**Abstract Proceeding of**

**International Conference on Innovative Concepts in Applied Sciences, Engineering and Management Concepts (ICICASEMC-2016)**

**Date: 18th June 2016**

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## Message

**Dr. G. Swami Naidu**
**Vice –principal (Administration)**
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**vizianagaram.**

I am glad to welcome you to the **International Conference on Innovative Concepts in Applied Sciences, Engineering and Management Concepts.** ICICSEAMC-2016 continues the tradition of addressing issues of immediate and long term interest to researchers and engineers in developing various engineering applications and innovative techniques for management. The primary objective of this conference is to exchange knowledge among researchers, practicing engineers, technologists about the state of art in Applied Sciences, Engineering and Management. Motivating academicians, young scientists, budding technologists and entrepreneurs in these fields to enrich their knowledge by interacting with their peers in their respective areas is a prime goal of the conference. I hope the conference will be a pathway for the next generation promoters and wish you all a wonderful and exciting day here.

## Message

**Dr. D. Srinivasa Rao,**
**Professor and Principal**
**Satya Institute of Technology and Management**
**Vizianagaram**

I am very happy to say that Anveshana Educational and Research Foundation is conducting an International Conference to bring Academicians, Practitioners and Students at one platform to share the ideas and knowledge from difference sectors like Engineering and Management, Wish them a very success in organizing conference we all support them to the possible esteem.

I wish them all the best for the future Endeavour.

## Message

**Dr. B.V.R RAVI KUMAR**
**Professor in Mechanical Engineering & Principal**
**N S Raju Institute of Technology (NSRIT)**
**Sontyam, Visakhapatnam**

I appreciate the effort made by Anveshana Educational and Research Foundation organizing an

**International Conference on Innovative Concepts in Applied Science Engineering and Management Concepts (ICICAEMC-2016) on 18th June 2016.**

I strongly believe that education is fundamental for the steady growth of economy and improvement of standards of living. This International Conference will bring the Academicians and Researchers from different organizations together where they can exchange their views and knowledge in their respective areas. It enables the researchers to get to know the progress in their respective areas of research and build up the confidence to face the global competition. This conference provides an opportunity to shares ones experience and expertise with fellow delegates.

I wish the Conference a grand success.

## Message

**Dr. P.V. Vinay**
**B.Tech., M.E., Ph.D.**
**Associate Professor,**
**G.V.P. College for Degree and P.G. Courses,**
**Rishikonda, Visakhapatnam**

It is very happy to see that "Anveshana Educational and Research Foundation" is doing is good work in bringing about the much needed change in the conference arena by bridging the gap of publishing good works with high impact to the industry and to the society on a whole. I wish them a very good conference here and elsewhere and wish to see them keeping up the good work.

## Message

**Dr. V. S. Vakula**
**Asst. Professor,**
**Dept. of EEE, JNTUK**
**University College of Engineering,**
**Vizianagaram Campus,**
**Vizianagaram.**

It is very happy to note that Anveshana Educational and Research Foundation is organizing a one-day International Conference on Innovative Concepts In Applied Sciences, Engineering and Management Concepts (ICICASEMC-2016) on 18th June 2016.

I even congratulate the foundation for inviting an impressive number of experts from premier institutes in and around Andhra Pradesh and India to share their expertise in various fields of Engineering, Science and Management.

I congratulate the organizing committee of ICICASEMC-2016 for their efforts in conducting the conference and wish all of them a Great Success

## Message

**Dr. P. V. Sai Vara Prasad,**
**Professor and Principal**
**Newton's Institute of Science and Technology**

It's my deep immense pleasure to participate today's international conference on "Innovative Concepts in Applied Sciences, Engineering and Management Concepts" organized by "The Anveshana Educational Research Foundation".

I am very happy that the activities of the organization is bringing a platform to all the researchers to share their innovative thoughts in emerging trends and management that creates further research among the students in developing various engineering applications and management concepts. This fulfills the ambition of evolving the new talents and new ideas which helps our country to make progress in technical and as well as conceptual fields on engineering trends and management.

I wish all the participants and delegates who became part of this international conference and also I thank the Anveshana team by making this conference as a great success.

## Message

**Dr. Y. Sreenivasa Rao**
**Principal,**
**Newton's Institute of Engineering,**
**Macherla, Guntur (D.T)**

Keeping pace with the changing technology is a great challenge in present global scenario. I feel extremely happy and excited about the international conference, Innovative Concepts in Applied Sciences, Engineering and Management Concepts (ICICASEMC- 2016) that is being organized by Anveshana Educational and Research Foundation on 18 th June 2016.

