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Evaluation of self curing possibilities of Metakaolin based HSC

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***Abstract*:**
This Paper describes the possibilities of Metakaolin as one of the mineral admixtures to produce high strength concrete. In this study literature regarding HSC and self curing agents like SAP was studied. The ordinary Portland cement was replaced in varying percentages by using Meta kaolin and found out optimum dose of it which produces high strength concrete. The mechanical property like compressive strength was evaluated. This study is an experimental investigation to determine the effect of Mata kaolin and Poly vinyl alcohol (PVA) on compressive strength of concrete at very low water cement ratio 0.32. The concrete containing PVA and Meta kaolin enhances mechanical properties, not only due to pozzolanic reaction, but also due to its ability to retain water inside concrete.
Key words: High strength Concrete, Meta kaolin, polyvinyl alcohol, self curing, super absorbent polymers etc.

1. INTRODUCTION

Concrete produced by using mineral admixtures like micro silica, Metakaolin is a higher strength concrete of denser nature. It may lead to less water evaporation from the surface also it do not allows water to penetrate or very slow penetration and not in a sufficient amount. So the effect of curing can therefore be neglected. Many researchers showed failure of traditional curing methods for HSC. Self curing or internal curing is a technique that can be used to provide additional moisture in concrete for effective hydration of cement. Presently two methods are available for internal curing first method used saturated light weight aggregate (LWA) and the second is the use of super absorbent polymers (SAP) which reduces water evaporation and also helps in water retention. (Gemma Rodriguez de sensale et al.(2014)).The concept of self curing agents is to reduce the water evaporation from concrete, and hence increase the water retention capacity of concrete compared to conventional concrete. It was found that water soluble polymers can be used as self curing agents in concrete. (A.S.EI-Dieb (2007)).The effectiveness of using self curing agents in mixes that include supplementary cementing materials (such as silica fume ,fly ash) has, however ,received little attention in the published literature.(Amr S. El-Dieb (2012)).The aim of this investigation was therefore to evaluate the use of water soluble polyvinyl alcohol as self curing agent in OPC mixes incorporating Metakaolin.

2. MATERIALS AND METHODS

2.1Metakaolin

Meta kaolin is refined kaolin clay that is fired (Calcined) under carefully controlled conditions to create an amorphous alumino silicate that is reactive in concrete. Like other pozzolans (fly ash and silica fume are two common pozzolans), metakaolin reacts with the calcium hydroxide (lime) byproducts produced during cement hydration .Metakaolin's reaction rate is rapid, significantly increasing compressive strength, even at early ages, which can allow for earlier release of formwork. The presence of High reactive Metakaolin accelerates the consumption of Ca (OH) 2 results to the Subsequent modification of the microstructure of concrete, and improves strength and durability properties of material. (Poon C.S. et al. (2001)).Fig.2.1 shows its physical form and Table 2.1 describes its chemical properties.

CIVIL_01

COMPARISON OF FLUORIDE REMOVAL EFFICIENCIES OF BONE POWDER AND ALUM TREATED FLYASH

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Abstract : Bone power and alum treated fly ash are waste material and have been used for the removal of fluoride from aqueous solutions. Investigations were carried out using a batch sorption process. The efficiency of sorption of fluoride is affected by aqueous solution pH, contact time, adsorbent dose, type and size of absorbents and initial fluoride concentration, all of which factors were investigated. Results of the investigations were used in kinetic studies to understand the mechanism of adsorption process. The adsorption equilibrium is well correlated by the Freundlich model. The adsorption capacity of bone powder is more than the alum treated flyash in optimum conditions.

Keywords : Fluoride, ATF, Bone Powder, Freundlich Model.

CIVIL_02

DEVELOPMENT OF PUNE AS SMART CITY AND IT'S IMPACTS ON WATER AND AIR - A PERSPECTIVE

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Abstract : The conceptualization of Smart City, therefore, varies from city to city and country to country, depending on the level of development, willingness to change and reform, resources and aspirations of the city residents. A smart city would have a different connotation in India than, say, Europe. Even in India, there is no one way of defining a smart city. The core infrastructure elements in a smart city would include: Adequate water supply, Assured electricity supply, Sanitation, Solid waste management, efficient urban mobility and Public transport, Affordable housing, robust IT connectivity and digitalization, Good governance, Sustainable environment, Safety and security of citizens, and Health and Education. This paper concentrate on development with existing facilities and future development to fulfill the average demand of contamination free water and clean air within Pune city.

Keywords : Air Quality, Water Quality, Smart City, Future developments, effects on surroundings.

CIVIL_03

LANDSLIDE INVETIGATION IN BHOR TAHSIL : A CASE STUDY OF MAHADEVWADI

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Abstract : The rapid landslide occurrences at the hillside development areas play an important role to modify the landslide. To understand their technical aspects we undertake investigation in the village of Mahadevwadi, Bhor Tahasil Pune. In the recent time the hazards due to natural and manmade. In our project will be collect the rock and soil sample. we have selected the stream in Mahadevwadi origin of this stream in Rajgad Fort. Stream is passing through the Mahadevwadi village. In our project the stream can be divided in 30m distance and each point we taken the GPS reading means latitude, longitude and elevation of that point and also shown the geological and geomorphologic characteristics of rock and soil. The all stream is studied up to it can be meet to the backwater of Bhatghar dam. The first stage of project is the survey of stream and next stage is the collection of sample of each point and testing the soil and rock sample and their results can be compare to ASTM. After testing we decide this specific area is prone to landslide. If the area is prone to landslide we providing the remedial measures.

Keywords : Hillside landslides, development, slopes, building on slopes.

CIVIL_04

ANALYZING MATERIAL MANAGEMENT TECHNIQUES ON CONSTRUCTION PROJECT

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Abstract : The efficient procurement of material represents a key role in the successful completion of the work. Poor planning and control ofmaterial, lack of material when needed, poor identification of material, re-handling and inadequate storage cause losses in labor productivity and overall delays that can indirectly increase total project cost. Effective management of materials can reduce these costs. This paper is written to explore the current practices of Material Management so this study is conducted in two phases, First phase gives the Qualitative information regarding deviation in planned and actual materials in terms of S curve analysis using MSP tool and reasoning over the deviation is essential to know the effect of material planning before execution of project. Various comments on S curve analysis have given in terms of problems of administrative causes, consultant's causes, contractor's faults, and unavailability of resources. These major reasons of changes represented in terms of pie chart. To maintain sufficient stock of raw material in period of short supply, to protect inventory against deterioration and control investment in inventories and to keep it in an optimum level an inventory control techniques such as ABC and EOQ analysis is carried out in second phase of study to overcome the problems of stock out.

Keywords : Construction Materials, Cost Control, Inventory Control, Material Management.

CIVIL_05

COMPARATIVE STUDY ON REMOVAL OF FLUORIDEFROM GROUND WATER BY DIFFERENT SAMPLES FROM DIFFERENT VILLAGES

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Abstract : Due to the occurrence of fluorine in ground water various effects on human physiology has been seen. The low or high concentration of fluorine makes the groundwater unsuitable for various purposes. Due to increased human population, industrialization, use of fertilizers and man-made activity water is highly polluted with different harmful contaminants. Fluoride (F^-) concentration above the permissible limits (1.5 mg/l) in drinking water leads to human health hazards, such as dental and skeletal fluorosis. The weathering of rocks, leaching of soils, mining processing and infiltration of rainfall through it increases fluoride concentration in groundwater. Several rocks have fluoride bearing minerals like apatite, fluorite, biotite and hornblende. The present investigation attempt to study the concentration of fluoride in groundwater's of different areas like Dongargaon, Sakra village and Pandharkawda.The study reveals that the concentration of fluoride was found as 1.72 mg/l, 5.21 mg/l and 3.13mg/l in Dongargaon, Sakra and in pandharkawda which is higher than permissible limit. Treatment of water containing fluoride ions requires a suitable and effective method. The various treatment method have been studied here are Reverse Osmosis (RO), Activated Alumina, Black Carbon, Electrodialysis (ED).

Keywords : fluoride, skeletal fluorosis,dental fluorosis, reverse osmosis (ro), activated alumina, black carbon, electrodialysis (ed).

CIVIL_06

ROLE & EFFECTS OF COW DUNG ON SOIL POLLUTANTS, USES OF COW DUNG AND COW IMPORTANCE FROM VEDAS

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Abstract : The development in human kind and surroundings, demand in commodities and food for survival is increasing. The fulfillment of these demands, the production industries increases their production capacities at the same time these industries releases the huge pollutants in the environment which causes the degradation of original parameter of the surroundings like water, air and soil. With the aim to reduce pollutants quantity in soil by introducing Indian cow dung to the contaminated soil samples collected from different location which primarily observed contaminated with oil, grease, kerosene and salty matters. These soil

samples were analyzed at laboratory to observe the role of Indian Cow dung in reduction of stated contaminants. In one type of soil acid was added, in same type basic solution was added just in order to pollute soil and in soils samples collected from different location salty water was added and effects on soil parameters were observed after addition of Cow dung. Biosparging model along with the addition of cow dung was also done and its effects were noted. For knowing the effects of Indian cow dung on soil, its use as a construction material, Cow caretakers interviews and a case study of ,"Govardhan Eco Village" near Thane was taken. The historical importance of Indian Cow and her effective utilization of panchgavya (mixture of urine, milk, ghee, curd and dung) and individual products mentioned in various holly books like Bhagwat Geeta, Dnyaneshwari , Puranas, Gatha were studied which was suggested by the known holly persons who were using it as a medicine ,as a thermal insulator, as a plaster, flooring etc. The experimental observation showed that there is a effective variation in Ph, Conductivity, Water holding capacity and Chloride content and other parameters. So, utilization of cow dung helps in reduction of Eutrophication, soil improvement and protection of environment as a whole.

Keywords : Cow dung, Oil, Grease, Kerosene, Salty matters, Govardhan Eco Village, Panchgavya, Bhagwat Geeta, Dnyaneshwari, Ph , Electrical Conductivity, Biosparging, Eutrophication.

CIVIL_07

APPLICATIONS CIVIL ENGINEERING FOR SOCIO ECONOMIC AMELIORATION OF BELOW POVERTY LINE FAMILIES

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Abstract : The application of Civil Engineering For Socio Economic Amelioration of Below Poverty Line Families In Maharashtra State at Amboli village in Kolhapur district near Pethvadgaon during the period of 2010-2012 with main objective is reducing the poverty and socioeconomic development of community . For this purpose Civil Engineering based income generating activity is given to the people. This paper represents the appropriate use of available natural resources and improving the economical status of the people by using the civil engineering application. It is based renewable or non conventional energy source. For this implementation and training programme of compact mini biogas project is given to the people in this village. It reduce the cost of fuel consumption used in domestic appliances and it will be the income generating source by the installation of compact biogas plant.

Keywords : Respondent, Income generating activities.

CIVIL_08

SUSTAINABLE URBAN TRANSPORT SYSTEM

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Abstract : Sustainable urban transportation planning provides not only a good mobility of transport but also play decisive role in reducing the climate change by minimizing the emission of carbon to the atmosphere. On an average, during peak hours in Mumbai, the actual occupancy in a suburban train is in excess of 4000 passengers, which have maximum desirable capacity of 2600. Transport systems have significant impacts on the environment, accounting for between 20% and 25% of world energy consumption and carbon dioxide emissions. Mumbai city has its own mobility needs and challenges based on density, topography, existing infrastructure, etc. and while we can learn from other cities, we must develop our own benchmarks and targets around areas of need and opportunity. The purpose of this evaluation is to identify and highlight the gaps in the mobility plans so that these gaps can be addressed by cities that are in the process of developing their mobility plans or are yet to begin.

Keywords : Sustainable urban transport system, Cost benefit Analysis.

CIVIL_09

STUDY ON STRENGTH CHARACTERISTICS OF REINFORCED SELF-COMPACTING CONCRETE WITH GLASS FIBER.

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Abstract : In this new era of industrialization and urbanization, the mankind needs advanced materials to meet their structural demands. Many researches are being undertaken in the field of structural engineering to build structures which not only takes the applied load but also can serve the exact needs of the structure. Placing concrete in structural component with congested reinforcement had always been a menace, thus arises the need for self-compacting concrete. Self-compacting concrete flows under its own-weight up to leveling, air outs and consolidates itself without use of additional external energy and it can flow through the congested reinforcement without causing segregation. The hardened self-compacting concrete is dense, durable and homogenous as that of traditional vibrated concrete. The objective of the paper is demonstrates and computes the mechanical properties of concrete by adding the different cementitious materials, varying the dosage of super plasticizer and inclusion of different percentage of the glass fiber content. The present work deals with workability and strength characteristics on glass fiber reinforced self-compacting concrete with silica fume. As per the EFNARC specification and guidelines slump flow test and L-box test were carried out on fresh concrete as per codel provisions. The compressive strength, flexure strength and split tensile strength was found out for 7 day, 28 day & 56 day by curing specimen with normal water and acid water curing.

The mix proportion consisted of replacing cement by 7.5% silica fume and varying glass fiber percentage from 0% to 0.2 % by weight of concrete. There was moderate (2.5% to 7.1%) increase in 56 days compressive strength in 0.15% glass fiber mix when compared to control mix. The spit tensile strength in 0.15% fiber mix was found to be 14.3% to 16.7% more than that of control mix. Similarly, the flexural strength also showed a significant increase by 1.4% to 5.2% than the control mix.

Keywords : Self Compacting Concrete, silica fume, alkali resistance glass fiber, High range water reducers, Compressive Strength, Split tensile Strength, flexural strength and modulus of elasticity.

CIVIL_10

RISK ANALYSIS WITH THE USE OF PRIMAVERA RISK ANALYSIS.

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Abstract : Risk is present in all projects irrespective of their size or sector. If risks are not properly analyzed, the project is likely to lead to failures.This paper covers the use and benefits of computer software i.e. Primavera Risk Analysis in Risk Management Process of construction projects to analyze the risks involved in a construction project. It includes the preparation of schedule, assigning the 3-time estimate durations and performing iterations using primavera risk analysis. Preparation of schedule is the input to the Primavera Risk Analysis software after which the risk analysis is performed and we get output in the form of distribution graphs. Schedules which are prepared using Microsoft Project (MSP) and PRIMAVERA (P6/P3/XER) can be imported to Primavera Risk Analysis or it can be prepared directly in Primavera Risk Analysis to perform the analysis. The result gives us the probable start and finish date and its deterministic probability.

Keywords : Primavera Risk Analysis, Primavera, construction project, Schedule, risk.

CIVIL_11

WATER QUALITY ASSESSMENT OF LAKE MAHURZARI, DISTRICT NAGPUR

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Abstract : The lake Mahurzari is located at Mahurzari, near Kalmeshwar road, Nagpur. The water of the lake is used for various purposes like drinking, washing etc. by the surrounding people of Mahurzari village. The lake is surrounded by village with population of two thousand residents. From last two years the lake is under Irrigation Department and water is being proposed to be utilized for minor irrigation project. Presently 15% of total quantity of water is being used for drinking purposes by the local people of the area. The source of pollution of the lake is disposal of animal excreta and washing of animals. Experimental study has been carried

out in laboratory to study water quality for drinking purposes. It was observed that the lake water has more amount of Chloride content. The large content of chloride results in health issues in people. Since excess chloride is major cause for human health, the water needs to be treated with Chloride removal methods such as Reverse Osmosis, Distillation, De-ionization etc

Keywords : Water quality, parameter analysis, IS-10500, IS-302, part10

CIVIL_12

ENERGY EFFICIENT URBAN RESIDENT AUTONOMUS BUILDINGS

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Abstract : An Autonomous Building is a building designed to be operated independently from infrastructural support services such as the electric power grid, gas grid, municipal water systems, sewage treatment systems, storm drains, communication services, and in some cases, public roads. Advocates of autonomous building describe advantages that include reduced environmental impacts, increased security, and lower costs of ownership. Some cited advantages satisfy tenets of green building, not independence per se (see below). Off-grid buildings often rely very little on civil services and are therefore safer and more comfortable during civil disaster or military attacks. (Off-grid buildings would not lose power or water if public supplies were compromised for some reason.) Most of the research and published articles concerning autonomous building focus on residential homes.

Nation is climbing a ladder of growth day by day with various parameters, construction is one of them. Due to tremendous increase in population and urbanization, there are a lot of problems like Global warming, rise in population, shortage of resources, pollution of water and air and products of globalization. On other side of coin, all above have given new vision of self sufficient energy efficient residential buildings in urban areas. Eco-Urbanism, Green Architecture and Eco-friendly construction are the important subjects connected with sustainable development. Hence it is need of an hour to proceed with the steps to stop the detoriation of the environment.

This study highlights the study of current scenario of self sufficient, energy efficient residential buildings in urban areas which is the only way to achieve self sufficiency, energy efficiency, indoor air quality, reduction in waste and efficient use of water. It also involves the different implementation of sustainable practices during pre-construction and construction stages on post-construction activities with available sources.

Keywords : Energy Efficiency, Residential Buildings, Self Sufficiency, Sustainable Development and Water Efficiency.

CIVIL_13

PERFORMANCE EVALUATION OF CHEMICAL AND NATURAL COAGULANTS FOR COLOUR REMOVAL FROM TEXTILE WASTEWATER

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Abstract : Industrial pollution is one of the problems presently facing all over the world. Textile industrial sector is one of the largest sectors of India. The environmental problems associated with textile industry are strongly colour, presence of large amount of suspended solids, broadly fluctuating pH, high temperature, besides high chemical oxygen demand. There are various processes for removal of colour from wastewater such as Adsorption, Reverse Osmosis, Electro dialysis, Coagulation, Activated oxidation, Ion exchange, etc. The present paper deals with the use of chemical coagulants like alum, Ferric chloride and natural coagulant like Moringa oleifera, Nirmali seeds for colour removal by jar test. The optimum pH and coagulant dose were determined. The efficiency for colour removal was compared for chemical and natural coagulants.

Keywords : Textile wastewater, colour removal, chemical and natural coagulants.

CIVIL_14

"GROUND WATER QUALITY ASSESSMENT OF INDAPUR TALUKA BASED ON PHYSICO - CHEMICAL ANALYSIS"

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Abstract : Ground water is the main principal source for drinking water and other activities in Indapur taluka, Pune district, Maharashtra, India. Ground water is considered as pure form of water, with minute dissolved essentials and non-essentials minerals in it. The only way pollution can contaminate ground water is through surface runoff, industrial effluent, runoff from agricultural site and also through river. That's why the problem of ground water quality obtains high importance in the present day whether in the study area or any other countries in the world. The quality of ground water depends upon its physical and chemical properties. These properties are inter linked. Therefore interpretation of correlation coefficient between water quality parameters gives good idea about the quality of water. The present research work was carried out to analyze and evaluate the 40 groundwater samples collected from residential areas of Indapur Taluka, Pune district, Maharashtra, India. The parameters studied were PH, Temperature, Electrical Conductivity, Total Alkalinity,

COMP_01

AUTOMATING THE INTERNATIONALIZATION AND LOCALIZATION PROCESS

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Abstract : Internationalization is the approach that is to be followed while developing software so that the particular software can be used for different languages in different countries and this process does not require to make any engineering changes to the software. This approach involves the process of separating the parts of a program that are dependent on language and culture. Whereas the localization focuses on a specific locale where that particular software is used and all the necessary changes made acoordingly. The proposed system automates the locale detection process with the IP Address ranges. Depending up on the locale detected the content are shown in the respective language used in that particular locale.

Keywords : Internationalization, localization, localized, locale, culture.

COMP_02

STUDY OF THREATS AND INTRUSION DETECTION TECHNIQUES FOR 802.11 NETWORK AND CYBER PHYSICAL SYSTEM

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Abstract : Secure Wi-Fi technology have been proved insufficient in quite a lot of respects in early days, the existing robust security modifications will certainly get worn out in the future, too. Pervasive medical systems, smart grids and unmanned aircraft systems are applications of cyber physical systems (CPSs) that have developed extremely integrated in the current world. As this interoperability and integration expands the importance of keeping these systems fault and intrusion tolerant increases. In order to identify gaps and propose research directions in CPS and 802.11 intrusion detection research, we survey the literature of this area. It gathers, classifies, systematically evaluates the most popular attacks on CPS and 802.11 and analyzes their threats. Then, the plan summary of the intrusion detection mechanism in CPS and Wi-Fi is presented in terms of the specific detection techniques. The primary motive of this paper is to focus on the type of threats CPS and 802.11 systems has so as to work in the direction of performance optimization of wireless CPS. Finally, some significant research problems are acknowledged for clarifying the subsequent studies.

Keywords : Cyber-physical System, security, WiFi, 802.11, intrusion detection

COMP_03

REVIEW ON ACUTE MYELOGENOUS LEUKEMIA DETECTION IN BLOOD MICROSCOPIC IMAGES

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Abstract : Acute Myelogenous Leukemia (AML) is a fast growing cancer of the blood and bone marrow. The need for automation of leukemia detection arises since current methods involve manual examination of the blood smear as the first step toward diagnosis. This is time consuming, and also the accuracy of the method depends on the operator's ability. In this paper, various image segmentation and feature extraction methods used for AML detection are discussed.

Keywords : Web Database, Annotation, Data alignment

COMP_04

KEY-AGGREGATE SEARCHABLE ENCRYPTION (KASE) FOR GROUP DATA SHARING VIA CLOUD STORAGE

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Abstract : Data sharing is an important functionality in cloud storage. In this article, we show how to securely, efficiently, and flexibly share data with others in cloud storage. The capability of selectively sharing encrypted data with different users via public cloud storage may greatly ease security concerns over inadvertent data leaks in the cloud. With cloud computing and storage services, data is not only stored in the cloud, but routinely shared among a large number of users in a group. This concept is implemented through development of a concrete key-aggregate searchable encryption framework scheme. This scheme is described as where a data owner only needs to generate and distribute a single aggregate key to a data user for sharing a large number of documents and on the other side user only needs to submit a single aggregate trapdoor to the cloud server, so that he/she can query over the shared documents by the help of generated single aggregate trapdoor. This proposed scheme is perfectly more secure and practically efficient. It is an effective method which is considered as best solution to build a practical data sharing system based on public cloud storage.

Keywords : Cloud storage, data privacy, data sharing, searchable encryption, key-aggregate encryption

COMP_05

VISUAL SECRET SHARING WITH A SECURE APPROACH

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Abstract : Visual Secret Sharing scheme (VSS) is used to encryption of secret image into n shares, which are distributed to n participant. Secret image is converted into binary format that having no visual meaning which hinder the objective of visual cryptography. The obtained binary image is further divided into n shares of random pattern. We can able to obtain secret image by superimposing qualified subset of shares but unable to obtain by superposition of forbidden subset.

With the help of Visual cryptography we can decrypt secret image without knowledge of cryptography & complex computation. With the help of new advanced Techniques, shares carries visual information to viewer& also obtained visual quality is better than any other method. Visual Cryptography can be used in number of applications such as access control, authentication, identification, copyright protection and water marking.

Keywords : Halftone, Secret image, Secret sharing, Shares, Visual cryptography, Visual secret sharing.

COMP_06

NATURAL LANGUAGE PROCESSING: A REVIEW

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Abstract : Natural Language Processing (NLP) is an area of research and application that explores how computers can be used to understand and manipulate natural language text or speech to do useful things. Natural language refers to the language spoken by people like English, Hindi, Marathi as opposed to the artificial language like C++, Java. The Due to the use of internet there is huge amount of data gathered. Many applications need to process the large amount of text. This paper focuses on natural processing tasks such as tokenization, chunking, morphological analysis, part of speech (POS), named entity recognition (NER), coreference resolution, discourse analysis, word sense disambiguation (WSD) etc.

Keywords : Chunking, Coreference resolution, discourse analysis, morphological analysis, NER ,NLP, POS, WSD.

COMP_07

VIDEO RECOMMENDATION SYSTEM : SURVEY

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Abstract : Now a days due to fast increase in the online information, it is very difficult for people to find information which is appropriate according to their needs and interests. So recommendation system is a helpful and powerful tool which provides a perfect solution to this challenge. This can be done by offering an automated mechanism for find out appropriate as well as new information. This paper describes different algorithms and methods used for video recommendation system and also it shows how one can boost the popularity of any video through online video recommendation system. The video recommendation system is used in YouTube, the world's most popular American video-sharing website. By observing the users activity on the site, video recommendation system recommends personalized videos to the user. We will study some unique challenges that the system have to face and how to address them.

Keywords : Information, video, recommender, recommendation system, YouTube.

COMP_08

EFFICIENT AND SECURED MULTI LAYER DATA AGGREGATION IN MOBILE SENSING

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Abstract : The rapid production, huge increasing features and capabilities of mobile sensing devices such as smart phones increases usage of variety of mobile sensing application. As WSN is having huge coverage area, data is collected from multiple mobile users. For this huge amount of data, statistics needs to be periodically updated for applications such as population monitoring, temperature monitoring and sensing cloud services etc. And to reduce size aggregation method is applied but issue arises when the statistics generated from aggregator is not secured. Applications are required to maintain security and privacy of data, without compromising the loss of data. Because there may be chance that aggregator may be untrusted. In this paper, we solve the issue of privacy of data by introducing systematic and coherent protocol in multilayer scenario of WSN. This includes RSA algorithm, which aggregates the share at each layer and thus reduce the size of data and security is always maintained. The scheme support large plaintext space and also focus on redundancy in security for mobile users to reduce the communication cost for each join and leaves.

Keywords : aggregation, encryption, decryption, security, mobile sensing and RSA

COMP_09

TEST DATA GENERATION BASED ON AUTOMATED COUPLING SEQUENCE

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Abstract : Software testing is the procedure of evaluating a system or its components with the aim to find whether it fulfills the specified requirements or not. Testing is executing a system in a way to identify any, errors, holes or missing requirements in opposing to the actual requirements. Up till now, most of the work on generation of test data is at unit level. In unit level testing, generation of test data contains the execution of test route at unit level where collaboration with other component is minimum. The problem of generation of test data automated becomes very difficult when we suffer from other levels of testing including integration testing or system level testing. The base of integration testing level, the variables are passed as an arguments to other module and variables change their names; also number of different paths are executed from different module to ensure the proper functionality. Integration testing can be tests the interactions of different modules, when they are integrated together in particular application, for the smooth functionality of the software system. The Coupling based testing is an integration testing technique that is based upon coupling interactions that occur between different variables through different call sites in functions. Until now less research has been done on generation of test data for coupling based integration testing using genetic algorithm. So, in this paper, we will propose an architecture of tool Quick-Gen for generation of test data automated for coupling based integration testing of OO programs but main focus in on automated generation of coupling sequence

Keywords : Software testing; Test Data Generation; Automated coupling sequence; Integration Testing; Coupling path; Genetic algorithm (GA)..

COMP_10

PRIVACY PRESERVED PROTOCOLS FOR COMPARING ENCRYPTED DATA: A REVIEW

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Abstract : when processing sensitive data on third party cloud service providers, maintaining privacy of the data becomes very essential. This is because if the cloud platform tries to perform any malfunction, such as gaining insights from the intermediate data, in between of a computation, it may prove to be a future threat for the user who has provided his/ her data for processing. Complicated operations like comparison, modulo reduction, or division, require a comparison protocol as a building block. Considering this fact, it is very important to find the efficient solution for the problem of comparing encrypted data. In this paper, we present a study of such existing solutions to this problem.

Keywords : homomorphic encryption, millionaire's problem, integer comparison, secure two-party

COMP_11

MIO: SECURITY OF PHYSICAL LAYER IN WIRELESS COMMUNICATIONS USING MULTIPLEINTER-SYMBOL OBFUSCATION

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Abstract : The use of cryptographic techniques such as encryption and hashing largely increases the energy consumption of sensors, which aggravates the original critical energy constraint problem of wireless sensor networks (WSNs). To reduce the burden of sensors, compression can be utilized. Since the traditional chaos-based schemes are not directly applicable for WSNs, we present a hybrid security solution. The hybrid security consists of 8-bit integer chaotic block encryption and a chaos-based message authentication codes. It aims to promote the security and performance of data gathering. In this paper, a hybrid security and compressive sensing-based scheme for multimedia sensor data gathering is presented. It has light security mechanism and thus decreases the complexity and energy consumption of system. Performance analysis about security and compression is carried out. The results show that our scheme is more applicable for WSNs multimedia data gathering from security and compression efficiency

Keywords : WSN1, Encryption2, Decryption3.

COMP_12

SURVEY ON TEST DATA GENERATION TOOLS AND TECHNIQUES

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Abstract : Automating the process of software Testing can reduce the testing cost. This survey provides overview of different test data generation tools and techniques. Survey focuses on Random selection, Search-based techniques and Symbolic execution based techniques and also helpful to find out solution for problem of how to choose the most appropriate tool that will fulfil developer requirements consisting of level of automation, cost requirement, language support, etc.

Keywords : Test date generation technique, Test cases, Random testing, Search-based testing, automated unit testing

E&TC_01

IMAGE SEGMENTATION TO SEGMENT THE LEFT VENTRICLE FROM THE CARDIAC MRI

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Abstract : Image and video segmentation is an essential task in many computer vision applications. In this paper, we propose an algorithm, which segment the left ventricle from the Cardiac MRI and extract the clinically relevant parameters accomplished of determining normal and abnormal heart. The algorithm is implemented in MATLAB and the result demonstrates that the algorithm is robust, satisfying and work well for images.

Keyword : Image Segmentation, Seeded Region Growing, Cardiac magnetic resonance imaging (CMRI)

E&TC_02

A REVIEW ON: SPEECH RECOGNITION SYSTEM

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Abstract : This paper presents a brief survey on Speech recognition and discusses major themes and advances. Automatic speech recognition uses the process and related technology for converting speech signals into a sequence of words or other linguistic units by means of an algorithm implemented as a computer program. After years of research and development the accuracy of automatic speech recognition remains one of the important research challenges. Speech understanding systems presently are capable of understanding speech input for vocabularies of thousands of words in operational environments. Speech Recognition offers greater freedom to employ the physically handicapped in several applications like manufacturing processes, medicine and telephone network. The objective of this review paper is to summarize and compare some of the well known methods used in various stages of speech recognition system.

Keywords : Feature extraction, Noisy speech recognition, performance evaluation ,Robust speech recognition, Speech Recognition, Statistical Modelling.

