****

**PROCEEDINGS OF**

**INTERNATIONAL CONFERENCE**

**ICMREST-2018**

**INTERNATIONAL CONFERENCE ON**

**MODERN RESEARCH IN**

**ENGINEERING SCIENCE & TECHNOLOGY**

**7th April, 2018**

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**V.R.S. COLLEGE OF ENGINEERING & TECHNOLOGY**

#### ARASUR - 607107, VILLUPURAM DIST., TAMIL NADU, INDIA

**MESSAGE FROM COLLEGE**

Dear colleagues and guests,

A Philanthropic attempt to contribute significantly for the development of rural economy through engineering education is made by establishing V.R.S. College of Engineering and Technology at Arasur, Villupuram District, Tamil Nadu, India in a rural environment in 1994, and providing facilities and amenities to the students from the inception itself. On behalf of the organizing committee and as a hosting institution, it is our great pleasure to welcome you to the 1 st International Conference on Modern Research in Engineering Science and Technology (ICMREST- 2018). The theme of the International Conference is “International Conference on Modern Research in Engineering Science and Technology”. This conference is going to discuss the technological advancement and rapid strides recently witnessed in the field of Engineering and Technology to a common forum. The entire conference will be in parallel sessions and this conference will be addressed by senior scientists &amp; professors as keynote and invited speaker while it will also attract many young researchers &amp; post doctoral researchers, who will participate in the presentations.

We are sure that this conference will give significant contribution to the achievements of science &amp; Technology and their applications in various sectors. We are confident that the participants will enjoy the pleasant weather, lovely food and academic sessions at V.R.S. College of Engineering and Technology. We expect the endeavor a grand success.

**Pricipal**

**V.R.S. College of Engineering and Technology at Arasur,**

**Villppuram District, Tamil Nadu, India.**

**MESSAGE FROM PUBLICATION CHAIR**

Dear Authors, Reviewers and Readers,

It gives me great pleasure to welcome you to International Conference on Modern Research in Engineering Science & Technology (ICMREST-2018) which I have acted as Publication Chair.

Editorials and commentaries play a key role in exploring more contentious issues in a balanced way, allowing the reader to make an informed decision on how or whether their clinical practice should be altered. It is important we have a good balance of different article type within the publication. These papers underwent a rigorous two-round review process and were recommended for acceptance to be published by the editorial board of the ICMREST. It helps to improve the overall quality and visibility of conference publications through a rigorous review. This objective clearly has been achieved reading through this special issue. ICMREST should lead to a timelier exchange of new ideas, foster rapid dissemination of recent works via an integrated forum for both publications and presentations, and further expand and grow our community. Many individuals have committed their time and effort and I would like to thank them for their excellent work.

Lastly, I should thank all our submitting authors, Dignitaries who have toiled in the production of their work, and have chosen International Conference on Research Development in Engineering and Technology in support with Melange Publications. The success and reputation of ICMREST reflects the outstanding work by our reviewers and authors who are dedicated to publication of only the best quality papers.

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**Design of High Frequency Voltage Controlled Oscillators**

**for Phase Locked Loop**

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**Paper ID: EC-17**

This paper presents the analysis of various oscillators that generate high frequency of oscillation for high speed communication, clock generation and clock recovery. The Ring oscillator and the Current Starved Voltage Controlled Oscillator(CSVCO) (for 5-stagewithout resistor and with resistor) have been implemented using the Cadence Virtuoso tool in 90 nm technology. The generated frequency of oscillation and the power consumption values of the voltage controlled oscillators have been calculated after inclusion in the PLL, and were also compared to identify the most suitable voltage controlled oscillator for a given application.

**Design of Reconfigurable Block FIR Filter Architecture And Implementation On Hardware**

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**Paper ID: EC-19**

In this paper, a reconfigurable block FIR filter which supports variable filter length is proposed. This reconfigurable block FIR filter uses block based design. Hence, this is an algorithm free architecture. This proposed filter can be used for 5G air interface. The proposed filter produces more efficient power reduction than that of the other filter. The number of LUTs and registers are also reduced in the reconfigurable block FIR filter. The designed filter has been implemented in the ZYNQ xc7020 hardware device using the vivado 2015.4.The technique used for hardware implementation is the IP creation and debugging. The debugging helps in the monitoring and triggering the hardware device.

**Design of All Digital Phase Locked Loop for Wireless Applications**

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**Paper ID: EC-20**

This paper presents a design of All Digital Phase Locked Loop (ADPLL) for wireless applications. It is designed using master and slave Dflipflop for linear phase detector, counter based loop filter and ring oscillator based Digital controlled oscillator(DCO). The programmable divider is used in the feed-back loop which is used has a frequency synthesizer for wireless applications. It is implemented in 180nm CMOS technology in Cadence EDA tool. The proposed ADPLL has locking period of 50ps and the operating frequency range of 4.7GHz and power consumption of 26mW.

**Input Bridging Fault and Non Feedback Bridging Fault Detection and Test Vector Generation by Boolean Satisfiability Method**

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**Paper ID: EC-30**

The input bridging faults and non feedback bridging fault( short between lines) occurs due to improper soldering. This paper enumerates the Fault detection and high quality test vector generation for these faults by using Boolean Satisfiability method with the help of JAVA code. This method can be adapted to deal with many faults in the combinational circuits.

**Chromatic Adaptation based Underwater Image Enhancement**

**by Image Fusion**

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**Paper ID: EC-34**

We introduce an effective technique to enhance the images captured underwater and degraded due to the medium scattering and absorption. In our scheme, a single image approach that does not require specialized hardware or knowledge about the underwater conditions or scene structure. It’s a blending of two images that are derived from a color compensated and white-balanced of the original degraded image. The two images to fusion, as well as their associated weight maps, are defined to promote the transfer of edges and color contrast to the output image. To avoid that the sharp weight map transitions create artifacts in the low frequency components of the reconstructed image and to achieve the good quality by using the fusing images. It is a qualitative and quantitative method to reveals for enhanced images and videos are characterized by better exposedness of the dark regions, improved global contrast and edges sharpness.

**Achievable Rate Analysis For Full-Duplex Relay Networks With Spatial Modulation**

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**Paper ID: EC-26**

The objective of a wireless research is to conceive a full duplex operation by aiding concurrency in both transmission and reception in a single time/frequency channel and thus enhancing the spectral efficiency than the conventional half duplex systems. Investigation is performed on the performance of a full-duplex (FD) relaying network with a single-RF Spatial Modulation (SM) Multiple-Input Multiple-Output (MIMO) system. The SM MIMO is employed at the relay node. This protocol is referred to as SM-aided FD relaying (SM-FDR). The demodulator at the destination takes advantage of the direct connectivity between the source and destination which in-turn maximizes the performance. The mathematical expressions for computing the achievable rate of SM-FDR in the presence of residual Self-Interference (SI) has been studied based on the demodulator. With the guide of these achievable rate articulations, a gauge on the nature of SI cancelation required for the appropriateness of FD transmission has been given. The scientific investigation is substantiated with the guide of Matlab. At last, we likewise survey the execution of SM-FDR against conventional FD transferring conventions.

**Forest Fire Detection And Alert-A Realtime Approach**

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**Paper ID: EC-27**

Wildfires are expensive disasters in terms of both property loss and life safety. Wildfire often occurs in environmental sensitive regions such as forest, park and grassland area or along the urban-wild land interface. Environmental monitoring in such terrain must be environmentally appropriate, which requires easy installation, low maintenance and relatively inexpensive instrumentation.

Our proposed project is fully real-time implementable system that is capable of providing real time remote wildfire monitoring and SMS alter. The work aimed at the design and implementation of a low cost but efficient and flexible wildfire monitoring and alert system using GSM technology.

