

KUMARAGURU
college of technology
character is life

I-STEM

FIRST INTERNATIONAL CONFERENCE ON SCIENCE, TECHNOLOGY, ENGINEERING AND MANAGEMENT 2018

10th to 12th
JUNE
2018

ABSTRACT PROCEEDINGS

ABOUT THE COLLEGE

Kumaraguru College of Technology (KCT), Coimbatore is an Engineering College started in 1984 under the auspices of Ramanandha **Adigalar Foundation,** a charitable educational trust of Sakthi Group. It is situated in a sprawling campus of 150 acres in the IT corridor of Coimbatore which in many ways was a front runner in the eco system.

The able guidance and patronage of Arutselvar **Dr. N.Mahalingam,** Founder, Sakthi Group along with the efficient administration of **Dr.B.K.Krishnaraj Vanavarayar,** Chairman, the resourcefulness of **Sri. M.Balasubramaniam,** Correspondent and the foresightedness of **Sri. Shankar Vanavarayar,** Joint Correspondent have equipped the college with excellent facilities such as spacious classrooms, seminar halls, well-equipped laboratories, excellent sporting amenities, dedicated high-speed internet connectivity (broadband) and well-qualified faculty. Five Academic Blocks house the different departments. The administrative building, **"Dr.Mahalingam Vigyan Bhavan"** is an architectural beauty and a land mark in Coimbatore.

Currently the college, as an autonomous institution affiliated to the Anna University, offers 14 under-graduate (B.E., B.Tech.) and 14 post-graduate (M.E., M.Tech., MCA, MBA) programs of study. All the above courses have the approval of the All India Council for Technical Education (AICTE) and all the eligible UG programs have also been accredited by National Board of Accreditation (NBA). In addition, KCT has also been accredited by National Assessment and Accreditation Council (NAAC) of the University Grants Commission (UGC). Nine of the fifteen academic departments have been recognized as research centers permitting research leading to Ph.D. degree by Anna University. The institution also ranked one among the top 100 institutions in India by MHRD in NIRF ranking system consecutively for three years.

The value of the education and training imparted by the college is highlighted by the interest shown by leading companies for on-campus recruitments. Our alumni have done us proud by proving their worth in their chosen field of work.

ABOUT THE CONFERENCE

I-STEM, an International conference on Science, Technology, Engineering and Management will present the advances and developments in Mathematical, Biological, Physical, Computer, Social Sciences and Management. It will serve as a platform for faculty and students to present the results of their research work. It will also serve as a venue for networking with national and international experts in Sciences, Engineering and Technology. The papers presented in the conference will become part of the proceedings of Scopus indexed international journals. The conference is expected to have one of the largest gatherings of experts in Science and Technology.

TOPICS

- Mathematical, Physical and Biological Sciences
- Biological / Biomedical Sciences and Engineering
- Computer Science and Information Technology
- Electrical ,Electronics and Communication Engineering
- Mechanical Sciences and Engineering
- Civil Engineering& Earth sciences
- Aeronautical, Textile and other Engineering
- Applied Sciences and Technology
- Engineering Education
- Technology Management
- Social and Management Sciences

I-STEM 2018 Conference Organizing Committee

S.No	Name of the Committee	Committee Members
1.	**Programme**	Dr J Senthil, Principal Dr.M.Prema , Vice-Principal Dr R Manivel Dr Premkumar PS Dr.J.Srinivasan Dr.M.Alamelu
2.	**Registration &Reception**	Dr.M.Ezhilarasi Ms.Pavithra Mr. U. Thiruvaazhai
3.	**Technical Sessions**	Dr.SA.Pasupathi Dr.K.Malarvizhi Dr.Vanitha Dr.N.Ramsundram Dr.N.Saraswathi Dr.C.Velmurugan Mr.K.Prabhu Dr. G. Ramakrishnan Dr.S.Mohankumar Dr.B.Karunamoorthy,EEE Dr.V.R..Nedunchezhian,MBA
4.	**Editorial & Abstract Proceedings**	Dr K Sundararaj Dr John Alexis Prof.K.K.Anilkumar Prof.P.S.Mayurapriyan Mr.PA.Prabakaran, CIVIL
5.	**Finance**	Dr Premkumar PS Mr Muniasamy G, (EO)
6	**Journal Publications**	Dr.M.Prema, Vice –Principal Dr.Premalatha,EEE Dr.Latha,CSE Dr.Cynthia Dr.Umamaheswari,ECE Dr.KrishnaveniV, FT Mr.K.Karthik, Chemistry Mr.P.S.SamuelRatnakumar Dr.G.L.Sathyamoorthy Dr.P.Ramalingam, BT Dr.Jaisankar, MBA

7.	**VIP's** **Co-ordination** **Transportation & Accommodation**	Dr K. Sampath, S&H Mr. S. Natarajan, TXT
8.	**Programme Co-ordination , Hall Arrangements**	Dr .P.Devaki, S&H Dr Rajathi N, IT Mr R.S.Mohankumar Mr K Karthik, S & H Dr.Poongodi Mr G.Rajkumar, Auto Dr.L.Sasikala,TXT Dr P Nalini, MBA Mr Kumar Facilities Manager
9.	**VIP Lunch &Refreshments**	Dr.H.Arul, S &H Dr.K.Akila Mr Chandrasekar, SM
10.	**Participant Refreshments**	Dr.R.Baskar Mr.Sivaguru, Aero
11.	**Certificate**	Dr.Hameed Ibrahim, MCA Dr.Parameshwari,MCA
12.	**MC Desk**	Dr. S. Sreejana
13.	**Press**	Mr M Senthilkumar (Aero)

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FIRST INTERNATIONAL CONFERENCE ON SCIENCE, TECHNOLOGY, ENGINEERING AND MANAGEMENT

June 10-12, 2018



MESSAGE

I am glad to know that KCT is organizing an International Conference on Science, Technology, Engineering and Management (I-STEM) for the first time. I congratulate the organizers of this conference for providing a platform for the academia and industry to share their knowledge by their findings.

The world is progressing in a faster pace in the area of science and Technology. Our younger generation has to learn and bring out new ideas and concepts that will make the society better and livable. As learning is a continuous process, this conference is one of its kind to give a proved learning. The proof comes out of research can be applied for making the world better and will drive the participants to proceed further.

The deliberations which are going to happen in various domains are sure to ignite young research oriented minds. I strongly believe that the Science and Technical community is going to be impacted by the research topics presented through this conference and many new finding are to be reported in the years to come.

I am also confident that this conference is going to network the researchers around the world.

I wish conference I-STEM a grand success.

B.K.Krishnaraj Vanavarayar

Chairman

KUMARAGURU college of technology
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FIRST INTERNATIONAL CONFERENCE ON SCIENCE, TECHNOLOGY, ENGINEERING AND MANAGEMENT

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MESSAGE

Dear Conference Participant,

On behalf of the students, faculty and the administration of KCT, I would like to extend a very welcome to you and your colleagues to KCT and to the International Conference on Science, Technology, Engineering and Management – 2018. KCT students, faculty and staff volunteers have worked hard to organize ISTEM -2018 in a very short time. Our friends from industry and other academic institutions around the world have provided guidance, valuable advice and extensive support to organize the programs. The conference events comprise of keynote addresses, special lectures and paper presentations by more than 600 researchers.

You will find that the conference serves as an excellent means to network with scholars, discuss about the current areas of research and to plan for collaborative work with colleagues from industry and other academic institutions. You will also find that the conference programs to be very valuable in considering interdisciplinary research and institutional collaboration.

I would like to take the opportunity to thank you for your involvement in and support for the conference. I would also like to wish you the most productive time in the conference and a very enjoyable experience at KCT.

Thank you.

With very best wishes,

Prof. V. Raju, President, KCT



MESSAGE

The KCT I-STEM 2018, International Conference on Science, Technology, Engineering and Management is being held from 10th to 12th June 2018 at Kumaraguru College of Technology. The conference helps the external and internal participants, faculty members and students to publish the research work in journals with high impact factors. It aims to bring together leading academicians, Scientists, Researchers, Scholars and Students to exchange and share Knowledge, experiences and research results on the aspects of advancements in Sciences, Technological, Engineering and Management. It is indeed a wide perspective to have an interaction among various departments.

I have no doubt in the organizing skill and executing abilities of the faculty, staff and students of the institution who make the event a grand success with 45 presentation sessions, 8 key note sessions and 615 paper presentations. This international conference provides opportunities for all the participants from various places in gaining knowledge and experience in their domain. I believe that the deliberations be very useful and fruitful for all the participants and research scholars. My best wishes to the participants of this International Conference.

Dr. J.Senthil,

Principal



MESSAGE

The International Conference on Science Technology Engineering and Management 2018 (ISTEM 2018) organised during June 11-12, 2018 is proud moment for the Kumaraguru College of Technology. It is common platform to present the advancements in Science and Technology happening to meet the recent requirements.

I would like to thank one and all for the sincere effort and contribution made to the ISTEM 2018 a memorable event.

Finally. I am very grateful to our Management, President Principal ,Vice-Principal ,Guests, Key note Speakers, HoDs , Conveners and members of organising committee and faculty members for valuable suggestions, motivation, inspiration and guidance in this international conference in a grand manner.

I sincerely believe and hope that delegates from academics and student participants attending the conference at KCT will have a inspiring and creative exposure in their research fields and I thank each and every one of you making this Conference a grand success.

