

**Abstract Proceedings**  
**of**  
**INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN**  
**ENGINEERING, SCIENCE AND MANAGEMENT – 2022**  
**ICRCESM-2022**  
**Date:-04<sup>th</sup> JUNE 2022**

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**MESSAGE**



I am extremely happy and feeling honour to associate with “**INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT–2022**”. The Conference aims to bring different ideologies under one roof and provide opportunities to exchange ideas face to face, to establish research relations and to find national partners for future collaboration. The themes and sub-themes for this conference are indicative of relevant research areas to give the prospective authors innovative prepositions about the ambit of discussion.

I would like to congratulate NRI IT to conduct such event in systematic way and to disseminate the knowledge to all the corners of the country. Researchers need to carry the ideas presented in this conference to next level and continue their research with good collaborations. I wish the management, faculty, staff and students of NRI IT - Department of ECE & Civil to conduct such good quality conferences in the future also with standard and quality publications.

All the Best

**Dr. Alapati Ravindra**  
**Chairman, NRI IT.**

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**MESSAGE**



On behalf of the Organizing Committee, I have immense pleasure to note that the *NRI IT* is organizing the “**INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT–2022** on 4th June 2022” discipline is one of the fundamental aspects of new inventions and innovations the field of Electronic, mechanical, civil and many other fields. Thus, an conference Meeting Organized by *NRI IT* will help develop many aspects of in the field of engineering and many research oriented innovations to the society. I strongly feel that the continued initiatives of *NRI IT* for the betterment of mankind by organizing such scientific conferences will be extremely helpful for future research and technical practices in general and in engineering in particular.

I am sure that the delegates, experts, students, researchers, Pharma industries, policy makers and healthcare givers will all tremendously benefit from the deliberation of this congress in a warm and friendly environment. Your presence and deliberation will make this congress remarkably successful in all aspects of Engineering.

**Alapati Rajendra Prasad**  
**Secretary, NRI IT**  
**Ex-Technical Education Minister**

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**MESSAGE**



**INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT – 2022** addresses the issues through the seminar on a vibrant platform for academicians, researchers and industry practitioners from the related areas to share their original research work , practical experience and exhibitions, bringing together representatives of all those involved at every fields of business, industry, academic, government and civil.

The International Conference facilitates ideas, statistics, and interpretation and program possibly to solve. The conference focuses on **INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT – 2022**". The conference will address recent issues and will look for significant contributions to advanced engineering studies in theoretical and practical aspects. It provides a multi-disciplinary forum for the exchange of knowledge and expertise in the recent developments in the fields of Engineering Science and Technology. I am self-assured that your deliberations and the outcome of your efforts will raise public awareness about the role and value technology as a tool to promote economic, social and cultural development while addressing the complex issues on your agenda.

It is my privilege to wish all the delegates a successful techno career and take the special honour to welcome you all to this Conference **ICRCESM-2022**. We look forward for key note addresses, invited lectures, paper presentations and audience participation during the conference.

**With best wishes.**

**Dr. Kota Srinivas,**  
**Principal, NRI IT**

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**MESSAGE**



It is a pleasure to welcome you to **ICRCESM-2022**, the **INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT – 2022** at **NRI IT**. The conference is organized as a set of tracks in the field of engineering and technology. The successful organization of **NRI IT** has required talents, dedication and time of many volunteers and strong support. Special gratitude and appreciation is due the various track chairs as they are primarily responsible for the content of the technical program. I would also like to thank organizing committee and review committee for arranging the successful conference. We hope that you will find the conference both enjoyable and valuable, and also enjoy the architectural, cultural and natural beauty of greenery in and around the college.

**Dr. Dola Sanjay S,**  
**Prof & HOD, ECE-NRI IT**

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**MESSAGE**



**Anveshana Educational and Research Foundation (AERF)** aims to educate researchers for the future to build and maintain quality oriented research related to Engineering and other domains as well. We believe these researchers,, contribute to make a difference to their Colleges and Universities and to the world around them. In our endeavours, we draw upon reserves of goodwill among the quality oriented research, its reputation among researchers,, and a potential student, commitment is the key strength to **AERF**.

The future holds tremendous promise for our organization we look forward to being recognized as one of the premier research organization which meets the quality standards across the globe. To achieve this goal, the organization is following a three-pronged approach: connect, nurture, and grow. We will:

**CONNECT** proactively with the worlds of practice and policy, with academic work nationally and globally, with our research work, and with the local community.

**NURTURE** a high performance work environment by emphasizing and supporting a climate of autonomy, stretch, and team work.

**GROW** our capacity, but do so in a thoughtful and strategic manner, aiming to have an impact commensurate with our ambitions, and ensuring that we maintain and upgrade the quality of our people and our experience.

**Dr. D. Sucharitha**  
Director – AERF

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**MESSAGE**

I hope this message finds you and your family in the best of health and spirits. It was nice to hear you have presented in International Conference. It was really a delight to hear that it has been fairing well in the field of Engineering Applications and Basic Sciences

**INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT (ICRCESM-2022)** addresses these issues through the seminar and exhibitions, bringing together representatives of all those involved at every fields of business, industry, academic, government and civil.

I must congratulate you on the attending and presenting research paper. The conference focuses on “**INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT – 2022**”. This conference is going to address many issues. I wish all the delegates a successful techno career and take the privilege to welcome you all to this International Conference **ICRCESM-2022**. In this moment of celebration I congratulate one and all who involved in conference.

All the Best.

**Dr. BH Varaprasad, Professor,**  
**Aditya Engineering College, Kakinada**



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**MESSAGE**

**“INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT – 2022”** addresses these issues through the seminar and presentations, bringing together representatives of all those involved at every fields of business, industry, academic, government and civil strata.

The International Conference facilitates ideas, information and programs on a platform that encourages creative thinking and innovation in the fields mentioned in the theme of the program. The conference focuses on **“INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT – 2022”** which is very relevant to the present day scenario. I congratulate the organizers, coordinators sponsoring members, participants of the **INTERNATIONAL CONFERENCE ON RECENT CHALLENGES IN ENGINEERING, SCIENCE AND MANAGEMENT – 2022**. I am confident that the deliberations and the outcome of your efforts will raise public awareness about the role and value of the theme of the conference as a tool to promote economic, social and cultural development while addressing the complex issues on the agenda.

I wish all the members involved a successful program ahead

With best wishes.....

**Dr. NASA DHANRAJ**

**Faculty Of Accounting**

**Under The Ministry Of Education, Maldives**

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**MESSAGE**



***“Heights by great men reached and kept were not attained by a sudden flight, but they while their companions slept were toiling upward in the night”.***

The meaning of the above stanza is self-evident, nothing comes from nothing, and nothing ever could. Success and achievements are commensurate with will power, hard work, grit, resourcefulness and single-minded approach.

**NRI IT** understand the social relevance of research and its contribution in developing a body of knowledge and therefore gives immense importance to the research output. In order to encourage the researchers in various fields relating to Engineering, Sciences and Management at **NRI IT** is organising the International conference in association with **Anveshana Educational and Research Foundation** with different contemporary themes on a regular basis. The focus here is on blend of academics & cutting edge research and innovation through inter-disciplinary activities.

A saying goes like this ***“Ordinary things done in an extraordinary way make people great”.***

I hope that the deliberations in the Conference will help researchers from academia and industry and the Conference will provide a platform for initiating collaborative research projects.

I wish the Conference a fabulous success.

**Dr. K. Chandramouli**  
**HOD- CIVIL Department**  
**NRI IT**

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**AN EXPERIMENTAL INVESTIGATION ON THE STEEL FIBER CONCRETE BY**  
**PARTIAL REPLACEMENT OF TiO<sub>2</sub> AND QUARTZ POWDER**

**Paper ID - 1001**

**J. Sree Naga Chaitanya<sup>1</sup>, Dr. K. Chandramouli<sup>2</sup>, G.Hymavathi<sup>3</sup>, A.Medhasri**  
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**Abstract**

Concrete is a building material widely used in the world for every construction project, and this construction projects consists of every possible challenge in terms of durability, exposure to various reactive substances and at a place where concrete needs to be high strength. the concrete is a mixture which is of heterogeneous aimed to solidify and produce strength based on the quality and composition of materials used in the concrete. In this study we are performing an experimental investigation to see whether there is any possible increase in the strength of nominal concrete to change to high strength concrete, In order to achieve this high strength we have used materials like steel fibers, TiO<sub>2</sub> as partial replacement for cement, quartz powder as partial replacement of fine aggregate. We have performed several tests on materials, fresh concrete, and hardened concrete. We have also reviewed the previous works of the researches performed on the similar projects with the related materials. we have used a varied percentages of material ratios as 10%, 20%, 30%, 40%, 50% of quartz powder partially replacing fine aggregate, and 0%, 0.5%, 1.0%, 1.5% of TiO<sub>2</sub> as partial replacement of cement, and 0%, 0.5%, 1%, 1.5%, 2% of steel fibers addition to concrete.

**Keywords:** - (ground granulated blast furnace slag), (titanium dioxide), compressive, split tensile strength.

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**ENCRYPTION AND DECRYPTION OF A SIGNAL USING FULLY**  
**HOMOMORPHIC ALGORITHM**

**Paper ID - 1002**

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**ABSTRACT**

Due to privacy leakage of sensitive data, the conventional encryption systems are not completely secure from an intermediary service like cloud servers. The Homomorphic encryption is a special kind of encryption mechanism that can resolve the security and privacy issues. Unlike the public key encryption, it has three security procedures, i.e., key generation, encryption and decryption. In this project, design and implementation of homomorphic encryption and decryption using hybrid finite field Elliptic Curve (EC) architecture is presented. Initially, original bits and key is assigned to the processor and expanded serially. Next, bits are substituted using S-Box. After that shifting and mixing operation is performed. Now these bits are encrypted. Here, a high-performance hybrid elliptic curve point multiplication is used by the efficient finite-field arithmetic unit in affine coordinates, where elliptic curve point multiplication is the key operation of an Elliptic curve based Cryptographic (ECC) processor. Similarly, decryption process is reverse to this operation. Hence elliptic curve point multiplication based Homomorphic encryption and decryption is implemented and it gives better security compared to exist one. The proposed design is synthesized in field-programmable gate array (FPGA) technology with the VHDL. This system will provide better security, resource efficiency and high performance compared to existing standards. This elliptic curve based Homomorphic encryption technique guarantee both privacy and integrity.