E&TC_03

BASIC APPROACH FOR DESIGN OF DUAL BAND MICROSTRIP PATCH ANTENNA FOR WI-FI APPLICATION

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Abstract : This paper presents a Dual band microstrip patch antenna for wireless communication. In its most basic form, a micro strip patch antenna consists of a Radiating patch on one side of a dielectric substrate which has a Ground plane on the other side .The patch is generally made of Conducting material such as copper and can take any Shape. A rectangular structure patch is used as the main Radiator. There are several advantages of this type of broadband Antenna, such as planar, small in size, simple in structure, low in Cost, and easy to be fabricate, thus attractive for practical applications. This rectangular micros trip patch antenna is designed for wireless communication Wi-Fi application that works at 2.4GHz.

Keywords : Bandwidth, Gain, HFSS, Length, MPA, Permittivity, Power density, Radiation Intensity, Return Loss, VSWR.

E&TC_04

PCB LAYOUT DEFECTS CLASSIFICATION USING IMAGE PROCESSING AND GUI

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Abstract : PCB layout defects classification using image processing and GUI are presented in this paper. Image inverting, subtraction, addition, resizing are performed on PCB layout image. Subtraction technique of image is used for finding out of the PCB defects. In mass production of fixed sized PCB it is required to detect defect in very less time. So this technique is very much useful for classification of defects and corrective action on it. In this paper there are six types of defects discussed and displayed using MATLAB GUI.

Keywords : PCB, GUI, X-OR operation on image, Image subtraction

E&TC_09

REVIEW OF MEDICAL IMAGE RETRIEVAL SYSTEMS AND FUTURE DIRECTIONS

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Abstract : This paper presents a review of online systems for content-based medical image retrieval (CBIR). The objective of this review is to evaluate the capabilities and gaps in these systems and to determine ways of improving relevance of multi-modal (text and image) information retrieval in the iMedline system, being developed at the National Library of Medicine (NLM). Seven medical information retrieval systems: Figuresearch, Biotext, GoldMiner, Yale Image Finder, Yottalook, Image Retrieval for Medical Applications (IRMA) and iMedline have been evaluated here using the system of gaps defined in [1]. Not all of these systems take advantage of the visual information contained in biomedical literature as figures and illustrations. However, all attempt to extract metadata about the image from the full text of the articles and retrieve figures/images in response to query. iMedline aims to advance the state-of-the-art in multimodal information retrieval by unifying image and text features in computing relevance.

Keywords : CBIR, Figuresearch, Biotext, Gold Miner, Yale Image Finder, Yottalook, IRMA

E&TC_12

A QOS AWARE FRAMEWORK FOR SPECTRUM ALLOCATION IN COGNITIVE RADIO NETWORKS

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Abstract : In wireless communication, because of increased use of internet the bandwidth requirement is increased. Many applications demand for a large bandwidth and higher data rate to transfer the data. On the other hand, the allocated spectrum for users remains idle many times, resulting in inefficient spectrum utilization. To overcome these issues, spectrum utilization should be increased especially when spectrum is idle. This idea is the main concept of Cognitive Radio (CR) system. This system usually focuses on sensing and allocation of vacant spectrum. System has to consider short term fluctuations in spectrum bands, and data rate and other quality-of-service (QoS) requirements of different CR users. Considering these challenges, this paper contributes to design a QoS-aware framework that achieves higher throughput and fairness in CR networks. The idle spectrum band is sensed and parameters of this band are continuously monitored by a central entity – base station (BS). Using this information, a novel parameter called opportunity index, ë in generated. The different QoS requirements of CR users are divided by grouping the users and assigning priorities indicated by priority index á. The request send by these users is represented by request index è. With the help of these parameters, the admission control algorithm, spectrum decision algorithm and spectrum mobility algorithm work to figure out QoS requirements of CR users.

Keywords : CR Networks, Quality of Service, Spectrum sensing and Allocation

COMP_04

KEY-AGGREGATE SEARCHABLE ENCRYPTION (KASE) FOR GROUP DATA SHARING VIA CLOUD STORAGE

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Abstract : Data sharing is an important functionality in cloud storage. In this article, we show how to securely, efficiently, and flexibly share data with others in cloud storage. The capability of selectively sharing encrypted data with different users via public cloud storage may greatly ease security concerns over inadvertent data leaks in the cloud. With cloud computing and storage services, data is not only stored in the cloud, but routinely shared among a large number of users in a group. This concept is implemented through development of a concrete key-aggregate searchable encryption framework scheme. This scheme is described as where a data owner only needs to generate and distribute a single aggregate key to a data user for sharing a large number of documents and on the other side user only needs to submit a single aggregate trapdoor to the cloud server, so that he/she can query over the shared documents by the help of generated single aggregate trapdoor. This proposed scheme is perfectly more secure and practically efficient. It is an effective method which is considered as best solution to build a practical data sharing system based on public cloud storage.

Keywords : Cloud storage, data privacy, data sharing, searchable encryption, key-aggregate encryption

COMP_05

VISUAL SECRET SHARING WITH A SECURE APPROACH

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Abstract : Visual Secret Sharing scheme (VSS) is used to encryption of secret image into n shares, which are distributed to n participant. Secret image is converted into binary format that having no visual meaning which hinder the objective of visual cryptography. The obtained binary image is further divided into n shares of random pattern. We can able to obtain secret image by superimposing qualified subset of shares but unable to obtain by superposition of forbidden subset.

With the help of Visual cryptography we can decrypt secret image without knowledge of cryptography & complex computation. With the help of new advanced Techniques, shares carries visual information to viewer& also obtained visual quality is better than any other method. Visual Cryptography can be used in number of applications such as access control, authentication, identification, copyright protection and water marking.

Keywords : Halftone, Secret image, Secret sharing, Shares, Visual cryptography, Visual secret sharing.

IT_01

A SURVEY: DATA DE-DUPLICATION AT FILE AND BLOCK LEVEL

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Abstract : Data de-duplication is a technique for eliminating duplicate copies of data, and has been widely usedin cloud storage to reduce storage space and upload bandwidth. However, there is only one copy for each file stored in cloud even if such a file is owned by a huge number of users. As a result, De-Duplication system improves storage utilization while reducing reliability. Approach is to block level message locked encryption, can achieve filelevel and block-level de-duplication, block key management, and proof of ownership simultaneously using a small set of metadata. We also show that our BL-MLE scheme can be easily extended to support proof of ownership, which makes it for secure cloud storage.

Keywords: De-duplication, message locked encryption, cloud storage, proof of ownership

IT_02

STUDY OF SCHEDULING TECHNIQUES IN HADOOP

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Abstract : **H**adoop was designed mainly for running large batch jobs such as web indexing and log mining. Users submitted jobs to a queue and the cluster ran them in order. However, as organizations placed more data in their Hadoop clusters and developed more computations they wanted to run, sharing a MapReduce cluster between multiple users became important. Because of sharing, as all the data is in one place, users can run queries for the data they want to fetch and execute. To share a MapReduce cluster, support from the Hadoop job scheduler is needed to provide a guaranteed capacity for production jobs viz, load data, compute statistics, detect spam and good response time to interactive jobs while allocating resources fairly between users. Now, scheduler in Hadoop became a pluggable component, it has opened the door for innovation. Two schedulers were developed for multi-user workloads: the Fair Scheduler, developed at Facebook, and the Capacity Scheduler, developed at Yahoo. In this paper, we study various hadoop schedulers and current research improvements in those schedulers. We studied scheduling frameworks available to improve performance characteristics of Mapreduce jobs.

Keywords : Cloud Computing, Hadoop, HDFS, Map Reduce, Scheduling

IT_03

ADAPTIVE TECHNIQUE FOR REDUCTION STORAGE OVERHEAD THROUGH SH-CC INTEGRATION SYSTEM

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Abstract : In recent years, the Wireless Sensor Networks and Cloud Computing integration has been widespread concerned as new technology architecture. Because of the huge data processing and storage ability of cloud computing and gathering capability of wireless sensor networks (WSNs), WSN and CC integration is attracting attention from both industry and academics. This paper focuses on processing of the sensory data collected from stationary sensor nodes (Nodes in Smart home) and CC integration, by identifying the crucial issues concerning WSN and CC integration and proposing a novel framework, which aims at transmitting desirable sensory data to users in a fast and secure manner. Adaptive system could decrease the storage requirements of sensors through integrating WSN with cloud. In addition, the framework is capable of improving the security using trusted third party (TTP). The framework further reduces the storage overhead of the cloud, while enabling the users to obtain their desired sensory data faster and in secured manner.

Keywords : WSN, CC, TTP, WSN and CC integration, Smart home

IT_04

MINIMIZING THE VISIBILITY OF DENIAL OF SERVICE (DOS) ATTACK

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Abstract : **T**he success of the cloud computing paradigm is due to its on-demand, self-service, and pay-by-use nature. According to this paradigm, the effects of Denial of Service (DoS) attacks involve not only the quality of the delivered service, but also the service maintenance costs in terms of resource consumption. Specifically, the longer the detection delay is, the higher the costs to be incurred. Therefore, a particular attention has to be paid for stealthy DoS attacks. They aim at minimizing their visibility, and at the same time, they can be as harmful as the brute-force attacks. They are sophisticated attacks tailored to leverage the worst-case performance of the target system through specific periodic, pulsing, and low-rate traffic patterns. In this paper, we propose a strategy to orchestrate stealthy attack patterns, which exhibit a slowly-increasing-intensity trend designed to inflict the maximum financial cost to the cloud customer, while respecting the job size and the service arrival rate imposed by the detection mechanisms. We describe both how to apply the proposed strategy, and its effects on the target system deployed in the cloud.

Keywords : Cloud computing, sophisticated attacks strategy, low-rate attacks, intrusion detection.

IT_05

RIVER BOUNDARIES EXTRACTION WITH REMOVING MOUNTAIN SHADOW AREAS FOR SAR IMAGES USING IMAGE PROCESSING

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Abstract : **E**xtraction on River boundaries for SAR images is important for analysis edge of river. SAR image processing play an important role for the research developments in many fields of study such as Remote Sensing, Astronomy, GIS and Disaster Management We proposed a river boundaries extraction method to overcome the difficulty to classify river. Therefore, the paper suggested effective method to extract river boundaries in mountain areas on SAR images. The results show exact positions of river boundaries and eliminated mountain shadows effectively, accurately and correctly.

Keywords : SAR; Fusion GIS Information; Segmentation; Level Set; SVM Canny edge detector; Shadow detection and removal.

IT_06

MOBILE OPERATING SYSTEM (MOS) SELECTION ON IDEAL SOLUTION OPTIMIZATION

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Abstract : Now a days Smartphone plays a important role in a day to day life. In recent market there are many mobile companies introducing their mobile devices. But the selection of mobile on better performances looks, brands etc. are difficult to choose. In any mobile device the main ingredient is operating system, like Android, IOS, Windows Blackberry etc. Due to large availability in last few years in mobile companies. The selection of mobile device with its operating system is very difficult. Proposed paper focused on TOPSIS approach which provides the feasible and approximate solution for the Selection of mobile operating system with Ideal solution optimization. TOPSIS method considers both the Ideal solution and Negative ideal solution.

Keywords : Mobile Operating System (MOS), Multi-Criteria Decision Analysis (MCDA). Ideal Solution, Negative ideal Solution.

IT_07

EFFECTIVE STORAGE UTILIZATION FOR IMPROVING ACCESSIBILITY OF CLOUD STORAGE

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Abstract : **I**n a cloud storage environment, file distribution and storage is processed by storage devices providers or physical storage devices rented from the third-party companies. Through centralized management and virtualization, files are integrated into available resources for users to access. However, because of the increasing number of files, the manager cannot guarantee the optimal status of each storage node. The great number of files not only leads to the waste of hardware resources, but also worsens the control complexity of data centre, which further degrades the performance of the cloud storage system. For this reason, to decrease the workload caused by duplicated files, this paper proposes a new data management structure: Index Name Server (INS), which integrates data de-duplication with nodes optimization mechanisms for cloud storage performance enhancement. INS can manage and optimize the nodes according to the client-side transmission conditions. By INS, each node can be controlled to work in the best status and matched to suitable clients as possible. In such a manner, we can improve the performance of the cloud storage system efficiently and distribute the files reasonably to reduce the load of each storage node.

Keywords : Cloud network manager, Cloud storage, De duplication, File chunking, Index Name Server (INS).

IT_08

FILTERING METHOD TO FILTER UNWANTED MESSAGE AND IMAGE IN ONLINE SOCIAL NETWORK

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Abstract : **T**oday Online Social Networks are very important platform for human interaction. Online Social Networks are used to share information, audio or video and also to share images. People can also post the messages or their views on the wall of OSN. These posted messages may show some political or religious view. It may also contain some unwanted messages like vulgar one. Due to this the environment gets disturbed. In order to avoid all these things, a system is proposed in which the posted message and image are filtered according to its content and to check these images one has to apply Optical Character Recognition (OCR) as by this characters of image can be identify and distinguish. Once that words are identify then it is easy to find that whether that image is to reject or not. If the message and image are normal then only it gets posted on the user's wall otherwise it gets filtered by the system. Because of this system, user becomes able to get control on the messages and images which are posting on their wall. Due to that increase security in OSN. If this happens frequently then that the misbehaving user may get temporarily blacklisted due to which the user becomes unable to post a message and image on user wall. This is achieved by using text classification, filtering rules and OCR techniques for image filtering.

Keywords : Online Social Network (OSN), filtering rules, Misbehaving user, Optical Character Recognition (OCR)

IT_09

MOBILE APPLICATION RESEARCH IN SOFTWARE ENGINEERING

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Abstract : **T**here has been colossal development in the utilization of mobile phones throughout the most recent couple of years. This development has filled the improvement of a huge number of programming applications for these mobile phones frequently called as 'application'. Thus, lately, there has been an expanding measure of programming designing exploration directed on portable application to help such versatile application engineers. In this paper, we talk about momentum and future research slants inside the system of the different stages in the product improvement life-cycle: requirements (including non-functional), design and development, testing, and maintenance. While there are several non-functional requirements, we focus on the topics of energy and security in our paper, since mobile application are not necessarily built by large companies that can afford to get experts for solving these two topics. For a similar reason we additionally talk about the adapting parts of a portable application toward the finish of the paper.

Keywords : Mobile Computing, Mobile resources.

IT_29

ABCD MODEL: A NOVEL APPROACH FOR BIG DATA ANALYTIC

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Abstract : To tackle the Big Data challenges analytical approaches for genomics-based massive data cmputation, large scale machine learning techniques for high-dimensional data sets that may be as large as 500,000 dimensions , social analytics for large-scale scientific literatures (led by Rutgers University), and several others. These model seeks to develop methods, algorithms, frameworks, and research infrastructures that allow us to bring the massive amounts of data down to a human manageable and interpretable scale. In reaping the unprecedented opportunities offered by big data analytics including tehnical, organizational and rapid technology change challenges, analysis, and visualization technologies.

Keywords : Big Data, data mining, heterogeneity, Agility, complex and evolving associations.

MECH_01

ANALYSIS OF HELICAL SUSPENSION SPRING FOR COMPOSITE MATERIAL USING FINITE ELEMENT METHOD

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Abstract : Composite materials may someday have big advantages over steel in automobile manufacturing. Composites are being considered to make lighter, safer and more fuel-efficient vehicles. A composite is composed of a high-performance fiber (such as carbon or glass) in a matrix material (epoxy polymer) that when combined provides enhanced properties compared with the individual materials by themselves. Carbon-fiber composites weigh about one-fifth as much as steel, but are as good or better in terms of stiffness and strength. They also do not rust or corrode like steel or aluminum, and they could significantly increase vehicle fuel economy by reducing vehicle weight by as much as 60 percent. In this paper discussion about analysis of helical suspension spring carried out. Helical suspension spring analyzed for different material like steel, carbon fiber composite, Kevlar fiber composite. To get the higher stiffness to weight ratio composite material are used. Spring Geometry is modeled in CATIA software and another hand it is analyzed in ANSYS Workbench under different loading condition.

Keywords : Helical suspension spring, Composite, Carbonfiber, Kevlar fiber, Catia, Ansys Workbench**.**

MECH_02

EVALUATION OF EFFECT OF ANGULAR POSITIONING OF LEGS ON THE STRUCTURAL STABILITY OF A PRESSURE VESSEL USING FINITE ELEMENT ANALYSIS

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Abstract : Pressure Vessel design is primarily a process that is guided by the time tested principles of ASME code. The code has incorporated experience of past 100 years to create a rule based design approach. However this approach is applicable to only standard designs, and it is not feasible for ASME to give rules for non standard designs, hence ASME itself has recommended a design by analysis approach for such designs. Process requirements for the vessel under consideration of this paper, dictated that there should be an unsymmetrical distribution of leg supports. The vessel has six legs, with two of them having a gap of 80 degrees and the remaining maintaining a gap of 56 degrees. This variation from a normal 60 degree standard separation makes it a non standard design fit for design by analysis approach. In addition to this the supports are also titled with respected to the vertical. This angular inclination in combination with the unsymmetrical distribution of legs is the focus of this paper, wherein the effort is to evaluate the effect of this on the structural parameters of deformation and stress.

Key words : Angular supports, Unsymmetrical legs, pressure vessel FEA.

MECH_03

VIBRATION ANALYSIS OF LATHE MACHINE TOOL

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Abstract : Today, machine tools play a vital role in the production of parts in any manufacturing industry. The dimensional accuracy and surface finish of the work piece depends mainly on the condition of the machine. Vibration occurring on machine tools has been being a serious problem for engineers for many decades. Undesired relative vibrations between the tool and the work-piece jeopardize the quality of the machine surfaces during cutting.Many Condition Monitoring Techniques are available to monitor the machine tool experimentally. Among these techniques, vibration monitoring is the most widely used technique because most of the failures in the machine tool could be due to increased vibration level.In the present study, the vibration analysis of a lathe machine component has been investigated. The governing equation of motion of a lathe machine component is formulated using modal analysis approach. Given lathe machine tool is discretised into equivalent six lumped mass system which is having six degrees of freedom and the equivalent model is considered for the development of equation of motion of the machine tool. The natural frequencies and respective mode shapes are estimated using modal analysis. Furthermore, the displacement at each lumped mass is evaluated to investigate the transmission of steady state response to the machine tool. The precautionary measures are also suggested to reduce the transmission of the steady state response.

Keywords : Modal analysis of lathe, vibration monitoring of machine tool**.**

MECH_04

STUDY AND DESIGNING OF SAND SCREENING AND WASHING MACHINE

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Abstract : In recent years the foundry industry has been showing an increased interest in Screening and washing of sands. Deposits of sand and gravel, the unconsolidated granular materials resulting from the natural disintegration of rock or stone, are generally found in near-surface alluvial deposits and in subterranean and subaqueous beds. Sand and gravel are siliceous and calcareous products of the weathering of rocks and unconsolidated or poorly consolidated materials. Grain shape, screen analysis, chemical characteristics, as well as thermal characteristics, must be uniform to get uniform properties in today's sand mixes. We are in a process of developing a concept which has the capability to bring revolution in the field of construction in most developing nations of the world. We present here our concept of "sand screening and washing". This project is a combination of basic principles called as screening and washing which is being used for many centuries in the field of construction all around the world.

Key words : Concrete requirement, Sand screening and Washing processes, screw conveyor.

MECH_05

FATIGUE ANALYSIS OF EPOXY COMPOSITE MATERIAL REINFORCEMENT ON PROPELLER SHAFT

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Abstract : Propeller shaft, also known as propeller shaft is the most important component to any power transmission application; automotive propeller Shaft is one of this. A propeller shaft is a mechanical part that transmits the generated torque by a vehicle's engine into motive force which is usable to propel the vehicle. Substituting composite structures for metallic which is structures has many advantages because of higher specific stiffness and strength of composite materials. This work deals with the conventional replacement of steel propeller shafts with fiberglass epoxy composite propeller shaft for an automotive application. The parameters of design were optimized with the objective of minimizing the weight of a propeller shaft. The design optimization also improves the performance of propeller shaft. Present work deals with FEA analysis of composite shaft with different degree of orientation of glass fibers. It includes the modeling of shaft in CATIA. The meshing and boundary condition application will be carried using Hypermesh, Fatigue analysis of composite shaft will be carried out using ANSYS.

Keywords : Ansys13, CatiaV5R19, fibre-glass epoxy composite propeller shaft, Hypermesh 12.0, Propeller Shaft.

MECH_06

DYNAMIC ANALYSIS OF AN ANNULAR DISK

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Abstract : This paper presents a generalized formulation for out-plane modal characteristics of circular annular disks under combinations of all possible classical boundary conditions. The vibration analysis of a rotating annular plate is of great interest in analyzing many real-life mechanical components such as gears, brake rotors, clutches, flywheels, railway wheels, circular saws and electric motor. In the present study, the free out of plane vibration responses of an annular Disk have been investigated using commercially available finite element software ANSYS®. Various parametric studies are conducted to investigate the effect of the properties of out-of-plane vibration responses with the number of holes, array of holes, slots and different boundary conditions. The comparison of natural frequencies and mode shapes at each mode for different geometries of the Disk is evaluated under various boundary conditions. Effect of holes and slots on damping factor of has been studied.

Keywords : annular disk, modal analysis, damping ratio, transient analysis

MECH_07

EXERGY ANALYSIS CARRIRED OUT TO A SINGLE BASIN SOLAR STILL INTEGRATED WITH NANO-COMPOSITE PCM

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Abstract : In this article, thermal modelling of a single basin solar still coupled with an evacuated tube solar collector under natural circulation mode has been carried out on the basis energy balance equations. The expressions of inner surface of glass cover, outer surface of glass cover, basin liner, and water mass have been derived for the numerical computation. The experiments were conducted under various meteorological conditions for 0.05 m water depth. This experimental setup has been installed at Solar Energy Park, Tamil Nadu College of Engineering, Coimbatore, India (Latitude: 11ýN; Longitude: 77ýE; and an altitude of 409 m above sea level).Observation revealed that there was a considerable increase in the average daily yield of solar still when integrated with an evacuated tube solar collector. For all the cases, the correlation of coefficients (r) between theoretical and experimental values have been verified and they showed good agreement with 0:98 < r < 0:99 and root mean square present deviation of 10:26 < e < 39:7%.

Keywords : Basin liner, nano-composite phase change materials, exergy efficiency

MECH_08

STUDY THE EFFECT OF STATIC & DYNAMIC LOADING ALONG WITH THERMAL ENVIRONMENT ON SANDWICH MATERIALS BY USING FREE VIBRATIONS

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Abstract : Sandwich material panel is a structure made from three layers. A low density core is inserted in between two relatively thin skin layers. This sandwich material is used to achieve excellent mechanical performance at minimal weight. Sandwich panels with polygonal cores are widely used in different structural applications such as aircraft floor panels, control surfaces, civil engineering structures and many more. The main use of these panels is to reduce weight and material usage. These panels undergo various static and dynamic loading along with thermal environment. This project is a comparative study of PVC(Poly Vinyl Chloride), PU(Poly Urethane) ,GRF(Glass Reinforced fibre) all these sandwich materials. So there is requirement to develop the material which can be used easily for various engineering applications.

Key words : sandwich Material, Ansys, Minimal weight, Dynamic loading.

To avoid this for high speed hydrodynamic journal bearing, shape of inner diameter of the bearing is changed such that it will try to avoid oil whip. One of the methods is providing lobes on inner surface of the bearing. Two lobe and multi lobe (more than two lobes) are the two methods to provide lobe on the bearing. The present paper is the comparison of variation of pressure around bearing surface of Two Lobe and Simple Hydrodynamic Journal Bearing is compared.

Keywords : Circular and Two Lobe Journal Bearing, CFD analysis.

MECH_36

TOPOLOGY OPTIMIZATION & EXPERIMENTAL STRESS ANALYSIS OF AUTOMOTIVE BRAKE PEDAL

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Abstract : Brake pedals are widely used in all automotives, which acts as a linkage between occupant and brake mechanism. Existing design seems to be overdesigned as per requirement finite element analysis will be used to apply cantilever load optistruct solver will be used to perform topology optimization. Existing design will be tested using strain gauge technique at tensile loading using UTM machine. Comparative analysis will be done with FEA and experimental units. Conclusion and future scope will be suggested.

Keywords : Brake pedal, optimization, FEA.

MECH_37

COMPARATIVE STUDY OF THE PERFORMANCE OF VAPOUR COMPRESSION REFRIGERATION SYSTEM WITH AND WITHOUT OIL SEPARATOR CUM SUBCOOLER DEVICE AT OUTLET OF CONDENSER.

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Abstract : Aim of present work is to improve the coefficient of performance of vapour compression refrigeration system (VCRS) with oil separator cum subcooler device at the outlet of condenser by using refrigerant R-22. Experimental analysis of 60 TR air cooled scroll water-chiller is completed. The results from VCRS is taken where the variables like suction pressure, delivery pressure, evaporating temperature and condensing temperature of cycle are noted and COP is calculated. Further oil separator cum subcooler is introduced in the system. Oil separator cum subcooler offers increased sub cooling, reduced discharge and

suction pressure, increased heat rejection and reduced energy consumption. The same readings are recorded. Specifications of the energy efficiency of chillers such as COP, energy efficiency ratio (EER) and the input energy ratio (IKW/TR) with and without oil separator cum subcooler at condenser outlet are compared and discussed in the paper.

Keyworlds : subcooling, air cooled scroll water-chiller, energy input ratio (IKW/TR).

MECH_38

REVIEW: LEAF SPRING SUSPENSION SYSTEM OF TANKER TRAILER

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Abstract : The object taken to analysis is a leaf spring which is an automobile component used to absorb vibrations induced at the time of motion in the vehicle. The function of Leaf spring is to distort when loaded and to come its original shape when the load is removed. Leaf springs are long and narrow plates added to the frame of trailer that rest above or below the trailers axle. The work is taken on a semi elliptical Leaf spring which has 8 Leaves. The numbers of leaves arevarying as per load capacity. The objective of this work is to estimate the deflections and stresses calculated by hand calculation and this work is compared with the FEA result. The FEA model of the Leaf spring is made in CATIA V5 R17 and imported in ANSYS 14.5 for Finite Element Analysis. This is most popular CAE tool. The design constrains are deflections and stresses. The strength validation is done with the use of FEA software.

Keywords: Analysis of A Leaf Spring, done in CATIA V5 R17 and Imported in ANSYS 14.5.

MECH_39

METHODS AND STRATEGIES FOR UNIFORM FLUX DISTRIBUTION ON CENTRAL RECEIVER

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Abstract : Life time of components is one of the technological bottle-necks in the development of solar tower power plant technology. The receiver, which is subjected to high and variable concentrated solar flux density is particularly affected: High, variable and non-homogeneous solar flux on the solar receiver walls results in strong stresses because of high temperatures, thermal shocks and temperature gradient that contribute to the reduction of the life time of this key component. Different method to reduce peak flux is used like temperature optimization, control flux distribution and ant colony method.

Keywords : Heliostat, Flux distribution, ACO.

MECH _40

NUMERICAL ANALYSIS FOR IMPROVED CONDITIONED AIR FLOW OF VEHICLE CLIMATE CONTROL SYSTEM INSTRUMENT PANEL DUCT

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Abstract : The main source of this research is to Heating Ventilation and Air Conditioning (HVAC) is that the technology for indoor and automotive closed comfort. HVAC facilitates in managing the pleasant climate inside the cabin by dominant the degree of hotness or coolness. There were times when having associate cooling in an exceedingly automotive was thought of one among the large options, but nowadays air conditioners have become customary instrumentality even in entry-level cars. The climate system requires duct systems to deliver conditioned air. To increase the energy efficiency of the blower in HVAC systems, the pressure loss of the duct network should be minimized, which would require accurate estimation of the pressure loss. The calculation pressure inside duct carried can be out by suitable testing methodology, but it will not possible for each and every modification because of its time consuming and high expensive in nature. So alternatively we choose computer based approach to evaluate the pressure by suitable numerical calculation. It can be predict the behavior reasonably with suited assumptions and also it can be validate or correlation with available test results or hand calculation. A computational numerical study to investigate the effects of flow losses in IP duct has been planned to carried out, since the flow losses has direct impact on vehicle blower energy consumption, it plays an important role in vehicle climate control ducts designs. The current study investigates the effects of geometrical shape of IP duct and thereby optimizing the blower energy consumption. A CFD-Computational Fluid Dynamics modelling methodology will be used to predict the flow characteristics in IP duct, as the flexibility of this approach allows inclusion of much more details than a usual direct conventional calculation.

Keywords : Numerical analysis, STAR CCM +, Flow and Pressure Drop, Instrument panel duct.

MECH_41

ANALYTICAL MODELING AND SELF-TUNED FUZZY-PID LOGIC BASED CONTROL OF QUARTER CAR SUSPENSION SYSTEM

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Abstract : Asuspension system is responsible for driver comfort and safety. It isolates car body from road disturbances. A quarter car suspension is a suspension of 1/4th car body mass. Suspension system has three types: passive, semi-active and active. A passive suspension has fixed damping rates determined by their

design. Semi-active and active suspension uses selective damping rates. In active suspension, energy is added externally to change damping coefficient. This paper focuses on the development of model for 2 DOF quarter car and control algorithm in order to adjust damping rates of damper according to road disturbances. This paper proposes advanced Fuzzy Logic Controller (FLC) to minimize sprung mass displacement and Suspension Working Space (SWS) using MATLAB Simulink. The proposed fuzzy-PID algorithm has better performance in reducing sprung mass displacement than PID controller.

Keywords : Fuzzy Logic, PID, Fuzzy-PID, Quarter Car Suspension, Simulink, Semi-active suspension, MR Damper.

MECH_42

FENCING-A REVIEW

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Abstract : A fence is a structure that encloses an area, typically outdoors, and is usually constructed from posts that are connected by boards, wire, rails or netting. A fence differs from a wall in not having a solid foundation along its whole length. Fences can be defined as structures serving as an enclosure, a barrier, or a boundary, usually made of posts or stakes joined together by boards, wire, or rails.A chain-link fence (also referred to as wire netting, wire-mesh fence, chain-wire fence, cyclone fence, hurricane fence, or diamond-mesh fence) is a type of woven fence usually made from galvanized or LLDPE-coated steel wire. The wires run vertically and are bent into a zig-zag pattern so that each "zig" hooks with the wire immediately on one side and each "zag" with the wire immediately on the other. The manufacturing of chain-link fencing is called weaving. A metal wire, often galvanized to reduce corrosion, is pulled along a rotating long and flat blade, thus creating a somewhat flattened spiral. The spiral continues to rotate past the blade and winds its way through the previous spiral that is already part of the fence. When the spiral reaches the far end of the fence, the spiral is cut near the blade. Next, the spiral is pressed flat and the entire fence is moved up, ready for the next cycle. The end of every second spiral overlaps the end of every first spiral. The machine clamps both ends and gives them a few twists. This makes the links permanent.