Emerging trends in technology and new developments in science affect the way we live and it is an established fact that emerging technologies accelerate economic growth and lead to a job creation. In the current era of rapid developments in technology, such a conference is extremely appropriately positioned. In the words of former president Dr. Abdul Kalam, "The right signal is that technology is going to boost economic development of nation. A developed India by 2020 is not a dream. It is a mission we can all take up and succeed". I am certain such that such initiatives will go a long way in furthering this mission.

It is vital that such conferences are held to enhance the spirit of inquiry and innovativeness among faculty, research scholars and students. I am certain that this conference will provide a forum for the participants to share their competency in their pursuit for knowledge and distinction. I would like to urge the participants to utilize this opportunity to ensure they reach beyond their reach and have the technological world take cognizance of an India that is unmatched in terms of scientific mindset and resources.

I wish the conference a grand success and hope it brings an invigorating change to researchers and developers.

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# Index

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# COMPARATIVE ANALYSIS OF DIFFERENT CONTROL TECHNIQUE IN SAPF FOR RENEWABLE POWR GENERATION SYSTEMS

**[Paper Id- EEE 1001]**

**A Paper Presented By**: P. Krishna Chandra
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## ABSTRACT

The Paper investigates about the execution of various control Techniques in Shunt active Power filter for improvement of Power Quality. It goes for outstanding compensation characteristics in steady state. Active Power Filter has the accompanying capacities; Harmonic Compensation, Voltage Regulation, Reactive Power compensation and Load Balancing. The APF current control is difficult because of its non-sinusoidal reference and considered imperative to obtain desired compensation performance. Here we talked about PI, fuzzy and ANN controls for APF to enhance the power quality. Here a 4-leg VSC type APF is implemented which permits the compensation of current harmonic components, and in addition unbalanced current created by nonlinear loads. A comparison between PI based, ANN based and FLC based control is carried out. The analysis and performances are evaluated with simulation results. The simulation result accepts near studies among 3 controllers using MATLAB/SIMULATION software.

**Index Terms:** Power Quality, Shunt Active power filter, Four-leg converter, Fuzzy Logic Controller, ANN controller.

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# STRUCTURAL DESIGN AND FEM ANALYSIS OF BUTTERFLY VALVE

**[Paper Id- MECH 1002]**

**A paper presented by:** [1]V. Lokesh Varma, [2]A. Raveendra

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## ABSTRACT

Valves are used for various purposes in hydro power projects. These valves are used for safety purposes, maintenance, shutoff and flow regulation as well as pressure regulation. One type of valve is a butterfly valve. This type of valve is used to regulate a fluid flow. Butterfly valve serves as a safety valve and also acts as a regulator in controlling the pressure of the fluid. The opening and closing of these valves can be operated either by oil hydraulic systems or by closing in weights. In turbine inlet valves, the oil pressure can be received from governing hydraulic system. An adjustable and flexible rubber or a metal type is used in sealing system in order to maintain the minimum leakage. In both the directions, the Water flow through the valve is possible. The primary objective of this thesis work is to analyze the option of fabricated variant for door and body in place of casted, reducing the material of valve body and door by structural design and FEM analysis and optimization in the material of valve component. The 3D modeling is to be performed by using CAD software for butterfly valve. Also by using ANSYS tool, the stress and displacement FEM analysis of the Butterfly valve is performed.

**Keywords:** hydraulic system; sealing; turbine; valve body; optimization.

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# DISCRETE COSINE AND WAVELET TRANSFORM TECHNIQUES ON JPEG IMAGE COMPRESSION TECHNIQUES AND FUNCTIONALITIES

**[Paper Id: CSA 1003]**

**A paper presented by:** [1]Divya R. Jariwala, [2]Dr. Bhadresh P. Patel

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## ABSTRACT

In image processing, a valuable component is the compression. Image compression is an individual of the fundamental for such communication. Image compression is a broadly addressed researched field. Multifold compression principals are in place. But still here there is an opportunity for great compression with feature reconstruction. Image Compression is an approach, which diminish the size of the data or the amount of space appropriate to save the data. The JPEG standards create usage of Discrete Cosine Transform (DCT) for compression. The establishment of the wavelets contributes different dimensions to the compression. Image Compression is calculated using 2-D discrete Cosine Transform. Image compressions diminish the storage space of image and also preserve the quality of image. The aim is to accomplish higher compression values with conserving the quality of the reconstructed image. Now a days image compression has develop into is an indispensible part of digitized image storage and transmission. DWT algorithm performs much better than DCT algorithms in terms of Mean Square Error (MSE) and Peak Signal to Noise Ratio (PNSR).