**KEYWORDS:** Cryptography, Homomorphic Encryption, Field-Programmable Gate Array (FPGA), Elliptic Curve Based Cryptographic) ECC Processor

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**DESIGN AND IMPLEMENTATION OF SMART ELECTRICITY METER**

**Paper ID - 1003**

**<sup>1</sup>Mrs.V Chaitanya Kumari, <sup>2</sup>Dr.Dola Sanjay, <sup>3</sup>P.Yojana, <sup>4</sup>Sd.Ishrath, <sup>5</sup>V.V.Siva  
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**ABSTRACT:**

This paper presents a smart energy meter for an automatic metering and billing system. In this meter energy utilized and the corresponding amount will be displayed on the LCD continuously and communicated to the controlling base station. This meter can work as prepaid. The proposed system replaces traditional meter reading methods and also can monitor the meter readings regularly without the person visiting each house.

**KEYWORDS:** Voltage sensor, Current sensor, Relay, Arduino

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**DESIGN AND DEVELOPMENT OF HEART RATE DETECTION & HEART RATE**  
**MONITORING SYSTEM**

**Paper ID - 1004**

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**ABSTRACT:**

While most current health monitoring devices monitor heart rate, body temperature, and falls, very few are available for asthmatic wheezing, which largely due to the difficulty of filtering the frequency of wheezing. In this project design and development of heart attack detection & heart rate monitoring system is implemented. By using arduino the entire system is controlled. Herat beat sensor will be detected whenever there is change in heart beat. Similarly SMS and location is shared to the corresponding phone number. Hence this project gives effective results

**KEYWORDS:** Heart sensor, Crystal oscillator, RS232, GSM, GPS.



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**GSM BASED AUTOMATIC SECURITY SYSTEM**

**Paper ID - 1005**

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**ABSTRACT:**

Safety and security is of utmost importance in our day to day life. The approach to home security system design is almost standardized in these days. In this presentation, it is intended to improvise these standards by employing new design techniques and developing a low-cost home security system. The design of simple hardware circuit enables every sensor and electronic component at any private place.

**KEYWORDS:** Ultrasonic sensor, Crystal oscillator, RS232, GSM, ARDUINO UNO.

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**A REVIEW HOOVER DAM**  
**Paper ID - 1006**

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**ABSTRACT:**

Hoover Dam was a monumental accomplishment for its era which set new standards for feasibility studies, structural analysis and behavior, quality control during construction, and post-construction performance evaluations. One of the most important departures was the congressional mandate placed upon the U.S. Bureau of Reclamation (Reclamation) to employ an independent Colorado River Board to perform a detailed review of the agency's design and issue recommendations that significantly affected the project's eventual form and placement. Of its own accord Reclamation also employed an independent board of consultants which convened twice yearly several years prior to and during construction of the project, between 1928 and 1935. Reclamation also appointed a special board of consultants on mass concrete issues, which had never been previously convened. Many additional landmark studies were undertaken which shaped the future of dam building. Some of these included: the employment of terrestrial photogrammetry to map the dam site and validate material quantities; insitu instrumentation of the dam's concrete; and consensus surveys of all previous high dams to compare their physical, geologic, and hydrologic features with those proposed at Hoover Dam.

**Keywords:** Hoover Dam, Reclamation, photogrammetry

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**A STUDY ON HIGH-SPEED TRAINS**  
**Paper ID - 1007**

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**ABSTRACT:**

This review aims to discuss how the high-speed trains function and what implications they have on public transportation. The objective of this review is to introduce to the reader the functions of a high-speed train. The scope of this review only extends to reviewing the relevant material provided.

This review introduces the concept of high-speed trains in simplistic engineering terms and Types of tracks, Power, Flow field around the train and economic efficiency of the train. In the depth of this article, the detailed explanation of the track system, power generation, aerodynamics, and the economic efficiency of the high speed train are provided, which will give a perfect visualization of the mechanism [how it works] of the whole system.

**Keywords:** Aerodynamic drag, Derailment, Maglev, Speed, traction.

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**WAVE ENERGY UTILIZATION: A REVIEW OF THE TECHNOLOGIES**

**Paper ID - 1008**

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**Abstract:**

Sea wave power is being increasingly seemed in many nations as a primary and promising resource. The paper offers with the improvement of wave strength utilization because the 1970s. Several topics are addressed: the characterization of the wave power resource; theoretical historical past, with especial relevance to hydrodynamics of wave power absorption and manage; how a huge variety of gadgets kept being proposed and studied, and how such gadgets can be organized into lessons; the conception, layout, version-testing, creation and deployment into real sea of prototypes; and the improvement of particular gadget mooring structures.

**Key Words:** Wave energy, Wave power, Renewable energy, Equipment, Power take-off.

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**A REVIEW ON SECOND PENANG BRIDGE**

**Paper ID - 1009**

**A. MEDHASRI <sup>1</sup>, G. Hymavathi<sup>2</sup>, Dr. K. chandramouli<sup>3</sup>, J. Sree Naga Chaitanya<sup>4</sup>,**

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**ABSTRACT:**

The bridge of the Second Penang Bridge in Malaysia [1-2] is a two-pylon three-span prestressed concrete cable-stayed bridge, with span association of (117.5+240+117.5) m. The pylons and the principle girder are monolithic. The principal girder, that is 34.6m wide, adopts the ladder kind concrete deck segment comprising pinnacle slab, transverse diaphragms and area beams. The pylons are H-shape pylons, and the live cables are shaped of parallel strands and are organized in fan cable planes. Each pylon column consists of 18 pairs of live cables which might be anchored through the deviation saddles within side the pylons and anchor blisters within side the principal girder. The foundations include huge diameter bored piles, various from 2.3m to 2.0m in diameter. An optimized layout scheme is customized for the bridge, wherein the principal girder has the cross-segment constructed up through a mixture of slab, diaphragm and area beam structure sand became built through the usage of the rear supported shape vacationer and incorporating an optimization of creation timing.

**KEY WORDS:** Cable-Stayed Bridge, Cable-Stayed Bridge

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**A REVIEW ON PENTAGON BUILDING**  
**Paper ID - 1010**

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**ABSTRACT:**

Pentagon is the centralize building of the United States Department of Defence. It was constructed on an enhanced schedule during World War II. As a symbol of the U.S. military, the phrase The Pentagon is often used as a metonym for the Department of Defence and its leadership. **Pentagon** large five-sided building in Arlington county, Virginia, near Washington, D.C. that serves as the including all three military services-Army, Navy, and Air Force. Ground was smashed on 11 September 1941, and the building was true to the end on 15 January 1943. It is the General Brehon Somerville provided the major impetus to gain Congressional approval for the project. The Pentagon is the world's largest office building, with about  $6.5 \times 10^6$  sq ft (150 acres; 60 ha) of floor space, of which  $3.7 \times 10^6$  sq ft (85 acres; 34 ha) are used as offices. Some 23,000 military and civilian employees, and another 3,000 non-defense support personnel, five floors above ground work in the pentagon. It has five sides, five floors above ground, two basement levels, and five ring corridors per floor with a total of 17.5 mi (28.2 km) of corridors. The central five-acre pentagonal plaza is nicknamed "ground zero" on the premise that it would be a prime target in a nuclear war. During construction 1941–43, the Pentagon was combined the offices of the War Department, which had occupied 17 separate facilities throughout Washington. Covering approximately 6.5 million square feet, the building contains a food court and mini-shopping mall. Because of its size, the Pentagon has six ZIP codes. It was the only public building in Arlington with desegregated rest rooms until 1965. On Sept. 11, 2001, American Airlines Flight 77 struck the western side of the Pentagon killing 189 people. Although approximately one-third of the building was damaged, the repairs were completed by the anniversary of the attack. A 60-minute guided tour highlights the history of the building and the Department of Defense.

**Keywords:** Pentagon, centralize, Defence

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**A REVIEW ON EARTHQUAKE GLAZED BUILDINGS**

**Paper ID - 1011**

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***ABSTRACT:***

Over the past decade the utilization of huge size glazing has increased with timber structures. Most of the researchers have focused on the building physical aspects of the glazing and have developed number of glazing systems for more and more transparency. In this paper we are going to deal with the seismic behaviour of glazed buildings (or) houses. Glazing system using wooden frame is one among the oldest kinds of glazing during which glass is set in rebates of wooden frame. A mix of glass and timber in wall systems could potentially be employed in seismically active areas. The overall behaviour of glass could be a strong, yet brittle material. Hence the timber-glass building should be either designed strong enough to face up to the seismic forces undamaged or the glass elements should be protected against too high forces by connecting it to the major structure using ductile fasteners.

**KEY WORDS:** Glazing, seismic, rebates, glass, timber, transparency, brittle

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**A REVIEW ON AKASHI KAIKYO BRIDGE**

**Paper ID - 1012**

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**ABSTRACT:**

The Akashi Kaikyo Bridge situated near Kobe, Japan, is named as the largest the suspended bridge that divides Honshu from the lower island of Awaji, off the eastern tip of Shikoku. Bridge with a middle span of 1991 meters, was finished in 1998. The Akashi strait is the busiest, widest, and most danger stretch, and the main cables of the bridge places in the plaza between the anchorage and the relatively low. The middle is a combination of museum and orientation space. Its road way is reinforced by a steel truss that consists of steel box girders with cantilevered wing like appendages design to cut through wind. The construction of this bridge follows the development of many technologies - 1. Foundation construction in deep, fast tidal current.

2. wind resistant design for the tower and stiffening girders.
3. construction method avoiding disturbance of marine traffics.
4. modification of bridge after kobe earthquake

**Keywords:** suspension bridge, anchorage, wind resistant design



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**A REVIEW ON BEIJING OLYMPIC STADIUM**

**Paper ID - 1013**

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**ABSTRACT:**

The modern day Olympic Games has been than just a sporting event where hundreds of athletes gather in a host country to compete against each other and challenge in becoming “faster, higher and stronger”. With the advances in the mass media, it’s also an excellent opportunity for the host country to showcase itself to the world. As, a part of this presentation effort it holds a potential to be architectural icon for the Games. In the run-up to the 29th Olympic Games in Beijing 2008, China wasted no time in announcing to the world the arrival of China as an economic superpower on the world stage. Old stadiums were refurbished and new ones built. The Chinese aspired to build bigger, better and more inspiring sport venues. And, among the new ones designs, the Beijing Stadium has been assets of the whole Beijing Olympic Games building boom.