# **Encrypted De-duplication over Distributed Cloud Server**

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**Paper ID: CS-16**

The most common cloud service is Data Storage. In order to reduce the storage space, deduplication is used. Data deduplication is a process of removing redundant copies of same data. If a file which is already present in the cloud, is uploaded by the same user or different user, then it will not be uploaded again. Therefore storage required is decreased but reliability is also reduced. Data are encrypted and stored in cloud to protect the privacy of users and this introduces new challenges. The proposed system uses M3 algorithm for encryption and Chunking technique for deduplication. The results of the evaluation show that the security and reliability are increased in the proposed scheme.

**Protection Preserving Over Encrypted Data Using Key**

**With Similarity Check**

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**Paper ID: CS-15**

Computing gives people to store enormous data efficiently and economically since it depends on third party management security is the million dollar question. In order to provide protection over the private data user can encrypt the data and can upload in cloud. Encryption process could be done by Advanced Encryption Standard (AES) algorithm which is highly secure and unbreakable. Encrypted data with key management play significant role in cloud computing in order to get decrypted data user should appropriate key for the file to get decrypted data which would be transferred very securely. Proposed system try to avoid update of unwanted data like inappropriate sentences will be avoided from malicious user to misuse the data .The concept of data mining plays a vital role. This concept of combination of cloud computing and data mining gives us the good result of security of personal detail and unwanted data would not accommodate on the internet .This process would help mostly on providing authenticated data by only legitimate user can access the data even legitimate user cannot find the decrypted content if unwanted data exist in the file. This approach have overcome security issues of own personal or organization data.

**Data Augmentation for Classification**

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**Paper ID: CS-08**

This paper explores the benefit of augmenting data with synthetically made samples when training a machine learning classifier. two methodologies for making extra training samples are data warping, which produces extra samples through transformations connected in the data-space, and synthetic over-examining, which makes extra samples in feature-space. The paper experimentally assesses the benefits of data augmentation for a convolutional back propagation-trained neural network, a convolutional support vector machine and a convolutional extraordinary learning machine classifier, utilizing the standard MNIST handwritten digit dataset. The result found that while it is conceivable to perform nonexclusive augmentation in feature-space, if conceivable transforms for the data are known then augmentation in data-space gives a more prominent benefit to enhancing performance and lessening overfitting.

**Neural Network with Regression Algorithms for Optical Character Recognition**

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**Paper ID: CS-07**

In today's automatic and robust modern world, possibilities of optical character recognition is endless. Previously OCR was used in postal service to read address from mail, car number plate tracking, automation of bank check transfer but today it has taken document management system to whole new level. Using OCR we can convert normal hardcopy document into Searchable text. We will use deep Neural network to train systems to recognize characters in a precise manner, basically we have proposed neural network model combined with machine learning technique like gradient. Descent, regression, softmax normalization which will help to increase the efficiency of the OCR. Computer will able to recognize hand written digit. We will be using Google's advanced TensorFlow to create an OCR system which will be efficient and robust in action.

**Risk Management and Assessment in Mine Sites – Neyveli**

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**Paper ID: CIVIL - 01**

Mining industry is highly risk prone, with complex and dynamic project environments creating an atmosphere of high uncertainty and risk. The industry is vulnerable to various technical, geological, labour, transportation, operational and project risks. Risk Assessment tools are used to help to prevent major hazards in mining industry. . The aim of the this research is to identify and evaluate current risks and uncertainties in the mining industry through extensive literature survey and aims to make a basis for future studies for development of a risk management framework.

**Experimental Studies on Confined Steel Concrete Composite**

**Beam Under Pure Bending**

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**Paper ID: CIVIL - 02**

The land available for constructing building is less. In order to meet the land demand and increase the load carrying capacity of a multistory building, composite beams are preferred. The steel sheet in tension zone and the concrete in compressive zone which are bonded by welding shear connector will acts as a composite beam. The aim of this project is to determine the most economic composite section, the behavior of the steel concrete composite beam and the effect of shear connector on de-lamination of steel sheet from concrete. A comparison with the conventional concrete also carried out. In composite beams, there is no need of tension reinforcement bars, reduce the construction time due to the elimination of form work, section size also reduced.

**Experimental Study on Partial Replacement of Cement**

**By GGBS and Metakaolin**

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**Paper ID: CIVIL - 03**

The aim of this project is to evaluate the strength of replacement of cement with Ground-granulated blast-furnace slag (GGBS) and Metakaolin a mineral admixture in concrete. GGBS is produced by slaking molten iron slag in water, to produce a smooth, granular product that is then dried and ground into the fine powder and Metakaolin is a de-hydroxylated aluminium silicate. It is an amorphous non-crystallized material, constituted of lamellar particles. From the recent research works using Metakaolin, it is evident that it is a very effective pozzolanic material and it effectively enhances the strength characteristics of concrete.

In this study partial replacement of OPC by GGBS 40%, 60% & 80% by total weight of OPC and Metakaolin by 10%,20% & 30%. This study investigates the performance of concrete mixture in terms of compressive strength of cube, flexural strength of beam and splitting strength of cylinder for 7 days and 28 days respectively. This paper reviews the use of metakaolin and GGBS as supplementary cementitious materials in concrete.

**An Experimental Study on The Behaviour of Bitumen**

**by Partially Replacing With Plastic Waste**

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**Paper ID: CIVIL - 04**

Lot of plastic waste in Municipal Solid Waste (MSW) is increasing due to increase in population, urbanization, and change in life style leading to large amount of environmental pollution. So it is used in bitumen for road construction to reduce the environmental degradation. The aim of this experimental investigation is to evaluate the compatibility of mixing of plastic with bitumen and the optimum content of plastic with bitumen which gives better results. Hence an experimental work has been carried out in the plastic is mixed with bitumen in the various proportions like 0%, 5%, 6%, 7%, 8%, 9% and 10%. Its properties like ductility, penetration, softening point, flash point, viscosity and loss on heating can be evaluated to access the optimum content of plastic mixed with bitumen.

As a result of these experiments shows that it shows better binding property, stability, stiffness, density and extra resistance to water and also the optimum plastic of a plastic percentage mixed with bitumen which gives better result in 8% mix of plastic.

**Experimental Studies on Confined Steel Concrete Composite Beam**

**Under Pure Bending**

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**Paper ID: CIVIL - 05**

The land available for constructing building is less. In order to meet the land demand and increase the load carrying capacity of a multistory building, composite beams are preferred. The steel sheet in tension zone and the concrete in compressive zone which are bonded by welding shear connector will acts as a composite beam. The aim of this project is to determine the most economic composite section, the behavior of the steel concrete composite beam and the effect of shear connector on de-lamination of steel sheet from concrete. A comparison with the conventional concrete also carried out. In composite beams, there is no need of tension reinforcement bars, reduce the construction time due to the elimination of form work, section size also reduced.

**Experimental Study on Adding Human Hair Fiber in Concrete and Partial Replacement of Coarse Aggregate Using Plastic Chips**

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**Paper ID: CIVIL - 06**

The use of plastic is increasing day by day, although steps were taken to reduce its utilization. This creates substantial garbage every day which is much unhealthy. A healthy and sustainable reuse of plastics offers a host of advantage. The suitability of plastic chips as coarse aggregate in concrete and its advantage are discussed here. Where plastic chips collected from the plastic scrap chips shops, were sorted to get the superior one. These are crushed into small fraction and washed to remove the foreign particles. Tests were conducted to determine the properties of plastic chips such as density, water absorption. As 100% replacement of natural coarse aggregate (NCA) with plastic chips (PC) is not realistic, partial replacement at various percentage were examined.

Human Hair is used as a fibred reinforcing material in concrete for the following reasons. It has a high tensile strength which is equal to that of a copper wire with similar diameter. Human Hair, a non-degradable matter is creating an environmental problem so its use as a fiber reinforcing material can minimize the problem. It is also available in large quantity and at a very low cost.

Experiments were conducted on concrete beams, cubes and cylinder with various percentages of human hair fiber i.e. 0%, 1%, 2%, and 3% by weight of cement and various percentages of plastic chips i.e. 0% , 20%, 25% by weight of coarse aggregate.