**Keywords:** Discrete Cosine Transform, Wavelet transform, PSNR, Image compression, MSE.

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# ANALITICAL CLASSIFIER TECHNIQUES APPLIED ON STUDENT ALCOHOL CONSUMPTION

**[Paper Id: CSA 1004]**

**A Paper Presented by:** Divya R. Jariwala[1], Heta S. Desai[2]

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## ABSTRACT

Alcohol use among students either they are school or college students are very extensive. Many students may consider drinking as a prevalent part of a social life during college. Many students sense negative reaction of alcohol utilization; however, most analysis considers these consequences for students who drink. This analysis inspects whether the positive organization between college pupils' current and high-school drinking is due to bias formation or the collision of unobserved factors of single taste. Conclusive the System underlying the resolution in alcohol use has significant policy implications. If bias formation exists, then guidelines that reduce alcohol use in single period should also reduce alcohol use in future era. The data was analyzed by using WEKA software. If however, persistence reflects unmeasured personal characteristics, then protocol targeting teens will have no impact on their long term drinking behavior. Data Mining is a materialized technique with the help of this own can efficiently learn with ancient data and use that knowledge for predicting future attitude of uneasy areas.

**Keywords:** WEKA, Alcohol Consumption, Data Mining

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# DESIGN AND PERFORMANCE EVALUATION OF ADAPTIVE PID WITH SMC SCHEME FOR SPEED CONTROL OF DC MOTOR

**[Paper ID: EEE 1005]**

**A paper presented by:** [1]T. Venkatesh, [2]K. Anitha

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## ABSTRACT

Direct Current (DC) motors have been used extensively in industry mainly because of the simple strategies required to achieve good performance in speed or position Control applications. Due to the robustness of Sliding Mode Control (SMC), especially against parameters variations and external disturbances, and also its ability in controlling linear and nonlinear systems. This paper deals with the Adaptive PID with sliding mode control adjustment of a speed control for DC motor. Firstly, the paper introduces the principle of sliding mode control method. Then, design SMC controller for DC motor after that design Adaptive PID with SMC controller then the performance of dc motor with adaptive PID with SMC is compared with SMC and PID controllers is made on the real model of the DC motor

.The main result of the paper is the analysis the adaptive sliding mode control. After obtaining the entire model of speed control system, Performance of these controllers has been verified through simulation results using MATLAB/SIMULINK software. The simulation results showed that Adaptive PID with SMC controller was a superior controller than SMC and PID controllers for speed control of a separately excited DC motor.

**Keywords:** DC motor, PID controller, Sliding mode controller (SMC), Adaptive PID with SMC controller

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# PARAMETER ANALYSIS METHODOLOGY APPLIED TO PICO-HYDRO TURBINE:A CASE STUDY

**[Paper Id: MECH 1006]**

**A paper presented by:** [1]P.V.S.R. Vinay Kumar, [2]M. Patcha Khan
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## ABSTRACT

In the present work, Parameter Analysis Methodology applied to Pico-Hydro Turbine. Design knowledge is a key asset for the prospect of the company especially under core arena but now a day's many companies find it difficult to employ an employee of sound design knowledge. A systematic design through which PARAMETER ANALYSIS METHODOLOGY (PAM) is presented using a certain sequential model of conceptual design, where by function structures are established, solution principles sought, and then combined to form the product concept. In reality, design is seldom such a linear process, and that linear design process models may hinder creativity and innovation. So, a simple model that captures the nonlinearity is therefore more suitable for describing thought process of conceptual design which is done by means of the PAM. Through PAM conceptual design is reviewed through case study of Pico-hydro turbine.

**Keywords:** Conceptual design; Systematic design; Nonlinearities; Parameter analysis; Pico Hydro-turbine.

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# NOVEL PATTERN REPRESENTATION BASED ON WAVELET TRANSFORMS

**[Paper Id: CSE 1007]**

**A paper presented by:** [1]B. Ramesh Naik, [2]T. Venu Gopal
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## ABSTRACT

Visual features are used extensively to compose image signatures in content based image retrieval systems. Although the retrieval quality is sufficient for some tasks and the automatic extraction of visual features is rather convenient, there is still a semantic gap between the low-level visual features (textures, shapes, colours) automatically extracted and the high-level concepts that users normally search for (tumours, abnormal tissues). We propose a new pattern representation scheme based on wavelet transforms that represents visual features efficiently.

