any of the three commitment measures.

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## **Using Markov Chain To Predict The Probability Of Rural And Urban Child Mortality Rates Reduction In Ghana**

Patience Pokuua Gambrah, Yvonne Adzadu

**Abstract:** Child mortality reflects a country's level of socio-economic development and quality of life. In this paper, Markov chain is used to predict the probability of rural and urban child mortality rate reduction in Ghana. The probabilities of whether the rural and urban mortality rates will increase was obtained from the current data where the probability of rates increasing is less than 20%. After applying Markov, it was realized that the current rates are not likely to change, that is the reduction rates will remain the same if proactive measures are not put in place to reduce the CMR drastically. It is therefore recommended to the government to put in more effort in ensuring that the rates go down. This is because if we depend on the current rates we will not be able to achieve the Millennium Development Goal (MDG) 4 by 2015.

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## **Biodegradation Of Lignin From Corn Cob By Using A Mixture Of Phanerochaete Chrysosporium, Lentinus Edodes And Pleurotus Ostreatus**

Mahyati, Abdul Rauf Patong, Muh. Nasir Djide, dan Paulina Taba

**Abstract:** Corn cob is agricultural waste containing approximately 76% holocellulose (cellulose and hemicellulose). Cellulose can be converted into bioethanol using a method of SSF. Degradation of lignin from corn cob can be conducted by acid, basic and enzymatic methods. The method applied to the process of enzymatic pretreatment was conducted by using a mixture of white rot fungi (Phanerochaete chrysosporium, Lentinus edodes and Pleurotus ostreatus) to degrade lignin which is environmentally friendly. Results showed that maximum lignin biodegradation, i.e. 96.88%, was achieved after incubation for 30 days by the mixture of white rot fungi

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## **Speech Intelligibility And Good Sightline For Vision In Lecture Hall Acoustics As A Determinant For Effective Learning/Teaching Environment**

Japo Oweikeye Morto Amasuomo

**Abstract:** The study investigated whether speech intelligibility from the teacher and good sightline for vision in lecture hall acoustics as determinant for effective teaching/learning environment. 300 students out of a total of 522 lecture hall seating capacity at the Federal college of Education (Technical), Omoku; Rivers State, Nigeria was used for the study. Instrument for data collection was the questionnaire that addressed what constituted indicators for speech intelligibility and good sightline for vision in lecture halls. Data was analyzed using the arithmetic mean and standard deviation and Z-test for two independent groups mean at 0.05 level of significance. The findings revealed that, in the opinion of the students, speech intelligibility and good sight line for vision were determinants for effective teaching/learning environment. The Z-test also indicated that, there was no significant difference in the mean response scores of the students. The implication was that, students were not afforded good speech intelligibility and sight line for vision. It was recommended that, the internal space of the lecture halls should be carefully designed for effective distribution of speech intelligibility; and good sight line for effective teaching/learning environment.

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## Weight Reduction Study Of Polycrete-An Asbestos-Free Building Material Product

C.W. Adegoke

**ABSTRACT:** Motivated by the dual need of developing alternative non-carcinogenic building material products from local raw materials and the need for sustainable solid waste management of polyethylene packaged water sachets waste in Nigeria, an asbestos-free composite material, polycrete, viable for use as ceiling and partitioning boards in buildings was recently developed by the author. The technical viability of forming a durable composite material from polyethylene fibers (shredded/granulated polyethylene sachets- poly-fibers), and cement in durable economic mix ratio of 1:4 by volume (i.e. one part of cement with 4 parts of fiber) was established with test specimens cast in plastic moulds as presented at RETAV Conference 2009, at Obafemi Awolowo University, Ile-Ife, Nigeria. In order to meet workability requirements (for easy penetration of nails), some amount of paper was also added to introduce some ductility to the mix. Building on the success of initial trials with model specimens, prototype ceiling boards, 600mm x 600mm in size are now being investigated for production. Replicating the mix ratios as established for the model specimens in the prototype production, final product weight of 4.4kg per piece was achieved. It was considered desirable to reduce the weight per product to about 3.5kg so as to be comparable with lighter ceiling products made from gypsum (Plaster of Paris - POP). Various combination weights of Portland cement, poly-fibers, waste paper, and water were varied with the objective of producing a 600mm x 600mm prototype with a product weight not exceeding 3.5kg. This paper presents results of the trials and establishes a minimum weight of 2.5kg Portland cement, 0.5kg poly-fiber, 0.1kg paper and 2.25kg of water to produce a 600mm x 600mm by 5.0mm thick ceiling board with a product weight of 3.35kg. Production process was replicated several times with durable prototypes being formed each time. A comparable asbestos-cement ceiling sheet (produced by Nigerite - 1.2m x 1.2m x 3.5mm thick in dimension - four times the surface area of polycrete product) weighs 8.0kg. In addition to the asbestos-free attribute of polycrete, other obvious advantage of Polycrete Decorative Ceiling board over the Nigerite product is the artistic pattern design embossed on it, making it aesthetically more pleasing to home owners than the plain version of Nigerite product.

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## Evaluation Of Aluminum Alloy Brake Drum For Automobile Application

Sourav Das, Ameenur Rehman Siddiqui, Vishvendra Bartaria

**Abstract:** The aim of the present paper is to study the braking performance of Al-Si alloys (ADC12 & LM30) brake drums using a brake drum dynamometer test rig. The braking performance of the ADC12 and LM30 alloys is evaluated on the basis of experimental parameters such as coefficient of friction, rise in temperature, braking torque, rotational speed etc. The coefficient of friction as against the normal brake liners is evaluated. The rise in temperature at the inner surface, during the braking action, has been presented. The results indicated that rise in temperature of brake drum is in the range of 40-50°C in both the alloys. The coefficient of friction was found to be in the range of 0.35-0.42 in both the Al alloys. It was observed that brake force and speed of the drum do not have any appreciable effect on the friction coefficient. Stopping distance after applying the brake was also calculated and it was observed that stopping distance reduces as a function of brake force. At a brake force of 20 N, the efficiency is increased to 80-85 %. It concludes that LM30 alloy performs better than ADC 12.