**Experimental Study on Partial Replacement of Bottom Ash and**

**Glass Powder as Cement in Concrete Paving Block**

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**Paper ID: CIVIL - 07**

Problems associated with construction site have been known for many years. Construction industry has to support a world of continuing population growth and economic development. Interlocking concrete paving blocks are ideal materials on the footpaths, parking areas, gardens, etc., for easy laying, better look and finish. But now being adopted extensively in different uses where the conventional construction of pavement using hot bituminous mix or cement concrete technology is not feasible or desirable. The rising costs of construction materials and the need to adhere to sustainability, alternative construction techniques and materials are being sought. To increase the applications of concrete paving blocks, greater understanding of products produced with locally available materials and indigenously produced mineral admixtures is essential. In the present investigation, concrete paving blocks may be produced with locally available cement, aggregates, bottom ash and waste glass powder as the mineral admixture. Different mix proportions are prepared using cement replaced by equal quantity of bottom ash and waste glass powder. The study indicated that bottom ash and waste glass powder can effectively be used as cement replacement without substantial change in strength.

**Study of Usage of Waste Glass As Fine Aggregate in Concrete**

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**Paper ID: CIVIL - 08**

The construction industry relies heavily on conventional materials such as cement, coarse aggregate (granite) and fine aggregate (sand) f or the production of concrete. The high rise in cost of conventional building material in developing countries has been a source of concern to government and private developers. This has necessitated research into alternate methods and materials of building construction. The growing concern of research depletion and global pollution has challenged many engineers to seek and develop many new materials relying on the renewable and also to enhance self-efficiency and overall reduction in construction cost and the material for sustainable development. These include the use of by products and waste materials of solid waste stream from industries and residences in building construction as aggregate for the production of high strength and low dense concrete.

Collection, disposal and decomposing of waste glass is a major problem for municipalities everywhere, and this problem can be greatly eliminated by re-using waste glass as fine aggregate replacement in concrete. That is using waste glass as fine aggregate in concrete by making it into powder. The present study investigates the compression strength of waste glass powder in concrete compared with normal conventional concrete. The waste glass powder is replaced as 10%, 20%, 30%, 40% and 50% , cubes have been casted and tested for compression with an incremental of every 10% in fine aggregate is been done and compared to the conventional concrete.

**Experimental investigation on Strength Behavior of**

**Cellular light weight concrete**

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**Paper ID: CIVIL - 09**

Although building techniques and materials have evolved over thousands of years, construction is still a long, complex, and expensive process. Construction industry boom can be seen in almost all the developing countries. With the increase in material costs in the construction industry, there is a need to find more cost saving alternatives so as to maintain the cost of constructing houses at prices affordable to people. There is need to develop an alternative system of building component which would impart more benefits and are multifunctional with optimum use of labor and material.

Cellular light weight concrete is not a new invention in concrete world. It was made using natural aggregate of volcanic origin such as pumice, scoria etc. In this project, parametric experimental study for producing CLWC using super plasticizers was conducted and also the performance of CLWC in terms of density and compressive strength were investigated. From the result, it can be seen that compressive strength for light weight concrete is low for low density mixture. The increments of void throughout the sample caused by the foam in the mixture lowers the density. As a result, compressive strength will also decreases with the increments in void. As strength increases its density also increases. The test result shows that the compressive strength of replacement mixture with 30% of plastic waste materials is higher than that of 20% plastic waste materials. In this experimental study, the grade of cement we used is OPC 53.

**Experimental Investigations on Strength Behaviour of**

**Concrete Using M-Sand**

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**Paper ID: CIVIL - 10**

The natural river sand was the cheapest resource of sand. However the excessive mining of river bed to meet the increasing demand for sand in construction industry has led to the ecological imbalance in the country. Now the sand available in the river bed is very coarse and contains very high percentage of silt and clay. The silt and clay present in the sand reduce the strength of the concrete and holds dampness. A few alternatives have come up for the industry to bank on of which manufactured sand or M-sand, as it is called, is found to be the most suitable one to replace river sand. M-sand has caught the attention of the construction industry and environmentalists alike for its quality and the minimum damages it causes to nature. Usage of M-Sand can drastically reduce the cost since like river sand, it does not contain impurities and wastages is nil since it is made with modern technology and machinery. Once the M-sand becomes more popular in the construction industry, the demand for river sand and illegal sand-mining would come down. Compared to the river sand, the M-sand has a better quality consistency high Strength concrete with significance saving instrument. M-sand that is available is graded, sieved and washed. The particles are more rounded and granular and do not have sharp edges. Usage of M-Sand can overcome the defects occurring in concrete such as honey combing, segregation, voids, capillary, etc. The purpose of this research is to experimentally investigate the effect of M-Sand in structural concrete by replacing river sand and develop a high performance concrete. It is proposed to determine and compare the differences in properties of concrete containing river sand and M-sand. It is also proposed to use steel fibres and chemical admixtures to increase the strength and workability of concrete respectively. The investigations are to be carried out using several test which include workability test, compressive test, tensile test, and flexural test.

**Experimental Investigations on Structural Behaviour**

**of Rammed Earth Wall**

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**Paper ID: CIVIL - 11**

Rammed earth is an ancient building technique used in many regions of the world. Due to the low embodied energy of the material and diminished transportation cost, rammed earth offers an economical and sustainable alternative to concrete. Along with other advantage like sustainable construction, architectural quality &flexibility, contribution to building health and performance, ease & speed of construction. Because of the clay fraction, which is necessary for cohesion walls built of unsterilized soil will swell on taking up water and shrink on drying. This may lead to severe cracking and difficulty in getting protective renderings to adhere to the wall. There are some issues which need to be addressed like shrinkage, proper soil selection, low compressive strength, cracking, and durability. The previous study revealed that increase in RHA percentage there was an increase in the optimum moisture content and reduction in the maximum dry density. The strength can be increased by using fly ash and rice husk ash with the natural soil.

**Sesismic Performance of RC Shear Wall Building With**

**Soil Structure Interaction Effects**

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**Paper ID: CIVIL - 12**

The significance of incorporating soil-structure interaction effect in the analysis and design of RC framed buildings is increasingly recognized but still not penetrated to the grass root level owing to various complexities involved. It is a well established fact that the soil-structure interaction effect considerably influences the design of multi-storey buildings subjected to seismic loads. The shear walls are often provided in such buildings to increase the lateral stability to resist seismic lateral loads. Conventional analyses of the buildings is done by taking the base of the structure to be fixed but in the real life the scenario will be different as compared to a fixed end condition because the soil beneath the foundation will vary the earthquake forces and thus varying the lateral forces acting on the structure. The effect of shear walls which when placed at different locations is also the important part. The effect of shear walls and also the soil structure interaction influences the behavior of multi storeyed buildings subjected to lateral seismic forces. This project mainly focuses to study about the Effects of Soil structure interaction for RC building with shear walls at different locations. For that Push Over Analysis and Response Spectrum Analysis of building with different cases has been done using the SAP 2000 software And the results has been compared.

**An Experimental Study On Waste Glass As Partial Replacement**

**For Fine Aggregate In Concrete**

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**Paper ID: CIVIL - 13**

Concrete industry is one of the largest consumers of natural resources due to which sustainability of concrete industry is under threat. The environmental and economic concern is the biggest challenge concrete industry is facing. In this paper, the issues of environmental and economic concern are addressed by the use of waste glass as partial replacement of fine aggregates in concrete. Fine aggregates were replaced by waste glass powder as 0%, 10%, 20%, 30% by weight. The concrete specimens were tested for compressive strength, splitting tensile strength, durability (water absorption) and density at 28 days of age and the results obtained were compared with those of normal concrete. The results concluded the permissibility of using waste glass powder as partial replacement of fine aggregates up to 30% by weight for particle size of range 0-1.18mm.