Dr.R.Manivel

Professor, Mechanical Engineering

I-STEM 2018 Coordinator

Technical Papers

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Paper Code	AUTHOR(S)	TITLE
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AE02	S.Siva Viknesh, A.Kuppuraj , J.Darshan Kumar, G.Anushree	Numerical Analysis on Supersonic Secondary Flow Injection - TVC
AE03	S.Siva Viknesh, A.Kuppuraj , J.Darshan Kumar, R.Naveen Kumar	Analysis on Inlet Design and Starting Mach Number of Scramjet Engine
AE04	J.Darshan kumar , Dr. Rani Thottungal	Design Optimization of Ducted Fan Micro Aeriel Vehicle
AE05	Sujit Majumdar , Pinaki Das, Debasish Roy, Samik Chakroborty , K.Sundararaj	Evaluation of Cutting Fluids Application in Surface Grinding
AE06	S.Siva Viknesh, A.Kuppuraj, J.Darshan Kumar	Numerical Analysis on Role of Slots – Aerodynamics of Rectangular Wing
AE07	S.Siva Viknesh, A.Kuppuraj, J.Darshan Kumar	Study on Role of Pimples on Space Vehicles During Ballistic Entry
AE08	G.Raj Kumar, R.Vijayanandh, K.Mohammad Bak , R.Shyam Chander, R.Arawinth	Experimental Testing on Mechanical Properties Effect of Aluminium Foam
AE09	R.Vijayanandh , M.Senthil Kumar, B.Sanjeev Kumar, V.Akshaya, B. Nishanth, K.Sindhuja	Numerical Study on Drag Effect of Waste Collector Attachement in the Train
AE10	E.Indhumathi, S Pradesh, R.Vijayanandh, M.Senthil Kumar , R.Naveen Kumar , G.Raj Kumar	Comparative Computational Thermal Analysis of Gas Turbine Engine Turbine-Blade Coated with and Without Lanthanum Zirconate
AE11	M.Senthil Kumar, R.Vijayanandh , Raahul Srinivas, D.Arun Karthik, M.Tamil Mani	CFD Analysis on Jets Acoustic Characteristics of Chevron Nozzles
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AE18	V.Surya Teja, S.Arunvinthan, S.Nadaraja Pillai, P. S.Premkumar	Analysis of Heat Transfer Coefficients and Pressure Drop in Surface Condenser with Different Baffle Spacing
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CE033	A.Jayasri, V.Senthil Kumar	Comparative study on behaviour of cold-formed purlin section
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CE035	S K Shivaranjani, R.Krishna Priya	Comparative study of natural and artificial coagulants for treating institutional waste water
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CSE012	K.Saranya, S.J.Syed Ali Fathima	Street Light Control System Using Mutli Sensors
CSE013	K.Saranya, Dr.S.Jayanthy	Bci Based Eeg Signals for Emotion Classification
CSE014	Adharsh R, Chandru T K, Dinesh Kumar M, Karthikeyan S Saranya K	Interactive Coding Platform for Students
CSE015	Ram Prasad S, Yashik Krishna M, Tirumanikandan Bk, Pooja G,Saranya K	Enhancing Customer Engagement Using Beacons
CSE016	G.Kanagaraj, V.Senthil Kumar, T.Primya, M.Krithika	Skeletal Bone Age Assessment Using Tanner & Whitehouse Method
CSE017	V.Senthilkumar, B.VinothKumar, P.Saranya	Android Application: Medicine Intake Reminder and Monitor
CSE018	Dr. Devaki .P, Renuka.T, Sridhevi.S, Sudarsan.N	Fishermen Helping System
CSE019	D.Yamunathangam ,K.Pritheka , P.Varuna	IOT Enabled Air Pollution Monitoring and Awareness Creation System
CSE020	Bhavna Bharath , Suganthi N	Comprehensive Survey of Multimodal Image Fusion Schemes

CSE021	V.Sudha , K.Jeba, R.Akiladevi	A Survey on State-of-Art Technologies in Modern Toilets
CSE022	Dr. S.Sivakumar, Ms.C. Bharathi Priya	Jumper Fire Fly Optimization Algorithm for Mobile Anchor Based Localization
CSE023	C.Bharathi Priya , Kirubakaran R, Aswini D	Detection of Microaneurysms and Haemorrhages in Retinal Fundus Image - An Overview
CSE024	Arthi R, Thiruvaazhi Uloli	Threats to Mobile Security and Privacy
CSE025	Kirubakaran R, Francis Jency X, Aswini D	Mobile Learning for Education in India Feasibility Study
CSE026	Dr.K.R.Baskaran, S.Sabari Rangan, S. Ajithkumar, B Krishna Prasath	Likeminded – A Recommender System Based Knowledge Sharing Application for Students
CSE027	V.Senthil Kumar, G.Kanagaraj, P.Saranya, T.Primya	Feature Clustering Algorithm for Text Classification
CSE028	D.Yamunathangam , Kirthicka.G, Shahanas Parveen.I, Tharika.V	Performance Analysis in Olympic Games Using Exploratory Data Analysis Techniques
CSE029	V.Senthil Kumar, G.Kanagaraj, P.Saranya, T.Primya	Preserving Privacy Using Third Party Auditor in Cloud for Data Storage
CSE030	C.Bharathi Priya ,Dr.J.Cynthia ,Francis Jency, Dinesh Kumar	Zigbee Based Child Tracking in Indoor Environments
CSE031	Aswini D ,Nandhakumar S, Roshinleonald Ben V, Abdul Rahman A,	An Innovative Locker
CSE032	G.Kanagaraj , T.Primya, V.Senthil Kumar	An Introduction to Docker and Its Performance Review
CSE033	G.Kanagaraj, T.Primya, V.Senthil Kumar	An Introduction to Docker and Its Performance Review
CSE034	C. Bharathi Priya , V.Sudha,D. Pavithra ,.R.Sowntharya,.N.Prem Kumar	Image Processing Based Fault Detection and Isolation for Mechanical Components
CSE035	Betty P , Sathya D, K. Aswini Lakshmi, R. Boobalan , R. Dines Waran	Gate Capsule- An Application Towards the Creative Learning Experience
CSE036	Arthi R, Thiruvaazhi Uloli	Threats to Mobile Security and Privacy
CSE037	Latha.L Srisamathi.R, Suvetharithika.A.C , Sruthi.S	Security System for Decisive Data Using Lifi Technology
CSE038	Nandakumar G S , S.Viswanandhne	A Survey on Item Selection Approaches for Computer Based Adaptive Testing
CSE039	Manish Bharat, Ramya P, N. Jeba	Enactment of Three Port Dc-Dc Converter Interface with Renewable Energy for Enhancement of Hybrid Vehicle

CSE040	S.P.Siddique Ibrahi , Dr. M. Sivabalakrishnan, Dr.S.P. Syed Ibrahim	Lazy Learning Associative Classification in Mapreduce Framework
CSE041	V.Vanitha , R.Janani	Automatic Ticket Validation System for Indian Railways
CSE042	Sowmiya K S, Priyadharshini R, Gana Srinath P B, Babu B, Sowndharya S, Saranya.K, Sumathi.V.P	Exploratory Data Analysis of Drug Consumption Data
CSE043	Afsana.L, Devisri.C, Madumitha.S, Srinidhi.K,Vimaladevi.V	Encountering Privacy - Sensitive Information in Medical Documents
CSE044	Sumanth S, Syed Ali Fathima S J, Sumathi V P	Data Analytics in Football Sport To Identify Gaps for the Improvement of Quality Opportunities Throughout World-Wide Teams
CSE045	P. Devaki, R.Marudhachalam, S. Selvanayaki	Impact of Academic and Social Factors On the Academic Performance of First Year Engineering Students
CSE046	Vanitha V, Sumathi V P, Soundariya V, Mahendran P, Soundara Pandiyan A,	An Exploratory Data Analysis On Impact of Various Factors On Movie Success
CSE047	Sumathi V P , Vanitha V, Geethani V , Vidhyasagar U , Niveditha B, Divyadharshini	Gdp Based Medal Count Analysis in Summer Olympics Games for Two Decades - An Exploratory Analysis
CSE048	G.Shobana , E.Shuruthi, T Nivedha	Road Traffic Monitoring System
CSE049	Chandrakala D Ponemaharani D	Software Defect Prediction Model Using Cascaded Random Forest
CSE050	S.Sangeetha, V.P.Sumathi	Smart Farming Using Iot and Big Data
CSE051	Sumathi V P , Priyanka V andSrinidhi E	An Iot Based Automatic Solar Panel Cleaning Robot
CSE052	M.Suguna , D.Prakash	Secure Data Access Privacy Preserving Using Cloud Services
CSE053	Suguna.M and priyanga.B	Automated Generation of Question Answering System Using Semantic Web
CSE054	M. Sankari , Suguna.M	Review on Privacy Preserving Models for Efficient Healthcare Big Data Sharing in Cloud
CSE055	Shobana G , Jagan K , Vigneshwara B, Maniraj Sai A	Twitter Sentimental Analysis
CSE056	S.Rajini , V.Sandhiya	Context Based Improvement of Biomedical Word Sense Disambiguation
CSE057	Rajini .S andVasuki.A	Word Sense Disambiguation Using Optimization Techniques
CSE058	B.Dhivya1 and R.Kalaiselvi	Preserving Access Confidentiality by Shuffling Among Cloud Servers

