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S. No			Page No.
1.	**Authors:**	**Mohammad Faraji, Mohammad Norouzi Fard, Saeed Mirghasemi**	
	Paper Title:	**A New System for Measuring the Auto-Fluo Changes in Age-Related Macula Degeneration after Intravenous Injection of Bavecizumab Medicine**	
	Abstract: In aged people, age-related macula degeneration is the second prevalent disease after diabetes which causes blindness. The only cure for age-related macula degeneration is the Bavecizumab intravenous medicine injection. To prove this treatment, the number of dead cells in macula area should be considered. In this paper, to obtain the number of dead cells, a novel system has been presented for measuring the existing auto fluorescence in macula area of retinal images. This combinational system is composed from three parts; pre-processing of retinal, processing the images, and understanding the images. The pre-processing level, includes eliminating margins, and reversing retina image. In processing level, the image is segmented, and features are extracted, where the segmentation has been done using techniques like morphology, dynamic thresholding and connected components. The specifications of target areas are the Euclidian distance to the center of the image, and density. In the understanding level of image, collecting the specifications of each class, macula area and the measurable parameter for evaluating the amount of auto fluorescence is obtained which is useful for determining the number of dead cells in macula area. The results are concluded using probabilistic analysis including linear regression and correlation between data. The method is tested on a database composed of 34 retina images belonging to patients of age-related macula degeneration. **Keywords:** Age-related macula degeneration, Connected components, Morphology, Macula, , Retina image. **References:** 1. Z. Liu, C. Opas, S. Krishnan, "Automatic image analysis of fundus photograph", In proceedings of 19th IEEE Int. Conf. on Eng. in Medicine and Biology Society, pp.524-525, 1997. 2. B. Ege, O. Larsen, O. Hejlesen, "Detection of abnormalities in retinal images using digital image analysis", In proc. of the 11th Scandinavian Conf. on Ima. Proc., pp.833-840, 1999. 3. T. Walter, J. Klein, P. Massin, A. Erginary, "A contribution of image processing to the diagnosis of diabetic retinopathy, detection of exudates in colour fundus images of the human retina", IEEE Trans. on Media Imaging., 21(10):1236-1243, 1998. 4. N. Otsu, "A threshold selection method from gray-level histograms", IEEE Trans. on Systems, Man, and Cybernetics., Vol.9, No.1, pp.62-66, 1979. 5. R. M. Rangayyan, "Biomedical image analysis", University of Calgary, Alberta, Canada,'book', 2005. 6. R. C. Gonzalez, R. E. Woods, "Digital image processing", 2nd.Ed., Prentice Hall Upper Saddle River, New Jersey, 2001. 7. Li. Huiqi, Opas Chutatape, "Automated feature extraction in color retinal images by a model based approach", IEEE Trans. on Bio. Engi., Vol.51, No.2, Feb. 2004. 8. N. Katz, M. Goldbaum, et al., "An image processing system for automatic retina diagnosis", SPIE, Vol.902, 1988. 9. J. Hope Mccoll, "Multivariate probability", Paperback – Jan. 2002. 10. Z. Peebles Peyton, "Probability, random variables and random signal principles", 2009.	**1-6**
2.	**Authors:**	**Prahlad Patel**	
	Paper Title:	**Control Systems for Heating, Ventilating & Air Conditioning Systems: Prediction**	
	Abstract: In this paper, we challenges on performance prediction for control systems in HVAC systems that contains predicting resistance, predicting output voltage, predicting output Pressure, inaccuracies in pneumatic and electronic measuring instruments. Performance prediction is applicable to electric, electronic, and pneumatic type automatic temperature control (ATC) systems. Performance prediction is the process of calculating what the output of the controller should be, based on the conditions being sensed and controlled. Performance prediction is one step in the overall calibration procedure **Keywords:** HVAC, ATC. **References:** 1. R. W. Hains, Control Systems For Heating, Ventilating, and Air Conditioning, Sixth Eition , Springer, 2006. 2. J. E. Haines, Automatic Control of Heating and Air Conditioning, McGraw Hill Book Co., New York, 2007. 3. HVAC System Control, A publication of Trane American Standard Inc 2008.	**7-10**
3.	**Authors:**	**Bikram Das, Suvamit Chakraborty, Abanishwar Chakraborti, Prabir Ranjan Kasari**	
	Paper Title:	**Performance Analysis of BLDC Motor Using Basic Switching Converters**	
	Abstract: In this paper a comparative study of CSI fed BLDC motor using Boost and Buck Converter are presented. Traditionally BLDC motor drives are fed by Voltage Source Inverters (VSI). Current Source Inverters (CSI) on the other hand does not require the huge DC link capacitor thereby reducing the cost and losses in the system. The large value of the inductor can be replaced using suitable Boost and Buck converter. In this paper a basic structure of a DC boost converter and a basic structure of a DC buck converter are proposed in PSIM to provide the nominal power to BLDC motor from a fixed DC source and to control the speed of the system. The effectiveness of proposed system is validated by simulation results. **Keywords:** BLDC, Boost, Buck, CSI, VSI, PSIM; **References:** 1. J.Karthikeyan and Dr.R.Dhanaseksran,"DC-DC Converter CSI fed BLDC Motor for Defense Applications"2011 International Conference on Recent Advancement in Electrical,Electronics and Control Engineering.	**11-14**