**Experimental Study on Bagasse Ash As Partial Replacement For Cement in Concrete**

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**Paper ID: CIVIL - 14**

With increasing demand and consumption of cement, researchers and scientist are in search of developing alternate binders that are eco-friendly and contribute towards waste management. The utilization of industrial and agricultural waste produced by industrial processes has been the focus of waste reduction research for economical, environmental and technical reasons. There are lots of environmental impacts of cement on our ecology. Cement industry creating environmental problem by emission of CO2 during manufacturing of cement. Sugar-cane bagasse is a fibrous waste-product of the sugar refining industry, along with ethanol vapour. This waste product (Sugar-cane Bagasse ash) is already causing serious environmental pollution, which calls for urgent ways of handling the waste. Bagasse ash mainly contains aluminium ion and silica. This experimental and analytical study investigates the strength performance of concrete using Ordinary Portland Cement and Sugarcane Bagasse Ash. Bagasse ash has been chemically and physically characterized, and partially replaced in the various percentages by weight of cement in concrete. Fresh concrete tests as well as hardened concrete tests were undertaken. The result shows that the strength of concrete increased as percentage of bagasse ash replacement increased up to certain percentage. Beyond that optimum level the strength of concrete begins to decrease drastically.

**An Experimental Study on Offshore Sand**

**with Partial Replacement of River Sand in Concrete**

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**Paper ID: CIVIL - 15**

Concrete is the most popular building material in the world. River sand has been the most popular choice for the fine aggregate component of concrete in the past, but overuse of the material has led to environmental concerns, the depleting of securable river sand deposits and a concomitant price increase in the material. Therefore, it is desirable to obtain cheap, environmentally friendly substitutes for river sand that is preferably sea sand. The Land Reclamation and Development Board (Sri Lanka) plans to popularize the use of sea sand as an alternative to river sand. According to the experts in the global construction trade, Sea Sand is being used in the construction industry in the Asian Region and some leading European countries. Civil Engineering Department of University of Moratuwa (Sri Lanka) and the National Building Research Organization [NBRO] (Sri Lanka) have confirmed that the sea sand pumped from a distance of about ten kilometers is very suitable for building construction industry. This study is to experiment the suitability to use beach/sea sand as a substitute for river sand as fine aggregate for concrete.

**Demonetization: A Visual Exploration And Pattern Identification**

**of People Opinion on Tweets**

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**Paper ID: CS-03**

Improvement of the nation is regularly dictated by different sort of exercises, for example, black cash, counterfeit notes and debasements. Exceptionally thick and confounded systems in the advancement frameworks of nation proliferate perplexity in the above exercises so they offers demonetization framework. It controls black cash proportion of the nation. Representation is a standout amongst the most essential procedures for inspecting such falls of surprising circumstances in the demonetization framework. This paper proposes envisioning online networking investigation utilizing huge information: web-based social networking information on Twitter. Our framework gives numerous planned perspectives to outwardly, instinctively, and at the same time investigate changes in individuals and situational clarifications from genuine voices of people groups, for example, dissensions, on demonetization from online networking i.e., twitter. We exhibit the potential outcomes and convenience of our novel representation condition utilizing a progression of genuine information.

**Home Automation System Using IoT**

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**Paper ID: CS-05**

With advancement of Automation technology, life is getting simpler and easier in all aspects. In today’s world Automatic systems are being preferred over manual system. With the rapid increase in the number of users of internet over the past decade has made Internet apart and parcel of life, and IOT is the latest and emerging internet technology. Internet of things is a growing network of everyday object-from industrial machine to consumer goods that can share information and complete tasks while you are busy with other activities.

Wireless Home Automation System (WHAS) using IOT is a system that uses computers or mobile devices to control basic home appliance functions and features automatically through internet from anywhere around the world, an automated home is sometimes called a smart home. By using our approach we can save the electric power and human energy. The home automation system differs from other system by allowing the user to operate the system from anywhere around the world through internet connection.

In this paper, we present a Home Automation System (HAS) using GSM-IOT MODEM that employs wireless communication to provide the user with remote control of various lights, fans and appliances within their home and storing the data in the cloud. The system will automatically change on the basis of sensors data. This system is designed to be low cost and expandable which allows a various devices to be controlled.

**The Challenges and Strategies of Making Smart Cities in India**

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**Paper ID: EC-02**

The Indian government has launched the Smart Cities Mission in June 2015 with the aim of providing a better quality of life to the citizens in 100 cities of the country. This paper describes the main features of the Mission and attempts to explain the challenges in the way forward. The information provided in the paper is presented in nine sections. Section one highlights the unique characteristics of India’s cities and establishes the need for better urban management. The second section describes five negative effects of urbanization to which sufficient attention has not been paid. These include informal growth in peri-urban areas, escalating water crisis, social exclusion, extension of slums, and mismanagement of solid waste. In the next section, the impact of past urban reform initiatives is discussed and attention is drawn to the difficulties being faced in overcoming some enduring challenges. Section four provides detailed information about India’s Smart Cities Mission including the process followed in the selection of cities, the plan preparation and implementation strategy. Then, an assessment of the relevance and soundness of the Mission is proposed in the fifth section. The development strategies and design principles of smart cities are discussed in sections eight and nine respectively. In the concluding section, a list of propositions is put forward for the successful achievement of the Mission goals. It is emphasized that civic institutions should correctly understand a city’s social, economic and physical requirements and its diversity, and respond accordingly. At the same time, citizens should show a greater sense of civic responsibility.

**TinyOS – Basic Application Implementations And Media Data Transfer Analysis For Sensor Networks**

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**Paper ID: EC-04**

Wireless sensor network consists of a large number of tiny and low-power nodes, each of which executes simultaneous and reactive programs that must work with strict memory and power constraints. The wireless sensor network’s challenges of event-centric concurrent applications, limited resources and low-power operation etc.,[1]. TinyOS meets these challenges and has become the platform of choice for sensor network research. In earlier, the file transfer system is implemented by sending file through mote device using TinyOS. In fact, TinyOS was not supposed to send large files. So it has a limitation in the message size, no bigger than 100 byte. By considering that, the proposed system is to perform media data transfer (image/audio etc.,) in TinyOS platform. The mote received the audio signal from the connected microphone device. The output of the audio signal is received in terms of hexadecimal values. The hex decimal values are collected in the log file, which will be given to the MATLAB to reconstruct the hex decimal values into audio signal.

**Early Detection and Prevention of Diabetic Neuropathy**

**Using Motion Sensing Shoes**

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**Paper ID: EC-06**

This article presents design and development of a pressure and movement sensor approach using a shoe integrated sensing system and accompanying machine learning techniques to quantitatively examine the pressure pattern in diabetic patient. We perform machine learning algorithm to distinguish diabetic neuropathy from normal healthy controls and identify several prominent features with high discriminability between normal and diabetic neuropathy. The pressure distribution pattern and the position change inputs are taken as input to identify and to provide the necessary acupressure treatment as early as possible using vibration motor via Bluetooth unit from the handheld device. By this way the diabetic neuropathy effects can be avoided and due to portable and readily wearable footwear, it is used for a large segment of the population with more comfortable manner.

**Design of a PCM-based CAM (Content Addressable Memory) Cell**

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**Paper ID: EC-07**

This paper presents the design of a Content Addressable Memory (CAM) cell. This cell utilizes a Phase Change Memory (PCM) as storage element and an ambipolar transistor (such as a CNTFET) for data comparison. A memory core consisting of a CMOS transistor and a PCM is employed (1T1P). The proposed CAM cell is simulated and compared with other non-volatile CAM cells using emerging technologies (such as MTJ and memristor). It offers significant advantages in terms of power delay product (PDP) for the search operation and reduced circuit complexity (in terms of lower transistor and storage element counts) compared with Memristor MOS Content Addressable Memory & two MTJ (Magnetic Tunneling Junction)- Based Content Addressable Non-Volatile Memory Cells.