CSE059	Guruprasath.J, Raghuselvapraveen.S, Varunkumar.A, Suryaprasanth.S, Ruban.B, Aswini D	An Exploratory Data Analysis of Bowler's Performance in Ipl
CSE060	R.Kalaiselvi , K.Kousalya, G.S.Nandakumar, V.Sudha	Resource Optimization to Improve Confidentiality Based Document Fragmentation
CSE061	Rajkumar.S,Deepakkumar.D Suriyaprakash.G, Akash.S Sumathi.V.P	An Analysis of Factors Affect the Agriculture Production Rate in India for One Decade
CSE062	Bhavna Bharath , Suganthi N	A Comprehensive Survey of Multimodal Image Fusion Schemes
CSE063	Ms.X.Francis Jency , Ms.V.P.Sumathi, Janani Shiva, Caviya R, Badma Priya D, Snehaanjhali V	An Exploratory Data Analysis for Loan Prediction Based on Nature of the Clients
CSE064	1karuna Gayatri K, Kumaresan A	A Review on Spectrum Sensing and Spectrum Sharing of Cognitive Radio
CSE065	Jenice Aroma R, Syed Ali Fathima S .J, Raniya Harini R, Mathumitha E	A Short Investigation on Effective Spectral Properties of Multispectral and Hyperspectral Images for Object Detection
CSE066	Nithya Roopa S ., Prabhakaran M	Speech Emotion Recognition Using Deep Learning
CSE067	Syed Ali Fathima S J , Jenice Aroma R	Simulation of Fire Safety Training Environment Using Immersive Virtual Reality
CSE068	N. Jeba and V. Sudha	A Comprehensive Survey on Waste Management and Its Challenges
EXCSE01	1nalini N, 2kriti Asrani, 3devaki P	An online question & answer platform
EXCSE02	Ashwini Kolhe, Nalini Nagendiran,Prema M	Security and safety with facial recognition feature for next generation automobiles
ECE001	1R.Hemalatha, 2G.Karthikeyan, 3R.Mahalakshmi	Implementation of Aco Algorithm in Rwa
ECE002	Dr.K.Paramasivam1, Rajendra prasad.A2, Prasanth Kumar.S2,	Iot Based Smart Sensor Network for Safety Mining Environment

ECE003	Dr. K. Paramasivam, 2R. Sathiya Priya, 3V. Saminathan,	Design and Analysis of Memristor Memory Cell Using Different Windowing Functions
ECE004	K.Karan, K.S.Jayabal, M.Shasmitha, C.Sofiya	Virtualization Technology
ECE005	K.Karan, K.S.Jayabal, M.Shasmitha, C.Sofiya	Agriculture Aspects and Grievances of Machine Learning Approached and Solved By Concept
ECE006	Kavya M, Poonkodi T, KajaMaideen J, Madan T K C, Krithika.S, Yamuna Thangam	Iot Based Automation in Waste Management – Intelligent Bin (I-Bin)
ECE007	Rahul, N.Rajeshkumar, S.Nishanthkumar, S.Krithika	Accident Prevention, Monitoring and Reporting System Using Safety Helmet
ECE008	Karthikeyan. R	Ground Penetrating Radar (Gpr) Antenna Design: A Comparative Study
ECE009	Uma Maheswari. S^1, Vasanthanayaki.C^2	Medicinal Picture Watermarking System Forrecovering Embedded Information from Therapeutic Restorative Picture
ECE010	T.Gowthamrasath, E.Udayakumar , S.Abinayapriya, S.Kaliappan	An Iot Based Monitoring System for Digital Agriculture
ECE011	Karthikeyan. R	A Compact Planar Monopole Wideband Antenna for Ism & Wimax Applications with Rhombus Radiator
ECE012	Karthik S^1, Karthikeyan R^2	Malware Attacks on Iot
ECE013	K.Ramprakash,Loshni T, Aparna A P	Design,Simulateand analyse theperformanceofparallelcoupled Microstripbandpassfilterat1.5ghzforgpsapplications
ECE014	Ramprakash K	Design ,Analysis and Fabrication of A Microstrip Slot Antenna
ECE015	S.Sasikala, M.Bharathi, B.R.Sowmiya	Lung Cancer Detection and Classification Using Deep Cnn
ECE016	Francis Brindha A, Aswini N, Pavithra R, and Ram Prabhu J	Image Fusion for High Spatial Hyperspectral Image
ECE017	Aparna.A.P, Loshni.T, Prof.K.Ramprakash	Interdigital Bandpass Filter for 2.5 Ghz Lte Application: Design and Performance Analysis
ECE018	Papitha R, Shanthi M	Improvement of Power System Stability in Transmission Line using Static Synchronous Series Compensator (SSSC)
ECE019	S.Arun Kumar	Towards Enhancing the Performance ofa Stress Detection System

ECE020	C. Nithesh and S. Nithya	Dye Sensitized Solar Cells with Natural Dyes as Sensitizers -A Review
ECE021	Mr.TimothyDhayakar Paul	Edge Computing for Water Quality Analysis
ECE022	T.Jaspar Vinitha Sundari	Inverter Design Using Junction Less Gate All Around Tunnel Field Effect Transistor
ECE023	P.M.Sneha Angeline Dr.M.Newlin Rajkumar Timothy Dhayakar Paul	Evolution of Ev and Its Future Scope
ECE024	T.Jaspar Vinitha Sundari	Inverter Design using Junction less Gate All Around Tunnel Field Effect Transistor
ECE025	Kalaiselvi	Adaptive Filter Architecture for Fpga Implementations,
ECE026	Manikandan . B., Bharathi.M	Speed Breaker Detection Using Glcm Features
ECE027	K.Karthika C.Kavitha T.Jaspar Vinitha Sundari	Triple Band Rectifier Design for Rf Energy Harvesting in Wireless Sensor Networks
ECE028	A.Amsaveni	A Low Sar Triangular Patch Textile Antenna for Health Monitoring Systems
ECE030	S.Umamaheswari M.Alagumeenaakshi	Interactive Voice Response System Development
ECE031	R.Elakkiya, K. Thilagavathi, A.Vasuki	Active Learning in Classification of Hyperspectral Imaging-A Review
ECE032	Dr.SNShivappriya, Divya Raju	Augmented Model of Stacked Autoencoder for Image Classification
ECE033	Suresh kumar N[1],K.Paramasivam	Energy Efficient Low-Power Full-Adder By 65nm Cmos Technology in Alu
ECE034	Dr. K. Paramasivam, R. Sathiya Priya, V. Saminathan	Design and Analysis of Memristor Based Memory Cell
ECE035	S.Tamil Elakkiya K.Karthika	Rtos Based Online Condition Monitoring and Diagnosis of Electrical Equipment
ECE036	T. Jaspar vinitha sundari	Performance Analysis of Low Noise Amplifier Using Junctionless Gaa Tfet and Conventional Mosfet
ECE037	Alagumeenaakshi m	Wireless Ipv6 Secure Routing for Contikirpl
ECE038	K.Paramasivam Suresh kumar N	Design and Analysis of Low Power Full Adder in Alu Using 65nm Cmos Technology

ECE039	K.Paramasivam[1], Suresh kumar N	Less Power Consumption High Efficiency Bypassing-Based Multiplier Design Using 65nm Cmos Technology
ECE040	Mrs.S.Krithika Mrs.D.Hemapriya Dr.T.Keshavmurthy	An insight to Closed Loop Insulin Drug Delivery: Review
ECE041	Umamaheswari S, Selvi S, Dharini K,	Vehicle – Vehicle Communication Using Li Fi Technology-A Review
ECE042	S.Vinodhini, R.Darwin	Design of Multiband Wearable Rectangular Slot Antenna for Wimax and Wlan Applications
ECE043	S.Swaati, G.Swathi, R.Vishnu Priya, R.Darwin	Suppression af Mutual Coupling Between Dual Element Mimo Antennas for 5g
ECE044	Navaneethakrishnan R, Ramalatha Marimuthu, David S and Ajay V P	Use of Microprocessor, Microcontroller & Soc Development Platforms in Automobile Engineering Courses – A Survey
ECE045	K.Karthika, K.Kavitha,	Design of A Fork Shaped Frequency Reconfigurable Antenna for Wlan Applications
ECE046	K.Anusha	Review of Design Techniques for Compact Microstrip Antennas
ECE047	S.Umamaheswari	Design and Fabiracation of Optimizer Machine
ECE048	K. Thilagavathi,S.G.Gayatri,M.N.AayishaRumaana, V.Abhirami	Smart Glove to Monitor Parkinson's Patients
ECE049	Jasmine. K, S.Nagarathinam, S.Tamilelakkiya	3D Visualization of Breast Masses usingCranio-Caudal (CC) view and Medio-Lateral Oblique (MLO) view
ECE050	K. Thilagavathi, A.Vasuki	Dimension Reduction Methods for Hyperspectral Image: A Survey
ECE051	A.Amsaveni, P.J.Phavithra	Gain Enhancement ofA Square Patch Antenna Using Ebg Structure
ECE052	Nagarathinam S, Shanthi D	High Performance Baugh-Wooley Multiplier Using Hpm
ECE053	Nagarathinam S	Performance Efficient Successive Approximation Adc with Double Tail Dynamic Latch Comparator