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4.

Authors:	**A. Ramakrishna, B. Navya Sree, P. Sri Harish, S. Swarna, CH. Vasundhara**
Paper Title:	**Design and Implementation Procedure for Administration and Evaluation in E-Marking-System**

Abstract: In the near future, a pervasive digitization environment can be expected based on the recent progresses and advances in computing and programming technologies. Next generation of evaluation system is transformed from manual evaluation process to digitization evaluation process. The digitization evaluation process is called E-marking system. This E-marking system is designed for digitization of the evaluation process so that we can reduce the errors in the evaluations process and can release the results in more easy way. This paper describes how the digitization is done to evaluation process by giving its related research background including the concept, features, status, and applications of E-marking system. Some of the technical challenges that have been faced during the development process of E-marking system are also presented.

Keywords: digitalization evaluation processes, E-marking system, digitalization environment, computing, programming technologies.

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5.

Authors:	**Genesis Murehwa, Davison Zimwara, Wellington Tumbudzuku, Samson Mhlanga**
Paper Title:	**Energy Efficiency Improvement in Thermal Power Plants**

Abstract: The purpose of the study outlined in this is to identify major energy loss areas in Zimbabwe's thermal power stations and develop a plan to reduce them using energy and exergy analysis as the tools. The energy supply to demand is narrowing down day by day around the world due to the growing demand and sometimes due to ageing of machinery. Most of the power plants are designed by the energetic performance criteria based not only on the first law of thermodynamics , but the real useful energy loss cannot be justified by the fist law of thermodynamics, because it does not differentiate between the quality and quantity of energy. The present study deals with the comparison of energy and exergy analysis of thermal power plants stimulated by coal. Our national electricity requirement is about 2100MW against 1615MW supply; this is evident of about 21% deficit in terms of power requirements. In view of this situation, the project seeks to increase output from the Power Stations (PS) in the process closing down on the power shortages now and in the future through effective and efficiency improvement.

Keywords: Energy, Exergy, Effective, Efficiency, Improvement, Thermal Power Station

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6.

Authors:	**Shipra Gupta, Chirag Sharma**
Paper Title:	**A New Method of Image Compression Using Multi wavelet Technique with MFHWT and ROI in SPIHT**

Abstract: In medical field the images produce by the modality is in the form of large file, in order to get the **26-27**

opinion from other doctors images are send using electronic media. As the file of images is very large to send, we require to have compression for images but with compression there is loss of information in the image. To minimize the loss and to increase the quality of image and requires compression is also to be done, wavelet transformation technology plays a vital role. So, in this paper we consider that multi wavelet with Region of Interest (ROI) selecting portion will not only give the quality but also reduce the loss of information from image. And we are going to implement the multi wavelet transformation with Modified Fast Haar Wavelet Transform (MFHWT) in Set Partitioning in Hierarchical Trees algorithm.