**Keywords:** Olympics, Architectural Icon, Economic

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**HEALTHCARE MONITORING SYSTEM USING IOT**

**Paper ID - 1014**

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**ABSTRACT:**

IoT in Health care Monitoring is the one play a Major in treatment of the where health Monitoring should be done continuously. The proposed system here consists of various medical devices such as sensors and web based application which communicate via network connected devices and helps to monitor and record patients' health data and medical information. The proposed outcome of the paper is to build a system to provide 24/7 monitoring the patients even in the remotest areas with no hospitals in their areas by and in homes that connecting over the internet and store information through the various devices provided in the kit using a microcontroller that records the patient's heart rate, blood pressure, temperature, humidity. The system would be smart to intimate the patient's attendees and the doctor about the patient's current health status and full medical information in case any medical emergency arises. The collected Data will be stored in the database for the further assistance and treatment to be done based on the previous records. This Information can be used to analyze and predict chronic disorders or other diseases such as heart attacks in preliminary stage itself. There is a GPS Tracking System to track patient's location with the latitude and longitude and respond immediately by the location without any delay in finding the location.

**KEYWORDS:** Microcontroller, GPS, 16x2 display, Database.

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**DESIGN AND ANALYSIS OF FULL ADDER BASED ON DOMINO LOGIC**  
**TECHNIQUE**

**Paper ID - 1015**

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**ABSTRACT:**

In modern technologies, designing a smaller size, high speed VLSI circuits is one of the challenging aspects. Full adder is one of the basic blocks for many such VLSI circuits to perform multiplication, division and exponentiation operations. The demands of upcoming computing, as well as the challenges of nanometer-era of VLSI design necessitate new digital logic techniques and styles that are at the same time high performance, energy efficient and robust to noise and variation. Dynamic CMOS logic gates are broadly used to design high performance circuits due to their high speed. Circuit design using domino logic tends to be a very attractive method for high speed and low delay designs. Therefore Domino Logic based high performance full adder design is proposed in our project.

**KEYWORDS:** Very Large Scale Integration (VLSI), Full adder, Domino Logic.

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**INTELLIGENT ARDUINO METHOD TO AVOID TRAIN ACCIDENT**

**Paper ID - 1016**

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**ABSTRACT:**

In this project Intelligent arduino method to avoid train accident is implemented. This project will build up a model of an entryway at the level intersection that runs. The entire system is controlled by the arduino microcontroller. Initially when the train is arriving then track line continuity activates and red light will be ON and engine motor will be OFF. Similarly when fire sensor activates then water sprinkler will be ON , engine motor will be OFF and buzzer indication will be obtained compared to others, proposed system gives effective results.

**KEYWORDS:** Arduinio Microcontroller , Buzzer, Fire sensor, Water sprinkler, Track line continuity.

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**UNDERGROUND DRAINAGEN MONITORING SYSTEM**

**Paper ID - 1017**

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**ABSTRACT :**

In this project underground drainage monitoring system is implemented.In this overflow sensor is detects then SMS will be send to the corresponding phone number. Next when gas sensor detects then automatically SMS will be send and buzzer will give indication. The information is displayed on the LCD. Hence this project gives effective outcomes.

**KEYWORDS:** Arduinio, GSM, LCD Display, Buzzer, RS232, Overflow sensor, Gas sensor, Crystal oscillator, Reset.

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**FINGERPRINT BASED ATTENDANCE SYSTEM BY USING GSM**

**Paper ID - 1018**

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**Abstract:**

In today's world regularity of student attendance is concerned in the administration of Educational Institutions. Overall academic performance is affected by the student's attendance because poor attendance leads students in detention list. Student's attendances are taken manually by using attendance sheet given by the faculty members in the classroom, which is a time-consuming event. Furthermore, it is very difficult to verify one by one student in a large classroom whether the authenticated students are responding or not [1]. The proposed system describes a method for Student's Attendance System which will integrate with the fingerprint technology. This project proposes the system in that various fingerprints of students will be gutted through the fingerprint module. The fingerprints will be mapped against the data set for authentication of student attendance. The student whose fingerprint matches the most with the data set is marked present for the particular lecture. As well as this paper demonstrates how fingerprint recognition can be used for an efficient attendance system to automatically record the presence of an enrolled individual within the respective venue. Also, it maintains a log file to keep records of the entry of every individual with respect to subjects and also generate a report of attendance. This project also provides the design method of fingerprint-based student attendance with help of GSM. This system ignores the requirement for stationary materials and personnel for keeping of records.

**KEYWORDS:** Fingerprint detection, Fingerprint recognition, GSM.

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**DEVELOPMENT OF VEHICLE THEFT LOCATION AND INTIMATION BY  
USING IOT**

**Paper ID - 1019**

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**ABSTRACT:**

In this paper the development of vehicle theft location and intimation by using IOT. The automobiles theft increases day by day rapidly and the ratio of unlicensed drivers also increased which creates a major responsibility throughout the manufactures and as well as owners. This proposed system consists of a QR code and login credentials which ignites the vehicle when the details are valid.GPS system helps to locate the vehicle when any movement or theft has been taken place. Ultrasonic sensors help to detect when the distance varies and give a message to the authorized (owner) person of the vehicle. Hence this project is affective result in terms of safety applications.

**KEYEORDS:** ESP32S, Ultrasonic sensor, GPS, MEMS, Relay, DC motor.

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**DESIGN & DEVELOPMENT OF ELECTRONIC**

**NOTICE BOARD**

**Paper ID - 1020**

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**ABSTRACT**

In this project design & development of electronic notice board is implemented. This is an automated system that utilizes GSM technology along with an embedded server. The system is designed to work independently without the need of any human operator. The system has the facility to inform students or employees about any instant update via SMS and it can also be remotely updated with new information. In the same way it gives buzzer indication also

**KEYWORDS:** Arduino, Crystal Oscillator, Buzzer, RS232, GSM.



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**SMART WASTE MANAGEMENT SYSTEM BY USING IOT**

**Paper ID - 1021**

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**ABSTRACT:**

In this project an efficient smart waste management system for IOT applications. Basically, Smart waste management and monitoring system plays very important role in present generation. Firstly, when the waste is reached up to 70% then I.R Sensor-1 will be detected and sends an SMS to the corresponding officer of that street. In the same way, when the waste is reached above 95% then I.R Sensor-2 will be detected and sends an SMS to the corresponding officer of that street and gives buzzer indication also. Hence this project detects fast and gives effective outcome.

**KEYWORDS:** Arduino, Crystal Oscillator, Buzzer, RS232, GSM.

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**IMPLEMENTATION OF WOMEN’S SAFETY SYSTEM BY USING IOT**

**Paper ID - 1022**

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**ABSTRACT:**

Today, in the current global scenario, Women were facing lot of challenges. In this project development of advanced women security system for safety applications is implemented. When a women or child is exposed to sexual or vulnerable attack and they will press the panic button then automatically, the pepper spray will be sprinkle on that person. And also it gives buzzer indication. In the same way the location will be shared automatically to the corresponding phone number using GSM. Hence by using this project effective outcome is obtained.

**KEYWORDS:** Micro controller, Crystal Oscillator, Buzzer, RS232, GSM.

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**BEHAVIOUR ON COIR FIBRE CONCRETE BY PARTIAL REPLACEMENT OF**  
**CEMENT WITH ALCCOFINE 1203**

**Paper ID - 1023**

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***Abstract***

Concrete is most adaptable, durable and reliable construction material over the world and it is the most important basic material in all civil engineering structures. The ingredients of concrete are cement, fine, coarse aggregates and water, which are mixed in a particular proportion to get required strength. Increase in demand of cement around the globe seeks high intention in finding some alternatives to cement in concrete. The inception of new alternative limits the CO<sub>2</sub>, a major greenhouse effect causing gas. Research is taking place on all corners of the globe in search of different material options. River sand is collected from river beds to build houses and giant infrastructure to satisfy population growth requirements. The globalization and advanced technology required to meet the requirements of the worldwide economy at domestically and internationally has become a significant issue in preserving the river sand used as a fine aggregate in concrete manufacturing. In this study a small trial is done to modify the properties of concrete by partial replacement of cement with alcco fine 1203 with different percentages 0%, 5.1%, 10.1%, 15.1%, and 20.1% and fine aggregate with coir fibres of Length 15mm with different percentages 0%, 1.1%, 2.1%, 3.1%, and 4.1%. Different tests are done to determine Compressive and split tensile strength of concrete. All the specimens are used for 7 & 28 days and tested for compressive and split tensile strength.

**Keywords:** coir fibre, Alccofine (1203)

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**BEHAVIOUR ON CONCRETE WITH RECYCLED AGGREGATES AND**  
**CEMENT WITH METAKAOLIN**

**Paper ID - 1024**

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***Abstract***

Concrete is one of the most widely used construction material in the world .Recent technology has greatly improved the recycling process for waste concrete. Due to the critical shortage of natural aggregate, the availability of demolished concrete for use a recycled concrete aggregate is increasing .The study presents on the natural aggregates and recycled aggregates and also the effect of mineral admixture (metakaolin ) on the strength studies .The use of metakaolin in concrete to achieve high strength and durable of concrete . The experimental work on the recycled aggregate and natural aggregates are replaced of 0%,50%,100%, replacement of natural aggregate of recycled aggregates were casting in respectively the concrete mixed designed using M30 grade .In the cement partial replacement of metakaolin in 5%,10%, 15%,20% used for all mixtures .the compressive strength of concrete has been determined after 7&28 days are curing compared with the results of concrete . The result shows the 15% of metakaolin and 50% recycled aggregates is high strength in concrete. The compressive strength and split tensile strength of the concrete.

**Key words:** Recycled aggregates, Metakaolin, compressive strength, split tensile strength

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**BEIJING NATIONAL AQUATICS CENTER**

**Paper ID - 1025**

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**ABSTRACT:**

The Beijing National Aquatics Center played a key role in the 2008 Olympics. It was a ground-breaking project in many ways, with its highly complex and irregular polyhedron steel space frame clad with ethylene tetra-fluoro-ethylene membrane pillows - designed to resemble a 'water cube' - setting new standards for design and construction technology. During the Olympics — where it hosted diving, swimming and synchronized swimming events. The **Water Cube** became known as the **Ice Cube** as part of the Water Cube was renovated in 2019 to allow the hosting curling events. This paper provides an overview of the innovative design and explains how the concept of 'on-site further design' was formally developed to help deliver it.