**Automatic And Advanced Driver Safety Awareness And**

**Assistance System For Cognitive Vehicle Control**

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**Paper ID: EC-08**

In current scenario the amount of accident occurs in roads often. An accident occurs every 4 minutes, due to human error. In order to overcome this problem, an intelligent system has been embedded in the vehicle itself. The sensor has detected signal by an alcohol sensor will be transmitted to the vehicle control circuit. It will not turn on the vehicle, when the user in drunken condition. It also detects the drowsiness when a person feels drowsy it is detected by the sensors and it is send to the controller then it blows the buzzer sound and slows down the vehicle. And another method is adjacent moving of vehicle distance and it can alter the speed. Vehicle black-box system is used for recording and it help for future reference its stores location, time of driver data.

**Capacitive Power Transfer Based Wireless Electric**

**Vehicle Charging**

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**Paper ID: EC-09**

Wireless power transfer (WPT) is emerging as a practical means for electric vehicle (EV) charging. Of the three main approaches to WPT, resonant inductive, inductive, and capacitive coupling, capacitive power transfer (CPT) is proposed herein to charge an EV at a kilowatt scale power level. CPT implementation replaces copper coils and ferrous core focusing/shield materials of inductive approaches with foil surfaces making CPT cost effective and structurally simple to implement, while maintaining efficient power transfer capability. This paper addresses each facet of kilowatt scale CPT system development, namely achieving high coupling capacitance between the vehicle and charging station and the associated drive power electronics. High capacitive coupling is achieved through a conformal (flexible and compressive) foam transmitter bumper that molds and contours itself to the vehicle to minimize air gap during charging. An experimental docking station to charge a Corbin SparrowEV 156V battery pack was built and measured throughput power is demonstrated at >1kW with a coupling capacitance of 10nF operating at 540kHz.

**Hidden Camera Destroyer using Electro –Magnetic Pulse**

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**Paper ID: EC-10**

In today's world we are surrounded by the most sophisticated & hi-tech microprocessor & microcontroller technology, which controls transport, finance, Electricity, Communications, etc. An EMP (Electro-Magnetic Pulse) has the destructive tendency to devastate any electronic equipment in its specified path range, causing electronic equipment to burn out. With the continuous development, use & dependability of modern day equipment, it is almost impossible for us go back from the current microelectronic generation. This makes the Electro-Magnetic Pulse one of the most deadly & Terrifying weapon in the world causing huge collateral & infrastructural damage to any nation & her interests. This paper includes all the basses of Electro-Magnetic Pulse generation & it's possible causes & effects on the nearby electronic components within its specified range capability. Along with miniature prototypes that are developed, so as to demonstrate the effect of Electro-Magnetic Pulse on various smart & dumb devices & their consecutive role in Modern Warfare as Directed Energy Weapons (DEW's). Currently, there is a lot of research going on the Electro Magnetic Pulse phenomenon. Scientists in military & defense organizations around the world are working on the EMP Technology & its application as a weapon in Military Warfare. There is even subsequent research going on in the shielding of crucial electrical & electronic components against an EMP attack. The current EMP shields developed can only prevent a small amount of Electro-Magnetic Pulse. However, a perfect shield against an EMP attack of huge intensity is still not devised, although Ferro-Magnetic cages provide a protective shield against an EMP strike. However it's nearly impossible to realize every structure, building, Electronic gadget or vehicle shielded by Ferro-magnetic Cages. As it doesn't only cause inconvenience in its installation but even has a huge initial capital coast for its total installation, hence doesn't make it economically viable to construct.

**A Wireless Continuous Patient Monitoring System for Dengue using -WiMon**

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**Paper ID: EC-11**

The improvements in wireless networking technologies and integrated electronic circuits have allowed the advancement in the wireless Body Area Network. WBAN offers many application and remote health monitoring and medicine. IEEE 802.15.4j and IEEE 802.15.6 are standards for the medical WBAN. The WBAN concepts provide new plentiful new innovative ideas to enhance the health care system. The system is developed for home use by patients that are not in critical condition but need to be constant or periodically monitored by the clinician or family. The “wireless patient monitoring system” is divided into two parts-Hardware and Software. The hardware unit is further split into two units like transmitter and receiver. This would also help the patient’s to check the blood pressure and that can be monitored by using wireless sensor. This notification would help to take an appropriate action at an instance of time.

Wi- Mon is a new concept which combines sensor nodes with wireless networks and Wi –Mon software. It enables the user to use the new emerging technologies in the network to be used in the Medical field .

This Wi-Mon system is designed only for dengue patients who require special and continuous monitoring using WBAN concept. The wireless monitoring system contributes to the collection of the vital signs of the patient such as temperature ,pulse rate, oxygen saturation and blood pressure. In cases where any vital sign threshold readings of the patients exceeded, the data being collected by the sensors send data to the personnel server. Then from the server data delivers via internet to the remote location based on that the medical person can take necessary action for that situation.

The sensor and Technology used in this paper would provide accurate details of the series monitoring health condition of the dengue patient with immediate responses.

Moreover the system also provides the management of information collected from the sensor, alert the administration in the severe condition of the patients. The design and implementation of system are discussed in this paper.

**Design And Implementation of Automatic Multipurpose**

**Agribot To Help Farming**

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**Paper ID: EC-12**

Agribot is a robot designed for agriculture purposes. It performs the elementary functions involved in farming, ploughing the field, sowing of seeds and also provides watering. It is designed to minimize the labour of farmers in addition to increase the speed, save the time and energy required for performing repetitive farming tasks and increase the productivity. Autonomous robotic control system designed for agriculture field application. IR sensors connected in the front side of vehicle to detect field end. Other pair of IR sensors are connected near seed tank to check if it is empty before starting the sowing operation. To perform the function of ploughing, it is equipped with spiked wheels which are fixed in the anterior end of the robot, to sow seeds and has a container with seeds at its bottom. Robot contains a perforation to drop the seed and finally the posterior end of the robot has a sloping metal sheet touching the ground to cover the sown seeds with soil as it moves forward. Seed tank and water tank are connected for storage of seeds and water respectively. Output is obtained through mechanical parts to perform seeding operation and movement of these parts controlled using DC motors.

**A Safety enhanced guiding system for the vision impaired**

**individual with VLC**

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**Paper ID: EC-15**

Vision impaired individuals confront unique challenges every day in their day-to-day life when navigating in unfamiliar public locations. The proposed system focuses on designing a device for vision impaired people that is comfortable, user friendly and can help with travelling independently. The solution is an audio guidance system that provides guidance through voice commands and beep sounds. In this study, authors propose an safety enhanced system that utilizes visible light communication (VLC) technology, which employs LED lights RFID technology, best path detection algorithms and obstacle detection aimed at supporting visually impaired people to overcome the positioning and navigating problems. System uses a MCU based mechanism to transmit positional information by leveraging the existing LED lights of the indoor environment. The study looks at an improved version of Dijkstra’s algorithm to estimate search time and distance to find the best path for the navigation purposes. In this paper we proposed an RFID based navigation system for in-building navigation for blind people. Our proposed system helps blind people to find a shortest path from his current location to a destination. Sonar sensors are used for obstacle detection which aids the individual to prevent any collisions or injury. Database optimization involves in increasing the speed and efficiency of the retrieved data and reduces the system response time.

**Performance of BAT Optimization Algorithm in Multiobjective Optimal Reactive Power Dispatch Problem**

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**Paper ID: EE-01**

Security and economics of a power system are optimized by the control of reactive power dispatch from synchronous generators and var sources like SVCs installed in the system. Optimal reactive power dispatch (ORPD) is achieved by properly setting the value of control parameters. Generator bus voltages, transformer tap positions and SVC settings are the control parameters for reactive power optimization. Generally, artificial intelligent techniques are used for optimizing the values of control variables. In this work, the newly introduced and bio inspired algorithm of bat optimization algorithm (BA) is proposed for reactive power optimization. This algorithm mimics the echolocation behavior of microbats. Microbats emit a kind of sonar and waits for the echo that is bounced from the prey. They analyses the echo for understanding the location and size of the prey in their path. This behavior is copied in the new algorithm. The strength of this algorithm tested by comparing its performance with that of the other bio inspired algorithms like biogeography based optimization (BBO).The method is tested on the standard IEEE-30 bus system. The results obtained are much encouraging.