Keywords: Medical Image, MFHWT, Multi wavelet, ROI, SPIHT.

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7.

Authors:	**Jaspreet Kaur, Chirag Sharma**
Paper Title:	**An Efficient Technique of Multimodality Medical Image Fusion using Improved Contourlet Transformation**

Abstract: In medical field to diagnosis the disease an advance technology is used that is multimodality images. To find best diagnosis for a particular disease we perform image fusion. Major issue in multimodality medical image fusion is how to fuse two or more images of different modalities, so that we get more accurate information. To perform efficient fusion contourlet transformation gives the up to mark results. So, In this paper, we propose an improved contourlet transformation, in which we are using multi scale decomposition and considering that DFBs can be modified with Log Gabor Filter in place of low pass and high pass filter. Log Gabor filter localizes an image more accurately and also minimizes the DC Component (noise in image) with which we are improving the quality of fused image. In this paper, we are considering Registered Medical Images. Performance of proposed method is evaluated by five qualities.

Keywords: CNT, DFBs, Log Gabor Filter Multimodalities Medical images fusion.

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8.

Authors:	**Goriwondo, W.M., Zimwara, D., Mhlanga, S, Mutopa, C.T., Nkomo, F, Gutu, T and Ngwena, P.**
Paper Title:	**Challenges Faced by Manufacturing Companies in Sustaining Conformance to ISO9001:2008 in Zimbabwe: A Case Study of a Textiles Manufacturing Company**

Abstract: Development of the ISO 9001:2008 Quality Management System (QMS) has seen many companies willing to implement it and get certification so as to improve quality delivery. Due to the globalization phenomenon, certification to ISO9001 becomes a prerequisite. Many manufacturing companies in Zimbabwe have been certified in a quest to improve their quality delivery. The main certification body in Zimbabwe is the Standards Association of Zimbabwe (SAZ). This paper is based on a case study research for KT Textiles and it assesses the challenges that one certified manufacturing company is facing in a bid to sustain conformance to the ISO 9001: 2008QMS. Questionnaires and Interviews were the main research instruments used in the study. There was also reference to archival records and minutes of important meetings from the organization. Using stratified random sampling, questionnaires were administered to both managers and employees drawn from different departments. Employees were also interviewed to provide further information to compliment the questionnaire data. The data was analyzed using statistical graphs and charts. This research identified how the organization applies the 8 principles of ISO 9001:2008 QMS. The research findings revealed that the main challenges faced by the firm in maintaining the QMS are lack of top management involvement and support, lack of employee creativity and innovation, lack of focused internal audits, preventive maintenance schedule and data analysis lack priority.

Keywords: Quality Management System, ISO 9001: 2008, Textile Manufacturing, Sustainable quality improvement.

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9.

Authors:	**KarunaKumar.G, K.Ramteja**
Paper Title:	**Modal Analysis of Porosity Defects in High Pressure Die Casting with a Neural Network**

Abstract: High Pressure Die Casting (HPDC) is a complex process that results in casting defects if configured improperly. However, finding out the optimal configuration is a non -trivial task as eliminating one of the casting defects (for example, porosity) can result in occurrence of other casting defects. The industry generally tries to eliminate the defects by trial and error which is an expensive and error -prone process. This paper aims to improve current modelling and understanding of defects formation in HPDC machines. We have conducted conventional die casting tests with a neural network model of HPDC machine and compared the obtained results with the current understanding of formation of porosity. While most of our findings correspond well to established knowledge in the field, some of our findings are in conflict with the previous studies of die casting.

Keywords: Artificial Neural Network, High Pressure Die Casting, Porosity.