**KEYWORDS:** Ice cube, aquatics center, Olympic Green in Beijing, Water cube, swimming, synchronized swimming.

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**CASE STUDY ON VOLCANOES**

**Paper ID - 1026**

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**ABSTRACT:**

Active volcanoes have long been recognized for both their hazards and their benefits. The extent to which a volcano is considered hazardous (or beneficial) depends largely on its proximity to human population. Realistic estimates of the number of people at risk worldwide is necessary to systematically evaluate regional volcanic hazard and categorize individual volcanoes for potential human impact in the event of an eruption. We also find that average population density generally decreases with distance from these volcanoes (within 200 km). The land around the 703 volcanoes with recorded historic eruptions had a median population density of 23 have been active during the last 10,000 years (the Holocene Epoch). Of the 1410 Holocene volcanoes considered, we estimate that 457 volcanoes (222 historically active) had more than 1 million people living within a 100 km radius people/sq.km within 200 km as compared with the global median density of 4.3 people/sq.km for all occupied land area. This study quantifies the spatial relationship between global distributions of human population (in 1990) and recent volcanism. We estimate that 8.8% (455 million people) of the world's population lived within 100 km of an historically active volcano and 12% within 100 km of a volcano believed to while 311 were relatively uninhabited with average population densities less than 1 person/sq.km.

**KEY WORDS:** Volcano, Extinct volcano, Dormant volcano, Lava, Magma

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**RFID BASED VEHICLES SPEED CONTROL SYSTEM**

**Paper ID - 1027**

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**ABSTRACT:**

This page aims at automatically controlling the speed of vehicles at speed restricted areas such as schools, hospitals zones etc. Now a days the drivers drive vehicles at high speed even in speed limited areas without considering the safety of the public. The RFID reader is attached along with the vehicle and the RFID tag with these zones. The tags are placed at the beginning and the end of the regions for with regions for which the speed should be reduced.

**Index Terms:** Motor Driver unit, Opto-Coupler, Proximity module, RFID (Radio Frequency Identification Device).

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**SMART PARKING SYSTEM USING IOT**

**Paper ID - 1028**

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**Abstract**

Smart Parking is a parking strategy that combines technology and human innovation in an effort to use as few resources as possible—such as fuel, time and space—to achieve faster, easier and denser parking of vehicles for the majority of time they remain idle. The Smart Parking system consists of an on-site deployment of an IoT module that is used to monitor and signalize the state of availability of each single parking space which enables the user to find the nearest parking area and gives availability of parking slots in that respective parking area. These systems use effective sensors in the parking areas and by tracking information from various sources and also deployed active data processing units. Here our proposed idea is implemented using django web framework and creating a web application so the drivers or end users could get their parking information via Wi-Fi or Internet. It mainly focuses on reducing the time in finding the parking lots and also it avoids the unnecessary travelling through filled parking lots in a parking area. Thus, it reduces the fuel consumption which in turn reduces carbon footprints in an atmosphere.

**KEYWORDS:** Arduinio, IR Sensor, LCD Display, Servo motor, WIFI Module



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**GREENHOUSE MONITORING AND CONTROLLING SYSTEM - IOT**

**Paper ID - 1029**

**Dr. C. Kalai Selvan, Dr. Dola Sanjay S, D. Siva Kumari, S. Dharani, P. Sunil Babu,**

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**ABSTRACT**

Greenhouse monitoring is a needed one for variable climate changes. Initiating from industrial controls and telecommunication, it is now being applied in environmental monitoring and agriculture. The existing system has the ability to yet lack the ability to control indoor humidity and other parameter. In this project IOT based green house environment monitoring system is implemented. This project is used to measure the various parameters like Temperature, Gas and light.

**KEYWORDS:** Gas Sensor, Temperature Sensor, Crystal Oscillator, LCD Display, Stepper Motor.

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**EXPERIMENTAL INVESTIGATION ON CONCRETE BY PARTIAL**  
**REPLACEMENT OF CEMENT WITH METAKAOLIN, BAGASSE ASH WITH**  
**FINE AGGREGATE USING HEMP FIBRE IN CONCRETE**

**Paper ID - 1030**

**A. Medhasri Mrunalini<sup>1</sup>, G.Hymavathi<sup>2</sup>, Dr. K. Chandramouli<sup>3</sup>,**

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**Abstract**

Concrete is the most commonly used material for construction. The worldwide production of cement has greatly increased since 1990. Production of cement results in a lot of environmental pollution as it involves the emission of CO<sub>2</sub> gas, which is a major greenhouse effect causing gas. Supplementary cementitious materials (SCM) are finely ground solid materials that are used to replace a portion of the cement in a concrete mixture. From the recent research works using Metakaolin it is evident that it is a very effective pozzolanic material and it effectively enhances the strength parameters of concrete. In the present study, cement is partially replaced with the metakaolin of percentages 0%, 7.5%, 15% and 20% respectively and fine aggregate replaced with sugar cane bagasse ash (SCBA) with different percentages 0%, 5%, 10 %, 15% and 20% respectively. In this project hemp fiber is used in concrete to increase the strength. Hemp is a sustainable and environment friendly crop that can provide valuable raw material to large number of industrial applications. Different tests are conducted to determine the compressive strength and split tensile strength of concrete at the age of 56 days and 90 days.

**KEY WORDS:** Metakaolin, hemp fibre, bagasse ash

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**EXPERIMENTAL STUDIES ON PERVIOUS CONCRETE BY USING**  
**WASTE TIRES RUBBER AS PARTIAL REPLACEMENT OF**  
**COARSE AGGREGATE**

**Paper ID - 1031**

**M.Chaitanya Navakumar<sup>1</sup>, Dr. K. Chandramouli<sup>2</sup>, J. Sree Naga Chaitanya<sup>3</sup>,**  
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**Abstract**

Every year, a large amount of waste rubber tyres is generated in our planet as the number of motorbike users grows. As a result, waste rubber tyre recycling has become required. The purpose of this research is to assess "Experimental Studies on Pervious Concrete by Partial Replacement of Coarse Aggregates with Waste Rubber." For the pre-treated (sand coated) rubber shreds used as a coarse aggregate replacement, the key variables were studied. The physical qualities of coarse aggregate, fine aggregate, rubber shreds, and cement were tested. Rubber composition of 2.5%, 5%, and 7.5 percent is added to the concrete. Controlled pervious concrete and various mixes of pervious concrete were subjected to a slump test and a compaction factor test. Casting of cube examples for controlled concrete and a variety of other applications. The cube specimens' size is (150x150x150mm). 10 cube specimens were cast in pervious rubberized concrete, with 3 no's in control rubberized pervious concrete, 3 no's in 2.5 percent rubberized concrete specimens, 3 no's in 5% rubberized concrete specimens, and 3 no's in 7.5 percent rubberized concrete specimens used in this study. Pervious rubberized concrete cubes were put through a compression test. Finally, compare the compressive strength values of 2.5 percent, 5%, and 7.5 percent in pervious rubberized concrete that served as a control.

**KEY WORDS: WASTE TYRE RUBBER CHIPS**

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**EXPERIMENTAL STUDY ON BENDABLE CONCRETE**

**Paper ID - 1032**

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***Abstract***

Bendable concrete is composed of all the ingredients of a traditional concrete minus coarse aggregates and is reinforced with polymer fibres. It contains cement, sand, water, fibres, and admixtures. ECC is 37% less expensive, consumes 40% less energy, and produces 39% less carbon dioxide than regular concrete. ECC incorporates high volumes of industrial wastes including fly ash. The bendable concrete is made of same ingredients as in regular concrete minus the coarse aggregate. It looks exactly like normal concrete, but under excessive strain, the ECC concrete allows, the specially coated network of fibre in the cement to slide within the cement, thus avoiding the inflexibility that causes brittleness and breakage. The key factor is that ECC is engineered, means in addition to the reinforcing the concrete with micro fibres. In these, a literature study was carried out in order to prepare bendable concrete and Comparing the bendable concrete to the traditional one. An experimental has been carried out for M30 concrete using the optimum percentage of partial replacement of cement with fly ash and incorporating with different percentages of Recron 3S fibre. Fly ash was partially replaced as cement by 10%, 20% and 30% and Recron 3S fibre as 0.5%, 1.0% and 1.5% respectively. Conventional concrete cubes, cylinders were casted and tested for 7 days and 28 days. Unlike regular concrete, ECC has a strain capacity in the range of 3% – 7%, compared to 0.01% for Ordinary Portland Cement (OPC). ECC therefore acts more like a ductile metal than a brittle glass (as does OPC concrete), leading to a wide variety of applications.

**KEYWORDS:** ECC, bendable concrete.

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**A REVIEW ON ICONIC BRIDGE OVER SAN FRANCISCO BAY IN SAN**  
**FRANCISCO**

**Paper ID - 1033**

**M. Chaitanya Nava kumar<sup>1</sup>, Dr. K. chandramouli<sup>2</sup>, J. Sree Naga Chaitanya<sup>3</sup>,**  
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**Abstract:**

In order to better understand the concept of experiential retailing, this paper will provide insight into the consumer experience of Borgata Hotel Casino and Spa located in Atlantic City, New Jersey. The research conducted will include visiting the retailer to absorb the full atmosphere and activities along with secondary sources that are focused on the Borgata's operations, consumers, services, and ambiance. The context of this study is centered on the types of consumption and retailing utilized by the business in order to attract and retain customers. Due to the nature of casinos, the Borgata's sensory consumption techniques will be explored. In regards to the types of retailing that exist within a casino environment, thematic will be the primary category present; however, entertainment retailing is also seen throughout the various activities offered within the Borgata. The following study explores how this specific retailer achieves the transformation from products and services to a total consumption experience.