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# A NOVEL ALGORITHM FOR POWER QUALITY IMPROVEMENT USING DYNAMIC VOLTAGE RESTORER

**[Paper Id: EEE 1008]**

**A paper presented by:** [1]V. Likhith Mohan, [2]Dr. V. S. Vakula
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## ABSTRACT

In the last two decades we can find a large no of modifications and new innovative techniques are developed for improving Power Quality, as because of the major concerns in electricity industry today is power quality. It becomes particularly important with the introduction of advanced and complicated devices, whose performance is very sensitive to the quality of power supply. The electronic devices are very sensitive to disturbances and thus industrial loads become less tolerant to power quality problems such as voltage dips, voltage sags, voltage flickers, harmonics and load unbalance etc. At present, a wide range of very flexible controllers, which capitalize on newly available power electronics components, are emerging for custom power applications. Among these, the distribution static compensator (D-STATCOM), dynamic voltage restorer (DVR) and unified power quality conditioner (UPQC) which is based on the VSC principle are used for power quality improvement. The main aim of my project is to design DVR which is used to compensate voltage quality problems. The results are compared with conventional controller. The results will be analyzed using MATLAB/SIMULINK software.

In this paper, different voltage injection schemes for dynamic voltage restorers (DVRs) are analyzed with particular focus on a new method used to minimize the rating of the voltage source converter (VSC) used in DVR. A new control technique is proposed to control the capacitor-supported DVR. The control of a DVR is demonstrated with a reduced-rating VSC. The reference load voltage is estimated using the unit vectors. The synchronous reference frame theory is used for the conversion of voltages from rotating vectors to the stationary frame. The compensation of the voltage sag, swell, and harmonics is demonstrated using a reduced-rating DVR.

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# ANALYSIS OF HARD TURNING PROCESS OF AISI D3-THERMAL ASPECTS

**[Paper Id: MECH 1009]**

**A Presented by:**

Varaprasad.Bh[1*], Srinivasa Rao.Ch[2]

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## ABSTRACT

In manufacturing sector, hard turning has emerged as vital machining process for cutting hardened steels. Besides many advantages of hard turning operation, one has to implement to achieve close tolerances in terms of surface finish, high product quality, reduced machining time, low operating cost and environmental friendly characteristics. In the present study, three dimensional CAE (Computer Aided Engineering) based simulation of hard turning by using commercial software DEFORM 3D has been compared to experimental results of stresses, temperatures and tool forces in machining of AISI D3 steel using mixed Ceramic inserts (CC6050). In the present analysis, orthogonal cutting models are proposed, considering several processing parameters such as cutting speed, feed and depth of cut. An exhaustive friction modelling at the tool-work interfaces is carried out. Work material flow around the cutting edge is carefully modelled with adaptive re-meshing simulation capability. In process simulations, feed rate and cutting speed are constant (i.e.0.075 mm/rev and 155 m/min) and analysis is focused on stresses, forces and temperatures during machining. Close agreement is observed between CAE simulation and experimental values.

**Keywords:** Hard turning, Computer Aided Engineering, Computational machining, Finite element method

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# BUILD A FRAMEWORK TO OPTIMIZE M-COMMERCE SECURITY

**[Paper Id: CSE 1010]**

**A Presented by:** [1]K. Sridhar, [2]Dr. D. Suresh Babu, [3]Dr. T. Venu Gopal
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## ABSTRACT

Mobile commerce (m-commerce) is as long as industrial services those area unit accessible by victimization mobile devices, PDA, etc. the most benefits of such services area unit their high handiness, independence of physical location and time. However the move to make a wireless version of net suggests that a brand new set of issues. Like the prevailing fastened net, the most important downside is security. Even though the very fact that operators area unit asserting or rolling out Wireless Applications Protocols (WAP), I-mode and java-based info, the platforms have opened security holes.

This paper aims to present some suggestions to enhance m-commerce security and limit the m-commerce drawbacks. These suggestions associated with the subsequent functional: End-to-End Transport Layer Security by Java a pair of small edition/ mobile info device profile (J2ME/MIDP). victimization J2ME/MIDP to mobile communication overcome the safety challenges Janus-faced with WAP technology, however securing the XML messages transferred between the movable and therefore the server would offer high level of integrity for the information itself not for the physical association.