Keywords : Fence, Zig-zag patteren, blade, spiral.

MECH_50

DESIGN & STRESS ANALYSIS OF A HOOP WRAPPED CNG COMPOSITE VESSEL WITH AN SAE- 4135 LOW ALLOY STEEL LINER

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Abstract : Fibre reinforced composite material is widely used in various industrial sectors where weight reduction is required without hampering the strength. In this project, an attempt has been made to replace the conventional CNG tank by composite material. The composite CNG cylinder involves a liner hoop wrapped with a fibre impregnated in suitable resin. The liner material used is that of a conventional Type-I CNG cylinder viz. SAE 4135 low alloy steel as per IS 15490. The cylinder liner is manufactured from hot or cold rolled seamless tube formed by metal spinning. The composite material used for hoop winding is e-glass fibre impregnated in epoxy resin. The cylinder has been fabricated using hoop filament winding technique. The vessel has been validated experimentally by conducting hydraulic test. Experimental stress analysis using strain gauges for the composite CNG cylinder is compared with that of conventional cylinder. The metal liner has been designed and fabricated for 50% of the design pressure, while the thickness of the filament winding is determined by using ANSYS software.

Keywords : CNG vessel, Strain Measurement, Composite, Glass Fibre-Epoxy, Hoop wrapped, Hydrotest, Ansys.

MECH_51

CHLORIDE AND CARBONATED INDUCED CORROSION OF MILD STEEL IMMERSED IN CONCRETE PORE SOLUTION

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Abstract : Passive film properties of mild steel immersed in concrete pore solution have been investigated. Mild steel gets passivated after three days of immersion in standard concrete pore solution. As ratio of chloride ions to hydroxide ions exceeds critical chloride level, it becomes active. Passive film will be stable if there is no chloride ions present in pore solution and active corrosion would if threshold chloride level is reached. By the end of 10days of immersion in non carbonated concrete pore solution having 1M sodium chloride, mild steel exhibits maximum corrosion rate 0.6 mpy. The nature curve (From Mott Schottky Plot) when passive film formed on mild steel was n-type. However, it becomes p-type at high negative potential and longer immersion time. Passive film thickness decreases with increase in immersion time, indicating disintegration of passive film as a function of time. Pitting potential gets lowered as chloride concentration is increased. It becomes minimum ie. 540 mV for 1M sodium chloride containing concrete pore solution. High HCO3- concentration enhances the stability of the passive film and the corrosion resistance of the steel specimen, while the low concentration of HCO3- ions accelerates the corrosion.

Keywords : Passive film, Mild steel, immersion.

MECH_52

A REVIEW ON CALOPHYLLUM METHYLESTER AS A POSSIBLE SOURCE OF FUEL IN CI ENGINE

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Abstract : Global warming and environmental pollution are the major concern today. Fossil fuel will face a serious shortage in the near future and become rare. So there is a high priority to find alternative energy as their sustainable energy sources. Besides having various sources of alternative fuels, Biodiesel is considered as a cleaner renewable fuel and best substitution for diesel fuel due to it being used in any compression ignition engine without any modification. The main advantages of using biodiesel are its renewability, availability, and better quality of exhaust gas emissions. This paper reviews performance and emission of Calophyllum inophyllum biodiesel and its blends when tested on the diesel engine with varied compression ratios, injection pressure. It is understood that the performance characteristics are more over similar for the biodiesel blend and diesel. The emission like CO, HC, and smoke opacity showed reduction with increase in compression ratio, NOx emission slightly high for Biodiesel blends when compared to diesel.

Keywords : Alternate fuel, Calophyllum Inophyllum Biodiesel, diesel engine, Compression ratio, Injection pressure, Performance, Emission.

MECH_53

ANALYSIS OF HELICAL SUSPENSION SPRING FOR DIFFERENT MATERIAL USING FINITE ELEMENT METHOD

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Abstract : There is tough competition in the automobile industry to reduce the weight and optimize the characteristics of suspension system. In this paper discussion about analysis of helical suspension spring carried out. Helical suspension spring analyzed for different material like steel, carbonfibercomposite, Kevlarfibercomposite. To get the higher stiffness to weight ratio composite material are used. Spring Geometry is modeled in CATIA software and another hand it is analyzed in ANSYS Workbench under different loading condition.

Keyword : Helical suspension spring, Composite, Carbonfiber, Kevlar fiber, Catia, Ansys Workbench.

MECH_56

AN EXPERIMENTAL INVESTIGATION AND PREDICTION OF LASER WELDING PROCESS FOR IS 2062 & AISI 304

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Abstract : The method to weld AISI 304 & IS 2062 with high power (CW) CO2 laser has been analyzed. The principal purpose of this study was to find out the determinative effect of laser beam location with respect to the joint. Laser welding method was effectively used for joining similar and dissimilar metals. In the present study, laser welding method on mild steel (IS 2062) & stainless steel (AISI 304) sheet of 2 mm by investigation resulted to identify the anticipation model. A statistical DOE method full factorial design with help of design expert software has been used to designing experimental work. The chosen laser welding input factors (laser power, travelling speed & focal position) have been used & the co-relation between these various factors has been investigated. The outcome of each constant has been designed. Analysis of Variance (ANOVA) has been used for determining the effort of each factor, main effects plots and the physical phenomenon plots have been plotted in order to interpret the actual outcome of input on the output. The consequence hasbeen predicted by artificial neural network using Minitab.

Keywords : annova, DOE, LBW,optimization.

MECH_57

EFFECT OF SHAPE ON VIBRATION CHARECTERISTICS OF AUTOMOTIVE SIDE PANEL

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Abstract : Plate structures have been widely used in structural, naval, automobile, and aerospace engineering. However, plates exhibit poor vibration performance due to their lateral flexibility (i.e., plates can be deformed easily in the out-of plane direction under static or dynamic loads). The vibration properties of plates can be modified by different methods. One objective of these methods is to shift the plate natural frequencies away from the frequency of the excitation force to avoid resonance. One cost effective method to improve the vibration characteristics of plates is to modify their shapes. In this study, shape modification is used to optimize the vibration characteristics of plates. In particular, corrugation is used in plate construction to maximize the

APPSCI_01

A COMPARATIVE EVALUATION OF ANTIMICROBIAL ACTIVITY OF BIOACTIVE ISOLATE OF EMBELIA BASAL AGAINST SALIVARY MICRO FLORA OF MIXED DENTITION AGE

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Abstract : The increasing failure and side effects of popularly used chemotherapeutic and appearance of multiple drug resistant phenotypes in pathogenic bacteria led to the search of new compounds with antimicrobial activity. Medicinal plants have proved to be significant resources for medicines; documentation of their use in medicine originates from ancient times. Embelia basal (family Myrsinaceae) is a medicinal plant used in traditional Indian medicine for the treatment of various ailments. The genus Embelia has been investigated for a variety of purposes in Ayurveda; taking into consideration the plant was selected to evaluate its potential antimicrobial activity. The study was performed using bioactive isolate of E. basal, 2- (2, 4, 5 – trihydroxy – 3 – oxocyclohexa – 1, 5-dienyloxy) -3, 5, 6- trihydroxycyclohexa-2, 5-diene-1, 4-dioneof E. basal at different concentrations by 'well-diffusion' method. The active component was screened for antimicrobial activity against salivary micro flora collected from children of 6-12 years of age group having DMFT = 4. The Isolate exhibits significant results as compared to standard zones of inhibition of 0.2% Chlorhexidine. The results confirmed the antimicrobial potential of E. basal in active isolate at all the concentrations and can be used as preventive and therapeutic measure in dentistry and treatment of oral diseases.

Keywords : Embelia Basal, Bioactive Isolate, Salivary Micro Flora, Antimicrobial Activity.

APPSCI_02

BIOMEDICAL APPLICATIONS OF POLYLACTIC ACID (PLA): REVIEW STUDY

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Abstract : In recent years it has been observed increase in biodegradable polymeric materials in medical field. Polylactic acid (PLA) is one of the members of biocompatible and biodegradable materials which prepared from natural resources. Lactic acid (produced by fermentation) is the starting organic chiral acid from which PLA synthesized by using different biocompatible catalysts. PLA is the principal biodegradable and bio absorbable polymers used in tissue engineering. Non-toxic nature of degradation products, PLA based polymeric materials are ideal for the preparation of various polymeric devices used for medical applications. Diblock copolymers could be utilized as functional biodegradable drug carriers and other devices. PLA polymeric materials can be used for orthopedics, the treatment of nerve or spinal cord injury, blood brain barrier, delivery of therapeutic agents to vascular dissections, intraocular drug delivery systems etc. discussed here.

Keywords : Polylactic Acid, Biodegradable, Biocompatible.

APPSCI_03

REVIEW ON APPLICATION OF SIMPLEX METHOD IN THE RADIOTHERAPY TREATMENT

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Abstract : This work presents an application of the Simplex Method for solving an optimal planning problem for cancer treatment by radiotherapy. Linear Programming canaid the optimal planning for radiation therapy, where the concern is to apply a high enough radiation in the tumor while saving significantly healthy regions or criticalorgans.

Keywords : Linear Programming, Simplex Method, Radiotherapy.

APPSCI_04

COUPLED COINCIDENCE AND COUPLED COMMON FIXED POINT THEOREMS ON A FUZZY METRIC SPACE WITH A GRAPH

Kenvat R. M.

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Abstract : In this paper, our aim is to introduce the concept of (G- g)-contraction mapping andprove some coupled coincidence and coupled common fixed point theorems for nonlinear contractionmappings in the new set up of partially ordered complete fuzzy metric spaces endowed with a directedgraph. As an application, we apply our results to present an existence theorem for solution of someparticular integral equations. Our paper is inspired by the work of D. Eshi, P. K Das and P. Debnath[5](Fixed Point Theory Appl. (2016) 2016:37).

Keywords : Fixed point, Fuzzy Metric Space.

APPSCI_05

APPLICATION OF FUZZY LOGIC IN WASTE WATER TREATMENT (FUZZY FILTER)

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Abstract : Fuzzy controllers were used in all processing steps of wastewater treatment. It was also observed that the fuzzy controllers provide very good results in various operating conditions. Depends on the process sensitivity the direct control methods may have lot of failures, but these days the application of fuzzy logic in waste water treatment become very important. Keeping this in mind the fuzzy logic applications in wastewater treatment is necessary to understand the wide variety of uses. Many uncertain factors may affect the operation of Wastewater Treatment process, due to the complexity of wastewater treatment processes,

classical methods showed significant difficulties when trying to control them automatically. Consequently soft computing techniques and, specifically, fuzzy logic appears to be a good idea for controlling these ill-defined, time-varying and non-linear systems. Hence the understanding of application of fuzzy logic becomes a need of the time.

Keywords : Fuzzy logic, wastewater treatment, soft computing techniques.

APPSCI_06

SYNTHESIS OF Pd NANOPARTICLES BY USING SPIN COATING METHOD

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Abstract : Objective Preparation of Pd nanoparticles by spin coting method for catalytic applications. Method: There are many methods of synthesis is nanoparticles, but spin coating method is most useful and low cost method of preparation of nanoparticles. In this paper spin coating method is successfully used to deposit a palladium nanoparticles on glass substrate by spin coating of Pd+ ions solution followed by either chemical reduction through aqueous or thermal reduction in H2 environment. Morphology and absorption spectra hydrazine hydrate measured by atomic force microscopy and Uv-Vis-NIR spectrophotometer were used to study the effect that 300 sec dipping in 0.005M aqueous hydrazine hydrate solution deposited by spin coating of 0.005M $PdCl_2$ solution at 2000 rpm with 200 rpm/sec for 30 sec to Pdnanoparticles. Full coverage of particles on substrate were obsorved. From AFM images also magnify images shows the deposited $PdCl_2$nanopartocles are rod shaped whereas after reduction Pd nanoparticles are obtained. With the help of spin coating we have successfully deposited Pdnanopartilcle.

Keywords : Nanoparticles, Catalyst.

APPSCI_27

AGRICULTURE DEMAND SIDE MANAGEMENT: OPPORTUNITIES TO IMPROVE ENERGY EFFICIENCY & LIMITATIONS

Atpadkar Amol V[1]., Raskar Shivaji Kisan[2], Pragati N. Korde[2]

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Abstract : In Maharashtra there is near about 68% population lives in villages & major occupation of villagers is agriculture. Since last 3 years farmers are faced the problem of shortage of water for agriculture as well as for drinking water. Because of continuous drought hit, there are badly effects on crop production quality of production. Also Maharashtra faces the problem of electricity supply as there is large difference between generation and demand of electricity therefore it is essential to save water and energy to salve above said problems. By agriculture demand side management both water and energy saving is achieved.

Keywords : AgDSM, SEB, ESCO

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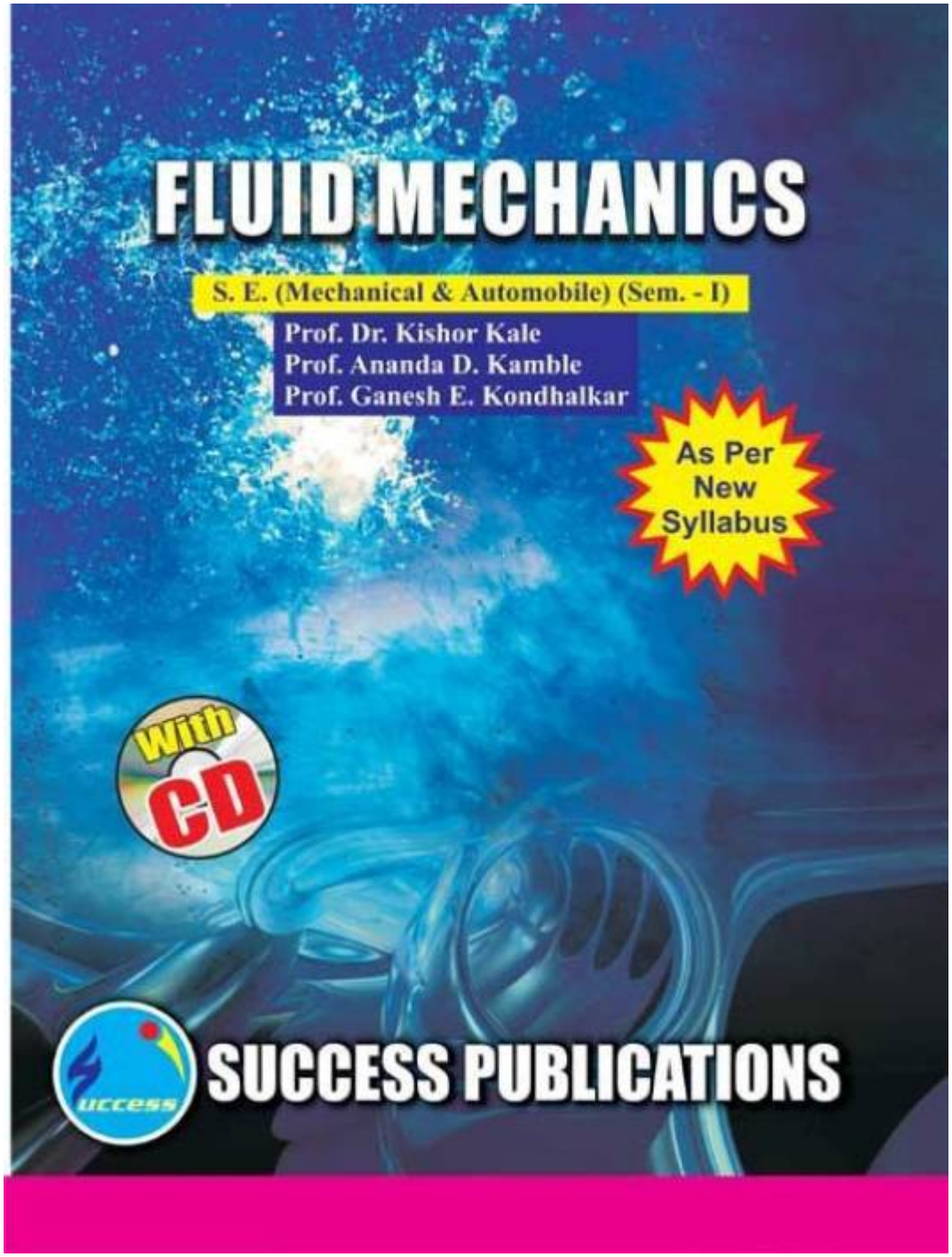
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CIVIL_ 01

BARK OF SAPINDUS TRIFOLIATUS: LOW COST ADSORBANT TO REMOVE FLUORIDE FROM WATER.

Dr. S.B. Thakare 1#, Dr.Rao, Dr.A.V.Parvate

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Abstract : India is among the 23 nations in world where fluoride contaminated ground water is creating health problems. Around 62 million peoples including 6 million children below the age of 14 years in 20 states of the country are affected with dental, skeletal and/or non-skeletal fluorosis. Ground water in many parts of India contains fluoride in the range of 1.0 mg/1 to 15 mg/1. In some situation these values may be more than 15 mg/l. Fluoride is a salt of an element called fluorine and fluorine is the 17th most abundant element constituting about 0.065% of the earth's crust. Fluoride enters surface water and ground water system through dissolution and leaching of mineral deposits and rock formation, precipitation and flooding events and release of inadequately treated or untreated waste into the environment.

A study was conducted to investigate the possibility of removing fluoride from water using bark of sapindus trifoliatus. Different parameters of sorption viz effect of dose of sorbent, pH, initial fluoride concentration; contact time and particle size of sorbent were studied. The study reveals that bark of sapindus trifoliatus (BST) is a better adsorbent with good adsorption capacity and higher adsorption potential. Maximum defluoridation occurs immediately after the experiment was started. The optimum sorbent dose was found to be 20,000 mg/1. It was observe that equilibrium achieved in 360 minutes and enhanced adsorption was obtained at pH of 7.5. Maximum fluoride removal observed to be 82.88% for the initial fluoride concentration of 8mg/l at optimum conditions. This technique is going to be very significant since most of the rural population live below the poverty line and can not afford treated or bottled water for daily consumption. In this respect our study will be of great relief to those water supply system where fluoride ion concentration is reported to be very high.

Keywords : Fluoride, Defluoridation, Bark of Sapindus Trifoliatus (BST).

(The said research work has been carried out in the laboratory of Environmental Engineering, Department of Civil Engineering, APCOER, Parvati, Pune, M.S.)

removal process, were investigated. The optimum pH range for adsorption of Cr (VI) was found to be 2 with adsorbent particle size of 150–300 µm. Adsorption capacity was found to be 6.76 mg/g of adsorbent, at Cr (VI) concentration 50 mg/l in the aqueous solution. The results indicate that pre -treated cashew nut shell can be fruitfully utilized as an alternative low cost adsorbent for the removal of Cr (VI) from the industrial wastewater.
(**Key words** – Adsorption, Adsorbent, Cashew Nut Shell, Contact time, pH, Particle size and Wastewater)

CIVIL_ 02

WATER DISTRIBUTION SYSTEM CLEANING THROUGH FLUSHING METHOD AND OTHER ALTERNATIVES

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Abstract: Water distribution systems have main aim to supply treated water to consumers with desired quantity, pressure and quality. While supplying water in distribution system sediments particles use to come in distribution mains, service lines and storage reservoirs. Accumulated sediments have impact on service life of component parts of distribution system. If deteriorates pipe material; reduce efficiency of water carrying capacity of pipe, offer frictional resistant to inside pipe material, erosion of pipe takes place, quality of water will not be maintained up to consumer end. Accumulated sediments block water mains, valves and other pipe fittings followed by increase in operation and maintenance costs. The various approach used to cleaning sediments from water distribution pipe network are reviewed in this paper. The reviews mainly focus on flushing methods of cleaning with suitability for public water distribution systems of developing cities are taken into consideration.

Keywords: - Water distribution system, sediments, cleaning, flushing, air scrubbing, swabbing and UDF.

CIVIL_ 03

MECHANICAL PROPERTIES OF CONCRETE IN-CORPORATING WASTE FOUNDRY SAND AND STEEL FIBRE

Bhoite V. R.
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Abstract-Metal foundries have large amounts of the metal casting process. Foundries successfully recycle and reuse the sand many times in a foundry and the remaining sand that is termed as foundry sand is removed from foundry. This study presents the information about the civil engineering applications of foundry sand, which is technically sound and is environmentally safe. Use of foundry sand in various engineering applications can solve the problem of disposal of foundry sand and other purposes. Foundry sand consists primarily of silica sand, coated with a thin film of burnt carbon, residual binder (bentonite, sea coal, resins) and dust. Foundry sand can be used in concrete to improve its strength and other durability factors. Foundry Sand can be used as a partial replacement of cement or as a partial replacement of fine aggregates or total replacement of fine aggregate and as supplementary addition to achieve different properties of concrete. But we concluded from literature that replacement of fine aggregate with foundry sand more than 50% reduces mechanical properties of concrete. In the present study, effect of replacement of foundry sand as fine aggregate on the compressive

strength, split tensile strength and flexural strength of concrete. Fine aggregates are replaced with three percentages of foundry sand. The percentages of replacements are 0, 25, 50 and 75 % by weight of fine aggregate, along with 1% of steel fibre to the total volume of concrete. Tests will be performed for compressive strength, split tensile strength and flexural strength for all replacement levels of foundry sand for 28-days curing period.

CIVIL_ 04

ROLE OF COLUMN SHAPE IN EARTHQUAKE RESISTANT FRAMED STRUCTURE

Prof. Supriya B. Shinde

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Abstract— Shape and orientation of column are very important from the structural design point of view, since these directly affect the strength and stiffness of the structure. Proper attention should be paid to this aspect before any structural design. Normally in rectangular column one dimension of column is kept 230 mm so that it can be flushed with the wall and other dimension is generally 600/900/1200 mm. This large dimension causes obstruction in the carpet area, it also create a problem in maintaining the strength and stiffness in both the directions. Thus to avoid such kind of problem, lamellar shape ('T','L'&'+' shape) of columns can be suggested which would play vital role in structural configuration and utilization.

Keywords - Lamellar Column, structural configuration, Utilization, Strength, Stiffness, Shape and orientation, Earthquake Analysis.

CIVIL_ 05

COW DUNG FOR INCREASING THE PH OF LEACHATE AND COW IMPORTANCE FROM VEDIC SCRIPTURES

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Abstract— Now a day's pollution is increasing rapidly whether it is related to land or it is related to soil, water and air. This is due to increase in industrial activities in which some industries releases their waste without treating them and ultimately polluting the environment and if these pollutants pollutes the soil than it will be consumed by plants through roots which ultimately affects the members of ecosystem or environment and also due to use of chemical pesticides soil gets polluted and also these pollutants enter the plants through roots and ultimately affects the members of ecosystem and environment. So we have to search for better alternatives for chemical pesticides. Now as soil are polluted so we have to search for treatment which does not pollute the environment but also helpful to change some soil properties. In this research cow dung was used for treatment of polluted soil which was polluted by sulphuric acid. Due to addition of sulphuric acid pH of soil lowers down but with the addition of cow dung pH of soil increases which is good sign of treatment for soil. Now in case of leachate when it is acidic in nature it will further pollute the soil and groundwater by increasing

the solubility of metal ions which are toxic in nature. Hence when we mix cow dung with soil it will help to increase the Ph of soil as well as leachate, ultimately minimising the soil and groundwater pollution. The historical importance of Indian Cow from vedic scriptures and her effective utilization of panchgavya (mixture of urine, milk, ghee, curd and dung of Indian Cow) and individual products mentioned in various vedic book like Bhagwat Geeta, Mahabharat,etc were studied which was suggested by the known holly persons who were using cow dung as a medicine ,as a thermal insulator, as a plaster, flooring etc.

Keywords— pollution, industrial activities, ecosystem environment, chemical pesticides, sulphuric acid, leachate, vedic scriptures, panchgavya, cow dung, medicine , thermal insulator, plaster, flooring etc.

CIVIL_ 06

STUDY AND DESIGN OF (UTWT) ULTRA THIN WHITE TOPPING BY REPLASING NATURAL SAND TO CRUSH SAND

Deshmukh Y. R.1

1 Assistant Professor, Dept. of Civil engg., APCOE&R, Pune, India.

ABSTRACT : white topping is rehabilitation treatment on asphalt concrete. It is defined as Plain Cement Concreteoverlay on asphalt concrete. It provides a new innovative method of rehabilitation at a very low cost with very goodresults and low maintenance cost. This method of rehabilitation/strengthening can be adopted for rural road networkand district roads as these roads have low to moderate traffic. Even on the State Highways and some recentlydeclared National Highways, where traffic is moderate, the above method of strengthening has a lot of promise. Byadopting proper construction methods, we can rehabilitate large network of roads at reasonable cost and we getadditional long life. This paper presents a methodology to adopt white topping as rehabilitation treatment and costeffectiverehabilitation alternative for preserving bituminous pavements on long-term basis.

CIVIL_ 07

DELAYS IN CONSTRUCTION PROJECT AND THEIR PREVENTIONS

Deshmukh Sushma Shridhar

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Abstract—Construction industry is one of fast growing industry all over the world Delays are one of the biggest problem in construction project. Construction delays can be identified as late completion of construction project. Delays can be minimized only when their causes are indentified. The objective of this paper is to study causes of construction delays, effects of delays and methods of minimizing construction delays. Project delay basis of Past literature review. There are many factors induced in delay of project some of factors identified as: lack of funds, changes in drawing, lack of effective communication, poor project management. It is therefore recommended that adequate construction budget, timely issuing drawings and information, good project management skills should be main focus of project procurement process.

Keywords- causes of delays, effects of delays, construction project, project management

Civil_ 08

SCHEDULING & MONITORING A FLYOVER CONSTRUCTION PROJECT AND PREPARING SCM MODEL FOR IT

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Abstract : Planning, scheduling plays a vital role in improving the prospects of successful implementation of infrastructure projects. Project planning involves defining and coordinating activities and work tasks, preparing work schedules, assigning and allocating resources to competing activities and developing an acceptable budget. The scheduling is just one of the tools will be used to manage activities and duration. The scope of this work is to Consistent view of project status and issues, is to ensure that the project is completed within the allocated and approved budget; Work Break Down structure will be prepared, duration and predecessors for each activity will be assigned, Critical Path will be determined, Resource analyzing and leveling will be done for entire,. Estimating is to assign resources to each activity in the activity list. Total duration and cost will come to know by using Primavera. An effective planning, scheduling will help in emerging problems and taking time correctively action.

Keywords : Planning, Scheduling, Resource, Activity, Duration and Primavera

CIVIL_ 09

APPLICATIONS CIVIL ENGINEERING FOR SOCIO ECONOMIC AMELIORATION OF BELOW POVERTY LINE FAMILIES

Prof. S. B. Patil , Prof. S. G. Nikam

Abstract- The application of Civil Engineering For Socio Economic Amelioration of Below Poverty Line Families In Maharashtra State at Amboli village in Kolhapur district near pethvadgaon during the period of 2010-2012 with main objective is reducing the poverty and socioeconomic development of community . For this purpose Civil Engineering based income generating activity is given to the people. This paper represents the appropriate use of available natural resources and improving the economical status of the people by using the civil engineering application.It is based renewable or non conventional energy source. For this implementation and training programme of compact mini biogas project is given to the people in this village.It reduce the cost of fuel consumption used in domestic appliances and it will be the income generating source by the installation of compact biogas plant.

Keywords: *Respondent, Income generating activities.*

CIVIL_ 10

ONSITE WASTE MANAGEMENT METHODS USING LOW COST TECHNOLOGY

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Abstract—Rapid industrialization&urbanization is putting ever increasing burden on the available water resources. The migration towards the city is also putting lot of burden on the existing infrastructure. The changing FSI rules are resulting into more and more concentration of population and thus the city populations are exploding exponentially. As against this, the improvements required in infrastructure facilities are way behind the requirement. Due to this ever increasing gap in the actual requirement of waste treatment facilities for both solid and liquid waste, more and more untreated wastes are getting discharged in the environment. So it is important to find out technical solution on it which is sustainable as well as economical. 'Zero Waste Disposal System' is a vital approach on this to not only prevent the shocking load on S.T.P, but also contributes in direction of water conservation as well as on site solid waste disposal. ZWDS can effectively solve the disposal problem of waste water and also create some tangible and intangible benefits. This paper includes the concept of Zero Waste Disposal for Multi-storied Buildings by reusing and recycling of both liquid waste and solid waste management, energy generation. Generation of biogas from black water by passing it to the digester is predominant in this system. The generated biogas is can be supplied to the users of the building which will help to reduce LPG consumption by 50 to 60%. There is a possibility of treating the generated grey water within the polluter's premises using Stabilization Tank. Stabilization tank design for treatment of grey water works to be very effective as the difference between the inlet and outlet parameters are very predominant from the reuse and recycle point of view.

Key words—Water conservation, zwds, biogas, digester, stabilization tank, grey water

Civil_80

RISK ANALYSIS OF CONSTRUCTION PROJECTS USING PRIMAVERA RISK ANALYSIS SOFTWARE

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Abstract:-Risk is present in all projects irrespective of their size or sector. If risks are not properly analyzed, the project is likely to lead to failures.This paper covers the use and benefits of computer software i.e. Primavera Risk Analysis in Risk Management Process of construction projects to analyze the risks involved in a construction project. It includes the preparation of schedule, assigning the 3-time estimate durations and performing iterations using primavera risk analysis. Preparation of schedule is the input to the Primavera Risk Analysis software after which the risk analysis is performed and we get output in the form of distribution graphs. Schedules which are prepared using Microsoft Project (MSP) and PRIMAVERA (P6/P3/XER) can be imported to Primavera Risk Analysis or it can be prepared directly in Primavera Risk Analysis to perform the analysis. The result gives us the probable start and finish date and its deterministic probability.

Keywords: Primavera Risk Analysis, Primavera, construction project, Schedule, risk.