**KEYWORDS:** Experiential retailing, luxury, sensory consumption, Borgata

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**INVESTIGATION ON PROPERTIES OF CONCRETE BY PARTIAL**  
**REPLACEMENT OF CEMENT WITH DOLOMITE POWDER BY USING ABACA**  
**FIBRE**

**Paper ID - 1034**

**J. Sree Naga Chaitanya<sup>1</sup>, Dr. K. Chandramouli<sup>2</sup>, G.Hymavathi<sup>3</sup>, A.Medhasri**  
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**Abstract**

Concrete is most adaptable, durable and reliable construction material over the world and it is the most important basic material in all civil engineering structures. The ingredients of concrete are cement, fine, coarse aggregates and water, which are mixed in a particular proportion to get required strength. Increase in demand of cement around the globe seeks high intention in finding some alternatives to cement in concrete. The inception of new alternative limits the CO<sub>2</sub>, a major greenhouse effect causing gas. Research is taking place on all corners of the globe in search of different material options. River sand is collected from river beds to build houses and giant infrastructure to satisfy population growth requirements. The globalization and advanced technology required to meet the requirements of the worldwide economy at domestically and internationally has become a significant issue in preserving the river sand used as a fine aggregate in concrete manufacturing. In this study a small trial is done to modify the properties of concrete by partial replacement of cement with dolomite powder with different percentages 0%, 4%, 8%, 12%, 16% & 20% and fine aggregate with abaca fiber is varied different percentages of 50%, 60%, 70%, 80%, 90%. Different tests are done to determine Compressive and split tensile strength of concrete. All the specimens are used for 7 & 28 days and tested for compressive and split tensile strength .. We found that 80 percent replacement of abaca fibre yields 58.03 MPa at 28 days of compressive strength and 5.74 MPa at 28 days of split tensile strength, while 15 percent replacement of dolomite powder yields 59.28 MPa at 28 days of compressive strength and 5.63 MPa at 28 days of split tensile strength.

**KEYWORDS:** - Dolomite powder, Abaca fiber, compressive and split tensile strength.

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**INVESTIGATION ON PROPERTIES OF CONCRETE BY PARTIAL**  
**REPLACEMENT OF CEMENT WITH GGBS AND TIO<sub>2</sub>**

**Paper ID - 1035**

**G.Hymavathi<sup>1</sup>, A.Medhasri Mrunalini<sup>2</sup>, J. Sree Naga Chaitanya<sup>3</sup>, Dr. K.**  
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**Abstract**

Concrete is most suitable construction material. And it will adapt very well with the situations in the site. This concrete is considered as a homogeneous material but it is mixture of cement and fine aggregate and coarse aggregate and water. There are various methods in-order for concrete to gain strength, replacing the contents of concrete is also a way but partially is considered optimum. Now main binding agent in the concrete is the cement content so by partially replacing the cement by various cementitious materials like GGBS and tio<sub>2</sub> will give optimum results in raised strength values of concrete. In this study a small trial is done to modify the properties of concrete by partial replacement of cement with GGBS of a percentage 10%, 20%, 30% and 40% and TIO<sub>2</sub> of percentages of 0.6%, 0.8%, 1.0% and 1.25%. Different tests are done to determine Compressive Strength and split tensile strength All the cubes are used for 7 & 28 days.

**KEYWORDS:** (ground granulated blast furnace slag), (titanium dioxide), compressive strength, split tensile strength.

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**TRANSIENT ELECTROMAGNETIC COMPATIBILITY ANALYSIS OF PRESSURE  
SENSOR- COAXIAL CABLE CONNECTED TO THE CIRCUIT BREAKER**

**Paper ID - 1036**

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**Abstract**

The electrical substations are usually are of interconnected with the high voltage protective and controlling devices along with low voltage electronic monitoring devices for the proper operations of the substations. The interconnection of electronic devices like temperature sensor, pressure sensor and humidity sensor to the gas insulated switchgear system will be through the low voltage coaxial cable. The genuine measurement of the temperature, pressure and humidity depends on the sensor module and its connected cables to the switchgear system. The electromagnetic interference (EMI) that exists during the switching operation of switchgear system affects the interconnected electronic monitoring system through the low voltage cables. The low voltage coaxial cables are first to receive the transient electromagnetic interference. In this paper Electrical characteristics of transient interference are inspected and simulated based on the analytical model to measure the interference currents and current diffusion impedance during the switching operation of gas insulated switchgear system.

**KEYWORDS:** controlling devices, voltage coaxial cable, and switchgear system.



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**MECHANICAL PROPERTIES OF STEEL FIBER REINFORCED CONCRETE**  
**WITH QUARRY DUST**

**Paper ID - 1037**

**G.Hymavathi<sup>1</sup>, A. Medhasri Mrunalini<sup>2</sup>, J. Sree Naga Chaitanya<sup>3</sup>, Dr. K. Chandramouli<sup>4</sup>, V. Venkata Chakradhar naidu<sup>5</sup>**

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**Abstract**

Today, concrete is a popular composite material. Coarse aggregate, fine aggregate, binding material and water are the components of concrete. The rapid expansion of construction operations has resulted in a lack of traditional construction supplies. Sand is commonly utilized as a fine aggregate in concrete. The most prevalent source of fine aggregate is river deposits. Natural river sand has become rare and expensive in recent years. If quarry dust is available near the construction site, construction costs can be effectively decreased. Quarry dust can be used entirely or partially in place of river sand. The study's notion of replacing natural fine aggregate with quarry dust could increase the consumption of quarry dust created by the quarry. It has been determined that quarry dust can be used as a fine aggregate replacement based on the findings of an experimental inquiry. It has been discovered that substituting quarry dust for fine aggregate at 40% yields the best results. Strength then normal concrete and then decreases from 50%. The compressive strength quantified for verifying percentage and grades of concrete for replacement of sand with quarry dust. This present work is an attempt to use Quarry Dust as partial replacement for sand in concrete along with the steel fibers. Attempts have been made to study the properties of concrete and to investigate some properties of quarry dust reinforced with steel fibers; this article presents the compressive and split tensile strengths of hook end steel fiber reinforced concrete with Quarry Dust. In the experimental work natural sand is replaced by Quarry dust in the proportions of 0%, 30%, and 60%. The hook end steel fibers were used in concrete by 0.5%, 0.75% volume fraction. After conduction of experiments on the cube and cylinder specimens, the results showed that, the incorporation of hook end steel fiber reinforced concrete with 30% Quarry dust for M30 grade concrete.

**KEY WORDS:** steel fibers, quarry dust

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**PREDICTION OF PROSTATE CANCER USING MACHINE LEARNING**

**Paper ID - 1038**

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**Abstract:**

As of late AI have been a field of interest for some specialists. AI holds applications in gigantic areas like medical care, web-based business, etc. It plays an indispensable job in the field of medical services by their critical commitment through its capacity to peruse from the noteworthy/past information particularly in the determination/anticipating of infections. Numerous order calculations have been proposed for the forecast process. The issue with classifiers is their immense assortment and trouble in picking a suitable strategy for the specific issue. To beat the issue of choosing the fitting technique an exhaustive report on different classifiers ought to be done. This project centers around the working of different classifiers for expectation of prostate Cancer in working out the degree of productivity in forecast and this aides in choosing the best technique.

**KEYWORDS:** machine learning; classification algorithms; data mining; prostate cancer; Logistic Regression; support vector classifier; Naive Bayes; Random Forest; KNN

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**IMPLEMENTATION OF SMART SHOPPING CART**

**Paper ID - 1039**

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**ABSTRACT**

In this project the development of smart trolley and billing system. Here first the RFID reader will read the information and then buzzer give indication. After the trolley door will be opened with the help of door motor. The information is displayed on the LCD for the billing member to give the receipt. Smart Shopping Cart with Automatic Billing System through RFID creates an automated central bill system for supermarkets and mall. Using RFID, customers no need to wait near cash counters for their bill payment. Since their purchased product information is transferred to central billing system. Customers can pay their bill through credit/debit cards or by cash at the end of your purchasing. The 8051 microcontroller used here has the capability of receiving 8-bit data from RFID reader. Hence the project gives effective result.

**KEYWORDS:** 8051 microcontroller, RFID, LCD, Proteus software and keil software, Door motor, Transmitter, Receiver

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**REAL TIME AUTOMATION AND MONITORING SYSTEM FOR MODERNIZED**  
**AGRICULTURE**

**Paper ID - 1040**

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**ABSTRACT:**

In this project the development of real time automation and monitoring system for modernized agriculture. The automaticity means that it turns itself on and off depending upon the soil moisture requirement. This automatic behaviour of irrigation is achieved using different sensors which sense and tell the user if water is required or not and how much water will be enough for soil so that water wastage is also avoided. Whenever the soil gets dry automatically motor is on and water is supplied to crops. In the same way SMS is send to the corresponding phone number using GSM. Hence this project gives effective result.

**KEYWORDS:** Soil moisture sensor, Crystal oscillator, RS232, GSM.

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**IOT BASED SMART HELMET WITH SAFTEY APPLICATIONS**

**Paper ID - 1041**

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**ABSTRACT:** In this project the design and development of Smart helmet for real time applications is implemented. Basically Accidents are increasing day by day all over the world. Firstly, When the Helmet button is pressed then ignition system will be on. Next whenever accident is obtained then vibration sensor gets activated and gives buzzer indication. And also sends SMS and location to the corresponding phone number. At last this project gives effective output.

**KEYWORDS:** Arduino, Vibration sensor, Crystal oscillator, RS-232, GSM, GPS.

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**DEVELOPMENT OF ENVIRONMENTAL MONITORING SYSTEM FOR REAL  
TIME APPLICATIONS**

**Paper ID - 1042**

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**ABSTRACT:**

In this project development of environment monitoring system for real time applications is implemented. By using 8051 microcontroller entire system is controlled. When ever there is change in temperature then temperature sensor will be activated, the exhaust fan will be on and send SMS will be send corresponding phone number. Whenever there is rain then rain drop sensor will detects, shelter will be provided and sends SMS to the corresponding phone number. Hence this project gives effective outcome.

**KEYWORDS:** Temperature sensor, Raindrop sensor, Crystal oscillator, RS232, GSM.

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**ANALYSIS AND DESIGN OF SECURITY SYSTEM USING TEMPERATURE AND HUMIDITY SENSOR**

**Paper ID - 1043**

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**ABSTRACT:**

In this project design and development of industrial monitoring system is implemented. Industrial monitoring system plays significant role in present generation. Parameters like temperature sensor, humidity sensor, buzzer, RS-232, GSM, LCD display, crystal oscillator and power supply are utilized. Initially user need to set minimum and maximum temperature and humidity ranges based on his location. user have access to change temperature at any time based on his need. Whenever the threshold level of temperature is increased then temperature sensor is detected the buzzer will give indication and sends SMS to the corresponding phone number. In the same way whenever threshold level of humidity is increased then humidity sensor is detected then buzzer will give indication and sends SMS to the corresponding phone number. Hence this project gives effective outcome.