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# ULTRASONIC SPOT WELDING ON DISSIMILAR METALS OF AEROSPACE ALUMINUM ALLOY AA2139 TO TITANIUM ALLOY TIAL6V4

**[Paper Id: MECH 1011]**

**A Presented by:** K. Nageswara Rao[1], Dr. B. V. R. Ravi Kumar [2], Dr. M. T. Naik[3], M. Bhojendra Naik[4]
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## ABSTRACT

The microstructure, hardness, lap shear strength and fracture energy of AA2139–TiAl6V4 spot joints produced by ultrasonic welding were investigated and related to the weld thermal cycle. No obvious inter metallic reaction layer was observed in the AA2139–TiAl6V4 welds, even using transmission electron microscopy. In recent aluminium alloys, the presence of novel types of inter metallic with new characteristics can greatly affect the alloy corrosion performances and influence the effects of the anions towards their passive behaviour. The hardness profile of AA2139 side after welding was studied, demonstrating that the heat introduced by the welding process leads to some softening with partial hardness recovery after natural aging. The structural applications of lightweight alloys in the automotive and aerospace industries inevitably involve welding and joining of challenging dissimilar Mg-to -Al and Mg-to-steel while guaranteeing safety and structural integrity. Sound dissimilar lap joints were achieved via ultrasonic spot welding (USW) – an environment-friendly solid-state joining technique. The effects of welding time on peak load and fracture energy were investigated. The peak load and fracture energy of welds increased with an increase in welding time and then reached a plateau, i.e., maximum peak load 5.3kN and maximum fracture energy 3.7kN mm. In all cases, failure occurred by fracture at the weld interface.

**Keywords:** Dissimilar welding, Ultrasonic welding, Aluminium, Titanium, Inter-metallic layer

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# A NOVEL SECURED DATA EXCHANGE MECHANISM FOR TEXT DATA USING MODIFIED MOD ENCODER MECHANISM

**[Paper Id: CSE 1012]**

**A Presented by:** [1]Nandagiri R G K Prasad, [2]Dekka Satish
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## ABSTRACT

The Internet traffic is increasing day by day. Also, secure data communication is the need of the hour. But the standard compression techniques which are in use, are independent and do not consider the security issues. Hence, we present a general encoding technique for secure data communication over a language L with a finite alphabet set ˇ. The encoded message is a bi-tuple of which, the first is a vector of quotients denoted as Q and the second is a representation of remainders denoted as R with respect to a modulus M. The secrecy of the message is retained by communicating R over a secure channel using some standard encryption mechanism. The computation overhead is also reduced as the encryption is done only on one half of the encoded message. Further, this encoding mechanism provides a lossless compression are using TDEA algorithm for encryption.

**Keywords:** compression, encryption, decryption, encoding.

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# A NOVEL SECURED DATA COMMUNICATION AND PREVENTION OF FORGERY ATTACKS USING SHARED SECRET KEY ALGORITHM

**[Paper Id: CSE 1013]**

**A Presented by:** [1]Dasari Manendra Sai, [2]Dekka Satish
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## ABSTRACT

Today almost all organizations in the world are network-centric paradigm and to safeguard the data in a world where technology is advancing, systems are changing rapidly and information flows freely requires efficient secure channel at the endpoint. Security is the heart of IT revolution and more specifically user authentication and key establishment are the rudimentary services in secure communications. Though many systems, schemes bank on public key digital certificate user authentication and key establishment, failed in getting authenticated due to some forgery attacks. Public key Digital certificate though gained popularity in the public key infrastructure (PKI) in providing authentication to user public key, itself cannot be used to safeguard an authenticate user. In this paper, we propose a novel approach using GDC for user authentication and key establishment. A GDC is a kind of Digital Certificate which contains user's public information and Digital signature which is issued and signed by the trusted Certificate Authority. The advantage of GDC is that, unlike the public key Digital Certificate, it does not contain user's public key. So, the digital signature can never be revealed to the verifier and this is where a digital signature of GDC becomes a security factor that can be used for user authentication. Using this phenomenon, we have implemented a Discrete Logarithm Protocol which satisfies in achieving user authentication and secret key establishment. In addition to this, by using the shared-secret key, we have also exchanged the data between the entities through AES (Advanced Encryption Standard) or TDEA (Triple Data Encryption Algorithm) Cryptographic algorithm.

**Keywords**: Generalized digital certificate, user authentication, key establishment, shared-secret key, forgery attacks, data exchange (encryption and decryption).