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10.

Authors:	**Madhura Tilak**
Paper Title:	**An Area Efficient, High Speed Novel VHDL Implementation of Linear Convolution of Two Finite Length Sequences Using Vedic Mathematics**

Abstract: This paper presents a novel method of implementing linear convolution of two finite length sequences (N×N) in hardware using hardware description language (VHDL). The proposed method uses modified design approach by replacing the conventional multiplier by Vedic multiplier internally in the implementations. The proposed method is efficient in terms of computational speed, hardware resources and area significantly. The efficiency of the proposed algorithm is tested by simulations and comparisons with different design approaches using

XILLINX software. The presented circuit consumes less power and has a delay of 17ns from input to output. The proposed circuit is also modular, expandable and regular which provides flexibility to form different number of bits.

Keywords: N×N, VHDL, XILLINX.

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11.

Authors:	**Devajit Mahanta, Majidul Ahmed**
Paper Title:	**E-Learning Objectives, Methodologies, Tools and its Limitation**

Abstract: E-Learning is the use of technology to enable people to learn anytime and anywhere. E-Learning can include training, the delivery of just-in-time information and guidance from experts. It has become an increasingly popular learning approach in higher educational institutions due to the rapid growth of Internet technologies. E-Learning allows users to fruitfully gather knowledge and education both by synchronous and asynchronous methodologies to effectively face the need to rapidly acquire up to date know-how within productive environments. There is also present various limitations in E-Learning. This review work discusses on various E-Learning Objectives, methodologies and tools and limitation of E-Learning. The main focus of e-learning methodologies is on both asynchronous and synchronous methodology. The paper looked into the three major e-learning tools .The paper also looked E-Learning limitation in particular related with technologies, personal issues, comparison with traditional campus learning, design issues, and other issues .Finally the paper suggests that synchronous tools should be integrated into asynchronous environments to allow for "any-time" learning model and also given a remark that E-Learning needs to improve from various barriers.

Keywords: E-learning; Methodology; Tools; Limitation; Synchronous tools

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Authors:	**Zimwara, D., Goriwondo, W.M, Mhlanga, S., Chasara, T., Chuma, T., Gwatidzo, O. and Sarema, B.**
Paper Title:	**World Class Manufacturing status Assessment for a Margarine Producing Company in Zimbabwe**

Abstract: The world has become global in the way goods and services are produced and marketed. The stiff global competition faced by these companies necessitates a need to embark on radical strategies in the form of World Class manufacturing philosophies to survive, make profit and remain competitive. While companies in developing countries strive to adopt these World Class Manufacturing (WCM) philosophies into their production process, there is often lack of a measure on their progress towards world class manufacturing status besides the improvement in

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productivity. This paper's focus is on how companies can assess their progress in terms of achieving a world class manufacturing status. The research starts with an assessment of the world class status of the company that has adopted best manufacturing practices. A Current State Radar Chart (CSRC) is drawn to see the company's position on the radar. Researches methods (questionnaires, interviews, company audit) are used to identify wastes according to WCM. WCM techniques were used to minimise wastes. A Future State Radar Chart (FSRC) is drawn to assess the improvements made. The company was operating its margarine production process at 35% of a world class process. The major waste identified was the downtime. Downtime contributed to 74% of the total available time leaving production only 26% of the available time. WCM techniques realised a reduction in downtime by 30% and increased the available time for production to 56%. These changes achieved a 56% of a world class process on the FRC drawn.

Keywords: Lean manufacturing, Margarine Production, World Class Manufacturing.

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Authors:	**Dillip Kumar Mahapatra, Tanmaya Kumar Das**
Paper Title:	**Prioritizing SCM for Managing Inconsistency in Distributed Software Project Development**

Abstract:

The evolution of software engineering has been constant over the past four decades. Some major technological discontinuities, however, can be identified in this progress, which caused a more radical rethinking of the previous established approaches. This, in turn, generated research for new methods, techniques and tools to properly deal with the new challenges.