**KEYWORDS:** Temperature sensor, Humidity sensor, Crystal oscillator, RS232, GSM.

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**DESIGNING AN AUTOMATIC ENGINE LOCKING SYSTEM THROUGH**  
**ALCOHOL DETECTION USING ARDUINO**

**Paper ID - 1044**

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**ABSTRACT:**

Road accidents are very common all over the world due to the lack of attention of drivers. Main reason of an accident is due to laziness, alcohol consumption and abnormal pulse rate of driving person. Road crashes are a common cause of injury and death among the human population. The main intent of this project is to detect the person when he will be in drunken position and send an SMS to the car owner. Whenever alcohol is detected the automatically engine stops and SMS is send to the corresponding phone number. In the same way location is also shared.

**KEYWORDS:** Arduio, Crystal oscillator, Alcohol Sensor, GPS, GSM



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**FINGERPRINT BASED EXAM HALL AUTHENTICATION SYSTEM**

**Paper ID - 1045**

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**ABSTRACT:**

This Project is to develop fingerprint Based Exam Hall Authentication systems that assist in the elimination of examination impersonation. Identification technologies include Exam Hall Authentication user ID and password based systems and hall tickets, and so on. But, unfortunately these are unsecure due to hacker attacks and forgotten passwords. However, manipulating these systems are still prevailing so by using biometric and fingerprint techniques we can overcome this problems. It is a security process that relies on the unique biological characteristics of an individual to verify the candidate.

**KEYWORDS:** Microcontroller, Crystal oscillator, fingerprint Sensor, Authentication

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**FOREST FIRE DETECTION BASED ON GPS TRACKING TO PREVENT  
EXTENSION OF WILD LIFE**

**Paper ID - 1046**

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**ABSTRACT:**

The analysis of environmental conditions in real time (such as weather events and polluting gases) could provide relevant data on the environment that could help prevent or detect an emergency situation. Nowadays, IOT (Internet of Things) devices and sensors allow the monitoring of different environmental variables, such as Flame at forest, Radical changes and combinations of these variables could indicate the occurrence of adverse weather events that could cause a natural disaster, such as a forest fire. This paper presents an IoT system that can perform a real time control of fire and tree cut events. Fire usually causes serious hazards. Therefore, to prevent catastrophes that occur in industries, buildings, and forest areas, IOT and sensor based fire detection has become an important issue. In this proposed system, sensors and microcontroller are incorporated to detect the hazardous situations. Light and smoke indicate the chances of fire. If the fire level is mild or severe, then it is alerted by using a mobile notification. An IOT based system is developed and tested for correct working. In this proposed system sensors and microcontrollers are incorporated to detect the hazardous situation.

**KEY WORDS:** Radical , IOT, sensors, microcontroller.

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**REVIEW ON SUSPENSION BRIDGE**

**Paper ID - 1047**

**Dr. K. Chandramouli<sup>1</sup>, J. Sree Naga Chaitanya<sup>2</sup>, A. MEDHASRI<sup>3</sup>, G. Hymavathi<sup>4</sup>,**

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**ABSTRACT**

A suspension bridge is a type of bridge in which the deck is hung below suspension cables on vertical suspenders. The basic structural components of a suspension bridge system include stiffening girders/trusses, the main suspension cables, main towers, and the anchorages for the cables at each end of the bridge. The main cables are suspended between towers and are finally connected to the anchorage or the bridge itself, and vertical suspenders carry the weight of the deck and the traffic load on it. Like other cable supported bridges, the superstructure of suspension bridges is constructed without false work as the cable erection method is used. The main load carrying member is the main cables, which are tension members made of high-strength steel. The whole cross-section of the main cable is highly efficient in carrying the loads and buckling is not problem. Therefore, the deadweight of the bridge structure can be greatly reduced and longer span becomes possible. In addition, the esthetic appearance of suspension bridges is another advantage in comparison with other types of bridges. The structural components, classification, analytical method, and construction method of suspension bridges are discussed in this chapter.

**KEYWORDS:** Suspension bridge, Stiffening girder, Main cable

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**STRENGTH STUDIES OF CONCRETE BY PARTIAL REPLACEMENT OF FINE**  
**AGGREGATE WITH SAWDUST**

**Paper ID - 1048**

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**ABSTRACT**

This research looks at using saw dust as a waste material to replace sand and Alccofine (1203) as a partial replacement for cement in concrete to change its qualities. Sand was substituted by weight in the concrete mixes, and the effects of the change on the concrete were examined. The use of saw dust in concrete allows waste (saw dust) to be disposed of while also making concrete lighter in weight. Concrete cubes of 150 x 150 x 150 mm, as well as a cylinder 15 cm in diameter and 30 cm in height, were cast and their compressive strength and split tensile strength were measured after 7, 14, and 28 days, respectively.

From the results tabulated in the earlier studies the following statements can be derived the compressive strength of the concrete get increased when the cement is partially replaced with alccofine up to 16% and gradually decreases by increasing the percentage of alccofine Optimum level of replacement of cement by alccofine is found to be 16%. Highest compressive strength is achieved at 16% replacement of alccofine and 9% replacement of saw dust to sand in concrete. Saw dust can be utilized in concrete mixtures as a good substitute for natural sand gives light weight to concrete

**KEYWORDS:** Alccofine(1203), sawdust, compressive strength, split tensile strength

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**STRENGTH STUDIES ON CONCRETE BY PARTIAL REPLACEMENT OF**  
**AGGREGATES WITH GRANITE POWDER AND CERAMIC TILES**

**Paper ID - 1049**

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**ABSTRACT**

Due to the day to day innovations and development in construction field, the use of natural aggregates is increased tremendously and at the same time, the production of solid wastes from the demolitions of constructions is also quite high. Because of these reasons the reuse of demolished constructional wastes like ceramic tile and granite powder came into the picture to reduce the solid waste and to reduce the scarcity of natural aggregates for making concrete. The ceramic tile waste is not only occurring from the demolition of structures but also from the manufacturing unit.

Crushed waste ceramic tiles, crushed waste ceramic tile powder and Granite powder are used as a replacement to the coarse aggregates and fine aggregate. The ceramic waste crushed tiles were partially replaced in place of coarse aggregates by 10%, 20%, 30%, 40% and 50%. Granite powder and ceramic tile powder were replaced in place of fine aggregate by 10% along with the ceramic coarse tile. M30 grade of concrete was designed and tested. The mix design for different types of mixes were prepared by replacing the coarse aggregates and fine aggregate at different percentages of crushed tiles and granite powder. Experimental investigations like workability, Compressive strength test, Split tensile strength test for different concrete mixes with different percentages of waste crushed and granite powder after 7 and 28 days curing period has done. It has been observed that the workability increases with increase in the percentage of replacement of granite powder and crushed tiles increases. The strength of concrete also increases with the ceramic coarse tile aggregate up to 30% percentage.

**KEYWORDS:** natural aggregates, Granite powder.

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**STRENGTH STUDIES ON PROPERTIES OF CONCRETE BY PARTIAL  
REPLACEMENT OF CEMENT WITH SULFUR**

**Paper ID - 1050**

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**ABSTRACT**

Human settlement on Mars will be a huge step forward in space exploration in the twenty-first century. Rather than transferring all of the building materials, from Earth to Mars at extraordinarily high speeds cost of building a location on Mars with Martian soil is the better option. Knowing how long Mars has been around A new planet has been designated as a "sulfur-rich planet." simulation-based building material The development of Martian soil and molten sulfur. in addition to the availability of raw materials for Creating sulfur concrete, while maintaining its strength achieves levels comparable to traditional cementations materials concrete, low temperature, quick curing resistance to acid and salt in the environment, 100% recyclability is a desirable feature. The developed Martian Concrete's properties Different sulfur percentages are tested in this study.

The best mixing proportions were investigated. To determine strength development, strength variability, and failure mechanisms, three point bending, unconfined compression, and splitting tests 0%, 10%, 20%, 30%, 40% were used for 56, 90 days. The results are compared to sulfur concrete made with ordinary sand. The particle size distribution is found to have a significant impact on the final strength of the mixture. Furthermore, because Martian soil is metal-rich, high-temperature mixing produces sulphates and, possibly, polysulfates, which contribute to the high strength. Due to the difference in gravity between Mars and Earth, the optimal mix developed as Martian Concrete has an unconfined compressive strength of above 50 MPa, which corresponds to a roughly 150 MPa concrete on Mars.

**KEYWORDS:** sulfur, martian soil

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**STRENGTHENING THE SELF COMPACTING**  
**CONCRETE BY RECYCLED AGGREGATE**

**Paper ID - 1051**

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**ABSTRACT**

Concrete is the most generally utilized substance after water and more than six billion tons of cement is created every year. At present study for new development of concrete and also to reduce aggregate waste, an experimental investigation was conducted on self-compacting concrete with different percentages of coarse recycled concrete aggregate. The main objective was to study suitability and effect of coarse recycled aggregate in new generation concretes. In the recent years the demand for construction materials has grown tremendously, so has the amount of construction and demolition waste, putting huge pressure on the environment. This has encouraged the use of recycled aggregate in concrete which not only allows for a more efficient life cycle of natural resources but also contributes to environmental protection leading to sustainable development. In this study coarse recycled aggregate (RCA) are used in the production of self-compacting concrete (SCC) of 50 grade in varying percentage replacements of natural coarse aggregate (NCA) from 0% to 100% with increment of 20%. To achieve flow characteristics of SCC Super-plasticizer is added at a dosage by cement weight. The various tests performed were compressive strength, split tension test at the age of 28, 56, 90 days. It is observed that up to 40% recycled aggregate can be effectively used in the production of SCC without any significant reduction in strength and durability.