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# BEST PRACTICES FOR SOFTWARE MAINTENANCE AND ENHANCEMENTS

**[Paper Id: CSE 1014]**

**A Presented by:** [1]B. Raja Narsaiah, [2]T. Venu Gopal
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## ABSTRACT

Many Surveys indicate that "The relative cost for Maintaining Software and Managing its evolution represents more than 90%of its total cost". Apart from many responsibilities of a CIO in an IT organization, efficient management of 'Software Maintenance and Enhancement' function is one of the key areas of focus to reduce its cost of operation in the prevailed environment of reduced budget conditions and time bound delivery constraints of Business.

In this article, the best practices that are to be applied/followed are discussed for "'Software Maintenance and Enhancement' from the perspectives of the four key stakeholders of an IT organization: Internal: IT & Business and External: SW Support vendor & SW supplier vendor.

**Keywords:** Software Maintenance, Software Support, ITIL, Defects, Metrics, Re-Engineering, out sourcing, automated tools, SW Migration, SW Conversion, SW Quality and Testing.

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# ECONOMICAL CUPOLA CHARGE MIX CALCULATIONS USING MATLAB SUPPORT VECTOR MACHINE

**[Paper Id: CSE 1015]**

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## ABSTRACT

Cupola Charge Mix calculations (CCMC) are important aspect of foundry industry which are used in ensuring the metal efficiency. Approximating charge of metal is the key area which involves many foundry calculations that are standardized by expertise. However, manual calculations involve many overheads that are not reliable. Recently some computerised techniques are used but require huge input and assumptions. Metal charge calculations using web technology is a prominent solution which targets this problem. Cupola Charge Mix Calculations using MATLAB Support Vector Machine (CCMCMSVM) is a replacement to manual process which is a burden and automated process can be used effectively. Support Vector Machines rely on the concept of decision planes which define decision boundaries. The decision plane separates a set of objects having different class memberships. This is effectively used in calculating CCMC.

**Keywords:** Cupola Charge Mix calculations (CCMC), foundry industry, Metal charge calculations, Cupola Charge Mix Calculations using MATLAB Support Vector Machine (CCMCMSVM)

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# FAULT DETECTION AND CLASSIFICATION FOR ONLINE DETECTION IN DISTRIBUTED ELECTRICAL SYSTEM

**[Paper Id: EEE 1016]**

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## ABSTRACT

This paper proposes a novel method for transmission- line fault detection and classification using oscillographic data. The fault detection and its clearing time are determined based on a set of rules obtained from the current waveform analysis in time and wavelet domains. The method is able to single out faults from other power-quality disturbances, such as voltage sags and oscillatory transients, which are common in power systems operation. An artificial neural network is classifies the fault from the voltage and current waveforms pattern recognition in the time domain. The method has been used for fault detection and classification from real oscillographic data of a Brazilian utility company with excel- lent results.

**Keywords:** Artificial neural networks (ANNs), fault classification, fault detection, transmission lines, wavelet transforms.

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# ACCIDENT DETECTION SYSTEM (ADS) BASED ON GSM, GPS, RF MODULES

**[Paper Id: ECE 1017]**

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## ABSTRACT

Now days the usages of vehicles are hastily multiplying and at the same time the accident occurrence is also increased. Hence, the value of human life is neglected. No one can prevent the accident, but can save their life by facilitate the ambulance to the hospital in time. A new device called Accident detection system (ADS) is introduced. The objective of this device is to provide the smooth flow of ambulance to minimize the delay caused by traffic jam. With the help of IR RF module we can green the traffic signal automatically to smooth flow of ambulance to nearest hospital .ambulance can identified the accident location with the help of GPS module which has been send my device to server room. Server finds the nearest hospital or ambulance to the accident sector, give then the location by GPS to ambulance. The control unit monitors the ambulance and provides the shortest path to the hospital at the same time it controls the traffic light according to the ambulance location and thus arriving at the hospital soon. This device is fully automated, thus it locates the accident spot accurately, controls the traffic lights, provide the shortest path to reach the location and to the hospital in time.