**Hybrid Big Bang-Big Brunch Algorithm for Solving**

**Optimal Reactive Power Dispatch Problem**

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**Paper ID: EE-04**

Optimal reactive power dispatch (ORPD) is essential for economics and stability of power system operation. Real power loss minimization and voltage deviation minimization are the main objectives of ORPD problem. Generator bus voltages, transformer tap settings and VAR outputs are the design variables in this problem. The problem is highly non-linear and requires an efficient optimization technique. In this work the hybrid big bang –big crunch algorithm is proposed due to its simplicity and efficiency. The proposed algorithm is tested on the standard IEEE-30 bus system. The results obtained are encouraging and better than the results reported in the literatures.

**Whale Optimization Algorithm For Reactive Power Planning**

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**Paper ID: EE-05**

Reactive power source planning optimization is vital for security and economics of power system networks . Reactive power planning (RPP) is a type of optimal power flow which minimizes the real power loss and cost of VAR sources. The control variables in this RPP problem are the generator reactive power , tap changer transformer position and var output from reactive power sources . In this work the recently proposed bio inspired algorithm of Whale Optimization Algorithm (WOA) is used .This new algorithm is based on the food foraging behaviour of humpback whales . This algorithm is easy for implementation and has less number of parameters to be tuned . The standard IEEE test systems , IEEE 14 and IEEE 30 bus system are taken to test the strength of the proposed algorithm . The results obtained are improved and better than the results reported in the literature .

**Android Based Automatic Wheel Chair Controlled For**

**Physically Challenged Person**

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**Paper ID: EE-06**

This paper is related to the android-based wheelchair controller. The system is designed to control a wheelchair by using an android device. The objective of this project is to facilitate the movement of disable people or handicapped and also the senior people who are not able to move well. The result of this design will allow the special people to live a life with less dependence on others. Android technology is a key which may provide a new approach of human interaction with machines or tools. Thus their problem can be solved by using android technology to control the movement of a wheelchair. In this project, Basic4android interface is designed to program the android device that will be able to control the movement of wheelchair. This project integrated IOIO board and direct current motor to create the movement of wheelchair. The results of this project showed that this project can be used for future research works and to design excellence innovation that meets market need and public interest. Two sensors like Temperature Sensor and blood pressure are implemented.

**Real Time Monitoring Control And Protection of**

**Industrial Process Using IOT**

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**Paper ID: EE-07**

In today’s world most of the systems are operate on automation. Because of that the automotive systems are most efficient. Automation means use of Programmable Logic Controller(PLC) & Supervisory Control and Data Acquisition(SCADA) instead of electromechanical devices. PLC & SCADA based distribution monitoring& control means use of automotive system in electrical distribution system for monitoring &controlling if any fault occurs in electrical system with the help of personal computer(PC). Main concept of our paper is data acquisition & controlling by using SCADA software PLC. Here PLC is a medium between electrical system & Personal Computer for SCADA to take input and output bits. Automating electrical distributions systems by implementing a supervisory control and data acquisition (SCADA) system is the one of the most cost-effective solutions for improving reliability, increasing utilization, increasing efficiency and saving costs. Nowadays consumer requires more reliable & efficient power supply. So we can use automation systems as per the consumer requirements.

**An AC-DC LED Driver with a Two Parallel Inverted Buck Topology for Reducing the Light Flicker in**

**Lighting Applications to Low-Risk Levels**

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**Paper ID: EE-08**

This paper presents an ac-dc LED driver that consists of two parallel inverted buck converters. To buffer the twice-line-frequency energy, one inverted buck converter (also known as a floating buck converter) conveys energy to a storage capacitor, simultaneously performing the power factor correction (PFC). The other inverted buck converter regulates the LED current to maintain a constant brightness in the LEDs for reducing light flicker to low-risk levels. The proposed architecture reduces the voltage stress and the size of the storage capacitor, enabling the use of a film capacitor instead of an electrolytic capacitor. Considering the power factor and the flicker standards, a design procedure to achieve a high power factor, while minimizing the storage capacitance and the LED current ripple, is presented. A prototype of the proposed LED driver has been implemented with an on-chip controller IC fabricated in a 0.35 μm CMOS process and its functionality and performance have been verified experimentally. It demonstrates a power factor of 0.94 and a peak power efficiency of 85.4% with an LED current ripple of 6.5%, while delivering 15 W to the LEDs.

**Three Area Power System Load Frequency Control**

**Using Fuzzy Logic Control**

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**Paper ID: EE-09**

System frequency is one of the most important parameters of power system. Due to generation/load mismatches, the system frequency can vary over a small range. When the power consumed by a loads and overall losses is greater than the generated power the operating frequency of the system will decrease, resulting in a situation known as the under-frequency condition. In some other case, if some of the loads in a system are disconnected from the system suddenly, or lost, it leads to a condition called as the over frequency condition.

This condition is characterized by greater input power than the consumed power by the loads. The rest of the loads in the system will absorb the extra power and the generator inertia, leading to an increase in the system frequency. In both the cases, the system frequency fluctuates from the power systems limited frequency range, leading to tripping off of the substation and further collapsing of the entire system. The paper describes a new method employing a smart meter to monitor and control the power system frequency-which changes according to the loading conditions in the system, whether under load condition or overload condition.

**Design of Mobile Robot Teleportation System Based on Virtual Reality**

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**Paper ID: EE-10**

This paper presents the remote control of a mobile robot via internet. To solve the problem of delay time which is unpredictable, direct teleportation architecture is proposed. This architecture allows us to minimize the trajectory error of the robot movement which is controlled via the internet. This work also demonstrates the use of virtual reality in the context of the remote control. Virtual reality can be used in a conventional manner to simulate the behavior of a system, but also in parallel with the real system to improve quality control. To validate our work, we conducted teleportation experiments in various places. Experimental results show the effectiveness of the proposed architecture.

**Design And Analysis of Electric Field Distribution of**

**Composite Insulator Using FEM**

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**Paper ID: EE-12**

High voltage insulators are essential for the reliable performance of electric power Systems. In the high voltage transmission various types of insulators are used such as porcelain, glass, polymer etc, among them composite insulators are more essential for better performance. Composite insulators are exposed to various electrical and environmental stresses. The electrical performance of the composite insulators is characterized by its field distribution along their Length. By enhancing a metal end fitting in composite insulator and compared their result and shows which has better performance under different condition, because the metal end fitting is one of the major characteristic of composite insulator. Furthermore to improve the electric behavior of composite insulators grading material is introduced in different condition. The main objective of this work to enhance the long term performance of insulator. An 34.5kV composite insulator is modeled by using FEM software that performs three dimension (3D) finite element method to investigate the E-field distribution.

**Combination of Self Compacting and Self Curing Concrete**

**by Using Admixtures**

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**Paper ID: CIVIL-16**

A self-compacting concrete (SCC) is the one that can be placed in the form and can go through obstructions by its own weight and without the need of vibration. The major advantage of this method is that SCC technology offers the opportunity to minimize or eliminate concrete placement problems in difficult conditions. It avoids having to repeat the same kind of quality control test on concrete, which consumes both time and labor. Construction and placing becomes faster & easier. It improves the filling capacity of highly congested structural members. However, because it usually requires a larger content of binder and chemical admixtures compared to ordinary concrete, its material cost is generally 20-50% higher, which has been a major hindrance to a wider implementation of its use. This research work consists of: (i) development of a suitable mix for SCC that would satisfy the requirements of the plastic state; (ii) casting of concrete samples and testing them for compressive strength, shrinkage, water absorption, sulfate resistances. Local aggregate, cement, admixtures and additives produced by the local suppliers were used by in this work. The significance of this work lies in its attempt to provide some performance data of SCC so as to draw attention to the possible use of SCC. Therefore the main objective of project is to investigate the strength of concrete by both the combination of self compacting and self curing of concrete.