ECE054	KIRUTHIKA .K, SELVI.S	Space Radiation Shielding Using Nano-Particles the Fire Way to Mars!!- Nano Coating
ECE055	ShijiShajahan,	Inductorless Realization Chua's Circuit
ECE056	S.Arun Kumar, S.Sasikala, K.Kavitha	Towards Enhancing Engineering Education Through Innovative Practices in Teaching Learning
ECE057	Selvi S, Dharini K,	Vehicle – Vehicle Communication Using Li Fi Technology
EEE001	Prem Kumar.S[1], M.Mohanraj[2]	Ann Based Energy Management Strategy for An Electric Vehicle with Battery/Ultra-Capacitor Module
EEE002	Dr.C.Udhayashankar, P.Mohanraju	A Comparative Study of Statcom and Tcr for Power Quality Enhancement in Transmission System
EEE003	*Muthumeena.M, R.S.Sandya Devi*	Waste Segregation Using Deep Learning Algorithm
EEE004	Dr.D.Rajalakshmi, Dr.R.Mahalakshmi, K.Praveenraj	A Novel Eleven Level Inverter Employing One Voltage Source and Reduced Components Fed Induction Motor Drives
EEE005	Dinesh Kumar K, Karunamoorthy B, Ranithottungal	Real Timemonitoring System: Implementation of Face Detection and Recognition Algorithm
EEE006	Dinesh Kumar K, Karunamoorthy B, Ranithottungal	A Novel Method ofreal Time Cloth Size Measurement Algorithm Based on Fpga Platform
EEE007	L. Praisy, N. Prakash, P.Maithili	Pv Fed Bldc Motor Using Zetaconverter
EEE008	Kandasamy Varatharajalu, Divya Ragu	Wireless Irrigation System Via Phone Call & Sms
EEE009	Niranjana C, Dr. R. Kavitha	Smart Health Care Monitoring System
EEE010	K.Premalatha, S.Sunthose priya	Dual Input Luo Converter for Solar Pv Applications
EEE011	Ramya Ravibarathi, Tamilarasu Viswanathan	Identification of Gesture Based on Extreme Learning Machine Algorithm
EEE013	S.Kaliappan, Manochitra P	Embedded System Based Secured Car Parking System
EEE014	S. Kaliappan, Manochitra P	Embedded System Based Home Security Surveillance Using Raspberry Pi
EEE015	Ramya Ravibarathi,Tamilarasu Viswanathan	Identification of Gesture Based on Extreme Machine Learning Algorithm

EEE016	Tamilarasu Viswanathan, M Mathankumar	Automatic Tollbooth Credit System Using Vehicle detection and Number Identification
EEE017	Tamilarasu Viswanathan, P Maithili	A Novel Improved Resonant Llc Converter with Minimal Components
EEE018	P Thirumoorthi, Nandini K	Implementation of Hybrid Controller Based Pmsm Drive for Improved Dynamic Response
EEE019	P.Thirumoorthi, Raheni T D	Artificial Neural Network Controlled Shunt Active Power Filter for Minimization Current Harmonics in Industrial Drives
EEE023	Pavithra R[1], Aswini N, Francis Brindha A, RamPrabu J	Wireless Smart Biometric Attendance System
EEE024	Dr. R. Kavitha, Dr.D.Rajalakshmi, Dr.Rani Thottungal	Light Fidelity Based Smart Cane for Visually Impaired People
EEE027	Aswini N, Pavithra R, Francis Brindha A, and Kaliappan S	Embedded System Based Alive Human Detection Robot Using Pir
EEE028	Karunamoorthy B, Kaliappan S, Ramprabu J, Ranithottungal	Implementation of Grid-Connected Multi-Level Inverter Based on Embedded Fpga Controller
EEE029	Tamilarasu Viswanathan, R Rajesh	Minimax Optimization of Pv Panel Specifications for Different Temperatures
EEE030	Tamilarasu Viswanathan, S SuryaprakashP, Abinesh	Spread Spectrum Modulation for Multi-Input Dc-Dc Converter
EEE031	S Suneethi,V R Balaji	Stacked Multicell Converter Design for Generation of High Voltage and Frequency Electric Fields Used in Irreversible Electroporation for Cancer Cell Ablation
EEE032	Niranjana C. Dr. R. Kavitha	Smart Health Care Monitoring System
EEE033	Niranjana C, R. Kavitha, M.Nirmala, S.Suryaprakash	Intelligent Transport and Safety Assisting System
EEE034	Dr.D.Rajalakshmi, J. Mothish raj, G.Nandhini, R. Pandiammal	Energy Rehashing
EEE035	Dr.D.Rajalakshmi, Dr.R.Mahalakshmi, K.Praveenraj	A Novel Eleven-Level Inverter Employing One Voltage Source and Reduced components As High Frequency Ac Power Source
EEE036	Dr.D.Rajalakshmi	A Novel Pmsg Based Wecs for Grid Integration Using Direct Matrix Converter
EEE037	Dr.D.Rajalakshmi, Dr.R.Kavitha	Comparision of Selective Harmonic Elimination Pwm Technique for Three Phase Matrix Converter with Conventional Algorithms
EEE040	Divya.R, Latchaprabhu.P, Nishashree.R, Dr. R. Kavitha	Hazardous Gas Monitoring System in Industries and Washrooms

EEE041	S Suneethi,V R Balaji	Stacked Multicell Converter Design for Generation of High Voltage and Frequency Electric Fields Used in Irreversible Electroporation for Cancer Cell Ablation
EEE043	N.Vinoth kumar, M.Pradish	Sequential Quadratic Programming (Sqp) Based Selective Harmonic Elimination for Multilevel Inverter
EEE044	N.Vinoth kumar, M.Pradish	Analysis of Selective Harmonic Elimination for Multilevel Inverter with Various Algorithms
EEE045	J.J.Nandhini, D.Sharmitha, C.Sasikumar	Smart Way of Augumenting Ecological Environment – Smart Organic Farming
EEE046	J.J.Nandhini, Dr.K.Premalatha, D.Sharmitha	Optimal Reduction of Traffic Flow Density at Highways Using Smart Toll Plaza
EEE047	SuryaprakashShanmugasundaram M, Mathankumar Tamilarasu Viswanathan	Design and Development of Fleet Tracking and Management for Improved Productivity Using Sensor Nodes
EEE048	Jeffrin J[1], Suryaprakash Shanmugasundaram[2]	Development of Web Application for Hostel Food Feedback
EEE049	Kaliappan S, Ramprabu J, Dr.B.Karunamoorthy	Implementation of Embedded System Based Raspberry Pi for Hi Tech Green India
EEE050	Rajesh Ramachandran, Suryaprakash Shanmugasundaram, Bala Kumar.A.P.	Smart Socket for Eliminating Phantom Power
EEE051	Suryaprakash Shanmugasundaram, Rajesh Ramachandran, Aishuwarreya S	Development of Next Generation IOT Basedagricultural Model with Integrated Landtesting Equipment
EEE052	R.S.Sandhya Devi, P.Sivakumar	Profiling of Osek os for Instrument Cluster
EEE053	Vallikala S, Dr.Vijilesh V, Dr. Priyadarshini R	Establishing Counselling Services i Academic Institutions: An Experiential Sketch
EEE054	M Mathankumar, Dr.P.Thirumoorthi	Design and Implementation of In-Network Multilevel Data Aggregation in Wireless Sensor Networks
EEE055	R. S. Sandhya Devi, Dr.P.Sivakumar, Sukanya M	Offline Analysis of Sensor Can Protocol Logs Without Can/Vector Tool Usage
EEE056	R. Suresh Kumar	Design and Implementation ofan Intelligent Parking Management System Using Image Processing
EEE057	G. Anushree, Rani Thottungal	Wireless Sensor Networks Based Online Ambient Monitoring
EEE059	R.Sureshkumar	Iot Based Distribution Automation

EEE060	Dr. R. Kavitha, Dr. D.Rajalakshmi, Dr. Rani Thottungal	Selective Harmonic Elimination and Minimization of the Techniques in Cascaded Multilevel Inverter
EEE061	R.S.Sandhya Devi, Sushma.R , Shyam Sundar G.S	Circular Car Parking Using Pic Microcontroller
EEE062	P. Maithili,T. Viswanathan, J. Kanakaraj	Modelling of Pv Fed Boost, Buck-Boost, Cuk, Sepic, Zeta Dc-Dc Converter
EEE063	M Rahasudha, S Vinothini, M.Mathankumar	Intelligent Architecture for Illumination Control in Led Lighting System
EEE064	Shobana G, Sureshkumar R	Smart Garbage Management Using Gps and Gsm
EEE065	M Mathankumar, Dr.P.Thirumoorth	Robo Farming - A Platform for Unmanned Agriculture
EXEEE02	R. Mahalakshmi, L. Premalatha, C. Ravichandran,R. Rengaraj	Unbalanced Nonlinear Load Compensation Using Three-Phase Four-Wire Apf Integrated Pv System Employing Sliding Mode Control
EXEEE03	R. Mahalakshmi, M. Mano Raja Paul, A. Bhuvanesh,M. Karuppasamypandiyan, R.Thangasankaran	An Artificial Neural Network Approach to Fault Detection in Grid Connected Photovoltaic System
EXEEE04	S.Surya Prakash, Saravanan Rajaram, Dr.N.Chandrasekaran	Design of Intelligent Transport System Using Pic16f877 Microcontroller
EIE001	Ananthkumar, K Aditiyagopal, Madhavanvishal, D Jayasurya, G Gopinath	Pressure Plant Automation System Using Dcs System
EIE002	V.Manimekalai, K.Srinivasan, K.Umashankar	Real Time Control of Conical Tank System Using Adaptive Fuzzy Pid Using Labview
EIE003	I.Jeya Daisy,Dr.B.Vinoth Kumar	Analysis of Biomarkers in Sweat and Its Comparative Study with Blood
EIE004	Anil Kumar, Pranav Vishnu, Vishnu Prasadh	A Low Cost Smart Energy Monitoring and Control System for Buildings
EXEIE01	M.Mathankumar	Design and Development of Low Cost Crevice Testing Equipment for Process Industries
FT01.	R.Varadaraju1, J.Srinivasan	Prediction of Thermal and Moisture Comfort Properties af Polyester Filament Plain Knitted Fabric From its Structural Parameters
FT02.	Govindaraju Rajkumar, Jagannathan Srinivasan	Mechanical and Dielectric Properties of PP Composites Reinforced by Silk and Wool Fibres – A Comparative Study to PP