**Key words**: Accident Detection System, GPS, GSM, IR RF Module, Mobile Phone.

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# EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER AND FRICTION CHARACTERISTICS IN ETHYLENE GLYCOL + WATER USING $TiO_2$ NANO PARTICLES AND HELICAL INSERTS IN A COUNTER FLOW HEAT EXCHANGER

**[Paper Id: MECH 1018]**

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## ABSTRACT

The objective of the project is to establish the capability of Nano-fluids to enhance the Heat Transfer Coefficient when used on the cold side of a Heat Exchanger and antifreeze is mixed in Water. In the present experimental investigation, an experimental test facility consisting of a double pipe heat exchanger is designed and developed, fabricated, tested and commissioned successfully. Nano-fluids are prepared with $TiO_2$ particles of 30 Nano meters size are dispersed in distilled water as per the standard procedures. The properties of these Nano-fluids are estimated using method of mixtures. Experiments are conducted using distilled water on hot fluid side and Nano-fluids on cold side of the Heat Exchanger. Helical inserts are used to create turbulence on the cold side of heat exchanger so that it helps to absorb more heat. Temperature measurements are made at the inlet and the outlet side of the Heat Exchanger on hot and cold fluids. Mass flow rate measurements are made using the collecting tank and stop clock. Friction factor is determined by measuring pressure drop across the test length. Heat Transfer coefficient is estimated in a counter flow arrangement. The enhancement of heat transfer is compared with different methodologies. The results are presented in tabular form and graphical representation is made on the same. From the present work it is concluded that by using Nano-fluids and inserts the Heat Transfer Coefficient increases in a double pipe heat exchanger in counter flow arrangement. With the addition of Nano particles at 0.004% by volume the Heat Transfer Coefficient increases from 15% to 45% when compared to pure Ethylene Glycol + Water under the same set of operating conditions. It has been observed that with change in pitch of the inserts from 2mm to 5mm the friction factor will increase by 15% - 20% and there will be considerable enhancement in the heat transfer.

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# WIND POWER GENERATION

## [Paper Id: MECH 1019]

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## ABSTRACT

This paper deals with wind power generation and the problems that arise in generation. As energy crisis is very high in case of developing countries like India, there came urgent need to look for other sources of energy that are clean and pollution free as conventional sources cause much pollution. This paved path for non-conventional sources. Of all the renewable energy sources; the one that has matured to the level of being a utility generation source is wind energy .It is estimated that wind potential is 1.6*10 7MW which is same as world energy requirement. But the only problem is that wind speed is highly fluctuating. So many problems arise during power generation. So we mainly concentrate on the problems occurred during generation and how they can be rectified. The problems faced are due to local impacts and system impacts. Local impacts deal with the impacts that occur in the vicinity of the wind turbine or wind farm. System impacts are the impacts that affect the behaviour of the system as a whole. Using modern power electronics and special type of wind turbines that suit to the conditions can solve local impacts. Designing turbines to withstand voltage variations of certain magnitudes can rectify system impacts to some extent. Controlling the rotor speed by gear mechanism can rectify problems due to high wind or computer aided techniques.

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# INVESTIGATIONS ON TROPOSPHERIC TIME DELAY ERROR IN GPS AUGMENTED WITH CELLULAR NETWORKS

**[Paper Id: MECH 1020]**

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## ABSTRACT

Cell phone communication has experienced a very fast growth in the past few decades. Other than communication ability, cell phone has the ability to navigate itself. Basically, there are three approaches for locating the cell phone. They are, the Angle of Arrival (AOA), Time of Arrival (TOA) and Differential Time of Arrival (DTOA). In case of cellular networks, the signal transmitting towers are of limited heights, obstacles like mountains, trees and buildings affect the signals by the time they reach the cell phone. Hence, the above specified location methods are often less accurate. To achieve more accurate positioning, the cell phone can be integrated with the Global Position System (GPS) receiver. In this modern era, the 3G cell phones are equipped with GPS feature to locate their position accurately. Though GPS positioning is more precise than cellular location techniques, it also encounters few errors. This thesis is focused on the estimation and correction of tropospheric time delay error in cell phone as well as GPS signals. In order to estimate the tropospheric delay, four different tropospheric error correction models are implemented. Two models, namely Hopfield model and European Geo-stationary Navigation Overlay Service (EGNOS) model are implemented for GPS signals and other two models, namely Radio Technical Commission for Aeronautics (RTCA) and Locata Tropospheric (LTC) model are implemented for cellular signals. All these models require Meteorological (MET) data to estimate tropospheric time delay errors. If weather balloon data is not available, surface MET data can be interpolated for various altitudes. Interpolation techniques for surface meteorological data have been implemented for three different cities of India and are compared with Minimum Operational Performance Standards (MOPS) data sheet and also with Balloon data. Initially, interpolated Hyderabad MET data is incorporated for all four models to estimate the TD. The Maximum TD is observed at the surface of earth for Hopfield model (13m) as well as for EGNOS model (13.2m). Eventually, balloon MET data is incorporated in Hopfield as well as EGNOS model to estimate the tropospheric delay (TD) in GPS signals. Maximum TD is observed at the surface of earth for Hopfield model (12.88m) as well as for EGNOS model (12.95m). The TD is minimum at 23km altitude for EGNOS model (0.023m) as well as for Hopfield model (0.015m).