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A Review of Automated Monitoring System in Construction of Road Project

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Abstract.:This paper covers the literature Review of automated monitoring system by various researchers in the field of construction of road project and also covers the growing need for better monitoring and control of road construction projects together with rapid technological progress which leads to the shift of focus in construction automation towards the area of automated project performance control (APPC). The productivity in construction depends upon the development of models for project monitoring and control which processes the collected data on the project performance, automatically. Authors have presented the process of automated monitoring of road construction activity and conducted the test to overcome the limitations of conventional monitoring method. This will help to understand the need of implementing the automated monitoring system, creating awareness and interest about learning and implementing the rapid developing monitoring system in the construction road project.
Keywords -Automation, Project Performance, Project Control, Data Collection.

I.Introduction.

The construction industry lags behind other manufacturing industries in project performance control. The current practice of manual amassment of monitoring requires massive data collection, more labour intensive, Hence the cost of collecting the data and generating the information is high and the quality integrity and real time availability are low .Hence the focus of our construction automation (CA) research has shifted in recent years to the area of Automated Project Performance Control (APPC). This area deals with automated quantification, in authentic-time, of project performance be speakers (PPI) such as cost, schedule, productivity, and inputs consumption etc.Utilizing Automated Data collection (ADC) technologies. That may lead to enhance the ability of construction managers to respond expeditiously to project performance quandaries. Hence Present study puts efforts in efficacy in cull of best practices method control method to optimizing overall cost of project.

An overview is presented here of an extended research programme called automated project performance control (APPC),Which has been conducted for the last two decade (Navon ,2007).main aim of paper to overview the number of model presented in the framework of APPC programme to reduces the deficiencies of manual data collection and processing.

A major driver for the APPC programme in the development of automated data collection (ADC) technologies and their declining costs. Readily available ADC technologies such as global positioning system (GPS), radio frequency identification (RFID), 3D cameras and laser scanners can facilitate the tracking of worker, equipment, material and construction progress in real time.(Taneja,2011).In the APPC programme models were study to convert automatically collected data into information regarding the project performance indicator(PPI) such as cost schedule resource consumption ect.These PPI can be compared with the project plan to identify deviation and opportunity for improving productivity. This research direction has two major drivers:

(a) The increasing need for feedback and monitoring information.

(b) The rapid technological developments in ADC technologies and their declining costs.

For more than a decade researchers have been pointing out the deficiencies of the current-practice, manual data collection, and/or the need to automate the collection and the processing of the data to produce useful and up to-date feedback information without investing too much cost. Hence automated project performance control (APPC) gives an idea about how to automate labour and earth-moving equipment productivity measurement, how monitoring tower cranes helps to control progress, how to control the entire materials management process, and initial attempts to automate workers safety control.

The main challenge today in automating the control process is the automated measurement of the project performance indicators (PPI). There is no direct method to measure performance indicators automatically. Consequently, this paper gives an overview indirect method used for it. There are many examples of measuring devices, which evaluate a given parameter indirectly, e.g. Global Positioning Systems (GPS), which measure time-of-flight of a signal from known reference stations and calculate positions. The same approach is used here for automated PPI measurement—the values of some indirect parameters are measured automatically and converted into the sought value of the PPI by special algorithms.

II.Literature Review

Shabtai Issac, Ronie Novan carried out an extended research programme from past two decades to examine how productivity in construction projects can be improved through the development and study of models for project monitoring and control, which process automatically collected data on the actual project performance. For this purpose he were conducted test on these models to demonstrate that this approach can help overcome some of the limitations of existing manual methods. However, they also indicate that certain manually obtained data are still required in addition to the automatically collected data. A framework for semi-automated project monitoring and control is proposed, in which both manually and automatically collected data can be incorporated. This framework integrates the

COMP01

PROCESS OF INTERNATIONALIZATION, LOCALIZATION AND AUTO LOCALE DETECTION WITH RESPECT TO MULTILINGUAL APPLICATIONS

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ABSTRACT: Internationalization or localization defines the approach that is advised while developing any multilingual software or application so that the particular software can be used for different languages in different countries and this process does not require to make any engineering changes to the software. This approach involves the process of separating the parts of a program that are dependent on language and culture. Whereas the localization focuses on a specific locale where that particular software is used and all the necessary changes made accordingly. The proposed system automates the locale detection process with the IP Address ranges. Depending up on the locale detected the content are shown in the respective language used in that particular locale.

KEYWORDS: Internationalization, localization, localized, locale, multilingual, culture.

COMP02

A SURVEY OF METHODS TO IMPROVE CONVERGENCE SPEED AND SCALABILITY OF OSPF PROTOCOL

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ABSTRACT: Open Shortest Path First (OSPF), a link state routing protocol, is an admired interior gateway protocol (IGP) in the Internet. Wide spread deployment and years of experience running the protocol have motivated continuous improvements in its operation as the nature and demands of the routing infrastructures have changed. Modern routing domains need to maintain a very high level of service availability. Hence, OSPF needs to achieve fast convergence to topology changes and also requires highly scalable operation on part of OSPF to avoid routing instability. In the event of a device failure in the network, the protocol required several tens of seconds to recover from the failure. During this transient state, the network service would suffer serious deterioration in quality or breakdown completely. With the advent of real-time applications on the Internet over the last decade or so, a service deterioration/breakdown extending several tens of seconds can no longer be tolerated. The desire for quick failure recovery motivated extensive research to improve OSPF's speed of convergence.

KEYWORDS: OSPF, Fast Convergence, Scalability.

COMP03

DETECTION OF LEUKEMIA IN HUMAN BLOOD SAMPLE BASED ON MICROSCOPIC IMAGES: REVIEW

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ABSTRACT: Leukemia is a group of cancers that usually begin in the bone marrow and result in high numbers of abnormal white blood cells. Identification of blood disorders is through visual inspection of microscopic images of blood cells. From the identification of blood disorders, it can lead to classification of certain diseases related to blood. In this paper review of a preliminary study of developing a detection of leukemia types using microscopic blood sample images. Analyzing through images is very important as from images, diseases can be detected and diagnosed at earlier stage. From there, further actions like controlling, monitoring and prevention of diseases can be done. Images are used as they are cheap and do not require expensive testing and lab equipment. The system will focus on white blood cells disease, leukemia. For the automation process images are the inputs and for processing the images we need images processing techniques like image enhancement, image segmentation, Feature extraction and Classification etc. This paper study about the leukemia and reviews the image processing techniques used to detect leukemia.

KEYWORDS: White Blood Cell, Microscopic Images, Leukemia, Reinforcement Learning

COMP04

A SURVEY PAPER ON "ROUTING PROTOCOLS IN MANET"

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ABSTRACT: In Mobile ad hoc wireless networks mobile nodes can access the Internet via one or more stationary gateway nodes when routed correctly. Routing is one of the most basic networking functions in mobile ad hoc networks. Several routing protocols have been proposed in recent years for possible deployment of Mobile Ad hoc Networks (MANETs). But routing in wireless communication systems such as ad hoc networks remains a challenging problem given the limited wireless bandwidth, users' mobility, and potentially large scale. Recently, researchers have addressed these problems by giving different protocols based on on-demand routing, geographical routing, and virtual coordinates. The protocols differ in terms of routing methodologies and the information used to make routing decisions. The on-demand routing covers a wide range of protocols Ad Hoc on demand Distance Vector routing (AODV), Load Balancing LB-AODV, Dynamic Source Routing (DSR), Optimized Link State Routing (OLSR) and Temporally Ordered Routing Algorithm (TORA) Associativity-Based Routing (ABR). The final selection of an appropriate protocol will depend on a variety of factors. There are various factors like Bandwidth, Power, Efficiency, Performance, Scalability, Packet delivery,

COMP07

IMAGE PROCESSING WITH HEXAGONAL PIXEL STRUCTURE IN DIGITAL IMAGE PROCESSING

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ABSTRACT: The image processing is very important in several applications and have been using in them very efficiently like forensic imaging, medical imaging and computer graphics etc. Normally we use a rectangular grid for the processing of images. There could be some other approaches to use as an alternate for this. One new approach is to change the grid from rectangular to hexagonal, because of its various advantages over the later. Out of the many advantages for the hexagonal structure in image processing, the primary one is its resemblance with the arrangement of photoreceptors in the human eyes. Due to the change in arrangement the amount of pixels required is very less. There is no inconsistency in pixel connectivity and thus angular resolution is higher in this arrangement. Hexagon pixel is advantageous over square pixel because of its, higher sampling efficiency, equidistance, less aliasing effect, greater angular resolution, higher symmetry, consistent connectivity. Edge detection on spiral architecture has features of fast computation and accurate localization. In this paper, firstly picture quality of image using hexagonal pixel structure is reviewed.

KEYWORDS: Image processing, Square pixel, Hexagonal pixel, Digital image processing.

COMP08

OO PROGRAMMING LANGUAGES DIFFERENTIATION

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ABSTRACT: There are many IT industries which are developing rapidly. Also number of people want to be in a best software company and also they want to learn programming languages. But selection of proper language is very difficult process. Now a day's many programmers and businesses support object oriented programming for their task. There are many advantages of using Object Oriented Programming rather than traditional procedural language. In this paper, study has been done on two most popular object oriented programming languages that are C++ and Java. This paper contains an idea about the problems in selection of the language and the purpose of this research. It gives us the description of C++ and Java and also differences between them. As we know that C++ is the extension of C language and Java language is influenced by C++. But both C++ and Java are having their different design goals. .At last paper concludes that which language is better for programming and can be used for software development in IT industry.

KEYWORDS: Programming Languages Object Oriented Programming and Object Oriented Languages - Java, C++

COMP09

RULE BASED APPROACH FOR ABSTRACTIVE TEXT SUMMARIZATION

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ABSTRACT: As the volume of information available on the Internet increases, there is a growing need for tools helping users to find, filter and manage these resources. While more and more textual information is available on-line, effective retrieval is difficult without proper indexing and summarization of the content. One of the possible solutions to this problem is abstractive text summarization. The idea is to propose a system that will accept single document as input in English and processes the input by building a rich semantic graph and then reducing the sentences with the help of reduction rules for generating the final summary.

KEYWORDS: Part-of speech (POS) tagging, rich semantic graph, abstractive summary, named entity recognition (NER).

COMP10

AUGMENTED PERFORMANCE ANALYSIS OF BLOCK TRUNCATION CODING BASED IMAGE RETRIEVAL TECHNIQUES THROUGH SUNDRY SIMILARITY MEASURES

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ABSTRACT: Block Truncation Coding based image retrieval techniques are one of the prominent techniques that are widely used for content based image retrieval (CBIR) systems. It gives better efficiency and accuracy for CBIR system, due to which it is possible to overcome many issues from traditional image retrieval systems. Now a day's massive amount of images are being produced due to advances in various technologies and applications. With the help of text based image retrieval system, problem of image retrieval become more challenging and does not produces optimum results. Most of the web based image retrieval systems purely based on metadata, which produces lots of garbage data as a result. Also it is impossible to manually enter keywords for images in large databases as it is inefficient, expensive and may not capture every keyword. Block Truncation Coding centered Content Based Image Retrieval (CBIR) system has been developed to address these issues from traditional image retrieval systems.Visual information retrieval plays a significant role for Content Based Image Retrieval and many other applications.

KEYWORDS: Content Based Image Retrieval, Text Based Image Retrieval, Block Truncation Coding (BTC), Multilevel BTC, Even-Odd BTC, Color Clumps, Precision, Recall.

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Paper Titled AUTOMATED TEST DATA GENERATION FOR COUPLING BASED INTEGRATION TESTING of PICT, Pune

in **iPGCON-2015 on 24th and 25th March 2015** at Amrutvahini College of Engineering, Sangamner

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COMP11

FEATURE EXTRACTION FROM INFORMAL TEXT FOR OPINION MINING

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ABSTRACT: With the rapid development of web, most of the customers express their opinions on various kinds of entities, such as products and services on web. These reviews provide useful information to customers for reference. These reviews are also valuable for merchants to get the feedback from customers and improve the qualities of their products or services. However, the contents are stored in mostly either unstructured or semi-structured format. We are trying to improve mining approach to mine product features, opinions from Web opinion sources for informal text. The extracted feature-opinion pairs and sentence-level review source documents are modeled using a graph structure.

KEYWORDS: Data mining, opinion mining, text mining, feature identification.

COMP12

SOLVING HIGHLY CONSTRAINTS NURSE ROSTERING PROBLEM BY GENETIC ALGORITHM WITH EFFICIENT MUTATION AND CROSSOVER OPERATOR

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ABSTRACT: Nurse Rostering Problem consists of allocating nurses to workload according to their skill, experience and preferences with subject to given constraints. The difficulty of handling this problem is due to the high number of constraints to be satisfied. The benefit of automating the roster is to produce a roster having high quality as well as more flexibility. It also reduces workload of head nurses with minimizes time and effort. This paper presents three evolutionary algorithms like Genetic Algorithm for the problem of automatically creating nurse rosters. These algorithms are tested on real world benchmark instance and compared against previously available approaches. Evolutionary Algorithms are robust and effective method to solve combinatorial optimization problems.

KEYWORDS: Genetic Algorithm, Nurse Rostering Problem

End to end delay, Routing overhead and finally the security. In this paper, we will go through a survey of different routing protocols used in MANET.

KEYWORDS: MANET, mobile computing, routing protocols, bandwidth, power, efficiency, performance, scalability, packet delivery, end to end delay, routing overhead and security.

COMP05

REVIEW ON DATA MINING BASICS

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ABSTRACT: Data Mining is an interesting concept working under computer science world. The name "Data mining" itself shows what it relate to be. "Data" is nothing but information that can be of any forms. The "data" needed to study, to store or to work on it as per requirement. Mining in simple word, means Searching. Data Mining is working for different purpose, on different kind of data using different techniques. As per requirement of user it gets its direction. In this paper we are going to see different types of data mining. We will also see Data mining Techniques & which technique should be useful for which type. The data for particulars can be huge & it may be from different sources but when u need to find out the related one from large data sets is nothing but data mining.

KEYWORDS: Data Mining Techniques, Data Mining Algorithms

COMP06

LOAD BALANCING IN COMPUTATIONAL GRID USING COMBINATIONAL SCHEDULING

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ABSTRACT: One of the challenging issue in computational grid is Load Balancing. The aim of load balancing mechanism is to equally distribute the load on each computing node maximizing their utilization and minimizing their task completion time such that load can distribute equally on each computing node to improve the performance of a distributed system. In this paper load balancing algorithm uses combinational approach. It combines the merits of centralized, decentralized, static and dynamic load balancing and minimizes their relative inherent disadvantages and tries to give robust performance by providing distributed structure and optimal allocation for each user.

KEYWORDS: Grid computing, Load balancing, Scheduling, Parallel system, Distributed system.

Gaining Enhanced Performance for Content Based Image Retrieval System with various Block Truncation Coding based methodologies on COIL image data-set.

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Abstract — ***In today's environment there is tremendous growth in Information as well as Communication Technologies (ITC). Development of multimedia technologies is more advanced and smarter now days. With the help of this technologies capturing, storing and transmission of an images becomes easy but retrieving of an images from large data sets becomes more and more tedious task. Traditional techniques i.e. Text Based Image Retrieval Systems are not appropriate as they are inefficient, slower and required large manual work to do. Content Based image retrieval systems (CBIR) are overcoming all the disadvantages from traditional Text Based Image Retrieval. Block Truncation Coding (BTC) plays the crucial role in improving performances of content based image retrieval. CBIR widely used in many real time systems like Trademark image registration, Intellectual property, Architectural design, Engineering design, Fashion Industry , Museums, Military Applications and bio-metrics identification systems.***

Content based image retrieval systems are automatic system, which give more accurate and faster result. Different methodologies like Block truncation Coding (BTC), Multilevel BTC, Combination of even odd BTC, BTC extended to color clumps are experiment on large image data sets where we get improved efficiency of CBIR system in many cases. Precision and recall are used to check the performance of Content Based Image Retrieval System.

Keywords— Image Retrieval, Content Based Image Retrieval System, Block Truncation Coding (BTC), Color BTC, Multilevel BTC, Even-Odd BTC, Precision, Recall, Similarity measures..

I. Introduction

Now days, Images are being used for various purposes. Use of several modern technologies such as social networking media, photography, World Wide Web as a digital communication infrastructure, satellite technology, increased use of digital cameras and television all are results into generation of massive amount of images. Storage of such image data is relatively straightforward, but accessing and searching images from such databases is obscured than their textual counterparts. In today's environment information and its processing has become major concept to functioning of everything. The majority of the information is in digital form so computer plays crucial role in capturing, processing and searching of information. Today it is possible to collect information in the form of graphics, which gives more accurate representation of information. Binary valued matrices are used by computer systems to store images in digital formats [3]. As there is presence of massive amount of images, we required a system which retrieves images in more efficient and correct manner.

Metadata about image do have some of the textual attributes and collected by human assistance, which are useful to define certain subject's data for accessing images. Textual information can be stored in a one dimensional array in the form of tokens and words, where as images are of multidimensional array of information [1],[2], [4], [6]. Many image search engines are based on metadata search techniques due to which it produce lot of garbage result, and it becomes very difficult for users to manually search for every keyword [19].

Image contains visual information in it, which can be used for more effective way of presentation or learning the image rather than text used to describe it. Visual contents from image are called as feature of image [21], which are further divided into category of shape, color, texture [17], [9]and edge. These visual features are used to search images from databases [17]. Various image processing algorithms are helpful to analyze similarities between user's queries and stored features to produce optimal results. Visual contents to retrieve image from database is used by the systems, those are called as Content Based Image Retrieval (CBIR) systems. It is based on processes, which is significantly different from traditional and text based image retrieval systems. It uses generation of perceptual similarities to retrieve the image from database. Content Based Image Retrieval (CBIR) systems are operates on collections of images and, in response to visual queries it retrieves relevant images [1],[2], [4], [5] and [21].

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Identification and Sorting of Power Quality Disturbances Using Signal Processing with GUI

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***Abstract*—This paper based on the classification of the voltage signal on basis of quality. It can be achieved by various techniques according to applications and required accuracy. Feeder points at various locations of electrical substation play important role in reduction of noise from the supply voltage. However this is of less amount and considerable for general applications. In some industrial applications, this may cause a large loss due to the presence of noise. So for controlling the accuracy one can design a system which overcomes the problems arising due to noise. Using MATLAB software it is implemented for detection and identification. It has various algorithms like KNN, SVM and RBF. SVM is the powerful tool in MATLAB for identification and Classification of voltage signals, images as well as music signals. For this detection of signals,a database is applied for any type of transform. It is better to use wavelet transform for feature extraction purpose. This paper gives solution for identification and sorting of different noises in voltage signals using the pair of wavelet transform and SVM.**

Index terms—*Noises,Support Vector Machines, BSVM, MATLAB and Pair of wavelet*

I. Introduction

In general noise is major problem in any electronic systems. It can be reduced, but cannot completely remove. Most of the industries which are manufacturing medical instruments as well as chemical instruments require greater accuracy for the design. So to achieve this goal we require signals which are having less noise [1]. Detection of the type of noise is important to take corrective action on it. There are several ways to detect and classify those types of noises. Using K-NN, ANN and SVM one can detect and classify, but using pair of wavelet and SVM tool it gives better performance [3].In hardware consideration there are spikes guards as well as signal stabilizers for the controlling noise of signals [4].

Using artificial neural networks this classification is used, but its performance is less as compared with Pair of Wavelet and SVM [3].To remain the quality of voltage signal, it is essential to detect the type of noise in the voltage signal [1]. Feature selection and subsequent classification is very much important in real life applications [2]. Now a days one can focus on direct classification strategy [7].For the single disturbance identification and feature extraction purpose mathematical tools like Wavelet transform and Hilbert huang transform are used.

This can be implemented using neural networks as well. However it gives less accuracy as well as speed of computation is less as compare to SVM [4]. So it is ideal to utilize another strategy called support vector machine. SVM has been progressively prevalent because of its intriguing computing and functional characteristics [6], [8]. The point of this undertaking was to check the execution of a SVM classifier utilized in order to check voltage disturbances produces when preparing data and testing data created from various sources [13]. Data originating from these signals generated using equations used in the experiments [12]. The remaining part includes different pair of wavelets and a SVM as combination for accurately classification of signals [15].

II. Background

A. Feature vectors with hyper plane

It is level which decides boundary between two types of data. This data may be separable or random type. In the given fig.1 Plane 0 indicates hyper plane and lines Plane one, Plane two are parallel lines to hyper plane which used to find out the margin of classifier. It is observed that as margin of hyper plane get increases it improves classification accuracy [9]. If we compared Perceptron and SVM on the basis of margin, SVM has more width of hyper plane. So SVM classifier is preferred for classification purpose [2]. The data points which lies on plane one and Plane two or closer to hyper plane are called as feature vectors.

2

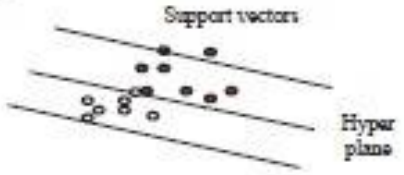

Fig. 1. Flowchart for the entire classification system

When data are not indicated by names learning is not possible and another technique is used for learning whichattempts to find classification of the data into groups

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E&TC 01

A SMART HOME - SOFTWARE DEFINED RADIO SYSTEMS FOR INTERNET OF THINGS

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ABSTRACT: Software Defined Radio systems are predicted to be radio access networks of next generation in all kind of wireless communications systems. Their use is not limited to radio front end that is first chosen for system operation. They can be upgraded by time as system needs changes or evolves which gives them radio front end flexibility never seen before in radio systems. Smart home environments such as a eWALL system and other uses numerous of wireless technologies to control lot of appliances in them or to monitor specific health state of the people living there etc. Therefore, lot of wireless technologies have been developed solely for that purpose, leaders among them are Zig Bee and Z-Wave technologies which are today standard for wireless home automation systems that are energy efficient and secure. Software Defined Radio is certainly very useful for future mobile communication systems. In this work Software Defined Radio system will be evaluated with a purpose of introducing local radio networks that are used in smart home environments based of Software Defined Radios. Benefits and shortcomings of using Software Defined Radio in this systems will be shown and evaluated.

KEYWORDS: Software Defined Radio, smart home environments, local area networks, ambient assisted living, smart living, ubiquitous computing

E&TC 02

AUTOMATIC IMAGE SEGMENTATION USING SEEDED REGION GROWING FOR LUNGTUMOR DETECTION.

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ABSTRACT: The proposed system efficiently predicts lung tumor from Computed Tomography (CT) images through image processing techniques. The lung CT image is denoised using total variation algorithm to remove random noise prevalent in CT images. Ostuthresholding is applied to the denoised image to segregate lung regions from surrounding anatomy. Lung nodules, approximately spherical regions of relatively high density found within the lung regions are segmented using region growing method. The proposed system implemented on MATLAB takes less than 3 minutes of processing time and has yielded promising results that would supplement in the diagnosis of lung cancer.

KEYWORDS: Image Segmentation, Seeded Region Growing, total variation denoising, Ostuthresholding.

E&TC 03

A REVIEW ON: "IMAGE SEGMENTATION BASED ON LEVEL SET METHOD"

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ABSTRACT: The challenges in image segmentation for real world images, is 'intensity Inhomogeneity'. As the presence of intensity inhomogeneity or non-uniformity is seen in the image, the image segmentation results are not up to mark. The existing image segmentation algorithm depends intensity value i.e. discontinuity & similarity. The dissimilarities of image intensity is often seen in the region of interest (ROI), which makes researcher to use level set method for image segmentation. Intensity Inhomogeneity depends on spatial variation on illumination, interference of imaging devices and sometimes on noise and of low contrast. Intensity non uniformity also seen, as the overlaps between the range of intensities in the region which to be segmented is present in image. So it is very difficult to segment the image in presence of intensity Inhomogeneity. In human vision, the complex image is immediately segmented into the simple objects on the basis of color, texture, patterns, shapes and etc, which is not an easy task if processing is done on digital computer platform as computer not familiar with image pattern, texture, and 3D geometry. etc. And so image segmentation is a big challenge in the area of Image processing, like Satellite Image Processing, Object detection, Recognition Tasks, Surveillance based on image / video, Image enhancement, Biomedical Image Processing etc. Now a days the use of level set method in image segmentation techniques has been tremendously increase. This literature review provide a brief overview of most common segmentation techniques, and a comparison. Our aim is to implement a level set approach for image segmentation.

KEYWORDS: Level Set Method, Image Segmentation, Intensity Inhomogeneity, Contour.

E&TC 04

HOME AUTOMATION SYSTEM

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ABSTRACT: Smart Home is a house that uses information technology to monitor the environment, control the electric appliance and communicates with the outer world. Smart Home is a complex technology, at the same time it is developing. A sample house environment monitors and control system that is one branch of the Smart Home is addressed in this paper. The system is based on the embedded system and can act as a security guard of the home. The system can monitor the temperature, humidity, gas density, water immersion of the house. The system operates in two mode zigbee mode / indoor mode and GPRS mode / outdoor mode. User can control appliances through zigbee when at home or through GPRS when away from home. The communication between devices is wireless.

KEYWORDS: ARM, Zigbee, GPRS, Remote controlling

E&TC05

LOSS FREE COMPRESSION OF MEDICAL IMAGES

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ABSTRACT: The method proposed in this paper is symmetry based technique for lossless compression of 3D medical image data. The proposed method uses 2D integer wavelet transform to decorrelate the data and intraband prediction which uses anatomic symmetries present in structures of medical images to reduce energy of sub-bands. It uses Embedded Block Coder with Optimized Truncation (EBCOT), which encodes the residual data generated after prediction to provide resolution and quality scalability. The technique can be compared with other compression techniques like 3D-JPEG2000, JPEG2000, and H.264/AVC.

KEYWORDS: Integer wavelet transform, lossless compression, symmetry, 3D medical image compression.

E&TC 06

COMPARATIVE STUDY OF SINGLE WAVELET AND PAIR OF WAVELET FOR DETECTION AND SORTING OF NOISY SIGNALS USING SVM

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ABSTRACT: In this paper I have represented a new method for detection and classification of signal defects or disturbances. Before actual classification the database of signal is applied for wavelet transform. Two discrete wavelet transforms filters are used in the classification with feature extraction process. It improves the performance using pair of wavelet transform than single. For the classification of the signal disturbances I have used a support vector machine. For the computational purpose one can use binary decision tree is created and a support vector machine (SVM) classifier is trained for every node of the tree. It can be implemented using binary as well as multiclass classification of SVM.

KEYWORDS: signal disturbances, classification, wavelets, support vector machine (SVM).

E&TC 07

POLARIZATION RECONFIGURABLE MICROSTRIP ANTENNAS WITH SQUARE SHAPED TRUNCATED CORNERS

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ABSTRACT: Anovel antenna structure of square shape truncated corners, for polarization agility and reconfigurability is presented in this paper. A square patch antenna using microstrip line feeding is presented for achieving multiple polarization switching. These polarizations can be reconfigured at different time instants using PIN diodes. The fabricated structures are tested on the a Antenna Analyzer and the measured and simulated results are found to be in good agreement and microstrip-square shape truncated corners, shows improvement in return loss as compared to the truncated corner slit antenna. The return loss is reduced to -28dB, and 100MHz bandwidth is achieved at 5.8GHz. It can be used for cognitive radio applications.

KEYWORDS: Agileantennas; polarization; linear polarization; reconfigurable antennas.

E&TC 08

MULTIRESOLUTION IMAGE MOSAICING

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ABSTRACT: Image mosaicing is an effective technique for combination of two or more images. The construction of mosaic images and the use of such images on several computer vision/graphics applications have been active areas of research in recent years. The most common mosaicing applications include constructing high resolution images that cover an unlimited field of view using inexpensive equipment, creating immersive environments for effective information exchange through the internet. Another attractive application of image mosaicing is in making the advertisement more interesting and effective. Our work focuses effective advertising using image mosaicing. In this work, we have used wavelet transform for multiresolution image mosaicing. The mosaicing of images is carried out in two main stages, in first stage the images to be mosaic are registered first & in second stage we perform blending of intensity of those images. Here a special approach is given to polymasking to form different mask according to the need of various applications.

KEYWORDS: Image mosaicing, Gaussian method, laplacian method, multiresolutionmosaicing, wavelet transform.

E&TC 09

HIGH QUALITY IMAGE COMPRESSION USING HUFFMAN CODING AND RUN LENGTH CODING

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ABSTRACT: Image Compression is a method, which reduces the size of the data to reduce the amount of space required to store the data. The Discrete cosine transform (DCT) is a method for transforms a signal or image from spatial domain to frequency component. It is a widely used technique in image compression. In this paper, we present a discrete cosine transform (DCT) based compression with Huffman coding and Run Length Encoding technique for two-dimensional images are proposed. In the several scenarios, the utilization of the proposed technique for image compression resulted in improved or better performance, when compared to the different modes of standard.

KEYWORDS: Image Compression,Discrete cosine transform (DCT), DPCM, RLE, Huffman encoding.

Paper ID: IT-01

PREDICTIVE SYSTEM FOR MEDICAL DIAGNOSIS WITH EXPERTISE ANALYSIS

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ABSTRACT: We live in the world of digital data and each day, more and more medical data are collected and stored in databases. This medical data about large patient in different hospitals is analysed to perform medical research. Diagnosis is a very important and sophisticated task that need to be performed accurately and exactly with correct previous information and insights. Large number of studies have shown that the diagnosing of one patient will vary if the patient is examined by totally different physician or perhaps by constant physician at varied times. The amounts of information generated by care transactions are too advanced and are not used for further analysis. To overcome this, we develop predictive medical diagnosis system which helps patient to identify the disease at an early stage and expertise analysis helps them to get detailed prescription and preventive measures in less time. The goal of this work is to develop a web application using data mining technique like Naive Bayesian algorithm that can be used to predict the occurrence of disease based on user input symptoms.

KEYWORDS : Naïve Bayesian algorithm application, Predictive medical diagnosis system, Medical diagnosis using data mining, Healthcare application, Machine learning.

Paper ID: IT-02

A SURVEY PAPER ON IDM FOR CLOUD COMPUTING

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ABSTRACT : Identity management is related to how humans are identified, how they have given authorization and how that identity is protected. The migration of web applications to Cloud computing platform has raised concerns about the privacy protection of confidential data belonging to the users of cloud services. The traditional form of security credentials like username and password used to access cloud services are very vulnerable to phishing attacks and hence do not provide complete security. Identity management includes more robust security tokens using the zero knowledge proof concepts. Web service policies are based on a model that is defined, known, regulated. However, within the cloud environment we deal with different types of digital dynamic ecosystem. This leads to a concept Federated Identity Management (FIM). FIM is a process where users are allowed to distribute identity information dynamically across all security domains. Authenticated users are able to use services across domains. Different tools are available for Identity Management (IdM) for Cloud computing which can be useful in different domains according to their use.