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## Emergence Of Agile Software Development Methodologies: A Sri Lankan Software R & D Outlook

W.K.S.D Fernando, D.G.S.M Wijayarathne, J.S.D Fernando, M.P.L Mendis, C.D Manawadu

**Abstract:** In software development there exists a tension between quality, cost, and time. Delivering cost competitive quality software in Sri Lanka today's time constrained market is a difficult task. Users and producers of software must contend with issues concerning features, those to include and those to exclude. Many traditional software processes are heavy with documentation and rigid control mechanisms making it difficult applying them to different software projects. New families of processes, referred to as Agile processes, are making headway into the Sri Lankan software industry nowadays. These processes focus on code rather than documentation and it consists with individuals and interactions serve an enhanced role in Agile processes. It is a belief among Agile process proponents that people can respond quicker and transfer ideas more rapidly when talking face-to-face than they can when reading or writing documentation. Therefore unlike the traditional processes, they are adaptable, not rigid. Therefore Agile software development methods have caught the attention of software engineers and researchers around Sri Lanka. The research seeks to identify and provide insight into the emergence of Agile methodologies and how software practitioners in Sri Lanka utilizes its key characteristics to succeed in software development projects while dealing with the issues introduced by rapidly changing and unpredictable markets.

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## A Survey Of Various QoS-Based Task Scheduling Algorithm In Cloud Computing Environment

Ronak Patel, Hiren Mer

**Abstract:** Cloud computing is a new terminology which is achieved by Distributed, Parallel and Grid computing. Cloud computing is a new design pattern for large, distributed data centers. Cloud computing offers end consumers an "a pay as go" model - a powerful shift for computing towards a utility model like the electrical system, the telephone system, or more recently the Internet. Cloud computing provides different types of resources like hardware and software as services via internet. Task scheduling is the key role in cloud computing. Tasks require minimum completion time, better performance, utilization of resources and quick response time for which cloud uses the concepts of the virtualization. For task allocation cloud provides virtual machine which is scalable but scheduling them is a major problem. In this paper we study different types of task scheduling algorithms with QoS facility and issues related to them in cloud computing. These scheduling algorithms focus on resource management, response time, load balancing and performance.

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## **Modeling HIV In The Presence Of Infected Immigrants And Vertical Transmission: The Role Of Incidence Function**

Ochoche, Jeffrey M.

Abstract: We formulated three mathematical models for the transmission dynamics of HIV in the presence of infected immigrants and vertical transmission using a deterministic approach. Three forms of incidences popularly used in epidemiology were considered: The mass action, Standard and non-linear/saturated incidences. A Basic Reproduction number was derived for each model and used to prove its local stability. All the models were found to be globally asymptotically stable at the disease-free equilibrium. The mass action incidence and the non - linear incidence yielded similar analytical results e.g their Basic Reproduction numbers are identical and greater than the Basic Reproduction number of the Standard incidence model. Further, only the numerical simulation of the standard incidence model was biologically meaningful and we concluded that for sexually transmitted diseases the standard incidence is most appropriate.

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## **A Review Paper On Detection And Extraction Of Blood Vessels, Microaneurysms And Exudates From Fundus Images**

Soju George, Bhailal Limbasiya

Abstract: Diabetic Retinopathy (DR) is a medical condition which affects the normal vision of a human. Patients having long history of diabetes tend to be affected by DR. An increased level of blood sugar may lead to an eye disease termed as DR. Early detection of DR helps the ophthalmologists to advise proper treatment to save the vision of the patient. In this paper, a survey has been carried out and different techniques are discussed to extract different features. Exudates, Microaneurysms and abnormal growth of blood vessels are some of the symptoms of DR. Preprocessing of an image is always required to obtain a contrast enhanced image. The paper provides overview of some of the preprocessing techniques used till now and different methods to extract exudates, microaneurysms and blood vessels are discussed.

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## **Overview Of LTE-A Technology**

Sravanthi Kanchi, Shubhrika Sandilya, Deesha Bhosale, Adwait Pitkar, Mayur Gondhalekar

Abstract: Along with the rapid development in cellular technology, there has also been a significant increase in its user demands. Ever since LTE technology has been established in 2009, the work on its enhancements and requirements had begun and these have been fulfilled successfully by LTE-Advanced. The 3GPP Release 10 or LTE-A has proven to be one of the fastest developing mobile technologies in the world. Further improvements of LTE-A is still on the go and its future releases have enhanced features of MIMO, Carrier Aggregation, co-ordinated multipoint transmission (CoMP), high data rates and speed in order to provide the best user experience as well as proving to be a complete 4G network. In this paper, an overview on the features of LTE-A and its requirements fulfilled in release 11 and 12 for LTE-A is described.

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## **A Survey On Various Methods To Detect Forgery And Computer Crime In Transaction Database**

Pratik Patel, Shailendra Mishra

Abstract: A computer forensic method can be used for detecting the different types of forgeries and computer crime. Forgeries and computer crime are the most major concern of the digital world. Lots of techniques and methods have been used to find a proper solution to these problems. Nowadays, digital forensics are an important topic for research articles. In this paper a general survey has been carried out for different methods used in computer forensics to track the evidences which can be useful for detecting the computer crime and forgery. Forensic tools can be used for making any changes to data or tampering of data. Different rules sets or methods are defined to detect the various errors regarding the changes and the tampering of the data in different windows file system. Digital evidence can also be used to detect forgery or computer crime.

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## **Priority Based Job Scheduling Techniques In Cloud Computing: A Systematic Review**

Swachil Patel, Upendra Bhoi

**Abstract:** Cloud Computing is the use of computing resources (Hardware and Software) that are delivered as a service over a network (typically the internet) to the customers. It intends to share large scale equipments and resources for computation, storage, information and knowledge for scientific researches [1]. In cloud computing, there are many jobs requires to be executed by the available resources to achieve best performance, minimal total time for completion, shortest response time, utilization of resource usage and etc. Because of these different objectives and high performance of computing environment, we need to design, develop, propose a scheduling algorithm to outperform appropriate allocation map of jobs due to different factors. In job scheduling priority is the biggest issue because some jobs need to scheduled first then the other jobs which can wait for a long time. In this paper, a systematic review of various priority based job scheduling algorithms is presented. These algorithms have different perspective, working principles etc. This study concludes that all the existing techniques mainly focus on priority of jobs and reduces service response time and improving performance etc. There are many parameters that can be mentioned as factor of scheduling problem to be considered such as load balancing, system throughput, service reliability, service cost, service utilization and so forth.