FT03.	Ravikumar Niveda, Radhakrishnan Shanthi, Vellaichamy Keerthimathi, Selvam Sowmiya	A Study on the Various Fibres, Finishes and Standards for Flame Proofing of Home Textiles
FT04.	A.S.Aishwarya Anand, Dr.G.Ramakrishnan	Development of Knitted Fabrics Using Hemp/Micromodal and Study of Comfort Properties
FT05.	G.Ramakrishnan, C.Velmurugan,.B.Poongodi G.Mohamed Zakriya	Study on Development of Light Weight Hooks for Hand Loom Jacquard
FT06.	A.S.Aishwarya Anand, Dr.G.Ramakrishnan	A Critical Review of Hemp and Linen Fibres
FT07.	Thambidurai A., Arunraj A.	Comfort Analysis of Structurally Modified Polyester/Pva Yarns Produced Through Dref Spinning System
FT08.	Radhakrishnan Shanthi, Tamilvanan Sudharshanan, Muthusamy Vignesh, Muthbalakrishnakumar Surtika	Optimization of Nonwoven Flexible Composite from Recycled Polyester and Recycled Cotton Blends Using Box-Behnken Statistical Design.
FT09.	Vasudevan Krishnaveni	Study of Phytochemical and Anti- Bacterial Activity on Tridax Procumbens Herbal Extract for Wound Care Applications
FT10.	Dr. Priyadarshini Rajasekaran, Sruthi Dharuman, Harini Thirumalai M	Nanostructures and Their Application in Textiles: A Review
FT11.	Krishnaveni Vasudevan, Govindaraju Raj Kumar	A Study of Antibacterial Finish on Cotton for Hospital Textiles
FT12.	S.Kavitha, Dr.J.Srinivasan,Anujah.A,Bhuvaneswari.G	Application of Key Performance Indicators for apparel Manufacturing Industry
FT13.	Govindaraju Raj Kumar and Krishnaveni Vasudevan	Influence of Banana Sap Finish on Comfort Properties of Cotton Fabric
FT14.	S. Sarala, S.Chandrakumar	Development of Anti – Fatigue Garment (Belt) Using Electro Muscular Stimulation for Nerve Related Pain
FT15.	C.S. Sentthil Kumar, Ashika. S.P, Ishwarya B, Swetha Vishnusankar,	Development of Work Wear for Sewage Cleaners
IT01.	M.Alamelu ,T.S.Pradeep Kumar	Unique Identical Weightage Based Service Analysis Classification Methods for Online Customer Queries

IT02.	P. Shenbagam, N. Rajkumar	Predictive Analysis for Identifying the Relationship Between Forest Cover and Tiger Population
IT03.	Dr.N.Suganthi, Farithul Inzamam M, Yuwaiz Pasha A, Gokulnath R, Nirmal Raj P	Elephant Intrusion Detection and Repulsive System
IT04.	Alamelu M, Sindhuja, Balaji S, Girinath V,Ram Dinesh S	Automatic Water Irrigation System Approach for Smart Homes
IT05.	S.Sathyavathi1 ,S.Kavitha Dr.K.R.Baskaran	Diabetes Mellitus Detection Using Facial Block Color Using Classification Algorithms
IT06.	S.Kavitha, K.R.Baskaran,S.Sathyavathi,P.L.Abinaya, N.Janani, K.M. Priyanga	Heart Disease with Risk Prediction Using Machine Learning Algorithms
IT07.	R. Maheshprabhu1, M.S Hema, G. Prema Arokia Mary	Information System for Performance Improvement of Small and Medium Scale Enterprises
IT08.	S. Kanagaraj, Dr. M.S. Hema, Dr. M. Nageswara Gupta	Environmental Risk Factors and Parkinson's Disease – A Study Report
IT09.	M.N.Saroja, S.Kannan, K.R. Baskaran	Analysing the Purchase Behavior ofa Customer or Improving the Sales ofa Product
IT10.	Ramalatha Marimuthu, Navaneethakrishnan R, Alagu Meenakshi, Uma Maheswari S	Catch Them Young: Importance of Career Planning in Indian School Education Systems
IT11.	Dr.N.Rajathi , Shilpa R, Sowbarnika A, Swetha Lakshani J	Automatic Electricity Bill Generating System
IT12.	R. Maheshprabhu1, M.S Hema2, G. Prema Arokia Mary3	Information System for Performance Improvement of Small and Medium Scale Enterprises
IT13.	Abinay Reddy Mandem, Parveen Sultana H, Vimal E A	Prediction of Formula one Results Using Machine Learning Techniques
IT14.	Nishant kaushik , Parveen Sultana H, Senthil Jayavel	Remote Authentication Using Face Recognition with Steganography
IT15.	Aadya Pant, Swapna ch, Balakrishnan, Cynthia Jayapal	Application Based Local and Outdoornavigation System for Visually Impaired People

IT16.	Aadya Pant, Swapna ch, Balakrishnan	Application Based Local and Outdoor Navigation System for Visually Impaired People
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DESIGN AND FATIGUE ANALYSIS OF GAS TURBINE ANNULAR COMBUSTOR FLAME TUBE

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Abstract

In this paper combustor plays a key role, because it is a critical module of a Gas Turbine Engine by adding the heat energy at constant pressure in order to raise the enthalpy of the gases to reach the turbine, also its structural integrity is paramount to ensure the safety of the engine operation. In order to obtain good performance in terms of pressure loss, pattern factor and good life, the combustor liners and dilution zones are required to be designed carefully. Due to the high amplitude of pressure oscillations fatigue damage may occur. Cooling ring is to be located at many planes along the length of the liner to maintain the liner temperature within permissible levels and keep the working stress below the yield stress depending on the low cycle fatigue to which the liner is subjected. When the material is subjected to fatigue, the axial clearance gets reduced which affect the performance of the flame tube. Normally the flame tube is subjected to low cycle fatigue, so the boundary conditions and calculations are includes around 5000 cycles on the flame tube. Fundamentally, the zero based fatigue type of loading is applied on the flame tube. To study the low cycle fatigue characteristics of the combustor design under consideration, the combustor liner is modeled by CATIA V5. Structural and fatigue analysis of annular combustors are challenging task, because of its functional aspects such as complex geometry, thin wall structures and stringent airworthiness requirements. The objective of this paper is to increase the life time of an annular combustor by optimizing the design with inclusion of fatigue simulation using Ansys Workbench. The boundary conditions such as pressure and temperature data are calculated in each section of the combustor using the assumption of the sea level static conditions at inlet for increasing accuracy of the numerical simulations result by adding the actual data.

***Keywords**:* Computational Analysis; Combustor; Flame tube; Fatigue; Propulsion.

AE002

NUMERICAL ANALYSIS ON SUPERSONIC SECONDARY FLOW INJECTION - TVC

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Abstract

This paper presents the Computational study of flow through the Rocket Nozzle in order to manoeuvre the Rocket by means of Supersonic Secondary Injection of Hot gases. Well-designed nozzles can accelerate these gases to speeds of thousands of meters per second. In addition to accelerating the gases, nozzles are often responsible for steering (or "vectoring") the flow in order to control the rocket's direction of flight. Due to continuous secondary injection of hot gases, the strong unsteady effects like Shear Layers, Intervention of Shockwaves with the Core fluid flow, Biased Wall Shear, etc., has to be studied precisely to appraise / evaluate the effectiveness of Nozzle contribution in role of steering the Rocket. Numerical Technique / Computational Analysis has been carried out to provide tons of insight about the meticulous behavior of Fluid particles while they interact with secondary flow. Comparative study on Supersonic Fluid Flow and the intervention of Secondary Injection of Hot gases has been carried at different angle of injection and at different injecting Pressure to find its optimum injection angle and optimum Injecting Pressure. It has been observed that Steering of Rocket drives well by Secondary Injection when its injecting angle becomes tangential to fluid flow direction and Injecting Pressure favors to steer the rocket when it increases its magnitude.

Keywords --- Supersonic Nozzle, Numerical Analysis, TVC, Secondary Injection, CFD

ANALYSIS ON INLET DESIGN AND STARTING MACH NUMBER OF SCRAMJET ENGINE

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Abstract

This paper presents the study of Supersonic Fluid flow over the Inlet of Scramjet Engine, in order to reduce the starting Mach number as much as possible by concerning the Pressure at the outlet of Combustion Chamber. For this kind of Engine, it is advantageous to use the ram compression of air into the combustor thus doing away with complicated rotating machinery, which is the focal principle of SCRAM jet engines. Numerical / Computational Analysis has been carried out on different SCRAMJET Inlet configuration to study the host of complicated fluid dynamic issues to be contended with, for the efficient functioning of Scramjet engine. Thus, Computational Analysis has been chosen to provide lots of insight about meticulous behavior of Fluid like Free Shear layers, Interaction of Shockwave with the Thinnest Boundary Layer at the proximity of wall. Computational Flow Analysis has been carried out on identical Geometry, only by varying its Mach number, which dictates the required Inlet Mach No. of considered geometrical configuration. It has been observed that RAM Compression of air reduces as the Inlet Mach number reduces and it could be addressed by proper positioning of Engine Slots.

Keywords --- Inlet Design, Numerical Analysis, Starting Mach Number, SCRAMJET, CFD, Supersonic Flow

AE004

DESIGN OPTIMIZATION OF DUCTED FAN MICRO AERIEL VEHICLE

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Abstract

Technological progress in the aero space engineering is ushering the possibility for the new class of aerial vehicles known as the Micro air vehicles (MAV). MAVs are a subset of uninhabited air vehicles (UAV) that are up two orders of magnitude smaller than the manned systems that permeate our contemporary life. Recent advances in miniaturization may make possible vehicles that can carry out important military missions that heretofore were beyond our reach or could only be attained at great risk or resource expenditure. These missions will be possible if MAVs can fulfill their potential to attain certain attributes including mission versatility, range, endurance, stealth, and precision. Designing for Vehicle flight stability being one of the challenging factors, this work is aimed at improving the stability of the vehicle by using coaxial propellers along with suitable wing design for effective direction control.