Keywords : Identity Management; Cloud Computing; FIM

Paper ID: IT-03

SELECTION OF SOCIAL NETWORKING MOBILE APPLICATION (SNMA) WITH IDEAL SOLUTION OPTIMIZATION BASED ON TOPSIS APPROACH

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ABSTRACT : Now a days calling along with use of application are the main use of any mobile device. The maximum users uses Smartphone's like Android, Windows, Apple etc. For better and effective communication Social Networking Sites and mobile application are helpful. Due to time consuming concern most of users prefer the mobile application. There are several Social Networking Applications (SNA) are already available in market, like Facebook, Whatsapp, Hike, Snapchat, Instagram, Twitter etc., which covered all the business and social markets.

In last decade there are only few social networking applications was available, but in now days the N' numbers of applications are available due to the availability of large number of smart phone's users. Social Media has really exploded in the last decade in the world. In social networking application there is problem/confusion in selection of SNMA. Proposed paper focused on TOPSIS approach which provides the feasible solution for the Selection of Social Networking Mobile Application (SNMA) with Ideal solution optimization. TOPSIS method considers both the Ideal solution and Negative ideal solution.

KEYWORDS : Social Networking Mobile Application (SNMA), Multi-Criteria Decision Analysis (MCDA)., Decision making system, Ideal Solution, Negative Ideal Solution.

Paper ID: IT-04

EFFICIENT USER AUTHENTICATION USING CAPTCHA AND GRAPHICAL PASSWORDS

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ABSTRACT: The most common computer authentication method is to use alphanumerical usernames and passwords. This method has been shown to have significant drawbacks. For example, user tends to pick passwords that can be easily guessed. On the other hand, if a password is hard to guess, then it is often hard to remember. In this paper, we conduct a comprehensive survey of the existing graphical password techniques and captcha. Using hard AI problems for security is emerging as an exciting new paradigm, but has been underexplored. In this paper, we present a new security primitive based on hard AI problems, graphical password systems built on top of Captcha technology, which we call Captcha as graphical passwords (CaRP). CaRP is both a Captcha and a graphical password scheme .We discuss the strengths and limitations of each method and point out the future research directions in this area. And also major design and implementation issues are clearly explained. The main advantage of this method is it is difficult to hack.

KEYWORDS : Graphical password, password, CaRP, Captcha, dictionary attack, password guessing attack, security primitive.

Paper ID: IT-05

SURVEY ON DISTRIBUTED NETWORK SECURITY MANAGEMENT TECHNIQUES FOR CYBER ATTACKS & CYBER CRIME

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ABSTRACT : "The modern thief can steal more with a computer than with gun. Tomorrow's terrorist may be able to do more damage with a keyboard than with a bomb." - National Research Council "computer at risk", 1991

Now a days Millions of citizens are using networks for communication, booking, shopping, filing their tax returns and banking because of this network security is emerging on the horizon as a potentially large problem. Their evolution and development has brought many benefits but also brought the threat of various serious cyber-attacks demonstrated over in the past few decades through acts of cyber attacks and cyber-crime within the virtual, networked ecosystem that we live. The requirements of nformation security along with network security have undergone different changes in the last few decades. Because of this new research and practicing community have been paying attention towards the cyber security problem for more than two decades. The core security breaches occur in terms of availability, confidentiality and integrity. Computer forensics is the branch of science of acquiring, sending, retrieving, preserving and presenting data that has been processed electronically,socially and stored on computer media very largly. Environment isolation and software compatibility are some of the features that forensic investigators can use this advantage to analyze a physical machine image for the security; however, these same features can be used by offenders to perform illegal activities in a virtual machine. This paper gives the importance of distributed network security from cyber attacks and cyber crime.

Keywords : Intrusion Detection, Digital Evidence, Digital Investigation, Cloud Computing.

Paper ID: IT-06

OVERLAPPED SLICING : EFFICIENT METHOD FOR PRIVACY PRESERVATION IN HIGH DIMENSIONAL DATA PUBLICATION

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ABSTRACT : In today's global world information is most demanded resource. globally networked society demands sharing of information. The Microdata to be published many times contains sensitive data, publishing such data without proper protection may risky to the individual's privacy, so must be preserved by Data Publisher before it is published. Research on protecting the privacy of individual's sensitive data has received contributions from many fields, such as computer science, economics, and social science. Privacy-preserving data publishing balances the trade-off between individual privacy and the utility of published data. A number of different techniques have recently been used for privacy preserving of multi-dimensional data. Data anonymization techniques, such as generalization, bucketization have been designed. Generalization losses large amount of information when it used for high dimensional data. Bucketization requires separation between quasi-attributes with sensitive attributes. So, in this paper we introduce a novel technique called slicing which provides better data utility and preserves privacy, extension to this technique we are implementing overlapped slicing to get efficient privacy protection and increased data utility.

Keywords : Anonymization, Micro data release, Data publishing, Data security, Privacy preservation.

Paper ID: IT-07

SURVEY ON REMOTE SENSING APPROACHES FOR LANDSLIDE MONITORING

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ABSTRACT : Landslides represent major natural hazards, which cause every year significant loss of lives and damages to buildings, properties and lifelines. In the last decades, a significant increase in landslide frequency took place, due to climate change and the expansion of urbanized areas. Remote sensing Approaches represent a powerful tool for landslide investigation.

KEYWORDS : Landslide, Mapping, Monitoring, Approchess for mapping.

COMP10

AUGMENTED PERFORMANCE ANALYSIS OF BLOCK TRUNCATION CODING BASED IMAGE RETRIEVAL TECHNIQUES THROUGH SUNDRY SIMILARITY MEASURES

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ABSTRACT: Block Truncation Coding based image retrieval techniques are one of the prominent techniques that are widely used for content based image retrieval (CBIR) systems. It gives better efficiency and accuracy for CBIR system, due to which it is possible to overcome many issues from traditional image retrieval systems. Now a day's massive amount of images are being produced due to advances in various technologies and applications. With the help of text based image retrieval system, problem of image retrieval become more challenging and does not produces optimum results. Most of the web based image retrieval systems purely based on metadata, which produces lots of garbage data as a result. Also it is impossible to manually enter keywords for images in large databases as it is inefficient, expensive and may not capture every keyword. Block Truncation Coding centered Content Based Image Retrieval (CBIR) system has been developed to address these issues from traditional image retrieval systems.Visual information retrieval plays a significant role for Content Based Image Retrieval and many other applications.

KEYWORDS: Content Based Image Retrieval, Text Based Image Retrieval, Block Truncation Coding (BTC), Multilevel BTC, Even-Odd BTC, Color Clumps, Precision, Recall.

Certificate

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In association with

Department of Electronics & Telecommunication Engineering, Department of Information Technology,
Department of Electrical Engineering & The Institution of Electronics and Telecommunication Engineers.

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Enhancing Cloud Security using Decentralized Information Flow Control

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ABSTRACT
There is major demand to introduce cloud computing in many organizations today. The reason is cloud's sharing infrastructure, multi-tenancy and huge storage facilities ensures increase in computing efficiency, flexibility, generality and cost effectiveness. But with this, organizations want that the computing platform should be secured and should satisfy all the important rules and regulations. So security is the key point for the success of cloud computing. It is examined that cloud computing is less satisfactory in providing security due to its heterogeneity. In this paper a solution named - Decentralized Information Flow Control (DIFC) is defined to solve the problem of security specifically of Software as a Service (SaaS) level. DIFC is a Mandatory Access Control method which is able to provide better security and integrity than is provided by other approaches available today. DIFC enforce general policies by using proper labeling and checking methods. DIFC gives a way to control and monitor the flow of data continuously according to the policy. Hence we believe that DIFC is a powerful tool to enhance SaaS cloud security and to help cloud providers to satisfy rules and regulations and audit this compliance with easy in future.

General Terms
Cloud computing, SaaS, Security, Information Flow Control, Access control.

Keywords
Decentralized information flow control, information flow control, access control, secure cloud computing, data security, labelling.

1. INTRODUCTION
Cloud computing is a proven technology to meet the current needs of Information Technology field. Because of its fast, easy and on demand access to computing resources organizations are moving their data over cloud. But with this, organizations want that the computing platform should be secured and should satisfy all the important rules and regulations[8]. So security is the key point for the success of cloud computing. Security is the challenging task in cloud computing[4]. It stems from the fact that cloud infrastructure is combination of mixed tools and applications which are designed and developed by multiple teams with no integrated approach for assuring data security[3]. For example, some providers may use virtualization[6] concept to isolate the data. Similarly, a data store may provide some other facilities for data isolation. Traditional security methods such as cryptography[10] and Chinese wall[13] are used in cloud computing but does not meet security and are unable to provide efficiency, generality and flexibility required by cloud providers and tenants.To give better security, a solution, a data centric security method known a Decentralized Information Flow control(DIFC)[1] in particular for Software as a Service (SaaS) cloud level is proposed. DIFC ensures high data security and data integrity. DIFC is a type of Mandatory Access Control (MAC)[1] model in which security policy (i.e. labels) is defined at all levels in the system, usually specified by the administrators. DIFC is a MAC model which is originally developed from military information management methods. Such data centric security method gives security in many ways by controlling and tracking information flow. First, the data is stored in secret form to protect from leakage of confidential or sensitive information.Second, controlling the flow of information using access control by imposing policies or rules in the form of labels on the data which are usually specified by the administrator. Third, providing multi-tenancy with data integrity by sharing of resources and services, which is achieved by imposing checks to enforce policies. Fourth, accountability by tracking the flow of information across all services over the cloud which provide a way to log sensitive operations.
In this paper we proposed a Decentralized Information Flow Control model to enhance cloud security particularly for Software as a Service (SaaS) level. We describe the proposed DIFC system with its architecture and implementation. Performance of the DIFC system results in better security. Our contribution is despite of number of challenging issues in cloud environment our DIFC system leads in more secured and practical cloud computing. Thus DIFC is the most appropriate and most suitable model for enhancing cloud security.

2. LITERATURE SURVEY
This survey describes previous methods of information flow control mechanisms, let see in detail. In this section we are going to give brief overview of previous IFC based techniques.

FlowK [12]

Paper describes how, FlowK can be integrated with cloud software. We have designed and evaluated a framework for deploying IFC-aware web applications, suitable for use in a PaaS cloud. Our design based on "policy-mechanism separation", in that the enforcement of IFC in FlowK separated from any knowledge of principals, users and the management of privileges. This separation ensures maximum flexibility for higher levels of software; this work contributes: (1) without modifying monitored access of standard OS it includes IFC within it like other systems. (2) To achieve requirements for isolated processing it supports conflicts of interests in IFC model. (3). Idea of FlowK is based on decentralized IFC model (DIFC) introduced in 1997. Decentralized model has been outlined for varying

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Enhancing Cloud Security using Decentralized Information Flow Control

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ABSTRACT
There is major demand to introduce cloud computing in many organizations today. The reason is cloud's sharing infrastructure, multi-tenancy and huge storage facilities ensures increase in computing efficiency, flexibility, generality and cost effectiveness. But with this, organizations want that the computing platform should be secured and should satisfy all the important rules and regulations. So security is the key point for the success of cloud computing. It is examined that cloud computing is less satisfactory in providing security due to its heterogeneity. In this paper a solution named - Decentralized Information Flow Control (DIFC) is defined to solve the problem of security specifically of Software as a Service (SaaS) level. DIFC is a Mandatory Access Control method which is able to provide better security and integrity than is provided by other approaches available today. DIFC enforce general policies by using proper labeling and checking methods. DIFC gives a way to control and monitor the flow of data continuously according to the policy. Hence we believe that DIFC is a powerful tool to enhance SaaS cloud security and to help cloud providers to satisfy rules and regulations and audit this compliance with easy in future.

General Terms
Cloud computing, SaaS, Security, Information Flow Control, Access control.

Keywords
Decentralized information flow control, information flow control, access control, secure cloud computing, data security, labelling.

1. INTRODUCTION
Cloud computing is a proven technology to meet the current needs of Information Technology field. Because of its fast, easy and on demand access to computing resources organizations are moving their data over cloud. But with this, organizations want that the computing platform should be secured and should satisfy all the important rules and regulations[8]. So security is the key point for the success of cloud computing. Security is the challenging task in cloud computing[4]. It stems from the fact that cloud infrastructure is combination of mixed tools and applications which are designed and developed by multiple teams with no integrated approach for assuring data security[3]. For example, some providers may use virtualization[6] concept to isolate the data. Similarly, a data store may provide some other facilities for data isolation. Traditional security methods such as cryptography[10] and Chinese wall[13] are used in cloud computing but does not meet security and are unable to provide efficiency, generality and flexibility required by cloud providers and tenants.To give better security, a solution, a data centric security method known a Decentralized Information Flow control(DIFC)[1] in particular for Software as a Service (SaaS) cloud level is proposed. DIFC ensures high data security and data integrity. DIFC is a type of Mandatory Access Control (MAC)[1] model in which security policy (i.e. labels) is defined at all levels in the system, usually specified by the administrators. DIFC is a MAC model which is originally developed from military information management methods. Such data centric security method gives security in many ways by controlling and tracking information flow. First, the data is stored in secret form to protect from leakage of confidential or sensitive information.Second, controlling the flow of information using access control by imposing policies or rules in the form of labels on the data which are usually specified by the administrator. Third, providing multi-tenancy with data integrity by sharing of resources and services, which is achieved by imposing checks to enforce policies. Fourth, accountability by tracking the flow of information across all services over the cloud which provide a way to log sensitive operations.
In this paper we proposed a Decentralized Information Flow Control model to enhance cloud security particularly for Software as a Service (SaaS) level. We describe the proposed DIFC system with its architecture and implementation. Performance of the DIFC system results in better security. Our contribution is despite of number of challenging issues in cloud environment our DIFC system leads in more secured and practical cloud computing. Thus DIFC is the most appropriate and most suitable model for enhancing cloud security.

2. LITERATURE SURVEY
This survey describes previous methods of information flow control mechanisms, let see in detail. In this section we are going to give brief overview of previous IFC based techniques.

FlowK [12]

Paper describes how, FlowK can be integrated with cloud software. We have designed and evaluated a framework for deploying IFC-aware web applications, suitable for use in a PaaS cloud. Our design based on "policy-mechanism separation", in that the enforcement of IFC in FlowK separated from any knowledge of principals, users and the management of privileges. This separation ensures maximum flexibility for higher levels of software; this work contributes: (1) without modifying monitored access of standard OS it includes IFC within it like other systems. (2) To achieve requirements for isolated processing it supports conflicts of interests in IFC model. (3). Idea of FlowK is based on decentralized IFC model (DIFC) introduced in 1997. Decentralized model has been outlined for varying

MECH_01

A REVIEW PAPER ON ADVANCED MEASURING TECHNIQUE GOM & ITS APPLICATION IN VOLKSWAGEN VENTO

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ABSTRACT: Optical measuring techniques for 3D-coordinate measuring, quality control, component and material testing are gaining importance as industry raises its demands in high technical performance of final products, product ramp-up, short production times, low manufacturing costs and overall product quality.
In a current turbulent period of the global economic crisis, 3D measuring data has become mandatory for the automotive, aerospace, and consumer goods industries. This seminar will focus on the industrial application of GOM (Geometrical Optical Measurement) technique which enables high potential for reduction of development time, optimization of production processes and higher product quality along with full 3D surface geometry measuring for shape and dimension control of components and tools, 3D strain measuring for material and forming analysis and a dynamic measuring system for 3D motion analysis of machine tools.

KEYWORDS: GOM, ATOS Triple Scan, Manual Part Alignment, CAD, Scanning, CMM & Root cause Detection.

MECH_02

VIBRATION ANALYSIS OF A BICYCLE EXPOSED TO BASE EXCITATION

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ABSTRACT: A bicycle is a transport vehicle with unsurpassed efficiency and among the most used on the planet. The weight, stiffness and comfort of a bike are three important characteristics that still drive most new developments. Steel, titanium and aluminum are materials still used in the industry but carbon fiber is becoming the most popular material for frames and for almost all bike components. A bicycle is a light structure that has to support a much heavier weight (the cyclist). The components and the frame are subjected to time-varying force excitations imposed by the cyclist and by the road. Its dynamic behavior becomes an

important issue, because it is directly linked to the bike lifetime, maneuverability, efficiency and comfort. The coupling between a bike and a rider completely modifies the dynamic behavior of a bike. One has to simply consider that a bike exhibits lightly damped modes when tested in a free-free condition and highly damped modes when the bike is resting on a surface with the presence of a rider. The rider becomes part of the structure and introduces experimental difficulties and fuzziness to the results. In the present study, the dynamic behavior of the bicycle is investigated by considering the equivalent multi-degree freedom model of the cycle. The governing equations of motion of the bicycle are derived and solved using modal analysis. Different operating conditions have been considered in terms of the road surfaces to analyze the transmission of vibration stress to the rider. Various parametric studies are also performed in terms of the various excitation forces at the base due to the road profile.

KEYWORDS: Ergonomics, punctured tire, trolley, analysis, innovation.

MECH_03

COMPARATIVE ANALYSIS OF ANSYS, BEAM AND HEXAHEDRON ELEMENTS, FOR ESTABLISHING RESULT TRENDS AND VARIANCES, FOR BENDING LOADS APPLIED IN CASE OF REGULATING VALVE

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ABSTRACT: For design of a regulating valve, the most important component is the plate that will actually restrict and regulate the fluid flow. The plate will be subjected to a bending load, and this bending pressure will increase as the restriction to flow will increase. The net bending load increments in two ways, one in increase in pressure due fluid mechanics phenomenon as flow is restricted, the second is increase in area where the fluid pressure will act. To determine the effect of the first phenomenon of fluid mechanics a detailed CFD analysis is needed. However this paper focuses only on the second aspect of increase in area, as the plate pushes forward to close the valve. While doing this analysis, ANSYS software has been utilized, and through this paper we seek to answer a basic question, of which element is suitable for doing the analysis, and what is the variation in results as element choice changes, and whether this variation is a function of some Parameter.

KEYWORDS: Regulating valve, Bending load, Fluid mechanics, CFD analysis, ANSYS software.

MECH_04

INVESTIGATION OF THE EFFECT OF MECHANICAL PROPERTIES ON THE COPPER FILLED ACRYLONITRILE BUTADIENE STYRENE (ABS-CU COMPOSITES)

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ABSTRACT: Acrylonitrile Butadiene Styrene (ABS) is an ideal material for rapid prototyping techniques, conceptual modelling manufacturing and direct digital. On today's date the developer from the manufacturing world are keeping an eagle eye on the new innovative technologies and the procedures to enhance the key features of the product. In the favour of these the focus is step-up from the pure/traditional material to the composites/hybrid materials for betterment of the product. In view of this objective of the present study was to investigate the effect of different composition of copper (Cu) powder on the mechanical properties of the ABS-Cu composites. Three different compositions of ABS-Cu composite with different weight percentage of surfactant material were used to prepared specimen using multiple cavity mould under injection moulding machine. Tensile, impact and flexural specimens were prepared as per the ASTM standard. From the result obtained, it can be concluded that the mechanical properties of ABS-Cu composite are affected with adding more copper filled in ABS material.

KEYWORDS: ABS, ASTM Standard, Molding and Composition.

MECH_05

MODIFICATION OF ROOT FILLET PROFILE FOR OPTIMUM GEAR LIFE

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ABSTRACT: The distribution of the loading within the joint is one of the main issues for the research emphasizes. Using a high rigidity adhesive, the adhesive would transfer up to 98% of the external load. When using a low rigidity adhesive in a single bolt single lap hybrid joint. It is also important for one joining process to benefit from the advantages of other fastening techniques. The bonded joints present several advantages,

reduction of local delamination due to the absence of holes, significant reduction of the weight and cost of structures, prevention of degradation phenomena in consequences of galvanic corrosion and high absorption of energy. An adhesive joint between composite and metal structure can be realized through two methods: secondary bonding and co-curing. The former is based on structural adhesive which is used as interlayer between the adherends. In particular, the parts made of composites are realized by hand lay-up, vacuum bagging or other manufacturing technique; then they are joined with metal ones through a structural adhesive. As both the rheological conditions of the resin and its chemical reactivity changes during the curing process, the time of inserting the rivet is likely to influence the quality and consequently, the mechanical properties of the mixed joints. In particular it is expected that the rivet should find different resistance to its fluid, rubber or glass state.

KEYWORDS: Adhesive and Rivet, Hybrid Joints, Tensile Strength, Single Lap joint.

MECH_06

REVIEW OF DESIGN FOR PROTECTIVE STRUCTURE OF OPERATOR CABIN AGAINST ROLL OVER (ROPS) & FALLING OBJECT (FOPS) FOR CONSTRUCTION EQUIPMENTS.

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ABSTRACT: Constriction machines are recognized as crucial equipment in various industries, & Safety being top priority in any industry it becomes extremely important to pay attention to every detail in design stage. ISO 3471 is the most dominant standard for constriction machines which states the structural performance necessities for a ROPS system. ISO 3449 is safety standards for FOPS and states that when a falling object is let free-fall onto the cab roof of a construction machine from a specific height, the deformation of the part of the ceiling onto which the weight fell shall not contact the (DLV) deflection limiting volume. In the present paper describes the design considerations for construction equipment's cab, analyzed for Rops and Fops.

KEYWORDS: ROPS, FOPS, FEM, Constriction machines, safety.

MECH_07

EXERGY ANALYSIS CARRIRED OUT TO A SINGLE BASIN SOLAR STILL INTEGRATED WITH NANO-COMPOSITE PCM

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ABSTRACT: Thermal energy storage has been an active area of research for the past 25 years. One approach has been to use phase change materials (PCM) as an efficient medium for the storage of thermal energy. PCMs have been put into use for several innovative applications like cooling of electronic devices, transporting sensitive medications, cooling vest for athletes etc. Thermal energy storage with phase change materials is one of the most efficient ways of storing available energy because of its advantages such as providing higher heat storage capacity, lower storage temperature, isothermal operation and less storage space. Thermal energy storage system can accumulate energy as sensible heat or as heat of fusion, or a combination of both. Latent heat storage is more attractive than sensible heat storage because of its high storage density with smaller temperature swing [1-3]. However, many practical problems are encountered with latent heat storage due to low thermal conductivity, variation in thermo-physical properties under extended cycles, phase segregation, sub-cooling, incongruent melting, volume change and high cost. Over the last decade, a number of studies have been performed to examine the overall thermal behavior and performance of various latent heat thermal energy storage systems. These studies focused on the melting/freezing problem of the PCM and on the convective heat transfer problem of the HTF used to store and/or retrieve energy (solidification) from the unit. Recently; several experiments have been conducted in order to study the thermal characteristics of paraffins during solidification and melting processes. The studies show that commercial grade paraffin wax and other pure paraffins have stable properties after 1000-2000 cycles. Paraffin wax did not show regular degradation in its thermal properties after repeated melting/freezing cycles. Paraffin waxes are safe and non-reactive. They are compatible with all metal containers and easily incorporated into heat storage systems. Paraffin wax have been widely used for latent heat thermal energy storage system (LHTES) applications due to large latent heat and desirable thermal characteristics such as little or no super cooling, varied phase change temperature, low vapor pressure in the melt, good thermal and chemical stability and self nucleating behaviour. Utilization of PCM for thermal energy storage requires a proper heat exchanger system for charging and discharging the thermal energy. A tube-in-tube heat exchanger system employing paraffin wax for thermal energy storage † This paper was recommended for publication in revised form by Associate. The heat transfer aspects and performance of the system were examined here. Phase change temperature of the paraffin wax has been determined.

KEYWORDS: Basin liner, nano-composite phase change materials, exergy efficiency.

MECH_10

OPTIMIZATION OF WEIGHT OF ROLLER CHAIN'S INNER LINK PLATE FOR TYPICAL INDUSTRIAL CHAIN APPLICATION: A REVIEW

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ABSTRACT: Chain is the most important element of the industrial processes required for transmitting power. As these chains operate under various forces, failure of chain is the major problem. Causes of these failures are improper material selection, uncertainties in the manufacturing, faulty manufacturing processes and improper dimensions. It is very important to study the influence of these parameters on the strength of the chain which governs the failure modes of the chain. About 60 percent processes in sugar factories are based on roller chain conveyers. Apart from that, other industries also use these chains frequently for process atomization. However, failure of this chain is perennial problem in these industries which causes huge losses to these industries along with its dependants and in turn economical growth of the state. So, roller chain is the most important element of the industrial processes. Causes of this failure are improper design, improper material selection, and uncertainties in manufacturing and faulty manufacturing processes. It is important to study the influence of these parameters. All these parameters can be considered simultaneously and chain link can be designed optimally. Optimization is the process of obtaining the best result under given circumstances in design of system.

KEYWORDS: Chain link, improper dimensions, chain failure, Optimization of weight.

MECH_12

FAILURE ANALYSIS LUG SUPPORT OF PRESSURE VESSEL

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ABSTRACT: The structural stability depends mainly on support of pressure vessels. Cylindrical and other type of vessels are to be supported by different methods. For structural stability of pressure vessel it is important to determine the various loads subjected to supports. Generally the pressure vessels are design according to operating conditions of pressure and temperatures. This present study deals with the FEA analysis of pressure vessel lug support. High pressure rise is developed in the pressure vessel and pressure vessel has to withstand severe forces. In the design of pressure vessel safety is the primary consideration, due the potential impact of possible accident. In this study the lug support which holds the pressure vessel is analyzed. It includes the modeling of pressure vessel in CATIA. The meshing and boundary condition application will be carried using Hypermesh and Structural analysis of pressure vessel with supporting lugs will be carried out using ANSYS.

KEYWORDS: Structural stability, CATIA, HYPERMESH

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MECH_13

FAILURE AND STRESS ANALYSIS OF CRANK SHAFT

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ABSTRACT: The main objective of the present work is to investigate Finite Element Analysis of the forge steel crankshaft. The need of load history in the FEM analysis necessitates to perform a detailed static load analysis. In this present research work analysis is conducted on forged Micro Allows Steel (42crM04) crankshaft. This crankshaft is used in new TATA Safari 2.2 L DICOR vehicle, which belongs to in line (180°) four cylinder crankshafts, four stroke diesel engine. The Bharat Forge Industry is manufacturer of this crankshaft. But crankshaft is failed for various unknown reasons. Therefore there is need for analysis of the crankshaft to find out the reason of its failure using the FEA analysis. In this study a static analysis is conducted on this crankshaft, with single throw crankpin of crankshaft. Finite element analysis is performed to obtain the variation of stress magnitude at critical locations. With the help of maximum gas pressure at time of combustion, total load acting on the crankpin of the crankshaft is calculated. Combustion and inertia forces acting on the crankshaft cause two types of loading on the crankshaft structure, -bending load and torsional load. Due to this load maximum stresses are generated on oil hole and filet area of the crankshaft. Loading and boundary condition depend upon the actual position of parts in working condition. And other analysis inputs are taken from the engine specification chart. In this static analysis of crankshaft, loading and boundary condition depend upon the maximum gas pressure acting on the crankpin.

KEYWORDS: Torsional load CATIA, HYPERMESH.

MECH_25

ANALYSIS OF MULTI-UTILITY ZERO GRIPPER SYSTEM BY APPLICATION OF MATING WORM SYSTEM

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ABSTRACT: The intent of present paper is to study Analysis and design of Multi-Utility Zero Slip Gripper System by Application of Mating Worm System. Machine tools like lathe or vertical machining centre's, it is desired to handle heavy jobs, which is conventionally done manually using chain blocks. Each worm is wound in a different direction and has a different pitch angle. For proper mesh, the worm axes are not parallel, but slightly skewed. But by selecting proper and different pitch angles, the drive will exhibit either self-locking. Mathematical model of dual worm system for optimal load lifting capacity, optimal factor of safety, development of mathematical model of system of forces, derivation and resolution of system forces by drawing free body diagram of linkage, determination of forces and utilizing system of forces to determine the linkage dimensions of critical parts of drive.

KEYWORDS: Analysis, jaw, mechanism, model, etc.

MECH_28

MODERNIZATION AND AUTOMATION IN GINNING AND PRESSING INDUSTRIES FORPERFORMANCE ENHANCEMENT

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ABSTRACT: Looking towards the importance of improved contamination free of ginned cotton and high degree of reliability in performance of machineries in ginning setup, modernization and automation in ginning and pressing industries is required. The author has discussed the machinery set up for modernized ginning plant as well as sophisticated mechanical, electromechanical, pneumatic, hydraulic and electronic systems required for automation. The achievements observed due to Modernized and automated ginning and pressing unit are higher efficiency, improved contamination free quality of ginned cotton and high degree of reliability with reduction in cost of processing and increased productivity.

KEYWORDS: ginning and pressing, ginned cotton, modernization.

MECH_29

FINITE ELEMENT ANALYSIS OF HONEYCOMB CORES UNDER AXIAL COMPRESSION

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ABSTRACT: Sandwich panels with polygonal cores are widely used in different structural applications such as aircraft floor panels, control surfaces, civil engineering structures and many more. The main use of these panels is to reduce weight and material usage. These panels undergo various static and dynamic loading along with thermal environment. It is desired to study the compressive behavior and energy absorption capacity of polygonal cellular structures and to validate the same with experiment so as to help designer in the selection of best polygonal structure as per application. This project is an investigative study of different polygonal structures under compressive loading which will lead to better selection of the core.

KEYWORDS: Honeycomb cores, compression, Ansys, energy absorption capacity

MECH_30

STRESS AND DEFLECTION ANALYSIS OF MULTI LEAF SPRING

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ABSTRACT: The suspension leaf spring is one of the potential items for weight reduction in automobile as it accounts for ten to twenty percent of the unsprung weight. This helps in achieving vehicle improved riding qualities. The springs are designed to absorb, store and release energy. Therefore, the strain energy of the material becomes a major factor in designing the springs. In every automobile, leaf spring is one of the main components that provides a good suspension and plays a vital role in supporting- lateral loads, shock loads, brake torque, and driving torque. The composite materials have more elastic strain energy storage capacity and high strength-to weight ratio as compared to steel. Introduction of composite materials made it possible to reduce the weight without any increase in load carrying capacity and stiffness of the leaf spring. Automobile-sector is showing an increased interest in the area of composites due to their high strength to weight ratio. Therefore analysis of composite material leaf springs has become essential in showing the comparative results with conventional leaf springs. Advantages of leaf spring over helical spring are that the ends of the springs are guided along a definite path so as to act as a structural member in addition to shock absorbing device. This is the reason why leaf springs are still used widely in a variety of automobiles.