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## **Silver Nanoparticles As Fluorescent Probes: New Approach For Bioimaging**

Ajeet Singh, Shalinee Jha, Garima Srivastava, Preeti Sarkar, Prerana Gogoi

**Abstract:** Nanotechnology is the study of the controlling of matter on an atomic and molecular scale. Generally nanotechnology deals with structures of the size 100 nanometers or smaller in at least one dimension, structural features are intermediate in between isolated atoms and bulk materials, in the range of 10<sup>-9</sup> to 10<sup>-10</sup> meters, the objects often display physical attributes substantially different from those displayed by earlier atoms or bulk materials. There are many methods for Nanoparticles synthesis but chemical reduction method is frequently used and characterized using NMR, XRD and FT-IR. Fluorescent molecules enable scientists to detect particular subunit of biomolecular complex, such as live cells with exquisite sensitivity and selectivity fluorescent. Photobleaching is a photochemical reduction of a dye or a fluorophore signal. Photobleaching creates complications in the observation of fluorescent molecules, since they will be eventually destroyed by light exposure necessary to stimulate them into fluorescing. This phenomenon is problematic in Time-lapse microscopy or fluorescent microscopy. So, Nanoparticles are new subject for bioimaging rather than fluorescent molecules because of its long fluorescent signal stability. These concerns have led to a debate among advocacy groups and governments on whether special regulation of nanotechnology is warranted.

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## **A Survey Of Various Load Balancing Techniques And Challenges In Cloud Computing**

Tushar Desai, Jignesh Prajapati

**Abstract:** Cloud computing is emerging technology which is a new standard of large scale distributed computing and parallel computing. It provides shared resources, information, software packages and other resources as per client requirements at specific time. As cloud computing is growing rapidly and more users are attracted towards utility computing, better and fast service needs to be provided. For better management of available good load balancing techniques are required. So that load balancing in cloud becoming more interested area of research. And through better load balancing in cloud, performance is increased and user gets better services. Here in this paper we have discussed many different load balancing techniques used to solve the issue in cloud computing environment.

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## **Powered Wheelchairs**

Arvind Prasad, Snehal Shah, Priyanka Ruparelia, Ashish Sawant

**Abstract:** This document gives information about the usage of wheelchairs based on renewable energy systems. The renewable energy systems which are discussed in this paper are batteries and solar panels. It also gives a report on the efficiency and durability of batteries and solar panels. Explanatory material is followed by a worked example and problems with answers.

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## **Serial Front Panel Data Port (SFPDP) Protocol Implementation In Xilinx Fpgas**

M. Vanaja, P. Prasanth Babu.

**Abstract:** The Serial Front Panel Data Port (SFPDP) protocol for high speed data transfer presents in this paper. High-speed data transfer finds application in most modern day communication systems. This design has been mainly done for data transfer in radar systems but can be programmed and used for variety of applications involving high-speed data transfer. The design follows a systematic approach with design of SFPDP protocol and implementation on FPGA and explains all these stages of design in detail. The design can be programmed to work at different speeds as required by different systems and thus can be used in variety of systems involving high-speed data transfers. The efficient use of customized IP cores and resources of FPGA delivers high level of performance and area efficiency.

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## **The Impact Of Using Security Protocols In Dedicated Private Network And Virtual Private Network**

Dr. Sabah Nassir Hussein FCMI, Abdul HadiQais Abdul Hadi

Abstract: With the development of computer networks techniques and the increased use of private networks, the intrusion and attack on these networks also increased, so the use of the protection protocols became necessary, but using these protocols will reduce the quality of the performance of these networks. This research highlights the impact of using security protocols on two types of private networks. The OPNET version 14.0 has been used to simulate the two networks and to apply the different types of security protocols such as (L2TP,PPTP, and IPsec).

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## **Information And Communication Technology Use Among Teacher Education Students In Universities In Kenya**

George Makori, Mwangi Ndirangu, Fredrick Ogola

Abstract: Information and Communication Technologies (ICTs) which involve the integration of telecommunications, computers as well as various software and audio-visual system are becoming the new educational tools especially in universities. The study sought to investigate the types of ITCs used frequently (on and off campus) among teacher education undergraduates in public and private universities in Kenya. Simple random sampling was used to select 223 fourth year Bachelor of education students. The data was collected using researcher administered questionnaires. Descriptive statistical techniques were used to analyse the data. The findings were presented in tables. The study found out that students frequently used a variety of ICTs such as the internet, computer laboratories and the mobile telephone on and off campus. The study also found out that both private and public universities ha invested substantially on ICT infrastructure for use by their students.

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## **School As A Caring Community A Challenge For Qualitative Expansion In Education Beyond Classroom: A Comparative Survey Of Select Principals, Teachers And Class Ix -Students Of Tura Town In Meghalaya With Nalbari Town In Assam, India**

Zacharias Tirkey, Kanika Das, Kalpana Das

Abstract: School Climate or School environment plays a major role in shaping the quality of school life, teaching, learning, and support. Key concepts for understanding school and classroom climate are social system organization; social attitudes; staff and student morale; power, control, guidance, support, and evaluation structures; curricular and instructional practices; communicated expectations; efficacy; accountability demands; cohesion; competition; "fit" between learner and classroom; system maintenance, growth, and change; orderliness; and safety. Research has indicated a range of strategies for enhancing a positive climate. All school staff have a significant role to play in ensuring that such strategies are well-implemented and maintained. With this in view, the researchers have undertaken a comparative survey of select principals, teachers and Class IX students of Nalbari Town and Tura Town with the Five Points rating scale adapted from "School as a Caring Community Profile-II A Survey of Students, Staff, and Parents", developed by T.Lickona and M.Davidson in January, 2003. The findings indicate that though there are variations in the Private Schools and Government Schools in Nalbari and Tura Town, Schools in Tura Town indicate a better picture of learning environment as compared to schools in Nalbari Town.

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## **Geochemical Characteristics Of Shale Of Disang Group, Tirap District, Arunachal Pradesh**

B.K. Gogoi, R. K. Sarmah

Abstract: This paper aims to study the geochemical characteristics of shale of Disang group of Eocene age. Geochemical study and the data reported indicate that Shales are deposited under the marine condition. Tectonic setting was active continental margin to passive continental margin and sediments were derived from volcanic and/or granitic source area. Study reveals that Source-rating of studied shale is found to be poor and its hydrocarbon source proclivity towards gas. Further, shale of the Disang group is found to contain over-matured organic matters, represented by Kerogen Type-III and Type-IV.