**Vision Based Approach For Gesture Recognition**

**in Real Time Applications**

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**Paper ID: EC-13**

These days mobile devices like phones or tablets are very common among people ofall age. They are connected with network and provide seamless communications through internet or cellular services. These devices can be a big help for the people who are not able to communicate properly and even in emergency conditions. A disabled person who is not able to speak or a person who speak a different language, these devices can be a boon for them as understanding, translating and speaking systems for these people. This chapter discusses a portable android based hand sign recognition system which can be used by disabled people.

**Smart Bike for Safe Journey**

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**Paper ID: EC-14**

A smart helmet is a special idea which makes motorcycle driving safer than before. This is implemented using GSM and GPS technology. If the rider wearing the helmet than only the bike will be turn on. The working of this smart helmet is very simple, vibration sensors are placed in different places of helmet where the probability of hitting is more which are connected to microcontroller board. So when the rider crashes and the helmet hit the ground, these sensors sense and gives to the microcontroller board, then controller extract GPS data using the GPS module that is interfaced to it. When the data exceeds minimum stress limit then GSM module automatically sends message to ambulance or family member. The RF is used for start the two wheeler firstly it check whether the driver is drunk en or not if drunken it will not allow to start two wheeler. Here a circuit which detects when a call is incoming in a mobile phone by means of a flashing LED . It can detect even when the calling mobile phone and the engine is automatically turn off.

**Automatic AgriRobot IOT With Intelligent Agriculture Data Sharing System For Former**

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**Paper ID: EC-16**

IoT is a revolutionary technology that represents the future of computing and communications. Most of the people over all worlds depend on agriculture. Because of this reason smart IT technologies are needed to migrate with traditional agriculture methods. Using modern technologies can control the cost, maintenance and monitoring performance. Satellite and aerial imagery play a vital role in modern agriculture. Precision agriculture sensor monitoring network is used greatly to measure agri-related information like temperature, humidity, soil PH, soil nutrition levels, water level etc. so, with IoT farmers can remotely monitor their crop and equipment by phones and computers. In this paper, we surveyed some typical applications of Agriculture IoT Sensor Monitoring Network technologies using Cloud computing as the backbone. This survey is used to understand the different technologies and to build sustainable smart agriculture. Simple IoT agriculture model is addressed with a wireless network.

**Hazardous Zone Monitoring System Using Smart Mobile Robot**

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**Paper ID: EC-21**

Security is an important thing that should be measured in the areas having possibilities of hazardous gas emissions, temperature changes, and dust emissions. So a good monitoring system is to be installed in such places to detect abnormalities by which unnecessary accidents can be avoided. This work presents a car-like robot which carry a microcontroller based irregularity detection and frightening system. The mobile robot moves along the work place and endlessly monitors the working environment. If any abnormalities detected in the environment, the control switches to the alarming system and also an alert SMS is sent to the authority through GSM. The mobile robot is planned in such a way that it avoids obstacles. This system can also be used in spaces where individual beings cannot go or where the things are too dangerous for human safety.

**Atmospheric Hazard Gases Detection And**

**Warning System**

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**Paper ID: EC-22**

It is not surprising that air quality in manufacturing industry is usually found to be worse than that typically found in homes or offices, especially when so many manufacturing machines and workers are working together. We regularly read about several deaths due to Carbon Monoxide when people accidently inhale large amount of poisonous gas. Many times impact is not visible immediately but shows after severe damage to lungs and heart. Our intention is to create a warning and remedy system against air poisoning in open or close space.

**Air Quality Measurement And Alert Robot For Realtime Application**

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**Paper ID: EC-23**

It is not surprising that air quality in manufacturing industry is usually found to be worse than that typically found in homes or offices, especially when so many manufacturing machines and workers are working together. We regularly read about several deaths due to Carbon Monoxide when people accidently inhale large amount of poisonous gas. Many times impact is not visible immediately but shows after severe damage to lungs and heart. Our intention is to create a warning and remedy system against air poisoning in open or close space. Our system is a portable battery operated system of moving robot which checks the level of atmospheric pollution level and wirelessly displays the result if it goes beyond acceptable range. It sends real time report for poisonous gas to authorities through SMS alert or Wireless Bluetooth device. Level of pollution will be displayed in the wireless display. If pollution level is high it will alert people by speaking and warning them in real time. For real time warning we are using talking LCD android application.

**An Improved BAT Optimization Algorithm For The Solution Congestion Management Under Deregulated Environment**

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**Paper ID: EE-13**

In a restructured power market, managing transmission congestion has created challenges to operate the transmission lines within the limits. In this paper, an improved BAT optimization algorithm(IBA) is employed for congestion management (CM) problem in pool-based electricity market by active power redispatching of generators. In this paper, the proposed Improved Bat Algorithm (IBA) is applied on modified IEEE 30 bus test power system for the solution of CM problem. The results, produced are compared to those reported in the recent literatures. The strength of the proposed IBA algorithm is improved and validated.

**Highly Efficient Flyback Converter For Photovoltaic Applications**

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**Paper ID: EE-14**

This Paper presents analysis, design, and implementation of an isolated grid-connected inverter for photovoltaic (PV) application based on flyback converter topology. In today’s PV inverter technology, the simple and the low-cost advantage of the flyback topology is promoted only at very low power as micro inverter. Therefore, the primary objective of this study is to design the flyback converter and demonstrate its practicality with good performance as a central type PV inverter.

**Automatic Street Light Intensity Control System Using Arduino**

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**Paper ID: EE-15**

This world is full of different kind of light sources some are natural ones while others are man-made light sources. The man-made light sources have only two modes of operation that is switch on and switch off there is no intermediate level that can be set according to the surrounding lighting condition and at the end everything needs to be controlled manually. These lead to wastage of electricity and at the same time a manual control is not effective in the modern era. In this paper, we purpose an advanced light control system which is capable of replacing the old generation light control system. The system is implemented on an embedded platform & is equipped with a photo sensitive detector (LDR) which gives the required input for operation. The working of our light control system is based on the amount of luminous energy in the environment at that moment of time. Depending upon the light intensity at that instant the lighting of the lighting system is adjusted. The embedded main board including the Microcontroller chip, memory (flash), and communication port are used as a processing module for the input that we get from peripheral devices (LDR). Application of such a system can be implemented in workstations, park lights, street lighting system, head lights of automobiles and much more.

**Density Based Active Traffic Control Signal with Remote Override in Emergency and Security Boom barrier**

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**Paper ID: EC-38**

Traffic light control is one of the serious technical hazards of the urban areas in almost every country around the world. This is due to rapid increase in number of vehicles. In order to reduce the waiting time at the junctions, and avoid the emergency vehicles such as ambulance and fire brigades being trapped in traffic, this newly developed project will enable the traffic light to switch from red to green based on traffic density. It controls the traffic flow by allowing the lane with higher density of vehicles with the help of SONAR sensors which are placed at a distance of 10-15m from traffic light above the roads on foot path and railings in between the roads. It allows the remote override in emergency with the help of RF transmitter which is placed in emergency vehicles such as ambulance and fire brigades and RF receiver which is placed in traffic light. In the usual traffic system, the peoples are not following the traffic rules properly. This system also concedes secured system for our society. No other way of breaking the traffic rules and the energy can be saved for the traffic police mans with the help of boom barrier which will block the vehicular access when there is red signal. It consists of ATMEGA328P microcontroller, SONAR sensors, power supply in roadside unit and RF receiver in traffic light unit.