EVALUATION OF CUTTING FLUIDS APPLICATION IN SURFACE GRINDING

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Abstract

Conventionally, the cutting fluid is applied in grinding to increase lubrication and cooling. The effective choice and application of cutting fluid can increase the productivity and product quality. The current investigation aims for evaluating the grinding performance by different cutting fluids and application methods. The machining operation is carried out by direct oil, water soluble oil (1:20) and dry grinding. Tests are also conducted at four different positions of nozzle with and without the scraper board (SB) and four different flow rates of the fluid jet.The experimental outcome reveals that the lubrication and cooling of the contact surfaces is not influenced by the fluid velocity but the quantity of flow and obstruction of air. The results suggest that increase in the quantity of flow and use of scraper board and fluid delivery nozzle proximate to the grinding zone are crucial for improving the grinding performance.In flood cooling with SB, the tangential cutting force has been found to reduce by 14%, 25%, and 50% compared to the conventional flood cooling, MQL and dry grinding respectively.

Keywords: MQL, scraper board, distributed nozzle, grinding forces.

AE006

NUMERICAL ANALYSIS ON ROLE OF SLOTS – AERODYNAMICS OF RECTANGULAR WING

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Abstract

This paper describes the role of slots in aerodynamic behavior of air past over the geometrically twisted rectangular wing. Comparative study has been carried out on Conventional geometrically twisted rectangular wing and the same conventional wing with normal slots at the wing tip, in order to address the unsteady flow instabilities like Flow separation, Stalling nature, Vortex stretching, etc., and to evaluate the performance against each other. Numerical Analysis/Technique (CFD) is conceded to provide the lots of insight about the meticulous behavior of airflow over the wing. It has been observed that the provision of normal slots at the wing tips has significant counteracting role in alleviating the rotational downward kinetic energy of air (tip vortices). Geometrical configuration of Slots at the wing tip is amended to achieve maximum CL/CD, by terminating the undesirable small scaled tip vortices due to provision of normal slots. It has been observed that the amended slots has significant beneficiary aerodynamic characteristics over the other rectangular wing configuration.

Keywords --- Rectangular Wing, Numerical Analysis, Geometric Twist, Stalling, CFD

STUDY ON ROLE OF PIMPLES ON SPACE VEHICLES DURING BALLISTIC ENTRY

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Abstract

This paper presents the study of hypersonic fluid flow behavior over the blunt nosed body and the effectiveness of pimples in order to alleviate the aerodynamic heating of space vehicle during ballistic entry. Comparative study has been carried on conventional blunt nosed body and pimpled blunt nosed body to evaluate the alleviating degree of aerodynamic heating. From the preceding study, it has been observed that the pimpled blunt nosed body significantly alleviates the aerodynamic heating, in the sense of reducing the curvature of shock wave. Numerical Simulation using Ansys-Fluent is carried out to evaluate effectiveness of Pimple by varying its geometrical definition, which provides lots of insight of Shockwave and its thermal interaction with the solid body. Structural Analysis using Ansys - APDL is carried out to study the thermal distribution across the solid body and thermal stress concentration due to aerodynamic heating in order to address the suitable superior material of Space body. System Coupling Technique is used to study the interaction of fluid flow over the solid body and thermal behavior of Solid body simultaneously. Numerically, it has been observed that the Pimpled Blunt nosed body plays an extensive role in alleviation of aerodynamic heating relative to its conventional blunt nosed body.

Keywords --- Aerodynamic heating, Shockwave, Blunt Nosed Body, Numerical Simulation, System Coupling

AE008

EXPERIMENTAL TESTING ON MECHAINCAL PROPERTIES EFFECT OF ALUMINIUM FOAM

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Abstract

In current scenario reduction of weight and energy saving are the upcoming tactics for increasing the production efficiency. Generally, the lightweight cellular structure includes honeycomb sandwich panel or balsa wood or the metallic foams, in which honeycombs are reduced weight structures but the problem associated with these include entrapping of water in the cells, joining the individually formed sheets at the cell edges, cannot be bend to 3D shapes, etc. The resolution of this problem is the main challenge of the scientific community in this field hence in this paper deals with the innovative idea in the Aluminium foam implementation in aerospace applications, in which to successfully accomplish this idea, two approaches may be followed. First one is to develop new manufacturing processes or modify the existing ones to obtain foams with more uniform cellular structures and other is to understand and quantify the thermo-physicochemical mechanisms involved during the foam formation in order to control the process. In this paper follows the first method, ultra-light metal foams became an attractive research field both from the scientific and industrial applications viewpoints. The manufacturing technique of Aluminium alloy is critical one also lack of manufacturing facility hence in this process mainly concentrate on the manufacturing of Al foam and subordinate steps involved. After the successful completion of the product, the tensile test on aluminum foam has been analyzed using UTM for the tensile property estimation purpose

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Keywords- Aluminium Foam; Flexural test; Light weight; Tensile test;

NUMERICAL STUDY ON DRAG EFFECT OF WASTE COLLECTOR ATTACHEMENT IN THE TRAIN

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Abstract

Nowadays environmental affecting parameters and their sources are increasing everywhere. The average person generates 4.3 pounds of waste per day, especially during the train travel. Most of the environmental affecting wastages such as plastic or paper cups, plastic wrappers, plastic bottles and some food stuffs are generated, which are actually disposed outside our windows by the human beings. The generation of waste can be minimized from its root cause. In general, the fact of dumping the plastics and e-waste might lead to the human health issues and the environmental degradation. This paper gives an extent impact on waste generation during train travel and its initiates with the hinged collector which lies outside to the train window. The hinged collector is extended along the length of compartments in either side of the train. The implementation of waste collector may affect the aerodynamic and stability issue of the train so the main aim of the paper is to study the aerodynamic effect on the waste collector in the train, in which the design is modeled by CATIA and the CFD analysis have been analyzed Ansys CFX and Ansys Fluent. Finally a comparative analysis has been carried out for various turbulence models in order to provide acceptable solution.

Keywords-CFD; Design; Drag; Train; Waste

AE010

COMPARATIVE COMPUTATIONAL THERMAL ANALYSIS OF GAS TURBINE ENGINE TURBINE-BLADE COATED WITH AND WITHOUT LANTHANUM ZIRCONATE

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Abstract

In Aviation sector, heat transfer methodologies and its distribution of each component is one of the prime factors of consideration due to the terrible failures which can result from it. Objective of this paper is to analysis the heat transfer distribution on turbine in a gas turbine engine by the prediction of nodal heat displacement and fatigue life using computation simulation for different cases. The reference component of this paper is modeled by CATIA then meshed in Hypermesh and thereby simulation is carried through Ansys. Finally for applications the thermo-physical properties, the results obtained from the experimental work of lanthanum zirconate synthesized by spray pyrolysis technique are applied in computational simulation in order to check the heat transfer, thermal stress and thermal strain on turbine. In this paper propose a unique heat transfer technique which deals the integration of convective and conductive methods in order to increase the temperature with standing capability and thereby provide high lifespan of turbine. A comparative heat transfer study has been carried out here using computational simulation, which comprises of turbine with and without zirconate coating.

Keywords-*Thermal barrier coating, lanthanum zirconate, heat transfer, thermal stress, thermal strain*

AE011

CFD ANALYSIS ON JETS ACOUSTIC CHARACTERISTICS OF CHEVRON NOZZLES

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Abstract

Gas turbine engines have a wide scope of functionality in the aeronautical industry, accounting for the majority of the aircraft in commercial use today. But one problem that always persists in all gas turbine engines is the emission of noise which causes certain restrictions and safety limitations concerning the environment and the people. By developing an effective solution for noise reduction, some constraints that are enforced on the use of these engines can be lifted. Chevron nozzles are a fairly new innovation that helps reduce the noise levels in jet engines. The aim this paper is to compare the flow between a conventional and chevron nozzles. Also, this paper aims to reduce the noise further by energizing the flow in the wake of the jet exhaust, which is expected to reduce the noise levels from flow diffusion. The reference model of this paper is done by CATIA and the numerical simulation has been carried out using Ansys Fluent.

Keywords- Acoustics; Chevron; CFD; Gas Turbine; Jets;Nozzle.

AE012

NUMERICAL INVESTIGATION ON VIBRATION REDUCTION IN HELICOPTER MAIN ROTOR USING AIR BLOWN BLADES

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Abstract

Rotor blades of a helicopter undergo vibrations at various flight phases. Vibration on blades comes from various sources blade-vortex interaction (BVI) is one among them. BVI causes aerodynamic loading on blades which results in vibrations, which are dangerous to blades in case of high speed forward flight. Possible solution for this is to divert the incoming vortices from the blade's plane of motion and thus minimizing interaction, this can be done by air blown blades. In this modified blades, air pockets are drilled on the leading edge of the blade. Air is blown out of these pores and this air diverts the vortex from its path and hence curbs the interaction, thus reducing vibration. Due to mixing up of flows there might be aerodynamic and property variation, but this is overruled by refinement in vibration. In this paper, the reduction in vibration on blades has been attained and their deformation has been analyzed. This reduction in vibration is said to contribute to the reduction in noise due to this blade slap. The noise can be reduced by optimizing the position of holes, their dimension, and velocity of air ejecting out of it.