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## **Technology Role In Higher Education And Its Impact On Knowledge Facilitation**

Ebad Ryhan, Faridi Rishad Mohammed

**Abstract:** In order to facilitate and enhance Knowledge Management with the adoption and use of ICT, there is a need for developing new methods, tools and techniques in the development of KM systems frameworks, knowledge processes and knowledge technologies to promote effective management of knowledge for improved service deliveries in higher education. This paper focuses on the conceptual framework of Knowledge Management and Exchange as a key driver of innovation - an essential component in the promotion of growing academic networks at regional, national and international levels. In addition, the paper identifies several research issues to bridge the gap that currently exists between the requirements of education, business communities and policymakers' conceptions and priorities around innovation and entrepreneurial management to address the different emerging projects and challenges in using ICT to enhance KM in higher education.

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## **Epidemiology Of Malaria In Lal Qilla**

Tauseef Ahmad, Akbar Hussain, Suhaib Ahmad

**Abstract:** The present study was conducted in Lal Qilla Dir (Lower) Khyber Pakhtunkhwa Pakistan during the period from January 2003 to December 2003. The purpose of the study was to find out the prevalence of malaria among the local community of the selected area visited to health care center. An epidemiological descriptive study was design and the data was collected from the Rural Health Center (RHC) Lal Qilla. For the collection of data a standard design chart sheet were used. The analysis of the data was done. The total 1091 samples were selected for the current study. Out of the total samples 189 (17.32%) were found positive for malaria with a ratio 111 (58.7%) male and 78 (41.3%) were female. The high number of malaria cases was recorded in age 15-64 years 145 (76.72%) while the lowest number of malaria cases were recorded in age >65 years 18 (9.52%). Where the month is concern the high number of cases was recorded in June 18 (23.38%) while the lowest were found in January 2 (8.34%). The species wise distribution shows that the high number of cases was recorded of Plasmodium vivax 188 (99.47%) where the Plasmodium faciparum is 1 (0.53%). From the present it was concluded that the Plasmodium vivax is most common species in the selected area.

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## **Friendly User Interface Design For Architects In An Energy Simulation Tool**

Iman Paryudi, Stefan Fenz

**Abstract:** An energy simulation tool is a tool to predict the energy consumption of a building. Today there are many energy simulation tools in the market. However, architects find that the existing energy simulation tools do not meet their needs. One thing that does not meet their need is the user interface. In relation to that, we carried out a user interface survey to know which user interface is preferred by architects. We found that architects prefer visual user interface (user interface that uses image) than textual user interface (user interface that merely uses text). In inputting value, they prefer to input it using drag-and-drop style rather than typing using keyboard. We also find that architects do not like to input too many values in the user interface.

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## **Effect Of Heating On Vitamin C Content Of Some Selected Vegetables**

N.C. Igwemmar, S.A. Kolawole, I.A. Imran

**ABSTRACT:** The effect of heating on the vitamin C content of five choice vegetables was determined by redox titration with potassium iodate in the presence of potassium iodide. The results obtained in raw vegetables showed that pepper (61.56mg/100ml) has the highest vitamin C content while the least was in carrot (21.72mg/100ml). The vitamin C content of the vegetables analyzed were found to be in the order: Pepper > Green peas > Spinach > Pumpkin > Carrot. It was also observed that the heating time has significant effect on the vitamin C content of all the vegetables, as the heating time increases, the percentage loss of vitamin C increases too. The percentage loss of vitamin C in the vegetables ranged between (9.94-16.57%), (29.94-37.43%) and (49.91- 64.71%) at 5, 15 and 30 mins respectively. Of all the vegetables assayed pepper gave the highest percentage loss of 64.71% at 30 mins. Vitamin C is easily destroyed by excessive heat and water, as well as exposure to air. For retention of vitamin C in cooked foods, it is recommended that foods containing vitamin C be cooked as fast as possible with less heat and small amount of water.

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### **Study On Addition Of The Natural Fibers Into Concrete**

Saandeepani Vajje, Dr.N.R.Krishna murthy

Abstract: The current manuscript deals with subject of addition of natural fibers to concrete in order to study the strength properties and also to observe if there is reduction in propagation of shrinkage crack problems. Basically natural fibers are of two types. Natural inorganic fibers such as Basalt, Asbestos etc and the other are the natural organic fibers such as coconut, palm, kenaf, jute, sisal, banana, pine, sugarcane, bamboo etc. The natural fibers are investigated by different researchers as construction materials that can be used in cement paste/mortar/concrete. This study may include the fiber properties, characteristics and compatibility between themselves. Also the comparisons and conclusion to be studied for different fiber-cement proportions. However all properties of concrete may not improve for the same proportions of different fibers. Some properties may be improved and some may be reduced, since each fiber has its own different properties. Totally the study deals with comparisons and differences between the different natural fibers

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### **Strategy Matrix For Digital Divide: A Generic Approach.**

Nkosinathi Mpofo, Ronald Chikati.

Abstract: The magnitude of the impact Digital divide to the education system and the community at large can't be described further than the works of [1], [2],[3]. After assessing the level of digital divide impact and the level of participation in ICT projects one may choose either to take mitigatory measures or to accept consequences of the unchecked digital divide. This paper however does not consider accepting the impact as one of its strategic choices, as such, proposes a strategy matrix which presents best possible strategic options one can pursue to curb the ever growing digital divide gap depending on the nature of digital divide exposure.

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### **Combining TQM, SQM And TOE To Attain Educational Excellence**

Ronald Chikati, Nkosinathi Mpofo

Abstract: Many institutions of higher education have recently been subjected to a lot of competition for students and government funding to the extent that to survive and successfully thwart the competition, sound strategic decisions have to be made from an informed position. The heat of the competition could be withstood through strategically aligning organisational core processes with current and dynamic management paradigms like Total Quality Management (TQM), Strategic Quality management and Total organisational excellence approach. Several excellence models world-wide could be the source of internal and external requirements analysis. Some of these renowned models are the Japanese Deming application Prize, the US Malcolm Baldrige National Quality Award (MBNQA), the ISO 9000 standards and the European Quality Award (EQA). The right portfolio mix of these together with the TQM initiatives will enable any tertiary institution to achieve its dreamt vision and mission and become a world-class education provider. However, this calls for everyone to share a collective sense of purpose that is in sync with the strategic objectives of the institution. Top management must show this commitment first and then cascade this value down to all the operational staff. TQM principles are founded from manufacturing industry and hence there is need to adapt them to the service sector like tertiary education. We therefore propose an integration of several TQM frameworks to help institutions to self-assess themselves in order to perform better and survive the tormenting turbulent times in the education landscape.