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# ENHANCING PERFORMANCE THROUGH SKILL MATRIX

## [Paper Id: MGMT 2001]

**A Paper Presented by:** [1] Mr. Pravin Paritkar, [2]Narendra Parchure

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## ABSTRACT

Economic development – be it of a Country, State, Sector or industry depends on various driving forces. One of such driving forces is 'Skill and Talent Development' which fosters growth. Skill necessarily needs to be learnt and practiced with structured approach. Progress results with effective usage of skills and talent – as it is one of the important resources for growth.

The economy is truly focused on making India the Skill Capital of the World. Government, Institutions & Industry have engulfed themselves into building value-added initiatives to upgrade skill levels right from the education to professional careers.

A systematic approach to 'skill mapping' through 'skill matrix process' undoubtedly helps ascertain current levels of skills but also provides a road-map to build skill on the basis of identified gaps. Structured approach to fill the gaps through value added inputs ensure escalated skill levels and also provides path for multiple skill acquisition. The paper focuses on such details which will support 'skill development' in existing workforce at various manufacturing industries.

**Keywords:** Talent, Skills, Competency, Manufacturing

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# STATUS OF WOMEN EDUCATION IN INDIA

## [Paper Id: MGMT 2002]

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## ABSTRACT

Women education in India has also been a major preoccupation of both the government and civil society as educated women can play a very important role in the development of the country. Education is milestone of women empowerment because it enables them to responds to the challenges, to confront their traditional role and change their life. So that we can't neglect the importance of education in reference to women empowerment India is poised to becoming superpower, a developed country by 2020. The growth of women's education in rural areas is very slow. This obviously means that still large womenfolk of our country are illiterate, the weak, backward and exploited. Education of women in the education of women is the most powerful tool of change of position in society. Education also brings a reduction in inequalities and functions as a means of improving their status within the family. To provide the education to everyone, EFA programme was launched in 2002 by the Government of India after its 86th Constitutional Amendment made education from age 6-14 the fundamental right of every Indian child. But position of girl's education is not improving according to determined parameter for women. To know the present position of women education, this study conducted by us. And study concluded that the rate of women education is increasing but not in proper manner.

**Keywords:** Education for All (EFA), Women Education, Female Literacy Rate, Empowerment, Provisions for Girls Education

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## A STUDY ON E-COMMERCE AS A DRIVE TO GEAR UP MODERN BUSINESS

**[Paper Id: MGMT 2003]**

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### ABSTRACT

E- Commerce is commonly known as Electronic commerce and it helps in trading the goods and services online through the help of internet and intranet connection. The major types of e-commerce helps the ultimate consumer in purchase of goods and services effectively, E-commerce has changed over the period of time in such a way that it has actually changed the concept of traditional purchase of goods and services. E-commerce is becoming a tool for gearing up of the business in today's generation. With a huge development in Internet and

Web based technologies, distinctions between traditional markets and the global electronic marketplace such as business capital size, among others are gradually being narrowed down, India is showing a tremendous growth in the E- commerce. There is a growing awareness in the business community in India about e commerce and the opportunities which is offered by e commerce in India. This paper actually aims to focus and to study the role of e commerce and how e commerce being the important tool to gear the business in E-commerce.

**Keywords:** Online Trading, Supply Chain Management, Technology, Communications, Digital Information.

## A STUDY ON COMPARATIVE ANALYSIS OF INSURANCE COMPANIES WITH REFERENCE TO MAHARASHTRA

**[Paper Id: MGMT2004]**

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### ABSTRACT

This paper aims to understand the concept and mechanism of insurance and to predict the volume of new business and total premium of life insurance sector in Maharashtra state. The life insurance in its modern form to India came from England in 1818 with the establishment of the oriental life insurance company. The insurance sector in India has a full circle to an open and competitive market for nationalization and back to a liberalized market..The process of Globalization and Liberalization has influenced Indian Insurance Sector. The Public Sector Life Insurance Corporation and Private Sector companies have been competing with each other for providing best services and best products to the customers. Customer is kind in any market and Insurance Market is no exception. Every company is trying for innovative product to satisfy customers' needs. The objectives of the study are economic and financial performance of Life Insurance Corporation of India and private life insurance in Maharashtra to compare.

***Keywords**: Life insurance, nationalized, Insurance Regulatory, market*