KEYWORDS: leaf spring, stress, deflection, stiffness to weight ratio, fiber reinforced composites, ANSYS.

MECH_31

VIBRATION ANALYSIS OF A CRACKED CANTILEVER BEAM USING WAVELET TECHNIQUE

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ABSTRACT: It is required that structures must safely work during its service life. But, damages initiate a breakdown period on the structures. Cracks are among the most encountered damage types in the structures. Cracks in a structure may be hazardous due to static or dynamic loadings, so that crack detection plays an important role for structural health monitoring applications. Beam type structures are being commonly used in steel construction and machinery industries. Due to its practical importance, the crack identification problem in structures has been extensively investigated and many methods are proposed. In this project an analysis of vibration data retrieved from the working system is planned to take as study material for crack detection and failure prediction.

A cracked cantilever beam is to be studied under vibration with cracks at different locations. Finite Element Analysis and Experimental analysis with wavelet technique is to be carried for the study of vibrational property of the selected cracked cantilever beam. A comparative analysis of the studies may help us to develop vibrational characteristics with crack location and depth of the crack on the working part.

KEYWORDS: Crack identification, cantilever beam, wavelet analysis, and finite element analysis.

MECH_32

METHODS OF MEASURING RESIDUAL STRESS IN COMPONENTS

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ABSTRACT: Residual stress is that which remains in a body that is stationary and at equilibrium with its surroundings. It can be very detrimental to the performance of a material or the life of a component. Alternatively, beneficial residual stresses can be introduced deliberately. Residual stresses are more difficult to predict than the in-service stresses on which they superimpose. For this reason, it is important to have reliable methods for the measurement of these stresses and to understand the level of information they can provide. In this paper, the effect of residual stresses on fatigue lifetimes and structural integrity are first summarized, followed by the definition and measurement of residual stresses. Different types of stress are characterized according to the characteristic length scale over which they self-equilibrate. By comparing this length to the gauge volume of each technique, the capability of a range of techniques is assessed. The different nature and origins of residual stress for various classes of material are examined.

KEYWORDS: Residual stress, fatigue, gauge volume, fatigue life time, structural integrity.

MECH_33

ANALYSIS OF DAMPING OF SANDWICH MATERIALS

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ABSTRACT: Sandwich material panel is a structure made of three layers: low density core inserted in between two relatively thin skin layers. This sandwich setup allows to achieve excellent mechanical performance at minimal weight. Sandwich material panel is a structure made of three layers: low density core inserted in between two relatively thin skin layers. This sandwich setup allows achieving excellent mechanical performance at minimal weight. Sandwich panels with polygonal cores are widely used in different structural applications such as aircraft floor panels, control surfaces, civil engineering structures and many more. The main use of these panels is to reduce weight and material usage. These panels undergo various static and dynamic loading along with thermal environment. This project is a comparative study of PVC (Poly Vinyl Chloride), PU (Poly Urethane), GRF (Glass Reinforced fibre) all these sandwich materials. So there is requirement to develop the material which can be used easily for various engineering applications

KEYWORDS: Residual stress, fatigue, gauge volume, fatigue life time, structural integrity.

MECH_34

CHARACTERISATION AND TRIBOLOGICAL BEHAVIOUR OF ALUMINA - TITANIA COATING

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ABSTRACT: Increasing demand for engineering products to work in severe operating environment results to surface design. Surface design is usually concerned with surface texture and surface chemistry to counter possible wear modes. While surface texture is achieved by mechanical treatment, chemistry is usually controlled by surface modification in the form of coating. Surface modification is a generic term now applied to a large field of diverse technologies that can be gainfully harnessed to achieve increased reliability and enhanced performance of industrial components. The incessant quest for higher efficiency and productivity across the entire spectrum of manufacturing and engineering industries has ensured that most modern-day components are subjected to increasingly harsh environments during routine operation. Critical industrial components are, therefore, prone to more rapid degradation as the parts fail to withstand the rigors of aggressive operating conditions and this has been taking a heavy toll of industry's economy.

KEYWORDS: Tribological Behaviour, Alumina-Titania Coating, wear, corrosion and fatigue

MECH_39

FINITE ELEMENT ANALYSIS OF CONNECTING ROD ALONG WITH WEIGHT REDUCTION BY GEOMETRY OPTIMIZATION

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ABSTRACT: The main objective of this study was to explore weight reduction optimization for connecting rod. It contains a detailed report on load analysis. Therefore, in this study it deals with two subjects, Tensile & compressive load first and stress analysis of the connecting rod and, optimization for weight second. This paper deals with the static and fatigue analysis of the existing design of automotive connecting rod which is having 0.1277 kg of mass. Theoretical fatigue factor of safety of this design is 2.8. The critical area of the connecting rod is the crank end (big end). But this design is having fatigue life nearly equal to 1E008 cycle which is high and can be considered as infinite life. So by studying the connecting rod geometry we can remove some amount of material from it. That means we can modify this existing design to get sufficient life. Sufficient life means in the range of E006 cycles. After the modification in the design the mass of optimized connecting rod is 0.1127 kg. In the same process we have optimized the geometry of the connecting rod. While doing so we have modified the 'I' section of existing design. Because of which there will be increase in the stress at the critical location, but this increase in the stress tends to factor of safety of 2.1 and having fatigue life of 1E006which satisfying general criteria of E006 cycles. So by design modification we are offering sufficient life with 0.015 kg mass saving (13.30% weight reduction) with respect to existing design. Experimental validation is done on optimized connecting rod by testing the same on Universal Testing machine which gives the same braking load which is shown by FEA.

KEYWORDS: Connecting rod, Static Analysis, Fatigue Analysis, geometry optimization, Experimental Validation.

MECH_40

MODIFICATION OF ROOT FILLET PROFILE FOR OPTIMUM GEAR LIFE

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ABSTRACT: Gears are used for transmitting power. They develop high stress concentration at the root. The repeated stressing on the fillets causes the fatigue failure of gear tooth. The main objective of this study is to modify the root shape to reduce stress concentration. While generating the working profile (involute) of gear using rack cutter, the trochoidal root fillet curve is generated. The root fillet obtained thus is not necessarily an

optimum profile for the bending stress. In general, gear which number of teeth less than 17, could be the problem of undercutting during gear manufacturing process which minimizes the strength of gear at root. In this study, circular root fillet instead of the trochoidal root fillet is introduced in gear and FEA by using ABAQUS software. The circular root fillet profile is constructed by drawing an arc tangent to working profiles and root circle and this arc is taken as reference root fillet to generate alternative root fillet profile . The strength of these modified teeth is studied in comparison with the standard design. The analysis demonstrates that the circular root having higher bending strength over the standard trochoidal root fillet gear. The result reveals that the circular root fillet design is particularly suitable for lesser number of teeth in pinion and whereas the trochoidal root fillet gear is more optimum for higher number of teeth. The improved root fillet profiles resulted into reduction of Max principle stress by 10 to 20 percentages.

KEYWORDS: trochoidal root fillet curve, gear, circular root fillet, Bending Stress & optimization

MECH_41

MECHANICAL PROPERTIES OF BAMBOO FIBER REINFORCED PLASTICS

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ABSTRACT: This paper describes mechanical properties and Design analysis of Bamboo Fiber Reinforced Biodegradable Plastics. Natural fiber has emerged as a renewable and cheaper substitute to synthetic materials such as glass, carbon. This increases tensile strength of composite. Compressive strength is not significantly increased. Bamboo fibers are eco friendly and can be used in polymer composites.

KEYWORDS: Biocomposite, Bamboo fiber, Biodegradable plastics

MECH_42

EFFECT OF SCREW PROFILE ON STRESS DISTRIBUTION PATTERN OF DENTAL IMPLANT INTERFACE BY FEA

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ABSTRACT: Dental implants constitute a well-established approach for substitute of lost teeth with titanium being the most preferential material for implantation. However, titanium has its confines in esthetically demanding cases and neither the form nor material of such implants has changed much over the past 40 years. Immediate implantation is used to overcome the disadvantages of conventional implantation which in turn has many disadvantages owing to the incongruence of the implant to the extraction socket. The commonly used method for testing of new implant prosthesis is in vitro which involves direct involvement of human. But use of

modern techniques can help one decide the diameter and screw thread profile. In finite element analysis the domain is divided in number of small elements. In finite element analysis one can also simulate different material models and analyze the actual working conditions. In this project work the size of the implant is selected. A 3-D CAD model is modeled with appropriate CAD software. A finite element model is created representing the bone and dental implant. The result obtained from finite element analysis shows the stresses and deformation at the contact locations of bone and implant. By varying the diameters and screw profiles one can come to conclusion of the optimum design of the implant prosthesis.

KEYWORDS: Dental implant, Optimum, FEA.

MECH_43

EFFECT OF SCREW PROFILE ON STRESS DISTRIBUTION PATTERN OF DENTAL IMPLANT INTERFACE BY FEA

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ABSTRACT: Aluminum wire of diameter 1.2 mm is to be wound on cylindrical shell of 30kg. At present wounding is done manually and it requires 20 min and 3 operators. Using Semi Automatic coil winding machine same operation will be performed in 10 min and only 1 operator will be required. It will improve productivity in terms of Quality as well as Quantity. It will reduce Shell damage caused by manual handling of parts. It will also improve the accuracy of winding.

KEYWORDS: Automation, Productivity, wire winding

MECH_45

DEFECT ANALYSIS OF PLASTIC UTILITY BIN BY USING MOLD FLOW ANALYSIS

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ABSTRACT: Due to heavy demand in plastic products, plastic industries are growing in a faster rate. Plastic injection moulding begins with mould making and in manufacturing of complex shape with good dimensional accuracy. To meet such requirements it is very important to adopt various advance technologies like CAD/CAM/CAE for the development of injection moulded components. Injection mould design and mould flow analysis of injection mould for a given component was taken according to the customer requirement. Material selected for "Plastic part " was Polypropylene . The 3-D model of the component and extraction of core and cavities was performed in CATIA V5 software. Auto Desk Mould Flow Analysis software is a powerful simulation tool to locate gate location and predict the defects in the component.

KEYWORDS: CAD/CAM/CAE

MECH_46

HEAD IMPACT STUDY AS PER ECE-R21 & IS 15223 REGULATION.

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ABSTRACT: Severe competition in current market situation forcing automobile companies and their suppliers to reduce the development time and development costs. The biggest challenge in design phase is to predict the potential failure as early as possible and address these failures in initial design. IP design is govern mainly by functional, environmental, safety, personalization and manufacturing aspects of product. ECE R21 regulatory requirement address occupant safety by limiting 3ms head acceleration response below 80g, when head interacts with IP. The head acceleration response is function of dynamic IP stiffness. Virtual CAE validation of ECER21 load case has shown close agreement with physical tests. The CAE validation process is time consuming because of model size, time step requirements, material nonlinearities, contact nonlinearities aspects of solution Head form impact tests are carried out on instrument panel as part of meeting the requirements of the interior fitting regulation ECE R21. India adopted the ECE R21 regulation and interior fitting impact tests became mandatory in April 2005 for models manufactured from April 2005 and April 2006 for models being manufactured before April 2005. Energy dissipation testing of vehicle's interior fitments is done at various selected and defined locations. With the implementation of interior fitting regulation in India, it is mandatory that every manufacturer tests and certifies their product to comply with the energy dissipation standards as defined in the regulation ECE R21.

MECH_48

VIRTUAL ANALYSIS OF ENGINE MOUNT STIFFNESS TUNING FOR BETTER NVH PERFORMANCE.

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ABSTRACT: If we see from the past and now competition in automotive industry increased tremendously and every car manufacturer are bringing up there innovations into the market and giving a lot of options to the customers to choose and the customer experience as well as satisfaction has become one of the main driver of success for the company. In today's world of automotive design virtual analysis is playing a crucial role in the design and development. There are software's that are available in market to simulate practical conditions digitally. Here we are mainly focused on effect of change in engine mount stiffness on acceleration at driver seat rail point using ADAMS. In this paper we are going to elaborate the design of experiment done on the effect of change in engine mount stiffness to understand the transfer of vibration at seat rail point this experiment was done based on a three cylinder engine without balancer shaft real time input data .By doing

MECH_51

OPTIMIZATION OF STEEL CONNECTING ROD BY ALUMINUM CONNECTING ROD USING FINITE ELEMENT ANALYSIS

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ABSTRACT: The connecting rod connects reciprocating piston to rotating crankshaft, transmitting the thrust of the piston to the crankshaft. In this research paper the connecting rod for Alloy Steel AISI 4340 and Aluminium 7068 Alloy are analytically design for the given configuration of the engine and the Finite Element model has been generated in Pro-E Wildfire 5.0 software. Then they were imported in ANSYS workbench 12 for finite element analysis, which is one of the most popular CAE tools. Also the weight and Von miss stresses for aluminium connecting rod have been compared with steel connecting rod and factor of safety under the effect of applied loads have been calculated. It has been shown that steel connecting rod optimization by aluminium connecting rod causes reduction of weight and maximum stress considerably.

KEYWORDS: connecting rod, finite element analysis, CAE tools, Von miss stresses.

MECH_52

WEIGHT OPTIMIZATION OF DRIVE SHAFT USING VARIOUS COMPOSITE MATERIALS IN FEA

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ABSTRACT: Drive shaft is the most important component to any power transmission application; automotive drive Shaft is one of this. A drive shaft is a mechanical part that transmits the torque generated by a vehicle's engine into usable motive force to propel the vehicle. Substituting composite structures for conventional metallic structures has many advantages because of higher specific stiffness and strength of composite materials. This work deals with the replacement of conventional steel drive shafts with different material such as fiberglass epoxy, composite fiber, and hybrid material. The design parameters were optimized with the objective of minimizing the weight of composite drive shaft. The design optimization also improves the performance of drive shaft. Present work deals with FEA analysis of composite shaft with different composite material. It includes the modeling of shaft in CATIA. The meshing and boundary condition application will be carried using Hypermesh; Structural analysis of composite shaft will be carried out using ANSYS. Composite shaft will be fabricated and tested to validate with numerical values.

KEYWORDS: SHAFT, FEM, drive shaft, bending stress

MECH_53

DESIGN AND ANALYSIS OF SLIDING SHAFT OF COUNTER SEPRATOR MACHINE SUBJECTED TO LOADING CONDITIONS

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ABSTRACT: Nowadays, in development of technology especially in engineering field make the engineers must be precise and showing careful attentions on what they produce. Consider Machine structure in which sliding shaft is subjected to vertical loading condition. One of the options to reduce deflection of shaft is to analyze the shaft. However, the designer should be aware that in order to reduce the weight, the strength of the machine structure should not be disturbed. Sliding shaft, is the most important component used to move the conveyors from one location from one location to another location application is sliding Shaft used in counter separator machine. A shaft is a mechanical part that slides the conveyors. Substituting machine structures for conventional metallic structures has many advantages. This work deals with study and analysis of conventional steel shafts and also to find better solution to reduce the deflection of shaft. The design parameters are studied analyzed with the objective of minimizing the deflection of sliding shaft. The design project also improves the performance of matic motor which are mounted on sliding shaft to slide the shaft through lead screw arrangement. Present work deals with FEA analysis of sliding shaft with different loading condition. It includes the modeling of shaft in CATIA. The meshing and boundary condition application will be carried using Hypermesh, Stuctural analysis of sliding shaft will be carried out using ANSYS.

KEYWORDS: SHAFT, conveyor, FEM, machine design, bending stress

MECH_54

DESIGN DEVELOPMENT AND TESTING OF ADJUSTABLE STROKE MECHANISM IN CONVERSION OF AXIAL PISTON PUMP FOR VARIABLE DISCHARGE

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ABSTRACT: A pump is a device that moves fluids, or sometimes by mechanical action. Fixed displacement axial / radial piston pump give fixed discharge hence find limited application initially. (cost approximately : 12000 to 18000). Variable discharge piston pump i.e Bent axis piston pump offers variable discharge option and hence it is used in variety of applications such as Automobile (JCB). Owing to pressure feedback, volumetric control of the pump provides a wide application of these pumps in complex hydraulic systems, particularly in aeronautics and space engineering. Thus objective of project is defined to develop a variable displacement linkage that will enable to vary the stroke of an single cylinder axial piston pump, thereby offering to vary the discharge of the pump using manual control.

KEYWORDS: Piston Pump, Discharge

MECH_55

KINETIC ENERGY RECOVERY SYSTEM WITHMECHANICAL REGENERATION

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ABSTRACT: As the basic law of physics says "Energy can neither be created nor be destroyed it can only be converted from one form to another." During breaking huge amount of energy is lost to the atmosphere in the form of heat. It will be good if we could store this energy somehow, which is otherwise getting wasted out and reuse it next time started to accelerate the vehicle. In this project work we will be dealing with kinetic energy recovery system (KERS) with mechanical regeneration. KERS takes some of the kinetic energy of a vehicle under deceleration, stores this energy and then releases this stored energy back into the drive train of the vehicle, providing a power boost to a vehicles. For the driver, it is like having two power sources at his disposal, one of the power sources is the engine while the other is the stored kinetic energy in the spring to accelerate the vehicle. Existing systems aim is converting basically the momentum of the vehicle into mechanical energy which is further converted into electrical energy by dynamo to be stored into batteries this energy stored in batteries is later reused to accelerate the vehicle using DC motor there are bound to be conversion losses at each stage due to inefficiency of each component of system -viz the dynamo ---battery---and the electric motor. When we apply the brake more energy from the engine is required to replace the energy lost by braking, heat energy dissipates into the air, wasting up to 30% of the car's generated power. By adopting KERS with mechanical regeneration, the cycle of friction and wasted heat energy can be reduces and increase the car's fuel efficiency.

KEYWORDS: Energy, dynamometer, battery.

MECH_57

DESIGN AND MANUFACTURING OF CHEMICAL MIXER

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ABSTRACT: Agitation field find its application among a wide range of industries like food, cosmetic, chemical and pharmaceutical application. The aim of the project is to design a slow speed agitator for a chemical dosing system. Agitation refers to the induced motion of a "homogenous" material in a specified way. This project is based on design, manufacturing and testing of a chemical mixer. The machine consisting of two main group first one is power transmitting group and second one is agitating group. Power transmitting group consists of electric motor, bearing, gearbox and coupling while agitating group consists of impeller shaft, impeller blades and mixing chamber carrying chemicals. As agitating group is continuously in contact with chemicals so it is designed to operate in such environment. The electricity is supplied to electric motor which runs at 1440 rpm. The desired speed of impeller in mixing chamber is 140 rpm so the gear box is used for speed reduction. Bearing holds gear box shaft it is then coupled to impeller shaft with help of rigid coupling. Impeller shaft carries three impeller blades these rotate at 140 rpm. The rotation of impeller in mixing chamber creates sufficient turbulence which is necessary for proper mixing of chemicals. As the machine is made to work in a chemical environment specified by the company, during the testing it is found that the machine is able to work efficiently with the chemicals given by company.

KEYWORDS: Agitation, Chemical mixer, Design of gear box, bearing selection, Mixing Phenomena, Impeller Blade.

MECH_58

EFFECT OF NANOPARTICLES ON FIBRE REINFORCED PLASTICS

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ABSTRACT: Advanced composite, fibre-reinforced polymer (FRP), has been favored for certain aerospace, military, marine and automotive applications. Polymer nano composites containing layered silicates have attracted much attention. These exhibit increased modulus, decreased thermal expansion coefficient, increased solvent resistance and enhanced ionic conductivity when compared to the polymer alone. Here we have developed eight different combinations of composites FRP with nano clay (montmorillonite) by layered manufacturing techniques (LM) and measured the mechanical properties. The measurement showed that the tensile strength, impact strength and fatigue life are greatly increased. A plausible explanation for high increase of properties has also been discussed.

KEYWORDS: Moulding, fatigue, mechanical.

MECH_59

DESIGN AND MANUFACTURING OF CHEMICAL MIXER

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ABSTRACT: Spring is a mechanical device used for storing mechanical energy. Spring is an elastic member whose main function is to deflect or distort under load and to recover its original shape when lo ad is removed. The springs used in the bogie suspension of Railway coaches are helical compression springs. Visual examination shows that failure is common between first to third coils. The exact time of failure cannot be determined as the coaches come for POH after 18 months. Some cracks also negotiate during load testing. Pattern of cracks showing it may subject to transverse forces. The cracks are detected in Magnaflux testing. The present works attempt to analyze design of primary suspension springs used in Railway coaches under transverse loading while negotiating curved path by using ANSYS 14.5 software. Allowable stress used for comparing with Stress induces in a spring to get results. Failure analysis is taken on 16T coaches.

KEYWORDS: Helical compression springs, load & stress calculation, POH, ANSYS 14.5, Modeling, Primary Suspension system, axle box spring, Bolster spring, Creo 2.0.

MECH_60

DESIGN DEVELOPMENT ANALYSIS AND TESTING OF WOBBLE MIXER: A REVIEW

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ABSTRACT: In case of process industries, process of mixing and stirring forms and integral and the important part of the total manufacturing process. Mixing is the process which determines uniformity and overall quality of product .Process industries like chemical plants , food processing plants, paint industry etc, largely employ mechanical mixers to carry out mixing of powders , semisolid jelly fluids etc .Mixing is a process where powder or jellies are mixed together through in the form of uniform mixture where stirring is the process to mix the fluid and powder to dissolve the powder thoroughly in given mixture and form a uniform product or output. In either of above cases thorough mixing of material is desirable to give and good and uniform quality output. Mixing of powders of different material in order to form a uniform product or a powder mix is quiet easy but when it is desirable to mix powder in a fluid matter specially when the density of powder is high the problem occurs due to heavy weight of particles of powder has a tendency to settle down.

KEYWORDS: Mixing, stirring.

MECH_62

DESIGN AND DEVELOPMENT OF MOTORCYCLE CHAIN LINKS BY USING C.A.E. SOFTWARE

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ABSTRACT: The new motorcycle to be launched in the automobile market needs to be ensured for safety and efficiency. Chain drives being efficient means of power transmission are preferred for this product. The limitation, of course, is being catastrophic failure at virtually no prior notice. At high speed, accidents are very likely in case of failure in the chain link. The problem needs to be looked into and investigated for identifying causes for failure. Similarly, upcoming variants to be incorporated with the new solution to eliminate such challenges in the future. The design for the chain would be subjected to F.E Analysis as an Analytical Methodology to find the effect of loads (tension) on the link. The link being a `unit' of the existing chain would be assessed for performance while tensile loads are exerted at both its ends. Safe loads would be determined and the design tested for safe use in the Automobile. The problem for this work being evaluation of the design using Analytical methodology followed by experimentation to validate it. An existing chain link would be used for benchmarking the research work. Finite Element Analysis tools like HyperMesh and ANSYS are suitable to find the performance of the link under tensile loads. Recommendation over the best suited geometry or material would be presented to conclude the work.

KEYWORD: Chain drives, Hypermesh, Ansys

MECH_63

DESIGN AND DEVELOPMENT OF ORIFICE-TYPE AIR BEARING

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ABSTRACT: Air bearings are extensively used in precision machines and equipment in recent years. Unlike conventional bearings, there is no physical contact between the sliding surfaces. The moving surface can glide smoothly on the other surface, minimizing the control effort to achieve high accuracy and precision. Analytical study was carried out avoiding complexities in the formulation. The governing parameters were kept at a minimum. This helped in easy understanding of the dynamics and performance behavior of the air bearings. A simple design methodology was also developed to assist in the design or the selection process of the bearing.

Finally, a three-dimensional (3D) model was built for Computational Fluid Dynamics (CFD) analysis to verify the theoretical result. A test set-up was designed to measure and study the static and dynamic performance of different kind of air bearings for future air bearing development. Moreover, the experimental data were also taken and compared with the analytical results.

KEYWORD: Computational Fluid Dynamics, air bearing.

MECH_64

DESIGN AND OPTIMIZATION OF HYBRID DRIVE SHAFT

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ABSTRACT: Substituting hybrid structures for conventional metallic structures has many advantages because of higher specific stiffness and higher specific strength of hybrid materials. First we will study design of shaft concentrating on critical speed, static torque, and fibre orientation etc. Experimental set up will carried out to find static and dynamic results, torsion behaviour of hybrid drive shaft. Finite element analysis will give us optimal stacking sequence of the product considering the thermal residual stresses of interface between the metallic tube and the composite layer.

KEYWORDS: Hybrid shaft, composite layer, static analysis, dynamic analysis.

MECH_65

REVIEW OF STRESS ANLYSIS AND WEIGHT REDUCTION OF ROLLER OF ROLLER CONVEYOR

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ABSTRACT: In general, Roller Conveyors are designed with a set of elements to reduce cost, ease of assembly and manufactur ability etc. In context to this, one also needs to address stress issues at the contact regions between any two elements; stress is induced when a load is applied to two elastic solids in contact. If not considered and addressed adequately, these stresses can cause serious flaws within the mechanical design and the end product may fail to qualify. The application of Hertizian contact stress equations can estimate maximum stress produced and ways to ease the stresses can be sought. In many cases, the resultant stresses

are not of design significance, but in some cases failure can occur. The roller bearing assembly and spur gear pair assembly is an example where the assembly undergoes fatigue failure due to contact stresses. In this study, Roller conveyor conveying huge loads over varying lengths is considered. The pallet along with the load rolls over the rollers making a line contact in between. High stresses are generated in this case as the total load acts through this line of contact.

KEYWORDS: Roller conveyors, contact stress.

MECH_66

DESIGN AND ANALYSIS OF HYDRAULIC FIXTURE FOR MACHINING ENGINE CYLINDER BLOCK ON VMC

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ABSTRACT: The fixtures are work holding device used to locate and immobilize work pieces for machining, inspection, assembly and other operations. A fixture consists of a set of locators and clamps. Locators are used to determine the orientation and position of a work piece, whereas clamps exert clamping forces on the work piece so that the work piece is pressed firmly against locators. Because it needs a good knowledge about, dimensioning and tolerances, manufacturing processes, clamping and cutting forces during operations. But now a day the work becomes less difficult due to introduction of intelligence in the field. By using computer aided fixture design technique the designer create a model of designed fixture and carried out finite element analysis on fixture model by considering given boundary condition before getting manufacture and can see deficiency and could make modification accordingly without getting it manufacture, which saves a great amount of money and time. In this project the same methodology is adopted for designing analyzing the designed hydraulic fixture. Computer aided fixture design of fixture assembly is carried out using CATIA V5 software and Finite element analysis of fixture and cylinder block is carried out using ANSYS Static workbench software. Cutting forces and clamping forces are calculated taken into consideration during analysis. Analysis is carried out at different tool positions to calculate the maximum stresses and deformation occurred and make modification in fixture assembly model accordingly which creates optimum fixture assembly design to get manufactured.

KEYWORDS: Hydraulic fixture, CAFD, Clamp, FEA

MECH_69

OPTIMIZATION OF A COCKPIT STRUCTURE ACCORDING TO ECE-R21 REGULATION

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ABSTRACT: For a prototype of the new cockpit, developed by automotive industries, the design of the co-driver airbag area had to be optimized with the help of simulation in order to fulfill the guidelines of ECE-R 21. Furthermore a more limited inhouse-target had to be reached. The actual state of the prototype was illustrated by simulation and the influence of different measures on the crash behavior was examined. Among other things the following modifications were accomplished as changing the stiffness of the instrument panel by specific design of the rib structure, reducing the stiffness of the airbag box and its connections, Partial absorption of the impact energy using foam depositors between instrument panel and airbag unit. The influence of different strategic ways to optimize the crash behavior, in respect of head impact will be shown on a simplified cockpit model. Finally, a comparison of the simulation and the testing of the cockpit will be given.

KEYWORDS: CAD/CAM/CAE

MECH_70

SIMULATION AND DESIGN OF A PLASTIC INJECTION MOLD FOR A JOINT MOLD OF CREDIT CARD AND USB HOLDER

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ABSTRACT: Injection molding is one of the most important processes in the plastic manufacturing industry. More than one-third of all plastic materials are injection molded, and the mold is one of the main components in the injection molding process. The aim of this engineering seminar is to show detailed steps on how to design a complete mold and using the simulation software to analyze the material flow and defects in the

product. The product design for this seminar is a joint credit card and USB drive holder. What makes this product unique from others is that it contains both functions together whereas most of the products in the market today don't contain the same dual application. The design of this product and the mold were made by the designing analysis software Solid edge ST2 \Catia software, Which is then simulated by the use of Mold Flow.

KEYWORDS: ECE R21, CAE, IS.

MECH_71

EXPERIMENTAL INVESTIGATION AND ANALYSIS OF COMPOSITE BRAKE LINER USED FOR LIFTING APPLICATION

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ABSTRACT: Nowadays lot of research is going on to find alternate materials of brake liner material which is used in braking system. In lifting machines like hoist, crane as well as in winches generally drum and disk brakes are used with mouled brake liners. The ideal brake liner should have high stability, high coefficient of friction, less wears rate, longer life and reliability. It has been observed that woven brake liner which has same mechanical properties as like molded brake liner has high performance than molded brake liner. It has less wear rate and more heat dissipation capacity. This study has been done to recommend woven brake liner which is easily available in market as well as has better performance than present ultimately to obtain more efficiency and reliability of braking system.To determine the performance of both materials, a test rig has been designed and manufactured on which friction of material; force or pressure required to hold particular torque for particular material (eg. Steel) as well as stopping time can be obtained. The above experimentation will give us the future adoptability for such braking systems and will help to decide the material having high stability, high coefficient of friction, less wears rate, longer life and reliability with minimum cost. In short, the project work will to optimize the above mentioned parameters.

KEYWORDS: Composite materials, Brake Friction linings, Drum brake, Wear Analysis.

amount of energy to initiate ignition. When hydrogen reacts with oxygen to generate energy, the resulting reaction product is water vapour. Hydrogen can be obtained as a fuel through fuel cell for vehicles and as a direct fuel in an internal combustion engines. This paper focuses on a thorough view of combustion fundamentals of hydrogen, combustion anomalies, fuel induction strategies, ignition, efficiency, power output and their emissions characteristics and encourages using hydrogen as a best alternative fuel among available options to use in I C Engines.