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### **Evaluation Of Genotypes For Fertility Restoring And Maintaining Behaviors In Rice (Oryza Sativa L.)**

Pritam Das, Biswarup Mukherjee, Chand Kumar Santra, Sankar Mukhopadhyay, Tapash Dasgupta

Abstract: The narrow genetic base and inadequate number of parental lines are the major constraints for the development of location specific hybrid varieties in rice. The commercial exploration of hybrid in rice has been made possible by identification of parental lines i.e maintainers and restorers. A study was conducted on ten cytoplasmic male sterile (CMS) lines and twenty five elite rice genotypes of diverse source of origin to evaluate the genotypes in order to identify potential restorers and maintainers from test crosses. The F1's (crossed between genotypes and CMS lines) expressed different fertility reactions. Among the tested genotypes, twelve genotypes expressed restorer (R) reaction and two exhibited maintainer (M) reaction. The identified maintainers and restorers were locally well adapted. The identified genotypes can play a pivotal role in hybrid rice development.

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### **Survey On Multi-Frame Image Super-Resolution**

Niyanta Panchal, Bhailal Limbasiya, Ankit Prajapati

Abstract: Multi-frame Image Super-Resolution is to generate the high-resolution (HR) image from multiple low-resolution images perspectives of a same scene and also increase spatial resolution by fusing information. In that first, Image registration which is most important part of multi-frame Super-resolution, they have give accurate alignment using the registration parameter. In this paper, we are going to review the different image registration methods and compare all the methods. Then next using various Super resolution methods which is generate high-resolution(HR) image from one or more low resolution images and lastly different image quality metrics reviewed as measure the original image and reconstructed image.

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### **Data Security Using Image Steganography And Weighing Its Techniques**

Pritam Kumari, Chetna Kumar, Preeyanshi, Jaya Bhushan

Abstract: Steganography is the art of covering secret and confidential information within a carrier which could be an image file, video file or audio file. It is a technique which provides invisible communication since an image file which has the secret information embedded within it is delivered to the receiver instead of the secret information itself. The focus of this paper is to provide immense understanding of the Image Steganography technique - its history, advantages over cryptography, process model and comparison of its techniques.

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### **Measuring The Resemblance On Knowledge And Attitude Of Team Building Activities Amongst Health Workers In Nigeria**

Aronu, C. O., Bilesanmi, A. O., Aronu, F. I.

ABSTRACT: This study measured the knowledge and attitude of team building activities amongst health workers in Nigeria. The objective of the study is measuring the resemblance on knowledge and attitude of health workers on team building activities in Nigeria using two states as a case. The source of data was questionnaire administered randomly to a sample of 200 workers at Anambra State and a sample of 305 workers at Enugu State. The statistical tool used in this study was the Mantel test statistic. The findings showed a weak negative resemblance on the knowledge of team building activities among health workers at Anambra State and Enugu State with an association of -46.71% and a P-value of 0.87 which fall's on the acceptance region of the hypothesis assuming a significance level of 5% ( $\alpha = 0.05$ ). Also, it was observed that there exist a strong positive resemblance on the attitude of team building activities among health workers at Anambra State and Enugu State with an association of 74.65% and a P-value of 0.00 which fall's on the rejection region of the hypothesis assuming a significance level of 5% ( $\alpha = 0.05$ ). We recommend that the management of health in Anambra state should encourage workshops and programme on team building for the benefit of health workers in the state. We also suggest that the management of health in Enugu should organize retraining programme for workers on team building activities to enhance the output and efficiency of the health sector.

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### **Exploratory Investigation On The Hypoglycemic Effect Of Abelmoschus Esculentus In Mice**

John Ray T. Perez, Ricky J. Baritua, Mobarak O. Pacalna, Sotero O. Malayao Jr.

Abstract: The increased number of glucose in the blood is called Diabetes [7] and is forecasted to be a very major disease by 2030.[7] There is a pressing need to explore better remediation, be it in form of synthetic or naturally occurring chemicals. This paper made an exploratory investigation on the hypoglycemic effect of a common food item known as "okra" or Abemoschus esculentus (EA). Six (6) mice were randomly selected and grouped into 2 groups and were given extracts from the fruit of Abelmoschus esculentus (EA)/okra which was chopped into three pieces and was soak in 250ml potable water overnight. 1st group is the Control Group and the 2nd group is the Treatment Group. Average results of the two (2) groups are determined and recorded upon conducting this experimental research. The Control Group has an average result of 94mg/dl in the 1st test, 99mg/dl in the 2nd test, 94mg/dl in the 3rd test, 101mg/dl in the 4th test, 97mg/dl in the 5th test and 73mg /dl in the 6th test. The Treatment Group has an average result of 87mg/dl in the 1st test, 99mg/dl in the 2nd test, 124mg/dl in the 3rd test, 129mg/dl in the 4th test, 115mg/dl in the 5th test and 88mg/dl in the 6th test. Results indicated that the extract from Abelmoschus esculentus (EA)/okra has hypoglycemic effect and no observable changes in behavior are noticed to the mice. It is recommended to replicate the study with more number of mice and longer observation period.

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### **Design And Real Time Implementation Of Fuzzy Controller For DC Motor Position Control**

AA Bature, Mustapha Muhammad, Auwalu M. Abdullahi

**Abstract:** This paper presents real time position control of a DC motor using fuzzy logic control (FLC). The position control is an effective application for introducing the concepts of fuzzy logic in real life. The paper shows how a cheap commercially available microcontroller can be applied for the development of a fuzzy controller for motor position control which represents one of practical example of engineering problems. The performance of the controller was verified through experiment.

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### **Casting Technology And Developments. ( Nigeria As A Case Study )**

Jimoh, S. O, Irabor, P.S.A., Abhulimen, I.U, Amiebenormon, S.O.

**ABSTRACT:** Nigeria's economy is dependent largely upon importation of spare parts and machine component for such vital sectors of the economy as ship building, railways, agriculture, cement industry, food processing, power generation, etc. in this paper, factors that are affecting the development of foundry technology in Nigeria were highlighted, such as training of foundry personnel; investment in foundry technology development; Government policies towards foundry industry; Development of foundry raw materials; Level of research and development and the automotive industry. Finally, recommendations constituting the way forward in ensuring a better casting technology and development in -Nigeria were made.