**KEY WORDS:** Recycled aggregate Self-compacting concrete, super plasticizer

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**STUDY ON CONCRETE BY USING KENAF FIBRES WITH PARTIAL**  
**REPLACEMENT OF CEMENT WITH BAMBOO LEAF ASH**

**Paper ID - 1052**

**Dr. K. Chandramouli<sup>1</sup>, J. Sree Naga Chaitanya<sup>2</sup>, A. Medhasri Mrunalini<sup>3</sup>,**  
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**ABSTRACT**

This project is an experimental study on the use of bamboo leaf ash BLA as partial replacement for cement. More so, bamboo leaves were dried, burnt and heated in a furnace to produce Bamboo Leaf Ash, which was discovered to possess pozzolanic properties. Research findings have revealed that this material can be used as partial replacement for cement in concrete due to its chemical and physical properties. The Ordinary Portland cement was replaced by BLA at 10%, 20%, 30% and 40% by weight and the cubes were crushed to get the various compressive strengths of the concrete at different curing days. The result revealed that the workability and strength properties of the resulting concrete were dependent on the water-cement ratio, total days of curing, and percentage of replacement of BLA for OPC. It was however noticed that the results of 10% and 20% BLA were closer to the concrete with only OPC at 28, 56, 90 days. It is therefore hoped that this research work will provide a quick reference to practicing engineers, who will find BLA as a good partial replacement for cement in concrete, thus reducing the cost of concrete production, the mechanical properties of concrete, and adding fiber such as sisal and Kenaf. M40 grade concrete mixed with different quantities of fiber such as 0.25%, 0.5%, 0.75% and 1%, respectively, is undergone compressive, flexural and split tensile strength tests. The results obtained will be equated with the conventional concrete and the conclusion will be arrived to assess the merits and demerits of using organic fiber instead of conventional additives in the concrete to alter its traits, thus giving us a better understanding of future needs of the construction industry. The results indicate that the incorporation of sisal fiber and Kenaf fiber can improve the properties and be used as alternate material for non-organic composites.

**KEYWORDS:** kenaf fibres, bamboo leaf ash, pozzolanic materials



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**STUDY ON GREEN CONCRETE BY RECYCLED AGGREGATES AND CEMENT**  
**WITH HIGH VOLUME FLY ASH**

**Paper ID - 1053**

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**ABSTRACT**

Concrete is most adaptable, durable and reliable construction material over the world and it is the most important basic material in all civil engineering structures. the concrete mainly consists of cement, coarse aggregates, fine aggregates and water. All of them mixed together with different mixed proportions to make a complex concrete. Cement emits high percentage of CO<sub>2</sub> into the atmosphere during the heat of hydration. Due to the high usage of cement in concrete leads to environmental pollution. So, we are replacing cement with cementitious material FLY ASH of higher percentages from 0% to 70%. Various tests bare done to determine compressive and split tensile strength of concrete. All specimens are cured for 56 and 90 days and tested for compressive and split tensile strength.

**KEYWORDS:** coarse aggregates, fly ash

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**STUDY ON KANASAI INTERNATIONAL AIRPORT**  
**Paper ID - 1054**

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**ABSTRACT**

The Kansai International Airport was constructed in Osaka Bay in 18- to 20-m- deep seawater to avoid noise pollution and land acquisition disputes. Construction of the 511-ha Island I began in 1987 and Runway I began operation in 1994. Construction of the 545-ha Island II began in 1999, and Runway II began operation in 2007. Using more than 2.2 million vertical sand drains fully penetrating into the 17.3- to 24.1-m-thick Holocene clay layer and 430 million cubic meters of fill material, the project is viewed as an engineering marvel. On the basis of a detailed review of the geology of Osaka Bay, construction of the Airport Islands, and the permeability and compressibility of the Holocene and Pleistocene subseabed deposits that reached a depth of 400 m below the seafloor at the Kansai Airport site, settlement analyses were conducted assuming the uniqueness of end-of-primary void ratio-effective vertical stress relationship and the  $C\alpha/Cc$  law of compressibility. Airport Island I has already settled below the 4-m above sea level surface elevation required by the design specification, and the surface elevation of Island II is predicted to be 4 m above sea level by 2023-2036. Airport Islands I and II will be at sea level, respectively, by 2067 or sooner and by 2058-2100. By the end of the 21st century, Island I and Island II are predicted to settle, respectively, 17.6 and 24.4 m.

**KEYWORDS:** - Acquisition, Pleistocene, seafloor, Holocene.

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**A REVIEW ON SYNCRUDE AND SHELL CANADA IN OIL SANDS**

**Paper ID - 1055**

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**ABSTRACT:**

The Athabasca oil sands, also known as the Athabasca tar sands, are large deposits of bitumen or extremely heavy crude oil, located in northeastern Alberta, Canada – roughly centred on the boomtown of Fort McMurray. These oil sands, hosted primarily in the McMurray Formation, consist of a mixture of crude bitumen (a semi-solid rock-like form of crude oil), silica sand, clay minerals, and water. The Athabasca deposit is the largest known reservoir of crude bitumen in the world and the largest of three major oil sands deposits in Alberta, along with the nearby Peace River and Cold Lake deposits (the latter stretching into Saskatchewan). Together, these oil sand deposits lie under 141,000 square kilometres (54,000 sq mi) of boreal forest and muskeg (peat bogs) and contain about 1.7 trillion barrels (270×10<sup>9</sup> m<sup>3</sup>) of bitumen in-place, comparable in magnitude to the world's total proven reserves of conventional petroleum. The International Energy Agency (IEA) lists the economically recoverable reserves, at 2007 prices and modern unconventional oil production technology, to be 178 billion barrels (28.3×10<sup>9</sup> m<sup>3</sup>), or about 10% of these deposits.[3] These contribute to Canada's total proven reserves being the third largest in the world, after Saudi Arabia and Venezuela's Orinoco Belt.

**KEYWORDS:** Bitumen, crudeoil, shale oil and source energy and imperial oil Athabasca oil

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**THE EFFECT OF LATENCY AND POWER CONSUMPTION IN MULTI-CORE**  
**ARCHITECTURES AND SUGGESTED METHODS FOR IMPROVEMENT**

**Paper ID - 1056**

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**ABSTRACT**

The electronics world has a lot of dependency on processing devices in the present and future developments. Even non-electronic industries have much data to process and are indirectly dependent on processors. The larger the number of processors incorporated into the architecture will lower the data handling and processing time; thus, efficiency improves. Hence multi-core processors have become a regular part of the design of processing elements in the electronic industry. The large number of processors incorporated into the system architecture results in difficulty in communicating among them without a deadlock or livelock. NoC is a promising solution for communicating among the on-chip processors, provided it is fast enough and consumes less energy. Further, to stand with the increasing data acquisition and processing in the new/developing operating systems and software, the latency among the multi-core processors should be optimal. This paper aims to address energy efficiency and latency reduction methods/techniques for Multi-core architectures.

**INDEX TERMS-** Latency, Energy efficiency, NoC (Network on Chip), Router, Multi-core, SoC (System on Chip).

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**WORLD'S DEEPEST MINING OPERATIONS IN CARLETONVILLE, SOUTH**  
**AFRICA**

**Paper ID - 1057**

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**ABSTRACT:**

For long periods in the history of South Africa gold mining formed the backbone of an otherwise agriculturally-dominated economy, initiating rapid urbanization in often remote and underdeveloped farming areas. This paper explores examples from a mined-out goldfield west of Johannesburg (West Rand), where consequences of mine closure can currently be observed, as well as from an active goldfield on the Far West Rand. Both areas are linked by the Wonderfontein spruit, a stream drawing much national and international media attention for its high levels of radioactive pollution. Dating back more than 120 years, the impacts of gold mining and later uranium mining on the natural environment are profound and complex, perhaps most affecting the rich groundwater resources found in the exceptionally well-certified dolomite that underlies most of the catchment area. Mining-related impacts such as large-scale land degradation associated with dewatering of karstic aquifers and widespread pollution of surface water and groundwater systems are discussed. Based on this, potential threats and opportunities for post-mining scenarios are identified in a series of 3 papers.

**KEYWORDS:** Mining, urbanization, degradation.

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**DEVELOPMENT OF ADVANCED GAS LEAKAGE DETECTION USING IOT**

**Paper ID - 1058**

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**ABSTRACT:**

Real time monitoring of the environment for gas leakages is crucial in industrial applications as they involve the use of toxic and combustible gases. Recently, gas leakage problem is occurred in LG polymers. This is due to improper indication and improper detection system. To overcome this proposed system is implemented.

In this project advanced gas leakage detection system using IOT is implemented.. The entire system is controlled by the Arduino. When gas is leaked then automatically exhaust fan will be on. Next whenever fire is obtained then fire sensor will be on and automatically sprinkles the water. For both conditions SM will be send using GSM to the corresponding phone number. Hence it can conclude that this project gives effective output.

**KEYWORDS:** Arduino, Gas Sensor, Fire sensor, Gsm, RS-232

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**ADVANCED LIBRARY MANAGEMENT SYSTEM USING SMATRTR CARD**

**Paper ID - 1059**

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**ABSTRACT:**

In this project library management system using smart card is implemented. In this entire project RFID plays very important role. Whenever RFID reader reads the information of student, then automatically, it will display the information of the student in the corresponding department automatically, And shows the availability of books in each Rack. Hence this project gives effective outcome.

**KEYWORDS:** Arduino, RFID, Buzzer, 16\*2LCD Display.

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**FOOT-STEP POWER GENERATION SYSTEM**

**Paper ID – 1060**

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**ABSTARCT:**

Power generation and its use is one of the issues. Now a day's no. of power sources is present but still we can't overcome our power needs. Among this human population is one of the resources .In this project we are doing generation of power by walking and running. Power can be generated by walking on the stairs. The generated power will be stored and then we can use it for domestic purpose. This system can be installed at homes, schools, colleges where the people move around the clock. When people walk on the steps or that of platform, power is generated by using weight of person. The control mechanism carries piezoelectric sensor, this mechanical energy applied on the crystal converts into electrical energy. When there is some vibrations, stress or straining force exert by foot on platform. It can be used for charging devices example: - Laptops and Mobiles.

**KEY WORDS:** Power utilization, Foot Step Power generation, piezoelectric material, Energy utilization.



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**ARDUINO BASED VEHICLE ACCIDENT DETECTION AND CONTROLLING**  
**SYSTEM**

**Paper ID – 1061**

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**ABSTRACT:**

Nowadays we faced the lot of accidents and also many people lose their life due to the accidents. So our project will provide an optimum solution to this drawback. According to this project when a vehicle meets with an accident immediately Eye Blink sensor is used to detects the driver drowsiness and also send the information to the server. Arduino controller sends the alert message through the GSM and Location through GPS. GPS MODEM is used to trace the immediate location of the victim by receiving the information. Then the necessary action can be taken after conforming the location .This project is useful for detecting the drowsiness of the driver inside the vehicle and also measure the heartbeat of the victim.