Keywords: Helicopter, blade-vortex interaction, vibrations, air blown blades

AE013

DYNAMIC RESPONSE AND STABILITY ANALYSIS OF HYBRID UAV WITH LINEAR CONTROLLERS

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Abstract

In recent years, the development and deployment of unmanned aerial vehicles (UAVs) has been increasing due to growing demand not only in military applications but also in commercial and government applications. Because of that, the fixed-wing UAVs and multi-rotor UAVs are more popular. The fixed-wing UAVs have longer endurance capability but they are having a difficulty in achieving hovering and vertical take-off and landing (VTOL) capabilities. On the other side, multi-rotor UAVs have better hovering and VTOL capabilities but the endurance is shorter. Hence, there is a need for hybrid or convertible UAVs with longer endurance and hovering/VTOL capabilities. In this paper, a hybrid UAV design has been selected with two rotors and two elevons. The roll control of the hybrid UAV will be achieved by varying the speed of the rotors, the pitch control will be achieved by moving the elevons in the same direction, and the yaw control will be achieved by moving the elevons in opposite direction. The dynamics of such a hybrid UAV have been modelled with mathematical equations and its dynamic response (time domain) and stability were analyzed in MATLAB with conventional controllers. Simulation results indicate that the hybrid vehicle attains faster response and better stability.

Keywords —Hybrid UAV, vertical take-off, dynamic response, stability, MATLAB.

AE014

A STUDY ON FOREST FIRE DETECTION USING UNMANNED AERIAL VEHICLES

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Abstract:

Forest fires lead to the demolition of forest and the wildlife that reside in them, and have a disastrous social, economic and environmental impact. Unmanned Aerial Vehicles (UAVs), due to their quick response capacity, low cost and without danger, as no human pilot on-board, with computer vision-based systems have great potential for monitoring and detecting forest fires. The integration of UAV technology with remote sensing techniques is a better solution for forest fire. This article proposes a novel forest fire detection method using payload calculation to carry camera and thermal Image sensing.A better performance is obtained to significantly improve the accuracy of forest fire detection and reduce false alarm rates.

Keywords*:* Unmanned aerial vehicles, Forest fires, Fire detection, Image sensing

INFLUENCE OF DUAL HEAT SOURCES ON NATURAL CONVECTION IN A SQUARE ENCLOSURE

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Abstract:

The numerical investigation is conducted on steady natural convection heat transfer in a two dimensional square enclosure formed by two adiabatic horizontal inner walls, two isothermal vertical walls and two identical horizontal heat sources for various Grashof numbers.The two heat sources in the form of flat plates of different aspect ratios are symmetrically placed at various horizontal levels to determine their influence on natural convection heat transfer. The two dimensional conservation equations in the computational domain are solved by finite volume method using second order upwind scheme and the SIMPLE algorithm is used for pressure velocity coupling.Numerical results are obtained for positions of the heated plates and for various Grashof numbers within the laminar range. The contour plots of isotherms and streamlines show that the thermal gradients and the flow patterns are greatly affected due to horizontal positions of the plates and the aspect ratios. The heat dissipation by the upper and lower plates and the overall heat dissipation are expressed in terms of the respective Nusselt numbers. The variation of Nusselt numbers for different positions of the heat sources for different aspect ratios for wide range of Grashof numbers are graphically presented in this study.

Key Words*:* Natural convection heat transfer, enclosure, Nusselt number, Grashof Number, Streamlines, Isothermal lines, Thermal gradients.

AE016

NATURAL CONVECTION HEAT TRANSFER IN SQUARE ENCLOSURE: INFLUENCE OF PRANDTL AND GRASHOF NUMBERS

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Abstract

Natural convection heat transfer in enclosures finds many applications such as heating and cooling of building spaces, solar energy utilization, thermal energy storage, cooling of electrical and electronic components, etc. In the present study, numerical investigation is conducted in a square cavity with one vertical wall at high temperature which is maintained constant and with the opposing vertical wall at a range of low temperatures. The two horizontal walls of the enclosure are insulated. The governing vorticity and energy equations are solved by finite difference methods including Alternating Direction Implicit (ADI) and Successive Over Relaxation (SOR) techniques with C coding. Steady state isothermal and streamlines are obtained for Prandtl numbers 0.7 (air) and 10.0 (water) maintaining Grashof number 20000. In addition, the influence of Grashof numbers ranging from 20000 to 200000 for Prandtl number 0.7 with an average Nusselt number is investigated considering the boundary condition with one vertical wall at a higher temperature and the other at a low temperature. The contours of streamlines and isothermal lines are presented for all the configurations investigated. Changes in the streamline and isothermal line patterns are observed with the change in temperature values, Prandtl numbers and Grashof numbers. The results obtained in this study are useful for the design of devices including enclosures subject to high temperature differences.

Keywords*:* Natural convection, ADI, SOR, Prandtl number, Grashof number, Nusselt number

NUMERICAL STUDIES ON MAV PROPELLER PERFORMANCE AND FLOW FIELD CHARACTERISTICS

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Abstract

Numerical study was performed to analyze the propeller performance and flow field associated with it. Variation in thrust coefficient were observed, which indicates a variation of the total efficiency. Notable changes appear at the leading edge due to the potential disturbance and sweeping effects. It is carried out by three different approaches analytical, experimental and computational fluid dynamics [CFD] simulation. The analytical method using propeller blade element theory is the most effective method. CFD simulation has been used to simulate and capture the performance of the propeller. Through these methods propeller performances was analyzed and compared. Best methods suggest the thrust and torque change with the change in velocity.

AE18

ANALYSIS OF HEAT TRANSFER COEFFICIENTS AND PRESSURE DROP IN SURFACE CONDENSER WITH DIFFERENT BAFFLE SPACING

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Abstract

In complex engineering systems such as power plants and food processing industries, one of the essential componentsisitsheat exchanging devices. Especially in power plants, the surface condenser plays a crucial role in enhancing the thermal efficiency which works like shell and tube heat exchangers. Generally, the heat transfer coefficient and pressure drop of the surface condenser depends on baffle spacing. The baffle spacing significantly influences the heat transfer coefficient for the shell side fluid. CFD simulations were carried out for different cases of single pass shell and tube heat exchanger by varying the number of baffles at same operating conditions.The purpose of baffles is to support the tube bundle and directs the fluid to flow on the surface of tubes. In this study, four different cases were considered to evaluate the heat transfer coefficients and pressure drops. The different cases considered for the analysis is as follows: space between the baffles equals to the diameter of theshell (D_s), 50% of shell diameter (D_s), 25% of shell diameter (D_s), and 20% of shell diameter (D_s), and the numbers of baffles were varied as 2,4,7 and 9 respectively. It is observed that, following the decrement in baffle spacing, the cross-flow area of shell side region decreases, hence there will be an increase in Reynolds number for shell side fluid which results in enhanced heat transfer coefficients. Moreover, the Segmental baffles are widely used in industrial applications where the purpose of enhancing heat transfer coefficient in surface condensers is to improve the condensation process of steam to liquid at faster rates.

Keywords: Baffle spacing,CFD simulations, Heat transfer coefficient, Pressure Drop, Surface Condenser,shell, and tube heat exchanger.

NUMERICAL INVESTIGATION OF THE FLOW FIELD AND AEROTHERMODYNAMICS OVER A RE-ENTRY CREW MODULE USING SU2

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Abstract

Simulations have been carried out for a multi-body launch vehicle configuration using CFD code "SU2". SU2 is a Reynolds Averaged Navier Stokes equations (RANS) solver with k-ε turbulence model. The transonic regime is a critical regime for any launch vehicle configuration because of its typical aerodynamic characteristics such shock wave disturance. CFD flow simulations are done at zero degree angle of attack for various strap-on nose cone angle, nose radius and Mach numbers 0.8, 0.9. The influence of strap-on nose angle and radius on fore body of the core of launch vehicle is investigated. In this article, the results pertaining to the pressure distribution and Mach contour over launch vehicle configuration is presented.

Keywords*:* Launch vehicle, CFD simulation, Strap-on Boosters, Transonic Flow, Turbulent Flow

AE20

MICROSTRUCTURE EVOLUTION &MECHANICAL PROPERTIES OF PURE MAGNESIUM WITH INCREASING TIN ADDITION

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Abstract

Magnesium (Mg) is an attractive metal for weight critical applications because of its low density. Mechanical properties of pure Mg can be significantly improved by alloying. In this paper, the influence of tin (Sn) content on the microstructure and mechanical properties of pure Mg is presented. Pure Mg was incorporated with 5, 10 and 15 (wt. %) Sn using the disintegrated melt deposition technique, followed by hot extrusion. Microstructural investigation revealed that the developed Mg-Sn alloys: (i) exhibited significant grain refinement, (ii) showed Mg_2Sn eutectic phase with varying morphology, and (iii) the Mg_2Sn eutectic phase increased with the increase in Sn content. In comparison with pure Mg, microhardness of Mg-Sn alloys increased by almost 2.5 times. Their tensile yield strength and ultimate strength increased by about 75% and >50%, respectively. Under compressive loading, significant increase in yield strength by about 2.8 times and ultimate strength by about 28% was observed. It was identified that the Sn content greatly influenced the mechanical properties of the alloys. The observed mechanical behavior of the Mg-Sn alloys is discussed using structure-property correlation approach.

Keywords*:* Light-Weight Materials;Magnesium-Tin Alloys;Processing;Microstructure;Mechanical Properties

EXPERIMENTAL INVESTIGATION OF INFLUENCE OF BIO INSPIRED TUBERCLE IN UNMANNED AERIAL VEHICLE PROPELLER

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Abstract

The article deals with the experimental investigation of the thrust performance of a tubercle propeller used in a typical Unmanned Aerial Vehicle. The propeller is fabricated with humped leading edges and tested using low speed subsonic wind tunnel to study the performance characteristics. The results obtained show better performance compared to conventional propellers. The presence of tubercles hasincreased the stall characteristics at low Reynolds number. The results indicate that a substantial increase in thrust generation of up to 10 percent.The endurance of the Unmanned Aerial Vehicle can be increased considerably using this technique. The results obtain provide alternate design in propellers in future applications.