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**257-261**

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### **Design And Performance Evaluation Of A Double Barrel Soya Bean Toasting Machine**

Agulanna, C.N., Oriaku, E.C., Nwagugu, N.I., Onwukwe M.C

**Abstract:** The need to process grains into finished and packaged by-product is a method of food storage and a means of enhancing shelf life of biomaterials. The coatings of grains need to be removed most times in order to facilitate processing. Some grains require cold de-coating while some require heat application in order to facilitate the de-coating process. This is very necessary in industrial extraction of soya oil or soya bean conversion to flour. In order to achieve high productivity in dry soya bean de-coating, a double barrel soya bean toaster was conceptualized, designed, fabricated and tested under various loads ranging from 5kg-50kg with increments of 5kg. Soya bean of initial moisture content 12.25% (db) was used as load. The toasting time, temperature, rate, discharge times and moisture content were monitored, data collected and analyzed. The toasting time ranged from 4 - 37minutes while toasting temperature ranged from 600- 900C and the average final moisture content ranged from 9.173% db - 10.278% db. The average toasting rate was between 68.34 - 116.4 kg/hr. It is expected that this machine would meet the needs of small and medium scale enterprises in a developing country like Nigeria.

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### **Performance Evaluation Of Evaporative Cooler Using The Predictive Mean Vote (Pmv) Model**

Ibrahim, U.H., D.A. Aremu

**Abstract:** Most of the developing nations like Nigeria intend to develop in a sustainable manner. This development cannot be realized if refrigerated-based air conditioning systems that are characterized by high power requirement, high cost and with a negative influence on the environment are used as a means of achieving thermal comfort in living spaces. Evaporative coolers are viable options of achieving thermal comfort especially in hot and dry climates. These systems apart from their low power requirement, they are relatively cheap and have no negative impact on the environment. This paper therefore attempts to evaluate the performance of direct evaporative coolers using the Predicted Mean Vote (PMV) model. Further Predicted Percentage Dissatisfied (PPD) was used to estimate the thermal comfort satisfaction of people in the study area. The study reveals that the computed PMV for the months of January through December range from -0.92 to -0.86 on the ASHRAE scale of thermal sensations. The computed PPD for the respective months ranges from 10.2% to 15%. These values of both the PMV and the PPD show the high potential of using evaporative coolers in Kano and in areas with similar climate characteristics.

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### **Crop-Machinery Management System For Farm Cost Analysis**

Lotfie A. Yousif, Mohamed H. Dahab, Haitham R. El Ramlawi

Abstract: Assessment of the total costs of agricultural farm is important to decide for selection of optimum combination of machinery, crops and farming system that can maximize profit. The decision on optimum combination of these factors by customary way is quite difficult due to their natural complexity. A computer system was developed in Excel-Visual basic software for farm management decision making, and to estimate machinery and the whole farm costs and net return from crops grown under different farming systems. The system deals with four crops and three farming systems by using tractor and six machines. The input data includes: crops type, operations, machine and inputs cost. The system was verified, validated, analyzed and its accuracy was approved. The system outputs change with various input parameters like farm size, machines used and crops combination. Application of the system showed that annual working hours, size and age of machines affect the fixed and total operation costs. The least operation cost was obtained by conventional farming system followed by zero tillage and heavy machinery system. Different crops varied in their costs when grown alone or in combinations in different farming systems. The lowest and highest net returns were obtained by growing sorghum alone with heavy machinery farming system and by growing the four crops in Zero-Tillage farming system. The system can be used as pre-season planning and management decision tool.

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**276-281**

### **Effectiveness Of Somatic Embryogenesis In Eliminating The Cassava Mosaic Virus From Infected Cassava (Manihot Esculenta Crantz) Plant Materials**

Damba, Y., Quainoo, A. K., Sowley, E. N. K.

Abstract: Cassava (*Manihot esculenta* Crantz) is a staple food for many people in the tropical regions. However, yield of cassava has reduced of late due to high incidence of cassava mosaic disease (CMD) which is caused by the cassava mosaic virus (CMV). This necessitated the study on the production of disease free cassava materials from CMD cassava plants through somatic embryogenesis. CMV infected cassava leaves were cultured for callus tissue induction and somatic embryos (SE) generation on modified MS media supplemented with 2, 4-D. The SE maturation was carried out on modified MS media supplemented with Benzyl Amino Purine (BAP). Callus tissue initiation and induction started ten (10) days after plating (DAP), SE were generated 35 DAP and survival rate of explants was 90.2 %. Maturation of SE occurred 60 DAP and the number of somatic embryos per explant ranged from 5 - 14. Polymerase Chain Reaction (PCR) and Enzyme Linked Immunosorbent Assay (ELISA) were used to detect the presence of CMV on leaves, callus tissues and SE. East African Cassava Mosaic Virus (EACMV) and African Cassava Mosaic Virus (ACMV) were two different strains of CMV detected in the leaf, callus tissue and SE from CMD cassava explants. The SE that was generated from CMV infected leaves of cassava showed 87.5% virus free with the PCR technique of viral particle detection. The outcome of the study demonstrated the effectiveness of somatic embryogenesis in eliminating the ACMV from infected materials and EACMV from infected cassava plants to produce viral free planting materials.

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### **Flux Enhancement By Shear Free Surfaces In A Turbulent Convection**

Snigdha Lal, Seema Mahto, V. N. Bartaria

Abstract: In this Paper we will be dealing with turbulent natural convection in a long vertical pipe in which the flow is generated because of an unstable density difference across the two ends of the pipe. We create the density difference across the pipe using fresh water and brine. Since the density of brine is greater than that of fresh water, it tries to settle down while the fresh water tries to fill up the upper space. This creates collision of fluid masses in the pipe, leading to a turbulent flow at high levels of density differences. We will study the flow and its effect in the mid section of the pipe. Since water is an incompressible fluid, because of the density difference, the mass of fluid that goes up is equal to the mass of the fluid going down. Thus at any instant of time, the net flow will be zero at any cross section of the pipe. Since the length to diameter ratio (L/d ratio) of the pipe is around 9 to 10, the flow will be axially homogeneous. Thus we have an axially homogeneous flow with zero mean velocity and which is purely buoyancy driven. This is the basic flow for our experiments.

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**288-292**

### **Analytical Study For Determination Of The Sandstone Strength Properties**

M. Boudiaf, Fateh Mebarek-Oudina, Talhi Korichi,

Abstract: Using a servo-controlled testing machine, stress-strain curves were obtained from which the uni-axial compressive strength, Young's modulus and the brittleness index were measured for specimens prepared from a single block of Sandstone from Hadjar Soud quarry, Algeria. To see how the strength properties were affected by changes in absorption content such as are likely to occur on site, the specimens were divided into three groups which were prepared for testing under different conditions of absorption equilibrium.