KEYWORDS: I C Engine, Hydrogen, Fuel cell, Injection, Power output, Emissions

MECH_74

FRONT AXLE BEAM DESIGN AND MANUFACTURING FOR AN AUTOMOBILE

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ABSTRACT: An axle is a central shaft for a rotating wheel. On wheeled vehicles, the axle may be fixed to the wheels, rotating with them, or fixed to its surroundings, with the wheels rotating around the axle. The axles serve to transmit driving torque to the wheel, as well as to maintain the position of the wheels relative to each other and to the vehicle body. The axles in a system must also bear the weight of the vehicle plus any shipment. The front axle beam is one of the major parts of vehicle suspension system. It carries about 35 to 40 percent of the total vehicle weight is taken up by the front axle. Hence proper design of the front axle beam is extremely critical. In present paper work design of the front axle for heavy commercial vehicle were done.

KEYWORDS: Front Axle Beam, Automobile Component Design, Manufacturing of F.A.Beam.

MECH_75

REGENRATIVE BRAKING SYSTEM TECHNOLOGY FOR GENERATION OF ELETRIC POWER IN ELECTRIC/ HYBRID VEHICLE

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ABSTRACT: Fuel consumption has been a core consideration since the beginning of the transportation time. These are reasons related to our environment, and to economics. In the competitive vehicle manufacturing industry fuel consumption is an important sales argument, since customers on an average drive their vehicles for distances of km per year, which means that fuel becomes a large part of the lifetime cost for a vehicle. The Regenerative Braking System of the hybrid/electrical vehicle is a key technology for improving the efficiency of

the automobile by 20-40% depending on motor size. It contributes toward increasing the range of hybrid/electrical vehicles. Energy normally dissipated in the brakes is directed by a power transmission system to the energy store during deceleration. It helps to save fuel in hybrid vehicles and to reduce emissions of CO2 and pollutants, particularly in urban traffic situations involving frequent braking and acceleration. In addition, using the generator for braking also reduces brake wear and the build-up of brake dust.

KEYWORDS: Fuel consumption, emission, braking system.

MECH_76

STUDY ON VIBRATION ASSISTED TAPPING

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ABSTRACT: Substituting Tapping is an important process in assembly of aircraft structures because on an average one millions of tapped holes are made on an aircraft structure. However, sudden breakage of the tap is the most undesirable event frequently encountered during the tapping process. In particular, this can mostly occur when small diameter internal threads are made in a 'difficult-to-cut' material like titanium. For this reason, it has been a topic of industrial interest in the manufacturing sector for many years. This study reviews the state of research on the vibration-assisted tapping and classifies the existing methods developed to reduce torques. The main objectives and plan of work of this project are discussed. An analytical model to establish the relationship between frictional torque and vibrations parameters like frequency and amplitude has been proposed. Simulations are planned to study the effect of cutting speed, vibrations amplitude, and frequency on the tapping process cutting temperatures, forces and torques.

KEYWORDS: Frictional torque, cutting speeds, vibrations.

epoxy matrix composites owing to their high strength-to-weight and stiffness-to-weight ratio. Composites are extensively used for a wide variety of structural applications as well as in aerospace, automotive and chemical industries. In addition of the higher mechanical strength can also be obtained by the addition of fillers in polymeric composites, there is cost reduction in terms of consumption of resin material. So in this we have study the behavior of black epoxy resin with the addition of fillers like coconut outer shell powder, aluminum tri-hydroxide, glass fibers by addition of this filler we can improve the properties of material like stiffness, tensile strength, wear strength, hardness, etc.

KEYWORDS: Tribological, alluminium tri-hydraoxide, strength-to-weight, composite, glass fiber.

MECH_78

TESTING MECHANICAL PROPERTIES OF BLACK EPOXY-A REVIEW

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ABSTRACT: Logistics and supply chain management is seen as most important cost saving tool in 21st century business. The operation of transportation determines the efficiency of moving products. The progress in techniques and management principles improves the moving load, delivery speed, service quality, operation costs, the usage of facilities and energy saving. Transportation takes a crucial part in the manipulation of logistic. Reviewing the current condition, a strong system needs a clear frame of logistics and a proper transport implements and techniques to link the producing procedures. The objective of the paper is to define the role of transportation in logistics for the reference of further improvement. The research was undertaken to assist logistics managers, researchers and transportation planners to define and comprehend the basic views of logistics and its various applications and the relations hips between logistics and transportation. This paper presents a multi-objective optimization methodology solution for a private transport organization to jointly minimize the operating cost, the carbon footprint and the accident rate in the design of multi-modal distribution network. A practical selection rule supports the final network structure definition, leading to an effective trade-off among the three objective functions.

KEYWORDS: logistics, supply chain, transportation, multi-objective optimization, , carbon footprint.

MECH_79

DESIGN & ANALYSIS OF INSTRUMENT USED FOR PUNCTURED VEHICLE

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ABSTRACT: This paper represents one such problem and its solution where human factor plays very imp role. Customer getting punctured tire or flat tire in their vehicle is serious condition which disturbs their mind, brings anxiety and health issue if they are forced to pull punctured vehicle. When a punctured vehicle is

material removal rate and diametric overcut of the ECDM process. The chrome alumina is used as workpiece material and aqueous NaOH in stagnant condition as electrolyte is used. SiC powder of 1200 mesh size (10-15μm) is mixed with electrolyte.

KEYWORDS: Powder Mixed Electrochemical Discharge Machining, MRR, DOC, taguchi method, regression analysis.

MECH_81

ENERGY HARVESTING - PIEZOELECTRIC MATERIAL

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ABSTRACT: As the nation is growing the needs for the survivability is simultaneously demanding the assets like: wealth, social livelihood and the sacrifice of our Environment in growth is remarkable. To overcome these things only Non Conventional energy sources can help; also these are the emerging technology of future. Piezo-Electric Effect is one the non conventional Energy Source. In this paper we had performed the literature Survey for the daily Energy (Electrical) requirement, Loads on the National Power Generation Grids. We had considered the array of piezo electric material for the production of power. However, there were problems with the output stability, mechanical robustness, lifetime and environmental adaptability of such devices. Here we report a flexible power generator that is based on cyclic stretching-releasing of piezoelectric fine plates that is firmly attached to metal electrodes at both ends, is packaged on a flexible/rigid substrate, and does not involve sliding contacts.

KEYWORDS: Piezo-Electric, environment, power generation.

MECH_82

PERFORMANCE ANALYSIS OF HYDRODYNAMIC JOURNAL BEARING

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ABSTRACT - Hydrodynamic journal bearings are widely used due to their high load carrying capacity and good damping properties. Journal bearings have been widely used in rotating machinery. The bearing carries higher loads which reduces film thickness and also increase temperature of bearing due to fluid film temperature increment. The pressure distribution is important in both load capacity estimations (static performance) and

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PROF. G.E.KONDHALKAR

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"SHAER STRENGTH PERFORMANCE ANALYSIS OF HYBRID JOINTS (ADHESIVE & RIVET)_SINGLE LAP JOINT"

In

"NATIONAL CONFERENCE ON TECHNICAL REVOLUTION"

(NCTR – 2016)

held on 10th & 11th March 2016

Jointly Organized by

AKHIL BHARATIYA MARATHA SHIKSHAN PARISHAD'S

ANANTRAO PAWAR COLLEGE OF ENGINEERING & RESEARCH,

PARVATI, PUNE

&

SAVITRIBAI PHULE PUNE UNIVERSITY,

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"DESIGN AND MANUFACTURING OF SEMI AUTOMATIC WIRE WINDING MACHINE"

In

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"VIBRATION PARAMETER FOR DETECTING THE BALL BEARING FAULT "

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APPSCI 01

CHARACTERIZATION STUDY OF POLY (LACTIC ACID)

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ABSTRACT: In this study the effect of hydrolytic degradation is investigated on molecular weight of poly (lactic acid) PLA. The PLA is synthesized by using commercial catalyst stannous octoate, Sn(Oct)2 and its molecular weight is 75000. Thermal study of this PLA is studied by using thermogravimetric analysis (TGA) and differential scanning calorimetry (DSC) melting temperature of PLA found in the range of 172 to 1610C. Change in surface morphology by SEM support for fragmentation of high molecular weight PLA.

KEYWORDS: Biodegradable Polymer, SEM, DSC.

APPSCI 02

ANTIOXIDANT SCAVENGING POTENTIAL OF MEDICINAL PLANT - EMBELIA BASAL

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ABSTRACT: Embelia basal, belonging to family Myrsinaceae, is a well known medicinal plantas mentioned in Ayurvedic system of medicine. Medicinal plants are a source fora wide variety of natural antioxidant. Antioxidant activity is essential for many biological functions. Literature survey revealed that there are no reports on radical scavenging activity of the fruits of E. basal. The present work was carried out in order to evaluate the efficacy of the fruits of E. basal, in view of free radical scavenging activity using acetone, ethanol, and methanol extracts.

Fruits were screened for their antioxidant activity by employing radical scavenging assay; DPPH (2, 2-Diphenyl - 1- picrylhydrazyl) and Nitric oxide (NO). The percentage radical activity for both the assays was determined using ascorbic acid as a standard. From the standard curves, inhibition concentrations in the test samples were calculated. It can be seen that the DPPH radical scavenging activity for ethanol extract is found to be more significant than methanol and acetone extracts. There is a moderate percentage inhibition of the nitric oxide formation with all the investigated extracts.

The findings of the present study suggest that fruits of E. basal could be a potentialsource of natural antioxidant that could have great importance as therapeutic agentsin preventing or slowing the progress of aging and age associated oxidative stress related degenerative diseases.

KEYWORDS: Embelia basal, Myrsinaceae, 2, 2-Diphenyl -1- picrylhydrazyl and Nitric oxide.

APPSCI 03

BIOGAS A SOURCE OF RENEWABLE ENERGY A REVIEW STUDY

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ABSTRACT: The aim of this paper was to give an overview of the Biogas, types of biogas plant and biogas production, production by utilization of different Agricultural Wastes, the parameters affecting the biogas production, enhancement of biogas plant performance, problems encountered, lessons learned and modifications made while operating the biogas plant.

KEYWORDS: Biogas, different Agricultural Wastes, biogas production, plant performance.

APPSCI 04

STUDY OF VARIABLE STARS

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ABSTRACT: The science of variable star astronomy teaches us about one important part of the universe the stars. By studying stars (including our own Sun), we are learning about possible abodes for life. Research on variable stars is important because it provides information about stellar properties, such as mass, radius, luminosity, temperature, internal and external structure, composition, and evolution. Some of this information would be difficult or impossible to obtain any other way. This information can then be used to understand other stars. Variable stars are stars that change brightness.

KEYWORDS: Variable stars, why to study, types of variable stars.

APPSCI 05

ON CIRCUIT GRAPH OF MATROID AND RELATED ASPECTS

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ABSTRACT: Matroid theory gives us the powerful techniques to understand combinatorial optimization problems and for designing polynomial-time algorithms Matroid theory dates from the 1930's and Whitney in his basic paper "The abstract Properties of Linear Dependence", Amer. J Math. 57(1935) conceived a matroids as an abstrac. We assume familiarity with Graph Theory and Matroid Theory. The related research papers, we have studied are "The Connectivity and Minimum Degree of Circuit Graph of Matroid" by Ping LI and Guizhen LIU [2007]. In this project we studied the Connectivity in the Circuit Graph of Matroids. Inter connection network are often modelled by connected graph, where vertex set corresponds to the set of communication links. The best known measure of reliability of a graph is its connectivity which received much attention recently. Because of the inequality $\delta(G) \geq \kappa(G)$. For each graph G, there exists a special interest on lower bounds of $\kappa(G)$ and extremal graphs satisfying $\delta(G) = \kappa(G)$.

Ultra-violet An Environmental Engineering Approach in Water Treatment Systems

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Abstract: In the last several decades have we had experience of the environmental issues pollution and degradation around us and under all aspects both at locally as well as globally. Due to the rapid development and extension use of chemical technologies for organic synthesis and processing there is regular addition of more and more organic compounds in definite natural water resources. In addition the population explosion, expansive growth of urban areas increased adverse impacts on water resources. This growth leads to considerable increase in the waste water volume, which makes it an urgent imperative to develop efficient and inexpensive technologies for waste water treatment with an objectives reuse of water. The most common processes in water treatments like coagulation and flocculation using various chemical reagents as aluminum chloride or ferric chloride, poly-electrolytes, etc. which generates large amounts of sludge at another end. As the water demand increasing day by day the disposal of waste water through proper processes like ion exchange, ultra-filtration, reverse osmosis and chemical precipitation, electrochemical technologies each of these treatment methods has several advantages and disadvantages. Advanced technologies for water treatment with an objective to remove objectionable matters and may also increase destruction and separation processes of these matters to supply water for drinking as well as for domestic purpose. The devices for water treatment with ultraviolet (UV) is new and advance application in combination with conventional treatment processes and methodologies

Keywords: Water, Wastewater, Conventional Processes, Chemical Precipitation, Polyelectrolyte, Ultraviolet, Ultra-filtration.

Assessment of Durability of Recycled Aggregate Concrete

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Abstract: As more than 50% construction and demolition wastes are composed of concrete debris in Pune, recycling this debris into Recycled Aggregate for production of Recycled Aggregate Concrete is an efficient way to alleviate the burden on landfill areas. Since Recycled Aggregate is generated from concrete debris which has undergone years of services, the resulting Recycled Aggregate Concrete bears the weaknesses of lower density, higher water absorption, and higher porosity that limit them to lower-grade applications. Pinpointing to these weaknesses, For developed the Two-Stage Mixing Approach for improving the strength of Recycled Aggregate Concrete, leading to the possibility in applying RAC for higher-grade applications. While the improvement in strength by Two-Stage Mixing Approach has been proven in work the durability, in terms of deformation (shrinkage and creep) and permeability (water, air and chloride permeability), remains to be verified. In this paper, 0%, 20% and 100% of Recycled Aggregate substitutions have been experimented to compare the

develop a high performance concrete. It is proposed to determine and compare the differences in properties of concrete containing river sand and manufactured sand. It is also proposed to use steel fibres and chemical admixtures to increase the strength and workability of concrete respectively. The investigations are to be carried out using several test which include workability test, compressive test, tensile test, and flexural test

Solid Waste Analysis and Proposed Managament System for North East Pune

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Abstract: There has been a significant increase in MSW (Municipal Solid Waste) generation in India in the last few decades. This is largely because of rapid population growth and economic development in the country. Solid waste management has become a major environmental issue in India. The per capita of MSW generated daily, in India ranges from about 100 g in small towns to 500 g in large towns. There is no national level data for Municipal Solid Waste generation, collection and disposal, over the years in our India.

Municipal Solid waste management (MSWM) constitutes a serious problem in many third world Cities. Most cities do not collect the totality of wastes generated, and of the wastes collected, only a fraction receives proper disposal. The insufficient collection and inappropriate disposal of solid wastes represent a source of water, land and air pollution, and pose risks to human health and the environment. Over the next several decades, globalization, rapid urbanization and economic growth in the developing world tend to further deteriorate this situation. Items that we no longer need or don't have any further use are falling in the category of waste and we tend to throw them away. In early days people were not facing such big problems of disposal because of availability of space and natural material but now a day's congestion in cities and use of non-biodegradable materials in our day life create many problems. It is directly deals with our hygiene and psychology.

Keywords: Solid Waste, Collection and Disposal, Solid waste management, Recycling

properties such as density and slump and 28-day compressive strength of a lightweight concrete made with coconut shell as coarse aggregate also presented. The findings indicated that water absorption of the coconut shell aggregate was high about 24 % but the crushing value and impact value was comparable to that of other lightweight aggregates. The average fresh concrete density and 28-day cube compressive strength of the concrete using coconut shell aggregate were 1975 kg/m3 and 19.1 N/mm2 respectively. It is concluded that crushed coconut shells are suitable when it is used as substitute for conventional aggregates in lightweight concrete production. Data presented include the compressive strength, tensile strength and flexural strength of coconut shell concrete and comparison with conventional concrete. The investigation revealed that the behavior of CS concrete beams was comparable to that of other lightweight concretes and the experimental results compare reasonably well with the current Codes of Practice.

Seismic Analysis and Retrofit of Existing Elevated Water Tank In India – An Overview With A Case Study

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Abstract: After the earthquake in Bhuj, Gujarat, in 2001, there has been a concerted effort to address the seismic vulnerability of existing structures in India. This paper is part of a project, whose aim is to evolve methodologies to assess the seismic vulnerability of reinforced concrete three- to five-storied, elevated water tank and to propose retrofit measures for the structurally deficient structures. For the elevated water tank addressed in the project, the common element deficiencies are inadequate shear capacity, core confinement and rebar splicing of columns; inadequate shear capacity, rebar anchorage and plastic hinge rotation capability of beams and inadequate confinement of beam-to-column joints. The presence of soft and weak storey at the open ground floor, in-plane discontinuity and out-of-plane offset of the ground floor columns and eccentric mass are commonly observed irregularities in the studied buildings. In absence of the effects of Impulsive and Convective pressure results, there is lack of integral action of the lateral load resisting elements. The local retrofit strategies of column, beam, beam-to-column joint, wall and foundation strengthening are reviewed. Under global retrofit strategies, the addition of infill walls, shear walls and steel braces, and the reduction of the building irregularities are mentioned. A detailed case study is reported. In the conclusion, issues pertinent to retrofit are discussed.

Keywords: Earthquake, elevated water tank, retrofit.

Study And Analysis of Soil Properties and Ground Water Quality in Kurkumbh MIDC Area, Daund (India)

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Abstract: Water pollution and soil contamination is one of the major environmental problems, especially in industrial cluster. Kurkumbh is one of most prominent industrial area of the state. There is growing concern on the deterioration of ground water quality and soil contamination due to industrial effluents being discharged without proper treatments.

The industrial effluents generated from the chemical, pharmaceutical industry. Ground water contamination has been reported due to discharge of untreated/partially treated industrial effluents. The industrial effluents contain a variety of chemicals, dyes, acids and alkalies besides heavy metals and other toxic compounds. These are the main source of ground water and soil contamination.

In the present study made to study and analysis ground water quality around kurkumbh MIDC area. The ground water quality parameters such as pH, Total hardness, chloride, total dissolved solids, sulphate were analyzed. study on soil properties around kurkumbh MIDC area.

The results of ground water samples checked as per permissible limit of WHO.

Keywords: Ground water, Soil properties ,Kurkumbh MIDC area.

The Comprehensive Study and Analysis of Dust Pollution in the Southern Part of Katraj Area

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Abstract: Dust, coming from diverse sources, is an important factor in environmental pollution. It is one of the most visible, invasive and potentially irritating impacts, and its visibility often raises concerns, which are not necessarily in direct proportion to its impact on human health and the environment. However, many dusts do contain metals, which are potentially hazardous, and certain types of dust particles known to cause particular diseases. The study and analysis of dust for southern part of Katraj area of Pune become essential to save local environment from heavy suspended particulate matter.

In southern part of Katraj area of Pune, dust results from blasting, handling, processing or transporting tons of aggregates. The level of dust generated, its behavior and types of health and environmental risks depend on many factors including crushing stone type, local climate of Katraj region, topography, working methods and types of equipment used for the different operations.

aggressive substances from the environment, for example chloride ions from seawater and de-icing salts and carbon dioxide from the atmosphere, resulting in reinforcement corrosion. Initiation of corrosion usually happens when the passivating alkaline environment provided to the steel bars by the surrounding concrete is neutralized by carbonation or disrupted by chloride ingress Corrosion creates expansive corrosion products, which crack and subsequently spall off the concrete cover, eventually corrosion will reduce bar diameters to unsafe values and collapse cannot be excluded. In degradation of strength of concrete and steel, with the life of structure results the structure will not be capable to resist the specific demand of static and dynamic loading. Although to achieve the demand the necessity of strengthening will required.

This research includes calculation of corrosion rate of steel in members of RCC structure as well as finding out of its effects on behaviour of structure and according to this provides remedial measures to structure.

Keywords: Corrosion, Non destructive Techniques, Carbonation.

New approach towards Ultra Violet Disinfection of Water

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Abstract: The management of water resources exercises ever more pressing demands on water and wastewater treatment technologies to reduce industrial impacts on natural water sources. Thus, the new regulations and emission limits are imposed by Government and industrial activities are required to seek new methods and technologies capable of effective removal of heavy metal pollution loads and reduction of wastewater volume, closing the water cycle, or by reusing and recycling water waste.

The use of ultraviolet radiation for the disinfection of water has been investigated primarily for its applicability to fresh waters, although in recent years investigations with sea water have been conducted in Japan and in England, particularly in connection with water to be used for the purification of shellfish, Studies on fresh water have been directed primarily toward the sterilization of drinking water and swimming pools, but the method has also been evaluated for the disinfection of small containers used for dispensaries and surgeries and for biochemical products when heat treatment would have an adverse effect.

Our interest in the ultraviolet treatment of sea water arose from the need for a continuously flowing supply, having a uniformly low bacterial content, for study of the accumulation and elimination of enteric bacteria in oysters.

The limited quantity of pure water available on the earth and its efficient use in day to life is major concern of day's era. These can be achieving through the reuse of water or by reducing the supplied quantity in the society. There need of effective and economical treatment resources so that the treated water can be available at cheaper rate the public in country like India.

Keywords: Water management, Regulation, Disinfection, Drinking water, enteric bacteria, Economical treatment

E-waste & IT's Present Scenario For Pune City

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Abstract: Electronic waste or E-waste is relatively a huge addition to the ever-growing hazardous waste stream. The discarded Electronics & Electrical Equipments are covered in E-waste Preliminary studies have estimated that India might be generating around 1.5 lakh tonnes of e-waste annually. This is expected to exceed to 8,00,000 tonnes by 2014. The metropolitan cities like Pune, Delhi, Mumbai, Bangalore, Kolkata and Chennai are the major E-waste generators. These cities have also seen increasing of E-waste recycling units in the informal sector in the last few years. These units are not only processing the waste generated locally but also receiving the new kind of junk from other smaller cities. The Electronic waste imported from developed countries is also a serious issue.

In last few years Pune becomes Metropolitan city because of IT industrial hub. The generation of E-waste in Pune is highly increases day by day. Proper management would not available to control E-waste & its impact on environment. This paper will give ideas for present conditions of e-waste in pune city about its generation & management. During the course of the study it has been found that there is an urgent need to address the issues related to e-waste in Pune (especially for all metropolitan cities) in order to avoid its future consequences.

Keywords: Electronic waste, EEE, E-waste management, Recycling

Nano-filtration in drinking water treatment

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Abstract: The burst of filtration and filtration-related activity that followed the development of the phase-inversion process for the manufacture of polymeric membranes, in the early 1960s, led to the establishment of three membrane separation processes: reverse osmosis, ultra filtration and, more recently, microfiltration. These processes took the separation spectrum from the traditional cut point limit of standard filtration of around 0.01 mm (10m) to the very finest distinct solids.

Reverse osmosis, of course, was designed to retain the very small sodium chloride molecule, which meant passing nothing else but water. The membrane separation process known as nanofiltration is essentially a liquid phase one, because it separates a range of inorganic and organic substances from solution in a liquid - mainly, but by no means entirely, water. This is done by diffusion through a membrane, under pressure differentials that are considerable less than those for reverse osmosis, but still significantly greater than those for ultrafiltration.

Nanofiltration is a membrane filtration based method that uses nanometer sized cylindrical through-pores that pass through the membrane at a 90 degree. Nanofiltration membranes have pore sizes from 1-10 Angstrom, smaller than that used in microfiltration and ultrafiltration, but just larger than that in reverse

Use of Plasma Pyrolysis in Disposal of Biomedical Waste

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Abstract: India is fastest developing country in Asia in all concerns like Agriculture, Education, Manufacturing and Economics as well as in Medical sectors. On the other hand these developments take a part in creating the impact on the environment. After reaching a difficulty to manage solid waste the concentration requires for disposal and management of Bio-medical in the urban as well as rural parts of India. In India, The Ministry of Environment and Forest has notified Bio medical waste management rules in 1998. According to notification the disposal of category 1, 2, 3 and 6 waste has to be incinerated new technology are used in the disposal. One of them is plasma pyrolysis.

Currently incineration is widely used for disposal of bio medical waste. Design of incinerator is poor, because it release extremely toxic compounds like chlorinated dioxins and furans and create strong opposition from various organizations. In India it is necessary that there should be a cleaner and safer technology. Therefore the technology like plasma pyrolysis has been introduced. This technology produce extremely high temperature by using plasma torch in oxygen starved environment which helps to destroy waste efficiently and eco-friendly manner. Capacity of this equipment is around 15 Kg/hr. with standard size. In this equipment temp is high which destroy toxic compound. It also decreases the quantity of residual ash. This paper includes comparative study about the plasma pyrolysis and incinerator.

Keywords: biomedical waste, incineration plasma pyrolysis, toxic pollutants, incinerated ash

Air pollution- their role in carbon footprints : A perspective towards climate change

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Abstract: Since the historical development and society formation by the humans and discovery of fire it is clear indication that climate change or global warming is one of the major environments challenges of current time. There is no doubt that human activities are increasing the atmospheric concentration of green house gasses. All theoretical models predict that this increases green house gases concentration will causes changes in climate both regionally and globally with adverse consequences likely for human health, as well as to ecological and socio-economical systems. The best current predictions suggests that rate of climate change will far exceed any natural climate changes that have occur during the last 100 decayed.

Here urgent need of control and minimization along with awareness about universal changes in the environment. Which take major contribution in overall change in seasonal patterns the Carbon credits, carbon footprints are an elements used to aid in regulation of the amount of exposed gases in surrounding. Carbon credits are monetary solution to mitigate the concentrations of greenhouse gases (GHGs).

This research study is to analyze whether climate change is threat to Environment and up to what extend Carbon Credit control Environment Pollution. Understand and Study of CDM and Carbon credit Mechanism and its various benefits in Indian Companies, how it is traded, what are the different Mechanisms.

Keywords: Ecological Changes, Climate Change, IPCC, CDM, Indian conditions

Role of Cow in Protection of Environment Since Ancient Time

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Abstract: Now days pollution is increasing day by day either it is related to land or water or soil. The important of cow is mentioned in scripture since ancient time. The cow help in protection of land by providing good quality manure which we are getting from cow dung. This cow dung is useful in treating in various types of soil pollutant and maintaining the Ph of soil and it also increases the water holding capacity of soil which is helpful in growth of plant and tress. Instead of using chemical fertilizers and chemical pesticides which not only pollute the soil but also pollute the groundwater as well as enter the ecosystem through plants which is mainly responsible for various types of diseases like cancer etc, which we can avoid by spreading awareness among the farmer who are using chemical fertilizers and chemical pesticides to use cow manure which give better quality food crops. It's also helpful in production of biogas which is useful for cooking food. From cow we also get milk which we can use for making curd, ghee etc. which indirectly help the human society since ancient time. Cow urine is also helpful in treating various types of diseases like skin diseases, etc. as mentioned in Ayurvedic medicines by their consultants. Here various types of books related to Cow were read and various other organizations that were doing work on this regard were visited and information was collected. The result obtained from this work is really astonishing and helpful in protection of environment.

Keywords: Land Pollution, Manure, Cancer, Cow milk, Ghee etc, Ecosystem, Ayurvedi, Cow Organization, Consultants.

Biosparging to Treat Polluted Groundwater, Surface Water & Soil

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Abstract: Now days just because of various industrial activities there is a threat to soil as well as ground water. Some industries directly pour there effluents on soil without treating it which is responsible in polluting soil as well as ground water. Groundwater is polluted due to process of leaching where harmful pollutants percolates along with water from top surface to down groundwater and also if this pollutant moves along with surface they also pollute the surface water bodies. Biosparging is the process in which microorganism present in soil and groundwater, and atmospheric air is pumped through polluted groundwater, soil and surface water bodies were air helps in removing volatile organic like petrol, kerosene, diesel matter from underground water, surface water bodies and soil, and microorganism present in soil help in degrading pollutants with the help of supplied atmospheric air. The atmospheric air consist of oxygen which help in oxidation of various pollutants

Assessment of Current MSW Management Practices of Pune City

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Abstract: Municipal Solid waste is a waste type that includes predominantly household waste (domestic waste). Management of solid waste reduces or eliminates adverse impacts on the environment and human health and supports economic development and improved quality of life. Numbers of processes are involved in effectively managing waste for a municipality. Municipal Solid Waste Management involves activities associated with generation, storage, collection, transfer and transport, processing and disposal of solid wastes. Conventional approach involves management of waste which resulted in mechanized system of collection and transportation and buries the waste into landfill. The objective of this study is to chalk out an integrated waste management program which will reduce the threats posed by current management practices. This program will follow a sustainable approach for disposing off the municipal solid waste.

Keywords: Municipal Solid Waste Management, collection and transportation, sustainable approach.

Performance of Special Shape Column in Earthquake Resistant Design of Frame Structure- A Review

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Abstract: In future, restriction on horizontal expansion will be the major problem because of the scarcity of land an its high cost. For this vertical expansion will be the only solution available. Generally rectangular shape columns are provided for low and medium rise public building. Rectangular columns can be replaced by special column i.e. using 'L' shape for corner column, 'T' shape for intermediate column and '+' shaped for central column, etc. in the reinforced concrete frame structure, then the structure is named as special-shaped columns frame structure. In this paper, review related to the seismic design of various shapes of column has been done. The specific objective was to know the guidelines regarding the performance of different shapes of columns in earthquake resistant design. This paper highlights the performance of special shape column in earthquake resistance framed structure.

Keywords: Special-Shaped Column, Structural Configuration, Shape and orientation, Earthquake Analysis.

Integrated Environmental Development Planning for Rural Areas Emerging Towards Growth Centre

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Abstract: Development processes the world over are facing challenges emerging from changing climatic conditions and global warming. A paradigm change in the approach to planning and facilitating the development processes is necessary to effectively deal with these emerging challenges. In the new paradigm, on one hand, the development processes need to be environmentally responsible and well informed about the global challenges and on the other hand should respond to the development needs and rights of the various communities involved, especially of the marginalized rural communities at the local level. It is also necessary to mainstream this approach without restricting it to isolated, standalone interventions under development schemes.