**An Electronic Plant For Monitoring And Controlling**

**of Fish Farming In Pond**

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**Paper ID: EC-39**

This paper presents a flexible solution for improving the accuracy in monitoring the environmental conditions and reducing man power for fish forming. A RF module wireless sensor network was used to monitor the critical conditions of a pond with the help of low power embedded PIC16F88 microcontroller. This system is capable of collecting and analyzing data on a GUI programmed with data acquisition systems. It also allows the user to get the updated sensor information online based on Google spread sheet application through internet connection. There by system reduces the effects of environmental fluctuations caused by sudden changes in a pond. The proposed system saves the cost of hiring labour as well as electricity, usage and the design promotes a flexible, low cost for small and medium sized fish farming operations.

**Automated Attendance Management System With Tracking of Student Listening Using OpenCV**

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**Paper ID: CS-09**

In today’s life, students listening capability are changed. There is a need to identify the listening capability of the student to know the activeness of the system. Our system promises a way to separate the listening student to the non-listening student. This gives a way to give a special care to the non-listening student to improve their studies. Our project gets an automated attendance by recognizing more than one student’s face at once. Student listening capability is compared with the student’s score database.

**Obstacle Avoidance and Fire Fighting Robot by Mobile App**

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**Paper ID: CS-10**

The project is designed to control a robotic vehicle by mobile commands for remote operation. This technology has advantages over long communication range because of RF technology. This project proposes the use of an android mobile to control a robot via commands and also in avoidance of obstacle with the help of ultrasonic sensor. The Android platform includes support for the Bluetooth network stack, which allows a device to wirelessly exchange data with other Bluetooth devices. An Arduino series of microcontroller is used together with a Bluetooth device interfaced to the control unit for sensing the signals transmitted by any Android application running cell phone. When the portable information devices, and advanced robotic’s applications in embedded on a single chip has been developed. Sometimes this cause accident or collapse due to continue command on single purpose of moving vehicle.

**Smart Wearable Integrated with Intelligent Vehicle**

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**Paper ID: CS-11**

The integration of smart wearables and intelligent vehicles, enabling a wide spectrum of promising applications, is difficult to realize due to their intrinsic characteristics. consequently brings up unprecedented challenges in terms of communication technologies, security, privacy. We developed the integrated system of smart WeVe to provide security and safety while driving. We proposed hub-centric communication architecture for WeVe. In existing systems, vehicle to vehicle (v2v) communication comprises a wireless network where automobiles send message to each other with information about what they are doing. Vehicle to vehicle technology uses dedicated short range communication (DSRC), a standard set forth by bodies like FCC and ISO.We propose W2V (wearable to vehicle) communication using RF transmitter and receiver . The information from wearable will be broadcasted to smart wearables and intelligent vehicle (WeVe). If the vehicle finds out that the passenger who is wearing the wearable sensor is in dangerous health condition, it will activate the emergency mode and inform the health centre via short message service. Whenever a vehicle reaches the other vehicle broadcast like heartbeat, temperature and obstacles information’s gets exchanged. If the vehicle finds any obstacle the vehicle will get slow to avoid any accident. For vehicle to vehicle communication the data from the each vehicle is passed through near radio field communication. For health conditioning heart beat sensor and temperature sensor are used. For vehicle obstacle detection ultrasonic sensor is used. As for the communication between wearer and vehicle and vehicle to vehicle to communication near RF was used. And for informing the health system GSM module is used.

**3PS Game Template For Mobile Platform**

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**Paper ID: CS-12**

Video games are complex software with a large number of components that must be developed in a modular fashion. We propose a game template with every essential system for a game of third person shooter genre, which can be extended into a commercial build by adding customized 3D models and game levels. Reinforcement Learning approach is used to create NPC(Non – Playable Character) AI that learns and adapts its own strategies without explicitly scripting their behavior such as in a FSM(Finite State Machine) based AI.

**Security Implication Of Permission Models Using**

**Access Control Scheme**

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**Paper ID: CS-14**

With the rapid development of cloud computing, big data and public cloud services have been widely used. The user can store his data in the cloud service. Although cloud computing brings great convenience to enterprises and users, the cloud computing security has always been a major hazard. For users, it is necessary to take full advantage of cloud storage service, and also to ensure data privacy. Therefore, we need to develop an effective access control solution. Since the traditional access control strategy cannot effectively solve the security problems that exist in data sharing.

Data security issues brought by data sharing have seriously hindered the development of cloud computing, various solutions to achieve encryption and decryption of data sharing have been proposed. In 2007, Bethencourt et al first proposed the cipher text policy attribute-based encryption (CP-ABE). However, this scheme does not consider the revocation of access permissions. In 2011, Hur et al put forward a fine-grained revocation scheme but it can easily cause key escrow issue.

**A Smart Card Based Self Ticketing And Destination Alert By**

**Automatic Highway Welcome Board Recognition System**

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**Paper ID: EC-24**

The main idea behind this project is to collect the fare automatically by smart card based self-ticketing, in which the passengers can collect RFID tag from the ticket counter by paying money based on their destination. We provide a RFID reader in the bus. After getting into the bus, the RFID reader setup provides their ticket, after reading the RFID tag. RFID Reader is used to read the RFID tag but destination should be entered by passenger in keyboard. RFID cards being reusable are much more convenient. These are used as universal travel pass card that will allow any transportation on any route. This project presents a fully automated, reliable, transparent and convenient system for ticketing in PTS (Public transport system).In addition, this system is used to alert the passengers to reach their destination, based on scanning the welcome board at national highway roads and convert into voice message using digital image processing. During night travel, most of the passengers sleep and miss their corresponding destination. This system alerts the passengers through speaker nearby every passenger seat and the passenger easily identifies their destination. The welcome board is located in few kilometers before the corresponding bus stand. So they can reach their destination easily.

**Autonomous Unmanned Ground Vehicle for Precision Agriculture Working Based on Color Navigation Algorithm**

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**Paper ID: EC-25**

An unmanned ground vehicle (UGV) is a robot that operates while in contact with the ground and without an onboard human presence. The autonomous vehicle can be used for several applications where it may be inconvenient, dangerous, or impossible to have a human operator present particularly in mine monitoring, mineral exploration, high radiation places. Generally, the vehicle will have installed sensors to observe the environment, and will either autonomously make decisions about its behavior or transfer the information to a end user operator at a different location who will control the vehicle through teleportation. To navigate the ground vehicle, lot of researchers are working with RF controlled and tethered controlled system. Few are working in the autonomous vehicle by programming the path. All those control system can be perfectly used for flat and normal surface. Since the programmed path is based on timing that can be used for flat and normal surface. While considering the rugged path particularly agriculture filed or farm, these systems might not work. Because of rugged path the vehicle can get delay while moving, then the entire path navigation will get changed. This problem can be overcome in our proposed work having color based navigation system can be opted for any rugged path like agricultural field and so on.

**A Walking-assistant Robot for Visually Impaired Persons**

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**Paper ID: EC-28**

Recent progress in robotics and mechatronics technology brings a lot of benefits not only in industries, but also in welfare and medicine. This paper presents a motion control design for a walking–assistant robot by combining passive compliant behavior and active obstacle avoidance. The proposed method recognizes the intended motion for a user using gait movement and the applied force of a hand. A passive compliant motion control is developed that allows the user to safely walk with the robot. The obstacle avoidance controller actively controls the velocity to guide the user in a direction that avoids collisions. A shared-control scheme combines active obstacle avoidance and passive compliant motion commands. The experimental results verify the effectiveness of the proposed method and show that the robot allows a user to walk safely in a complex environment. A questionnaire survey of elderly users shows that the proposed design for a walking–assistant robot gives satisfactory performance. The effectiveness of the proposed method has been evaluated by experiment.

**A Highly Efficient And Reliable Inverter Configuration Based**

**Cascaded Multi-Level Inverter for PV Systems**

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**Paper ID: EE-17**

This paper presents an improved Cascaded Multi-Level Inverter (CMLI) based on a highly efficient and reliable configuration for the minimization of the leakage current. Apart from a reduced switch count, the proposed scheme has additional features of low switching and conduction losses. The proposed topology with the given PWM technique reduces the high-frequency voltage transitions in the terminal and common-mode voltages.