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### **Anemia In A Moroccan Hospital Setting: Case Of Regional Hospital " Idrissi ", Kenitra**

Mohamed EL Hioui, Ahmed Omar Touhami Ahami, Youssef Aboussaleh, Fatima-Zahra Azzaoui, Hamid Loutfi

**Abstract:** Anemia remains a public health problem in the World. Nationally, more than one third of the women and under five children are affected. **Aim:** To assess anemia typology of adults in a hospital setting and study the impact of socio-demographic factors on the occurrence of anemia and make a typology using haemogram. **Method:** Eighty two adult patients (42 women and 40 men) were observed in an internal medical unit in the Idrissi hospital- Kenitra, Morocco. The only inclusion criteria were anemia status (less than 10g/dl Hemoglobin). **Results:** Level of instruction of patients varies remarkably with age, sex and area of residency. Poverty and inaccessibility to health facilities have an impact on the apparition of anaemia. At the biological aspect, the microcytic anaemia is the frequent form with 39%, while the macrocytic represents 37.8% and normocytic one affects 23.2% of the subjects. According to TCMH levels, hypochromic anemia is found in 63.4% and normochromic in 36.6%. Severe anemia (HB<6.5 g/dL) is the major prevalent form in old as well as young women. **Conclusion:** Anemia is a frequent affection in this hospital setting. Its severity is associated with weakness of immunity defense and many inherent diseases.

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**297-301**

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### **Design, Construction And Commissioning Of A Chalk Extrusion Machine**

Abdurrahman, M.B., Obi A.I., Baba, M.T.

**Abstract:** A chalk extrusion machine has been designed, fabricated and commissioned in the Department of Mechanical Engineering University of Maiduguri as part of the campaign in the local sourcing of educational consumables. The presence of large gypsum deposits (a major raw material for chalk production) in the North Eastern part of Nigeria is a justification for going into the project for utilizing available raw materials rather than imports that result in the country's foreign exchange. The machine requires one operator and is capable of producing 20,000 pieces of high quality chalk per day (for six hour working per day) which translates into \$6000 (six thousand USD) turnover per day. The chalk is tapered with dimensions of 12mm X 9 mm in diameter and 81mm overall length and was tested on a blackboard and found to be non-toxic, dustless, easily erased, smooth writing and does not scratch the board. Arrangement for patenting the machine is in progress.

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**302-304**

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### **Structure- Activity Relationship (Sar) Of Cyanoethylated Aromatic Amines**

Odin, E.M., Onoja, P.K., Ochala, A.U.

**Abstract:** Two types of aromatic amines were cyanoethylated. The cyano ethylated products were reacted with propylene oxide to give azocomponents: N-acetyl - N -  $\beta$  - hydroxyl propyl, N-  $\beta$ -propyl nitrile -1, 3 - phenyl diamine and N-  $\beta$  hydroxypropyl, N-  $\beta$ - propyl nitrile aniline. These products are referred to as Azodin A and Azodin B respectively. When diazotized aromatic amines were coupled to Azodin B, eight dyes were produced, while Azodin A gave two dyes. Various elemental and spectroscopic methods were employed to elucidate the structure and properties of dyes. The UV-visible spectral data revealed that substitution(s) at the meta-position on the benzene rings of the azodyes favoured bathochromic shift more than those at ortho and para positions (dyes 5,9 and10 vs. others).The dyes were used to colour polyester materials and the exhaustion properties were measured. The result revealed that the dyes have good exhaustion and leveling properties and that the cyano ethylated products have no NH<sub>2</sub> group. Structure-activity relationship among the dyes were measured against some pathogens.The ability of these dyes to inhibit the growth of some micro organisms was correlated with anti-bacterial potential.

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### **Optical And Electrical Properties Of P-Type Si<100> Modification In Visible Region For Silicon Based Microphotonics**

Kifah Q. Saleh

**Abstract:** The development of Silicon surface texture would revolutionize the growing field of Microphotonics and its applications in different fields .The objective of this study is to modify the Optical and Electrical properties of Silicon in visible region at room temperature. So, for that purpose, we have used thermal treatment method with applied M-field "1000G.". We have found that p-type Si is more response to this method. Optical and Electrical study were carried out using CW photoluminescence emission technique (Ar+ Laser emitting at 514.5 nm), Ellipsometry (632.8nm), AFM and IV. We were obtained increasing emission intensity in band [ $\sim$  (2.0-1.6) eV] and an improvement in PL emission profile. We were recorded irregular behaviors in extinction coefficient values of treated samples. In this study, we recorded at the first time different behavior in IV and change in surface texture which provides new surface profile for improvements of Si technology.

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## Performance And Emissions Modeling Of Natural Gas Dual Fuelling Of Large Diesel Engines

Peter L. Mtui

**ABSTRACT:** This paper presents numerical investigations the combustion characteristics and maximum possible natural gas substitution on a large stationary diesel engine dual fuelled with natural gas operation at 600 RPM. The performance effect in the dual fuel diesel engines is investigated using the coupled 1D/3D computer simulation of GT-POWER and KIVA-3 computer codes for combustion optimization and emissions reduction. Numerical modeling was performed by varying engine load conditions from 100% to 77%, while with increasing the quantity of natural gas substitution from up to 80%. The main target of this contribution is to examine the combustion characteristic of a heavy duty 18 cylinder, 6 MW electricity generator diesel engine operating in dual fuel mode at various engine loads. Results indicate that up to 80% natural gas substitution is possible over wide range of engine load conditions at higher engine loads. However, for 77% engine load conditions depict noticeable engine performance deterioration above 60% natural gas deterioration, of particular, is higher BSFC and excessive CO emissions. Compared with straight diesel, the in-cylinder NO<sub>x</sub> formation was significantly reduced by as the quantity of natural gas substitution was increased. For example, NO<sub>x</sub> was reduced by 50% while engine at 80% engine load fuelled with 60% natural gas substitution. This is consistent with the reduced peak flame temperature observed in the combustion chamber, and that was confined with the fuel spray zone.

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## Physical And Chemical Assessment Of Some Selected Borehole Water In Gwagwalada, Abuja

N.C. Igwemmar, S.A.Kolawole, L.K. Okunoye

**ABSTRACT:** Drinking water or potable water is water safe enough to be consumed by humans or used with low risk of immediate or long term harm. Water samples collected from six different boreholes were subjected to physico-chemical analysis using titrimetric and spectrophotometric method to evaluate the quality. The results showed that pH, temperature, turbidity, alkalinity, nitrate, chloride, iron and total hardness of all the borehole water samples were below the WHO limits while phosphate and magnesium gave values well above the WHO limits for all the samples except borehole B1 which gave a magnesium concentration lower than the WHO limit. Also conductivity result showed boreholes B1, B2, B5 and B6 gave values below WHO limit while B3 and B4 gave higher values. Generally, the results exhibited significant variation in the parameters studied on the samples; this could be attributed to the geographical positions and depth of the boreholes.