The motive of the paper is to support villages for environmentally responsible development and management of infrastructure and services for attaining the sustainable improvement in the quality of life of rural communities which is emerging towards growth centre. In this paper the study of existing situation of infrastructural facilities using GIS software with geo referencing tools. Further SWOT analysis carried out to formulate the vision which describes the direction that the village should take for optimal growth to attain sustainability in the long term, and sets the target. Finally prepare a plan which includes sector wise recommended interventions for the villages. Strategies for projected population, prioritisation of interventions and feasible resources with technology options to achieve objectives are protect, conserve and

enhance available natural resources through peoples' participation and ensure sustainable village development and also prepare an action plan at the village-level integrating available existing govt. schemes in village development plan and by mainstreaming environmental, social and cultural considerations in economically sound Village development.

Keywords: Global challenges, Growth centres, Geographical Information System, sustainable village development.

Seismic Analysis Of RCC Chimney Using SAP 2000

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Abstract: Industrial chimney demands a specialist design as consequences of heavy industrialization. Installation of high capacity power plant has led to the construction of tall chimney as increase in height provides a better environmental control. As the height increase they are more vulnerable to earthquake. The failure of any part of the structure will result in catastrophic failure, hence there is need to do seismic analysis of such type of tall and slender structure.In this paper seismic analysis of tall chimney has been carried out by using software based on finite element method, SAP2000. Chimney have been analyzed by response spectrum method and their responses are compared with response obtained from IS code and ACI code in terms of fundamental time period, mode shapes, shear forces, bending moment, axial force and deflection to find out the efficiency of SAP tool for analysis of chimney.

Keywords: seismic analysis, industrial chimney, SAP 2000.

Dynamic Response Of Reinforced Concrete Buildings Under Earthquake Excitation Using Coupled Building Control

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Abstract: Due limited availability of land and large intensity of population Buildings in modern city are often built closely to each other. The earthquake resistant capacity of each building mainly depends on itself, Because in most of cases these buildings doesnot have any structural connection.. Hence the concept of coupled building control has been taken in to consideration, to improve the earthquake resistance of these building. Coupled building control is shown to be a viable method to protect tall building from seismic excitation. The philosophy is to be allow the structure, vibrating at different frequencies, to exert control forces upon one another.

In this paper a comparative study are performed on uncoupled and coupled building with beam as flexible link in zone V. The characteristics performance such as natural circular frequency of vibration, shear force, bending moments are found out for different end condition of connecting beam as a flexible link and also variation in position of connecting beam to closely spaced building. The study are carried out on multistory building with help of different mathematical models, considering provision of coupling to improve seismic resistance using finite element structural engineering software (sap-2000). Response spectrum analysis is carried out using software sap. Though the axial force may increased but there is drastic reduction in natural circular frequency of vibration hence coupled building control mitigate the response of closely spaced building.

Keywords: Coupled buildings, multistory, structural models, seismic response

Truck Optimizer for RMC Dispatcher

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Abstract: The RMC batch plant manager has to prepare an efficient schedule of dispatching RMC trucks, which will optimize the operations at the construction sites and also at the batch plant. The existing dispatching schedule requires more number of RMC trucks and also dependence on the experiences of the dispatching manager and preferences from site. See if, the RMC plant manager dispatches more and more RMC trucks to the required construction site which may results in the lineup of RMC trucks at one site and keeping other sites waiting for the arrivals of RMC trucks, called as 'interruption'. In this paper an attempt is made to reduce the number of RMC trucks and produce an Un-interrupted dispatching schedule along with reduction in the waiting time of trucks and sites. A user-friendly GA (Genetic Algorithm) model is developed in MATLAB environment to help the batch plant manager to decide un-interrupted dispatching schedule thereby reducing the use of number of RMC trucks.

Key words: GA's applications, Un-interrupted Dispatching, dispatching time of RMC trucks, Optimization of Dispatching trucks.

COMP01

PROCESS OF INTERNATIONALIZATION, LOCALIZATION AND AUTO LOCALE DETECTION WITH RESPECT TO MULTILINGUAL APPLICATIONS

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ABSTRACT: Internationalization or localization defines the approach that is advised while developing any multilingual software or application so that the particular software can be used for different languages in different countries and this process does not require to make any engineering changes to the software. This approach involves the process of separating the parts of a program that are dependent on language and culture. Whereas the localization focuses on a specific locale where that particular software is used and all the necessary changes made accordingly. The proposed system automates the locale detection process with the IP Address ranges. Depending up on the locale detected the content are shown in the respective language used in that particular locale.

KEYWORDS: Internationalization, localization, localized, locale, multilingual, culture.

COMP02

A SURVEY OF METHODS TO IMPROVE CONVERGENCE SPEED AND SCALABILITY OF OSPF PROTOCOL

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ABSTRACT: Open Shortest Path First (OSPF), a link state routing protocol, is an admired interior gateway protocol (IGP) in the Internet. Wide spread deployment and years of experience running the protocol have motivated continuous improvements in its operation as the nature and demands of the routing infrastructures have changed. Modern routing domains need to maintain a very high level of service availability. Hence, OSPF needs to achieve fast convergence to topology changes and also requires highly scalable operation on part of OSPF to avoid routing instability. In the event of a device failure in the network, the protocol required several tens of seconds to recover from the failure. During this transient state, the network service would suffer serious deterioration in quality or breakdown completely. With the advent of real-time applications on the Internet over the last decade or so, a service deterioration/breakdown extending several tens of seconds can no longer be tolerated. The desire for quick failure recovery motivated extensive research to improve OSPF's speed of convergence.

KEYWORDS: OSPF, Fast Convergence, Scalability.

Review of Color Image Segmentation in HSI Color Space

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Abstract: This literature review attempts to provide a brief overview of some of the most common segmentation techniques, and a comparison between them. Image segmentation is very essential step in image processing and pattern recognition. Image segmentation is a classic subject in the field of image processing and also is a hotspot and focus of image processing techniques. With the improvement of computer processing capabilities and the increased application of color image. This paper presents a review on modified color image segmentation algorithm based on color JND (Just Noticeable Difference) property of human visual perception in HSI color space. For this we have used the HSI color model since RGB, CMY and other similar color models are not well suited for describing colors in terms that are practical for human interpretation. Also study of trained neural network to identify whether two colors are similar/dissimilar based on the similar/ dissimilar color patterns created by human observers.

Keywords: Neural Network, JND (Just Noticeable Difference) Color Histogram, Segmentation, HSI, Peak Signal to Noise Ratio, Synthetic Image Database

Solving XML Queries by data Summaries using Combination of SAX and DOM Parser

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Abstract: In today's age a large amount of data is being stored in the form of XML documents. Since XML documents are semi structured and as they also require large amount of storage space, there has always been a rising demand of storing them in specific patterns and automation for mining association rules and patterns in XML documents. Summarized representation of XML data can be given based on the concept of Tree Based Association rules (TARs). Besides providing the information about the structure of the XML document it will also give the contents stored in the documents. This extracted knowledge from TARs will help in fetching intentional knowledge and quick answers to queries. Tests on large XML documents show that these kinds of patterns allow a significant reduction in storage space, while preserving almost entirely the completeness of the query result. Further, they also provide fast query answering and show good scalability on the size of the dataset, thus overcoming the document size limitation of most current Xquery engines.

Keywords: XML, TARs,Xquery, SAX, DOM

A Review Paper: Higher Spectral Efficiency Using Space Division Multiplexing for MIMO-OFDM Software Defined Radio

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Abstract: With the increasing amount of bandwidth-hungry services like video on demand and video conferencing, the need for broadband communication systems is obvious. Furthermore, with the growing demand for flexible workplaces at the office (office hotelling) and university, wireless broadband communication systems are no luxury anymore. The market demand for broadband multimedia services, ubiquitous networking, and explosive Internet access using portable devices such as PDAs, cellular terminals, laptops, etc., all are growing at such an enormous pace that has pushed the development of modem and system architecture for high-speed data transmission.

The latest research in information theory shows that rich-scattering wireless channel is capable of providing huge theoretical capacity, approaching 90% of the Shannon limit. Multiple input multiple output (MIMO) systems exploit such multipath scattering and are likely to become a key technology for future broadband wireless networks. MIMO systems employ different kind of techniques such as Space-Time Coding (STC) and Space Division Multiplexing (SDM) to correctly retrieve the data at receiver end, thanks to effective processing power available at receiver end. Some of these techniques are relatively expensive whereas VBLAST is an SDM based MIMO system, recently developed at Bell Labs, USA, which seems to provide the best trade-off between system performance (spectral efficiency and Capacity) and system implementation complexity. V-BLAST implements a Zero Forcing Successive Interference Cancellation with optimal ordering process combined with symbol cancellation to improve the system performance. In a benign indoor environment, it has demonstrated spectral efficiencies ranging from 20-40 bps/Hz at average SNRs ranging from 24 to 34 dB, however, spectral efficiencies of this magnitude are exceptional, regardless of propagation environment or SNR. This paper describes an approach for Achieving Higher Spectral Efficiency through SDM for MIMO-OFDM system using a flexible software defined radio (SDR) system paradigm.

Keywords: Multiple input multiple output (MIMO) systems, Space-Tim

Lung Tumor Detection Using Automatic Image Segmentation

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Abstract: Interpretation of medical images is often difficult and time consuming, even for physicians. Digital image processing can make this process easier. The proposed systems efficiently detect the area of lung tumor from Computed Tomography (CT) images through image processing techniques. The lung CT image is denoised using total variation algorithm to remove random noise prevalent in CT images. Otsu thresholding is applied to the denoised image to segregate lung regions from surrounding anatomy. Lung tumor, approximately spherical regions of relatively high density found within the lung regions are segmented using

region growing method. The proposed system implemented on MATLAB takes less than 1 minutes of processing time and has yielded promising results that would supplement in the diagnosis of lung cancer.

Design of Phase Detector with Charge Pump, Loop Filter and VCO for PLL

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Abstract: Contemporary digital systems use clocks for sequencing their operations and for synchronizing between different functional units. Data-transfer rates and clock frequencies have been constantly increasing with every generation of processing technology. Phase locked-loops (PLLs) are widely used in order to generate well-timed on-chip clocks to be used in high-performance digital systems. A PLL is a closed loop system that locks the phase of its output signal to an input reference signal. PLLs are widely used in radio, computer and telecommunications systems where it is necessary to stabilize a generated signal or to detect incoming signals. The trend of CMOS technology improvement continues to be driven by the need to integrate more functions within a given silicon area. There are various cmos technologies such as 130nm,90nm, 65nm ,45nm,32nm ,22nm.In this paper, design aspects for low power and high performance phase locked loop using latest 45 nm cmos technology introduced. Power has become one of the most important paradigms of design convergence for multigigahertz communication systems such as optical data links, wireless products, microprocessor & ASIC/SOC designs. Power consumption has become a bottleneck in microprocessor design. This phase locked loop is designed using latest 45nm process technology parameters, which in turn offers high speed performance at low power. It contains the detailed circuit diagram and cmos design of PLL. The main novelty related to the 45nm technology such as the high-k gate oxide , metal-gate and very low-k interconnect dielectric. VLSI Technology includes process design, trends, chip fabrication, real circuit parameters, circuit design, electrical characteristics, configuration building blocks, switching circuitry, translation onto silicon, CAD, practical experience in layout design.

The design is simulated with 45 nm CMOS technology. Phase Locked Loop is implemented in 45 nm cmos technology using Microwind 3.1. The Software microwind 3.1 used allows us to design and simulate an integrated circuit at physical description level. The package contains a library of common logic and analog ICs to view and simulate.

Keywords: 45 nm cmos technology, PLL design.

Reliable Routing Protocol

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Abstract: The utmost demand of the future networks is the rapid deployment of independent mobile nodes that can communicate with each other without the need of centralized and organized network infrastructure. This type of network is categorized under the classification of Ad-Hoc Networks. As the nodes in a Ad-Hoc Networks are mobile, the network topology may change rapidly and unpredictably. While talking about any network type, wireless or wired, the most important issue that need to be resolved is the reliability that the network provides.

In Wireless Networks, unfortunately, a framework for modeling reliability of data transport protocols is currently missing. In data gathering data loss often happens due to external faults such as random link failures and hazard node faults. Failing nodes alter the topology of the network resulting in segmented routing paths and lost messages, ultimately reducing network reliability.

Design of reliable wireless network need to address the failure of single or multiple network components and implementation of the techniques to tolerate the faults occurred at various levels. The issues and requirements of reliability improvement mechanism depend on the available resources and application for which the Network is deployed. The first task of reliability improvement is to specify reliability requirements as defined by the network maintenance operator (QoS) and/ or end users in terms of operational performance reliability requirements and the operating environment.

In this paper, new reliable routing protocol is proposed in which path selection will be based on reliability and not on hop count. This protocol will be useful for the applications which require high reliability.

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A Novel Scheme To Reduce Overheads On Cloud System

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Abstract: Cloud Computing is a technology that provide on-demand services namely Storage-as-a-Service, Infrastructure-as-a service etc. over the internet via Cloud vendors to organizations or individual user. Cloud computing gives the ability of utilizing the services regardless of the installation and maintenance problems to the organization. Storage of data on single local server results in into the maximization of storage cost and maintenance cost. So these days most of the organizations choose the option to store such data on a cloud. Cloud provides Storage-as-a-Service. In this, organization can use a space on a cloud server to store data. Data that store on cloud can be static or dynamic in nature. While storing data, some storage, computation and communication overheads may occur. So there are some challenges as to reduce overheads on the cloud server and to preserve newness of dynamic data in the form of text, video & audio. In this paper, a novel idea is introduced that will provide a solution for minimizing storage overhead on cloud.

Keywords: Dynamic data, Storage as a Service, Computation overhead.

SLO-based Scheduling for Hadoop-Mapreduce Environment

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Abstract: Industries are moving towards Map reduce and Hadoop for Big data Processing. Industries are having a large amount of complex data which can be either structured or unstructured. To analyses such a huge petabytes of data across the enterprise, map reduce applications on Hadoop are preferred. Controlling allocation of resources in a shared Map reduce Environments is a main challenge. Many users require job completion time guarantees (SLOs). User has certain performance goals that application should complete data processing in a certain time limit. Existing Job Schedulers do not support Service Level Objectives. To achieve these SLOs, we first build a job profile for the given application during map and reduce phases. Then, we find out time required for job completion given the resources and Given a deadline we find out resources required to complete the job within that deadline. We are implementing SLO based scheduler in Hadoop for job ordering and meeting jobs in certain time deadline This scheduler maximize utility function of all users. This approach allocates minimum sufficient resources to the job for completing within deadline and leaves the remaining, spare resources to the next job.

Keywords: Hadoop, Mapreduce, Resource Allocation, SLOs, Scheduling

Real Time Query Process For Wireless Sensor Network

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Abstract: The upcoming of high data rate sensor network, there is requirement of high performance query service. For implementing such high performance services there is requirement of diff qualitative design technics, models, architecture, algorithms etc. Thus this paper proposes diff methods for implanting the real time query services. It involves Sensor new technology, scheduling methods, transmission protocols, and different query processing issues. So we are observing and antialiasing diff approaches of Real Time Query scheduling that fits best in any circumstances.

Keywords: Sensor n/query scheduling, real time Systems

Prioritization of re-executable test cases in a Model-Driven Environment

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Abstract: In case of regression testing and prioritization approaches, specification level design and requirements concerns motivate changes in the source code. Traditional approaches are bottom up(or white box) and do not leverage on these concerns, so the new concept which considers these concerns is developed called as model based testing approach. Model-based testing approaches supports a top-down (or black box) testing approach, where design and requirements models are used in support of test generation. They enhance code-based approaches with the ability to test from a higher-level design and requirements perspective.A model-based regression testing and prioritization approach is presented that efficiently selects test cases for regression testing based on different concerns. In particular we describe how to convert a UML diagram to xml file, how to derive the re-executable and reusable test cases and how to support concern- based regression testing and prioritize the re-executable test cases.

Efforts have been initiated to map UML diagrams to XML documents, because Unified Modeling Language (UML) is a standard object oriented design modeling language for business and technical systems and Extensible Markup Language Schema (XML Schema) provide a means for defining the structure, content and semantics of XML documents and XML is widely being accepted as information representation and sharing language across Internet. In order to build a complete system, we have to map the static as well as the dynamic aspects of UML Diagrams. After this conversion, xml file is used to generate test cases which are reusable and re-executable. Re-executable test cases are further prioritized based on user concerns or dependency of re-executable test cases, which can be identified by sequence diagram. This will minimize the efforts needed to validate new software versions and it will improve the overall productivity of the software development process.

Text Classification and filtering rules to filter unwanted message in Online Social Network

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Abstract: Today OSN's are very important platform for human interaction. Online Social Networks are used to share information, audio or video and also to share images. People can also post the messages or their views on the wall of OSN. These posted messages may show some political or religious view. It may also contain some unwanted messages like vulgar one. Due to this the environment gets disturbed. In order to avoid all these things, a system is proposed in which the posted message is filtered according to its content and if the message is normal then only it gets posted on the user's wall otherwise it gets filtered by the system. Because of this system, user becomes able to get control on the messages which are posting on their wall. If this happens frequently then that the unwanted user may get temporarily blacklisted due to which the user becomes unable to post a message on user wall. This is achieved by using machine learning classification and filtering rules.

Keywords: Online Social Network, Filter Rule, Machine leaning.

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Heat Transfer Enhancement in Moulding Process by Heat Pipe

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Abstract: Heat pipes are passive devices that transport heat from a heat source (evaporator) to a heat sink (condenser) over moderately long distances via the latent heat of vaporization of a working fluid. The present paper gives experimental study of heat pipe for heat transfer enhancement with its application in moulding. Heat pipe is capable to transfer more heat (around 1.8 times) in comparison to water jacket in mould cooling. By use of heat pipe one can cool the mould effectively devoid of existing any hot spot in the die and any shrinkages on the products.Consequently the excellence of final product can be enhanced and also cycle time reduces. Due to employ of Heat pipes in mould cooling for manufacturing of plastic washer in prepared set up the cycle time get reduced by 45 sec. Hence it helps in increasing productivity. By providing some inclination (3 to 5 Deg.) to heat pipe the heat transfer rate can be increased further. Due to inclination the vapour can found improvement of gravity to travel from evaporator end to condenser rate. Also by increasing quantity of heat pipe the heat transfer rate can be increased.

Keywords- Heat pipe, mould

Vibration Analysis of Defective Rolling Contact Bearings

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Abstract: Rotary machines are recognized as crucial equipment in various industries, such as power stations, chemical plants and automotive industry that require precise and efficient performance. In this fault diagnosis of high speed rolling element bearings due to localized defects using response surface method has to be done. The localized defects as spalls on outer race, on inner race, and on rolling elements are considered for this study, the mathematical formulation accounted for tangential motions of rolling elements and inner and outer races with the sources of nonlinearity such as Hertzian contact force and internal radial clearance.The nonlinear stiffness is obtained by the application of Hertzian elastic contact deformation theory. The mathematical formulation predicts discrete spectrum having peaks at the characteristic defect frequencies and their harmonics. Experimentation has also been performed to validate the results obtained from the mathematical model and it shows that the model can be successfully used to predict amplitude ratios among various spectral lines with localized surface defects. Combined parametric effects have been analyzed and their influence has been considered with design of experiments and surface response methodology is used to predict the dynamic response of rotor bearing system.

Comparative Analysis of ANSYS, Beam and Hexahedron Elements, for establishing result trends and variances, for bending loads applied in case of regulating valve

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Abstract: For design of a regulating valve, the most important component is the plate that will actually restrict and regulate the fluid flow.The plate will be subjected to a bending load, and this bending pressure will increase as the restriction to flow will increase. The net bending load increments in two ways, one in increase in pressure due fluid mechanics phenomenon as flow is restricted, the second is increase in area where the fluid pressure will act.To determine the effect of the first phenomenon of fluid mechanics a detailed CFD analysis is needed. However this paper focuses only on the second aspect of increase in area,as the plate pushes forward to close the valve.While doing this analysis, ANSYS software has been utilized, and through this paper we seek to answer a basic question, of which element is suitable for doing the analysis, and what is the variation in results as element choice changes, and whether this variation is a function of some Parameter.

Keywords: Regulating valve, Bending load, Fluid mechanics, CFD analysis, ANSYS software

Finite Element Analysis of Electrostatic Precipitator Cone Structure

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Abstract: An electrostatic precipitator (ESP) is a particle control device that uses electrical forces to move the particles out of the flowing gas stream and onto collector plates. The ESP places electrical charges on the particles, causing them to be precipitate. The particles are removed from the plates by "rapping" and collected in a hopper located below the unit. ESP consists of a main body, inlet and outlet cones.

A large industrial ESP cone structure consists of plates stiffened with wide channel sections. The plates along with stiffeners acts to resist the pressure loads and to carry other loads to the supports.The main body is well supported by structure of columns and beam at base. The cones are however suspended in a cantilever arrangement, connected to main body. The plates of cone are hence under tremendous pressure and rely on main body for support. In this paper analysis of ESP cone structure will be carried out for failure prevention with the use of different arrangements of stiffeners. Majorly ESP failure occurs at any of cone junction. So the main objective is to understand why these failures are occurring by studying effect of different stiffeners arrangement and implementing necessary design changes so as to assure safety of ESP. Imperative use of FEA tool will be done to understand interactions of multiple forces. FEA software package ANSYS 12.0 (Workbench) is used due its advantages. Various design combinations will be simulated using FEA out of which the optimum one will be finalize and the results will be compared with field test.

Intelligent Transport System –A Case Study of Mysore Intelligent Transport System

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Abstract: Public transport traffic congestion is an occurring problem worldwide. In India, a fast growing economy with an exponential growth of population, the problem is acutely felt in almost all major cities. Also, with a high percentage of rural to urban migration, the issue of efficient transportation becomes increasingly crucial . This is primarily because infrastructure growth is slow compared to growth in number of vehicles (both public & private), due to space and cost constraints. Secondly, Indian traffic being non-lane based and chaotic, is largely different from the western traffic. The difference can be understood fully only through experience. Thus, Intelligent Transport Systems (ITS), used for efficient traffic management in developed countries, cannot be used as it is in India. ITS techniques have to undergo adaptation and innovation to suit the

contrasting traffic characteristics of Indian roads. In this position paper, we present a comprehensive study of all available international ITS systems, including both research prototypes and deployed systems. We next pose a set of interesting open research problems in the context of Indian ITS.

Finally we present the case of Mysore City Public Transport which would become the 1st Indian city transport to use some part of this technology.

The newly elected Government of INDIA's ambitious plan is focusing on ITS being one of the components of 100 SMART CITIES. Though our paper focuses on the Indian traffic scenario, many of the problems and solutions outlined in this paper, are relevant for other developing countries as well after incorporating local issues in the solutions.

Keywords: traffic, exponential, efficient, innovation, prototypes, deployed, local

Revisiting Inglis Theory: A Review

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Abstract: We are considering a centre crack in ductile steel plate of finite dimensions. Modeling and analysis of the crack is performed in ANSYS. Non-linear stress-strain data of steel is used in the software. Suitable value of far field tensile stress (pressure) is chosen such that the applied stress intensity parameter is less than the fracture toughness value. Plastic stress-strain fields are obtained near the crack tip in EPFM. Desired values are noted. Areas of high stress and high strain are identified. Validation of void nucleation taking place ahead of crack tip and not exactly at the crack tip and coalescence of voids happening at the crack tip is confirmed with the results. Plane strain case is considered. Plots between the distance of desired location from the crack tip and load line stresses and strains are drawn. The plots are in accordance with the expected ones

In Vitro Free Radical Scavenging Potential of Medicinal Plant- Embelia basal

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Abstract: Embelia basal, belonging to family Myrsinaceae, is a well known medicinal plant as mentioned in Ayurvedic system of medicine. Medicinal plants are a source for a wide variety of natural antioxidant. Antioxidant activity is essential for many biological functions. Literature survey revealed that there are no reports on radical scavenging activity of the fruits of E. basal. The present work was carried out in order to evaluate the efficacy of the fruits of E. basal, in view of free radical scavenging activity using acetone, ethanol, and methanol extracts.

Fruits were screened for their antioxidant activity by employing radical scavenging assay; DPPH (2, 2-Diphenyl -1- picrylhydrazyl) and Nitric oxide (NO). The percentage radical activity for both the assays was determined using ascorbic acid as a standard. From the standard curves, inhibition concentrations in the test samples were calculated. It can be seen that the DPPH radical scavenging activity for ethanol extract is found to be more significant than methanol and acetone extracts. There is a moderate percentage inhibition of the nitric oxide formation with all the investigated extracts.

The findings of the present study suggest that fruits of E. basal could be a potential source of natural antioxidant that could have great importance as therapeutic agents in preventing or slowing the progress of aging and age associated oxidative stress related degenerative diseases.

Keywords: Embelia basal, Myrsinaceae, 2, 2-Diphenyl -1- picrylhydrazyl and Nitric oxide.

Fabrication and Calibration of Ameteur Photometer

Prof. Kamble Yogita[1], Thakur Chetan[2], Dr. R. V. Dabhade[3]
1 ABMSP's Anantrao Pawar College Of Engineering & Research, Pune
2, 3 Fergusson College, Department of Physics, Pune
yogita_ybk@yahoo.co.in[1]

Abstract: Now a days the study of variable stars is very important as they provide the knowledge of universe. This can be done by measuring the light intensities of the stars. It can be measured using different methods. Photometer is one of the device by which the light intensities and thus study of the star is possible. The calibration method of the photometer is also an important factor when deciding its suitability to a specific application. Present work is a try to describe the method to fabricate and calibrate the ameteur photometer.

Keywords: Fabrication of Photometer, Calibration of photometer.

Here we developed a new mathematical method for encryption and decryption, in which we used Laplace transform for encrypting the plain text and corresponding inverse Laplace transform for decryption. We also developed iterative method for encryption and decryption and generalized the results. The new method developed in this paper may be used for internet banking fraud prevention mechanism. This paper is based on the previous work of G. Naga Lakshmi, B. Ravi Kumar and A. Chandra Sekhar as well as on Hiwarekar A.P.

Keywords: Cryptography, Data encryption, Applications to coding theory and cryptography, Algebraic coding theory; cryptography, Laplace Transforms.

A Review on First Order Linear Homogeneous Ordinary Differential Equation in Fuzzy Environment

Prof. Snehal J. Kadam[1], Prof. Rahul V. Sharma[2], Prof. Ganesh R. Tungaskar[3]
ABMSP's Anantrao Pawar College of Engineering & Research, Pune
sjkadam18@gmail.com[1]

Abstract: The solution procedure of first order homogeneous linear ordinary differential equation is described in fuzzy environment. Here three different cases are to be discussed. Here Generalized Triangular Fuzzy Numbers (GTFNs) are used for fuzzy numbers. Also two bio mathematical models are numerically illustrated in this paper.

Keywords: Fuzzy Ordinary Differential Equation, Generalized Triangular fuzzy number, strong solution, weak solution.

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This is to certify that ~~Mr~~/Ms/~~Mrs~~ Snehal S. Salvekar M.E. First/ Second year of PICT, Pune has attended/ presented a Technical Paper in "e-PGCON-2014" on 14th – 15th March, 2014 at G. H. Raisoni Institute of Engineering and Technology, Wagholi, Pune.

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Co-ordinator e-PGCON	HoD E&TC Dept. GHRIET Pune	Principal,GHRIET, Pune	Chairman, BoS, Electronics

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Title: Ternary Digital System: Concepts and Applications

Authors: A P Dhande, V T Ingole, V R Ghiye

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Investigation of Ternary Function Minimization

3 Author(s) | Vikram Ghiye ; Sharan Bonde ; Ashwinikumar Dhande | View All Authors

Abstract:
This paper presents the algorithm for the function minimization of multivalued i.e. Radix >2 digital system. The ternary digital system which radix=3 is considered here for the demonstration of proposed algorithm and computer program is developed based on algorithm in the form of ternary map. As the radix of system increases, the difficulties in the minimization or reduction of logic function is get increases. It becomes difficult to for higher radix to reduce the function design equation. The proposed program is developed for the ternary system function minimization. It incorporates all designed rules for ternary logic system design and gives the output in the form of Sum-of-Product (SOP) terms. There are different rules for the minimization of ternary logic based digital system that are different from the conventional binary digital system. Output equation of ternary digital system is in the form of F = F2 + 1. (F1) where, F2 = 2's minterms and F1 = 1's minterms. The results are verified for ternary full adder and subtract or are tested on program and compared with truth table for ternary full adder and subtract or and obtained results are found to be accurate.

Published in: Communication Systems and Network Technologies (CSNT), 2014 Fourth International Conference on

Date of Conference: 7-9 April 2014

INSPEC Accession Number: 14348662

Date Added to IEEE *Xplore*: 29 May 2014

DOI: 10.1109/CSNT.2014.215

ISBN Information:

Publisher: IEEE

Conference Location: Bhopal, India

I. Introduction

Many authors have directed their efforts to the implementation of three-valued logic looking to benefit from all advantages it possesses over the binary logic [1], [13], [19]. All these attempts have not yet been sufficient to provide opportunity from three-valued logic systems to be as widely used as the two-valued logic systems. This is due to the lack of a suitable ternary memory element as well as the complete integrable ternary circuits at a reasonable cost. The use of the integrated circuits in designing ternary circuits may be good solution to this problem. Taking advantage of some properties in Complementary Symmetry Metal Oxide semi-conductor devices known as CMOS integrated circuits. A new method of design of three-valued switching circuit has been presented [20], [21]. In this paper Boolean algebra and minimization of ternary logic by using K-

A special feature of plasma column: Nested plasma antenna

3
Author(s)

Vikram Ghiye ; Sharan Bonde ; Sandeep Musale

View All Authors

Abstract:
The plasma antenna has been found as a very innovative and interesting area for researchers from several years. Various properties of plasma added curiosity in invention towards its relevance for antennas. This paper presents an experiment conducted to test the possibility of existence of nested plasma antenna. Both the antennas are made of the lead glass tubes filled with neon gas at approximate pressure of 1.5 Torr. Conventional high voltage excitation technique is used to ionize the gas while capacitive coupling is utilized for excitation. The return loss and the radiation pattern for these two antennas are discussed in this paper. Radiation pattern of inner monopole plasma antenna was uninterrupted even after ignition of external helical plasma antenna. From the radiation pattern obtained it is observed that the electromagnetic radiations of inner high frequency antenna can penetrate through outer low frequency antenna.

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Date of Conference: 22-24 March 2017

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Conference Location: Chennai, India

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Dr. D. N. Chaudhari
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Dr. A. W. Kolhatkar
Principal

Post Graduate Conference for Information Technology,
iPGCON - 2014 (April 4-5,2014)

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