Distributed Software Development (DSD) has recently evolved, resulting in an increase in the available literature. Organizations now have a tendency to make greater development efforts in more attractive zones. The main advantage of this lies in a greater availability of human resources in decentralized zones at less cost. There are, however, some disadvantages which are caused by the distance that separates the development teams. Coordination and communication become more difficult as the software components are sourced from different places, thus affecting project organization, project control, and product quality. New processes and tools are consequently necessary.

This paper highlights the software engineering process for distributed software development and related topics in coordination of projects and project artifacts. Different configuration management systems (CMS) approaches and techniques are discussed; these include client-server, k-mutual exclusion, and distributed configuration management systems. New trends in CMS technologies and approaches are also outlined here. Some major areas are addressed in this paper like: how does CMS enable collaborative work; information exchange among clients at different geographical areas and the knowledge management across distributed clients.

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Keywords: Aggregation, Co-operative, Collaborative, Editors, Knowledge Management, Milestones, SCM, Release, Version, Version-Control.

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14.

Authors: **Jadhav Mahesh V, Zoman Digambar B, Y R Kharde, R R Kharde**

Paper Title: **Performance Analysis of Two Mono Leaf Spring Used For Maruti 800 Vehicle**

Abstract: In this paper we look on the suitability of composite leaf spring on vehicles and their advantages. Efforts have been made to reduce the cost of composite leaf spring to that of steel leaf spring. The achievement of weight reduction with adequate improvement of mechanical properties has made composite a very replacement material for convectional steel. Material and manufacturing process are selected upon on the cost and strength factor. The design method is selected on the basis of mass production.

From the comparative study, it is seen that the composite leaf spring are higher and more economical than convectional leaf spring. After prolonged use of conventional metal Coil Spring, its strength reduces and vehicle starts running back side down and also hits on the bump stoppers (i.e. Chassis). This problem is entirely removed by our special purpose Composite leaf Springs.

Keywords: Ansys 14.0, Mono composite leaf Spring, Pro-E Wildfire 4.0

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15.

Authors: **Ankita Sancheti**

Paper Title: **Pixel Value Differencing Image Steganography Using Secret Key**

Abstract: In this paper, secure steganography is used to obtain high capacity of image for data hiding. Both color and gray scale images have been used as cover file for PVD method. Then a secret key is used to control the message embedding process. To estimate how many secret bits will be embedded into the pixel, largest difference value between the other three pixels close to the target pixel is used. This makes edge areas of image to be used for higher embedding capacity. In order to avoid the need of a copy of cover file at receiver, size of message file is also embedded in stego file. Thus only stego-image is required at receiver. Peak signal to noise ratio (PSNR) is used to measure the quality of stego images.

Keywords: Steganography, PVD, PSNR, Cryptography

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16.

Authors: **M. S. Vanjale, R. D. Joshi, S. B. Vanjale**

Paper Title: **Network Lifetime Extension by DSR Modification in Mobile Ad Hoc Networks**

Abstract: Mobile Ad hoc Network (MANET) is self-organizing and self-configuring network that provides mobile users with communication facility and information access regardless of location and any centralized control. The most important characteristic of such networks is the independence of any fixed infrastructure. Therefore, it can be rapid and easily deployed. The typical application of Ad Hoc networks includes battle field communication, emergency relief, information sharing at conference or classroom etc. Routing is one of the important issues in MANETs due to their highly dynamic and distributed nature. Also nodes in MANET are usually battery powered. Draining out of a node can partition the network and result into reduced packet delivery and network lifetime. In this paper one of the existing protocols is selected and modified to make it energy efficient. The modified algorithm tries to increase network lifetime by implementing few modifications to basic DSR protocol. Remaining node energy is used to implement energy conservation. It is observed from the simulations that this algorithm improves network lifetime of MANETs.

Keywords: Routing, DSR, AODV, DSDV, MANET

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