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## Investigation Of Saccharomyces Cerevisiae In Fermented Mulberry Juice

Nguyen Phuoc Minh, Dong Thi Anh Dao

**Abstract:** Mulberry is grown worldwide. Its leaves are used to feed the silkworms which in turn produce silk fiber. Sericulture is mostly practiced in China, India and Japan. In the rest of the world, mulberry is generally used as forage in animal production, or for other purposes. Besides using the leaves, mulberry bears sweet fruit. The full - bodied flavor of this fruit is a good balance of sweetness and tartness with nutrient elements of vital importance for human metabolism. If these fruits are industrially exploited for various commercially valuable products, mulberry can become an important crop throughout the world. Mulberries are good for health because of their vitamins, minerals and bioactive compounds. In addition, high carotene and organic acids content help to increase the body's resistance. Mulberry can be used for making jam, jelly, pulp, fruit drink, fruit sauce, cake, fruit tea, fruit powder, fruit wine, food colorant, diabetes control agent and as ruminant livestock feed. In order to find the optimal conditions for the fermentation process, the juice was inoculated with *Saccharomyces cerevisiae* isolated from mulberry in various conditions. The results were as follows: inoculum volume 9 %v/v (inoculum concentration 107 yeast cells/mL), initial mulberry juice with 240Bx and pH 3.5, fermentation temperature 18±20°C. Fermentation was carried out for 48h and the ethanol content of product was 5 %v/v.

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## Application Of Natural Fermentation To Ferment Mulberry Juice Into Alcoholic Beverage

Nguyen Thi Duyen, Le Thanh Hai, Nguyen Phuoc Minh, Dong Thi Anh Dao

**Abstract:** Mulberry (*Morus nigra*) is a fruit not known only for its nutritional qualities and its flavour, but also for its traditional use in natural medicine as it has a high content of active therapeutic compounds. Mulberries are considered as valuable materials for pharmaceutical use because of bioactive compounds. In order to find the optimal conditions for the fermentation process, the juice is fermented naturally in various conditions to get its alcoholic beverage. The results are as follows: initial mulberry juice with 240Bx and pH 3.5, fermentation temperature 18±20°C. Fermentation is carried out for 96h and the ethanol content of product was 5 %v/v. This product is suitable for Vietnamese customers. This process can be applied to industrial scale.

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## Assessment Of Injection Safety Practices In Health Facilities In Bongo And Talensi Districts In The Upper East Region Of Ghana: Part 1-Injection Safety Practices

Abdul Aziz, Reuben K. Esena, Winfred Dotse-Gborgbortsi

**Abstract:** Injections are one of the most common health care procedures, and each year about 20 billion injections are administered world-wide [WHO, 2010]. Most injections (about 90 to 95%) are given for therapeutic purposes, and only 5 to 10% are given for immunization. In this study, a cross-sectional design was adopted in the two districts - Bongo and Talensi. Personnel giving injections in the prevention and curative sections as well as the heads of the facilities were observed and interviewed. The waste disposal systems and disposal sites of the facilities were also assessed. A total of thirty-one (31) staff were observed and interviewed in 8 health facilities. Twenty-one (21) were observed and interviewed in Bongo and ten (10) in Talensi districts. Twenty-two (78.6%) prepared injections on clean table and tray. Fourteen (50%) respondents reused mixing syringes for reconstitution and 4(17.9%). Eight (17.9%) had shortage of cotton wool. Community Health Nurses who experienced shortage of cotton wool used syringe wrappers in place of cotton wool after injection. Two hand recapping was observed in 3 (10.7%) respondents. Two (25%) of facilities had sharps scattered at the disposal site. Two facilities that have incinerators were not using them at the time of the visit. The challenges to injection practice were the use of improvised items, reuse of syringes for reconstitution, shortage of logistics and supplies, unattended, open and unrestricted disposal sites leading to sharps scattered around disposal site and non-use of incinerators. It has been recommended that the Regional EPI coordinator must conduct quarterly assessments on availability of EPI logistics and supplies in the districts and facilities.

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## A Survey Of Quality Management Practices In The Kenyan Small And Medium Manufacturing Industries

Philip Muturi, Stephen Maranga, Ciru Getecha

**Abstract:** This paper is to explore the concept of Quality Management Practices (QMPs) and the extent of its implementation in the Kenyan small and medium manufacturing industries (SMMIs). The respondents of this survey consisted of 125 SMMIs in Nairobi and its environs selected through convenience sampling. Nairobi was chosen because it is the capital city of Kenya and where most of the SMMIs are located. Personal visits and interviews were made to Plant managers, Quality managers and factory supervisors and they were requested to fill in questionnaires. According to most of the responses received, SMMIS practice QMPs in one way or another but have very poor implementation levels. The paper concludes that further research is needed to validate and explain the findings; the role QMPs may play and what contributes to poor implementation levels and adoption rate in the operations of SMMIs in the manufacturing sector.

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## Noise Figure Analysis Of Distributed Fibre Raman Amplifier

G. M. Isoe, K. M. Muguro, D. W. Waswa

**Abstract:** Fibre Raman amplifiers are being deployed in many new long-haul and ultra long-haul fibre-optic transmission systems, making them the first and most widely commercialized nonlinear optical devices in telecommunications. One of the main reasons for this is their improved noise figure and reduced nonlinear penalty of fibre systems hence allowing for longer amplifier spans. In this paper, we have critically analyzed by simulation the noise figure of Distributed fibre Raman amplifiers for different pumping schemes. The main sources of optical noise and their effects on the noise figure and optical signal to noise ratio are also discussed. Our results show that the optical signal to noise ratio (OSNR) is higher for forward pumping than in backward pumping, while the noise figure (NF) was higher for backward pumping than in forward pumping. Both the NF and OSNR remains almost the same for shorter fibre length (< 10 Km), but change differently at longer fibre lengths and pump powers, depending on the pump configuration used. It was also found that OSNR increased as pump power increase beyond 100mW as the NF reduced for the two pump configuration. Results from our study are important in the design optimization of fibre Raman amplifiers in long haul signal transmissions.

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