**KEYWORDS:** Arduinio , GSM, Buzzer.

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**PERFORMANCE COMPARISON OF VARIOUS ALU DESIGNS WITH HIGH-  
SPEED ADDERS AND MULTIPLIERS**

**Paper ID - 1062**

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Abstract – Arithmetic and Logic Unit is the main processing unit of the processor. In ALU, the computational complexity is majorly due to adders and Multipliers used for the design. There exist many adder and multiplier designs in literature but the most adoptable ones are discussed in this paper. The various combinations of adders and multipliers are considered for evaluation. The parameters used for evaluation are Area, Delay, Power Dissipation and Power Delay Product. The designs are modeled in Verilog HDL and are functionally verify by using Xilinx ISE 14.5 and ISIM simulator. Among all the designs, the modified linear carry select adder along with vedic multiplier proves to be best for practical implementation of ALU in terms of power delay product. Also, the modified linear carry select adder along with shift add multiplier proves to be best for practical implementation of ALU in terms of area.

**Keywords** — ALU, Carry Select Adder, Carry Save Multiplier, Power Delay Product, Shift-add Multiplier, Vedic Multiplier.

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**DESIGN AND SIMULATION OF ULTRA WIDE AND NARROW BAND ANTENNA**

**Paper ID -1063**

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**ABSTRACT:** In this design we are using wide and narrow band antennas. Here same substrate is used for wide band spectrum sensing and narrow band for communication. The range of UWB is 3.1 GHZ to 10.6 HZ which is approved by FCC. In this two narrow-band are used. The narrow band antenna resonates at 3.746 GHZ and it covers in the range of 2.746 GHZ to 5 GHZ. It presents the minimum return loss is 59.1 dB at 3.746 GHZ and it also resonates at 9.1 GHZ and the return loss is 41.5 dB respectively. Similarly, the second narrow band antenna resonates at 3.653 GHZ and it covers in the range of 2.750 GHZ to 5 GHZ. It presents the minimum return loss is 49.4 dB at 3.653 GHZ and it also resonates at 8.989 GHZ and the return loss is 32.1 dB respectively. The FR4 material is used as substrate with a dimensions of 42mm\*50mm\*1.6mm. The experimental results are good compared to the simulated and measured results.

**KEYWORDS:** Circular patch, Micro strip antenna, Patch antenna, Return loss, UWB and NWB antennas.

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**SECURITY ENHANCEMENTS FOR SOFTWARE DEFINED NETWORK**

**Paper ID -1064**

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**ABSTRACT :** Today’s Internet applications require the underlying networks to be fast, carry large amounts of traffic, and to deploy a number of distinct, dynamic applications and services. Adoption of the concepts of “inter-connected data centers” and “server virtualization” has increased network demand tremendously. In addition to various proprietary network hardware, distributed protocols, and software components, legacy networks are inundated with switching devices that decide on the route taken by each packet individually; moreover, the data paths and the decision-making processes for switching or routing are collocated on the same device. IT infrastructure has been expanding very rapidly in recent years. With the invention of cloud computing, many ecosystem and business paradigms are encountering potential changes and may be able to eliminate their IT infrastructure maintenance processes. Real-time performance and high availability requirements have induced telecom networks to adopt the new concepts of the cloud model: software-defined networking (SDN) and network function virtualization (NFV). Most current network devices have control and data-flow functionalities operating on the same device. The only control available to a network administrator is from the network management plane, which is used to configure each network node separately. The static nature of current network devices does not permit detailed control-plane configuration. This is exactly where software-defined networking comes into the picture.

SDN Software-Defined, Networking, is a network architecture that empower the network to be intelligent, and centrally controlled or programmed using software applications. This should help to operate control the entire networks always and irrespective of the underly network technology. The ultimate goal of SDN is to “provide open user-controlled management of the forwarding hardware of a network element.” SDN operates on the idea of centralizing control-plane intelligence, but keeping the data plane separate. Thus, the network hardware devices keep their switching fabric (data plane), but hand over their intelligence (switching and routing functionalities) to the controller. This enables the administrator to configure the network hardware directly from the controller. This centralized control of the entire network makes the network highly flexible Software-Defined Networking is new programmable and reconfigurable network architecture. On the other hand, it will be designed to “manage growing multi-tenant cloud computing with 5G. SDN

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(Software Defined Networking) has introduced the extensive change to the traditional networks with the integration of the network by decoupling the forwarding hardware (data plane) from the control logic of the network (control plane).

**Keywords :** Legacy networks, Software Defined networking, Network function visualization

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**STUDY ON THE EFFECT OF TEMPERATURE AND SPEED FSW ON**  
**ALUMINIUM WELDS**

**Paper ID -1065**

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**Abstract**

Friction stir welding is a recent promising solid state joining technique used to join high strength aluminium alloy. This present work is focused to evaluate the effect of process parameters such as tool rotational speed; welding speed and temperature on tensile strength of friction stir welded aluminium alloy AA 6065 joints. The mechanical properties of welded materials are measured in terms of tensile strength, with the help of vertical milling machine create the specimen by friction stir welding (FSW). Universal Testing Machine was used to check tensile testing of the welded specimen. Taguchi method of optimization with design of experiments is used in the present work. Experimental work is carried out to weld the aluminium composites joints to predict tensile strength of the welded joint. After comparison of predicted and practical values of tensile strength it is concluded that with increase in temperature, tensile strength increases. together with high welding speed leads to decrease in tensile strength of the welds work pieces.

**Key words:** Aluminium alloy 6065, Friction stir welding, Tensile, Welded Joints.

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**REVIEW ON POWER QUALITY IMPROVEMENTS IN DG USING**  
**DSTATCOM AND DVR**

**Paper ID -1066**

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**Abstract**

Power quality impacts equipment manufacturers, customers, and electricity suppliers in recent times. Power quality refers to variations in frequency, current, and voltage in a power system. The electromagnetic ion [EMI] phenomena that characterize current and voltage at a certain time and place in the power system. Manufacturing and process unit technology is used in so many industries today. A power supply device of higher quality and reliability is required for this technology. Power supply efficiency is highly sensitive to industries such as semiconductors, manufacturing, and computer equipment. There are many types of network disturbances associated with PQ, including voltage, harmonic distortion, impulse transients, sags and swells, interruptions, and flicker. More often than any other phenomenon of power quality, voltage swells and sags occur. Voltage sags/swells are the most unfavorable PQ issue in the power distribution system. This paper examines how power quality (PQ) occurs in distribution devices.

**Key words:**, Custom power, Power Quality (PQ), Dynamic Voltage Restorer (DVR), Distribution Static Compensator (DSTATCOM)

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**INNOVATIONS IN SYNTHESIS: ADVANCING ACTIVE PHARMACEUTICAL**  
**INGREDIENT PRODUCTION AND RELATED SUBSTANCE**

**Paper ID -1067**

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**Abstract**

Active Pharmaceutical Ingredients (APIs) are the essential components of medications that provide therapeutic effects. The synthesis of APIs plays a critical role in the pharmaceutical industry, and continuous flow chemistry has emerged as an innovative approach to streamline their production. We will explore how continuous flow chemistry enables the synthesis of APIs, its advantages, applications, challenges and the future potential it holds. The implementation of continuous flow processing as a key enabling technology has transformed the way we conduct chemistry and has expanded our synthetic capabilities. Ensuring patient access to safe and efficacious drugs is a primary public-health mission of the Food and Drug Administration (FDA) Center for Drug Evaluation and Research (CDER). To accomplish its mission, CDER has a critical role in fostering manufacturing innovations that can improve product quality and prevent drug shortages that have become all too frequent.

**Keywords:** Effects, innovative approach, Pharmaceutical Ingredients, Drug.



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**PROMOTING WELLBEING OF MIDDLE SCHOOL STUDENTS THROUGH**  
**YOGA PRACTICES**

**Paper ID -1068**

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**Abstract**

Middle school is a time of stress and vulnerability for students. Graduating from elementary to middle school comes with the change of having one teacher to six or seven, and the related challenges of transitioning from one authority figure to several. Students also experience rapid physical, intellectual, and social changes at different rates and different times, while educational contexts and social expectations are expanding. This vulnerable time is associated with a variety of academic, behavioral, and mental health challenges. In contemporary society, young people face numerous challenges related to their mental health and wellbeing, a situation that has been exacerbated by the COVID-19 pandemic. A recent study reported that mental health among adolescents and young people has been declining over the past three decades, based on a national, cross-sectional study in Telangana region. This study aimed to examine students' experiences with yoga interventions in school. The findings revealed that practicing yoga made young people more aware of their need to relax and positively impacted their mental health and wellbeing.

**Keywords:-** physical, intellectual, Students, Yoga.

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**A COMPARATIVE STUDY OF CARDIOVASCULAR FITNESS IN KHO-KHO AND  
KABADDI HIGH SCHOOL PLAYERS IN SURYAPET, TELANGANA**

**Paper ID -1069**

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**Abstract**

This study aimed to compare cardiovascular fitness levels between high school players of Kho-Kho and Kabaddi in Suryapet, Telangana. The participants' cardiovascular fitness was assessed using the Harvard Step Test. Data were collected and analyzed to determine any significant differences in cardiovascular fitness between the two groups. The findings of this study contribute to a better understanding of the cardiovascular fitness profiles of Kho-Kho and Kabaddi players, aiding in the development of appropriate training and conditioning programs for these sports.

**Keywords:** Cardiovascular fitness, Kho-Kho, Kabaddi, High school players, Suryapet, Telangana.

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**ANALYSIS OF MECHANICAL PROPERTIES OF Al<sub>2</sub>O<sub>3</sub>, B<sub>4</sub>C**  
**REINFORCED ALUMINIUM 6061 METAL MATRIX COMPOSITE**

**Paper ID -1070**

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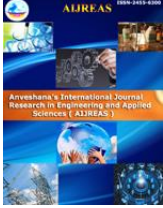



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**Abstract**

The present paper deals with mechanical testing and metallurgical structure of aluminium MMCs. Aluminium 6061 alloys was selected as metal matrix. Alumina & Boron carbide in different weight percentages were consider as reinforcement in MMC. Stir casting technique was used to fabricate MMC with 1-3-5 % weight of alumina and 1-2-3% weight of boron carbide in aluminium. After fabricating, prepared the samples and tested to analysis the mechanical property. Micro hardness test was carried on Vickers Hardness tester on developed composites with different weight % of reinforcement. Also study carried out to find out Surface analysis i.e. reinforcement distribution and presence of porosity with an optical microscope. The main intention of this paper is to compare the results and find out the best composition of MMC from perspective mechanical properties. And it was observed that as reinforcement content increases, the hardness value also goes on increases.

Keywords: Al6061, Reinforcement, Stir casting.

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