Keywords- tubercle; experimental investigation; thrust performance

AE22

DESIGN OPTIMIZATION OF CIRCULAR PIEZOELECTRIC BIMORPH ACTUATORS USING FEA

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Abstract

In this work, Finite element simulation is used to optimize a circular piezoelectric bimorph bender actuator. The piezoelectric bender actuator consists of a circular base membrane with a circular piezoelectric bimorph bonded to one side of the base membrane by epoxy glue. Many parameters have been considered during preliminary design, in which the oscillating membrane thickness, PZT thickness, input voltage and frequency are plays a vital role. The piezoelectric plate will oscillate the membrane during alternating voltage is applied towards the piezoelectric plate. Once the pulse voltage is applied to the piezoelectric plate, convex/concave deformation will occur on the structure. To obtain extreme deflection of the actuator, it is imperative that thickness ratio of bimorph to base plate is optimized. Keeping the base plate diameter and the thickness constant, a parametric analysis is performed to find the bimorph diameter and its thickness for maximum deflection. The piezoelectric sheet thickness is chosen by iterating various thickness of piezoelectric plate to actuate the membrane. The numerical simulation results show that for certain Aluminium membrane thickness, there will be an optimal coupling thickness of the piezoelectric plate. Transient analysis of this membrane is obtained by changing the voltage (200V, 0V, -200V, 0V) alternatively in equal intervals of time.

Keywords-Piezo electric material;FEA; Bimorph Actuator; Deflection.

CONCEPTUAL DESIGN OF TILT-COPTER BASED ON SPEECH CONTROL (A THEORETICAL APPROACH)

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Abstract

Nowadays one of the emerging areas is Unmanned Aerial Vehicle (UAV) and its application; all the major works in the world are being monitored and processed effectively by the UAV. This paper deals with the new conceptual design of tilt-copter (UAV) with a high operational speed which can able to survive and reconnaissance at any critical environment location, but the complexity involved in the tilt-copter is control and guidance while in operations. Navigating a UAV is not an easy task, which requires initial instruction and an extensive training to become proficient. One of the ways to reduce the time for preliminary preparation and, in general, to simplify the operator's work is to develop a more natural and intuitive user interface. To overcome critical navigating task in UAV operation, a new user-friendly tilt-copter which is based on speech recognition technique can be suggested. The user-friendly copter manoeuvring will be controlled by voice input which will be given by the controller, means that the complicated control of a tilt copter controlled by the predefined set of voice commands. The operational words are monitored and stored in the speech processor memory. In this paper, there are two systems suggested for speech processing to successfully execute the tilt-copter manoeuvring with the help of voice. One is to use the Wiener Filter to realize the speech recognition and the other one is conversion process of voice input into tilt copter control surface movement involves speech recognition based on statistical pattern matching uses Hidden Markov Modelling (HMM) comprising two types of pattern models, the acoustical model, and the language model.

Keywords – Control, Hidden Markov Modelling, Speech, Tilt copter, Wiener Filter

EXAE01

EXPERIMENTAL INVESTIGATION OF INFLUENCE OF BIO INSPIRED TUBERCLE IN UNMANNED AERIAL VEHICLE PROPELLER

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Abstract

The article deals with the experimental investigation of the thrust performance of a tubercle propeller used in a typical Unmanned Aerial Vehicle. The propeller is fabricated with humped leading edges and tested using low speed subsonic wind tunnel to study the performance characteristics. The results obtained show better performance compared to conventional propellers. The presence of tubercles hasincreased the stall characteristics at low Reynolds number. The results indicate that a substantial increase in thrust generation of up to 10 percent.The endurance of the Unmanned Aerial Vehicle can be increased considerably using this technique. The results obtain provide alternate design in propellers in future applications.

Keywords- tubercle; experimental investigation; thrust performance

IMPROVED REVERSIBLE DATA HIDING THROUGH IMAGE USING DIFFERENT HIDING AND COMPRESSION TECHNIQUES

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Abstract

Steganography is art and science of hiding communication. This system embeds hidden data in to unremarkable cover media. Reversible data hiding (RDH) is an important and intensively studied data hiding algorithm. One can embed data into audio signal, image or video. Generally there are two methods in data hiding on image, they are reserving room after encryption and reserving room before encryption. This paper portrays about reserving room before encryption to reduce the errors which are possible at decryption phase .Then embed data into gray scale image by bit plane processing and also embed data into color image by using histogram modification and shifting. In the case of color image, image is split into three channels such as red, green and blue. Then each channel image is divided into three rows and three columns matrices. The matrices are individually processed in such a way that the matrix is converted to a row vector the difference between pixel values of the particular channel is found and then based on the difference values and using histogram modification binary bits carrying secret message can be embedded on the color image. Generally histogram modification is done to avoid underflow and overflow problems. One of the important issue in this process is compression employed on the image may affect the data hidden. For that reserving room before encryption is employed. Lossless compression technique is employed on region of interest where data is hidden and lossy compression is applied to other portions in the image.

Key Words: Reserving room before encryption (RRBE), Reversible data hiding (RDH), encryption, partitioning, Histogram Modification, Histogram Shifting, Least Significant Bit (LSB).

EXAE03

NUMERICAL INVESTIGATION OF COMPOSITE STIFFENED PANEL WITH VARIOUS STIFFENERS UNDER AXIAL COMPRESSION

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Abstract

In this paper, buckling analysis of composite stiffened panel with different shapes stiffener under uniaxial compressive load was carried out. Buckling behavior of straight stiffened panel on different shape of stringers were studied and compared. Stiffeners are providing the stiffness to the stiffened panel. In this paper several types of shapes like Z- shape, L-shape, Hat shape, I-shape, C-shape, J-shape and T- shape were taken. Numerical analysis done by non- linear software (ABAQUS 6.14-1). Main motive of this paper understands the shape of stringers and influences of the shapes in buckling strength. Influences of stiffener with various cross section areas of stiffened panel were deciding the buckling strength of the panel. Once buckling strength was improved, relatively high stiffness of assembly is also improving. Closed sections and more fasteners providing high buckling loads.

Keywords – Stiffened panel, Shapes of Stringers, ABAQUS, Initial Buckling loads and Crippling loads.

EXPERIMENTAL INVESTIGATION ON CO2 ADSORPTION FROM AUTOMOBILE EXHAUST BY USING PHYSICAL ADSORPTION TECHNIQUE

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Abstract

Carbon dioxide is considered as a major contributor towards global warming. The amount of carbon dioxide from automobiles is approximately 65%, which is more than any other sources of emissions. On considering the upcoming stringent emission norms this problem needs to be addressed properly. In this work, an attempt was made to capture CO2 emission from automobile exhaust using Activated carbon. The concept of physical adsorption by vanderwalls forces of attraction CO2 found to be adsorbed on the surface of activated carbon. Experiments were conducted on a three-cylinder, carburetted, variable speed, water cooled diesel engine at various load conditions (0%, 25%, 50%, 75% and 100%.Test results were obtained by conducting experiments at various exhaust temperatures. Final results obtained shows that considerable amount of HC, CO, and CO2, gets reduced while operating Engine with idle and part load conditions at reduced exhaust gas temperature. Activated carbon found to be a suitable one for CO2 capture from engine exhaust and it has great scope to be implemented in vehicle exhaust system.

Keywords— Carbon dioxide, Greenhouse gases, Activated carbon, Vander walls force

AUE002

DEVELOPMENT OF ENGINE OIL CONDITION AND LEVEL MONITORING SYSTEM ON SMART DASHBOARD

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Abstract.

Engine Oil plays an important role in lubrication process of an Internal combustion Engines. The quality & quantity of Engine oil determines the Engine performance on the basis of fuel economy, emission, wear characterises etc. Until now the Engine oil quality and level is monitored by manual method which requires a skilled labour. This system is developed on the basis of this problem where the oil quality & quantity details are sensed and the information is directly transferred to the dashboard. A turbidity sensor is used to measure the purity level of the oils and reed sensors are used for oil level monitoring, and to make all this work an embedded program is developed to perform the necessary function. The values like the purity and level of engine oil used, the level of brake oil and also the level of coolant available in the vehicle all these three values will be displayed on the dashboard of the vehicle when incorporated with this system.

ELECTRIC VEHICLE SYSTEM DESIGN ON CONVERTING IC ENGINE POWERED VEHICLE TO ELECTRIC VEHICLE AND EVALUATING RANGE PERFORMANCE

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Abstract

Electric vehicles are one which is going to be the major modes of transportation in the near future mainly because of its clean energy conversion and zero tail pipe emissions. As the world is facing hazardous problem of air pollution which is contributed majorly by IC powered Automobiles, therefore many Automotive manufacturers are moving towards electrification of vehicles to address this global problem and also to meet the regulations set by different countries to eradicate air pollution. This paper deals with the conversion of existing IC powered minivan which has a cubic capacity of 796 CC with a power delivery output of 34.2bhp@5000rpm into a completely electric vehicle by removing the existing drivetrain such as the engine, clutch and the gearbox mechanisms of the vehicle and an attempt is made for integrating a new electric drive train system with a motor power of 1.5KW and accommodating 5 lead acid batteries with a capacity 12V 60 Ah and testing the drivetrain for attaining the minimum driving torque, maximum speed and maximum range and validating the results for future improvisation.

Keywords: Electric drivetrain, IC Engine conversion, Electric system design, FEA

AUE004

MEASUREMENT OF VIBRATION IN DIFFERENT PARTS OF THE TWO WHEELER AND ITS HARMFULNESS TO HUMAN BODY

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Abstract

The majority of the population in India depends on two wheeler for transportation because of their economic condition. Due to irregular road surfaces or soil profiles the vehicles are subjected to vibrations, the vibrations from the road is then transmitted to different parts of the vehicle. The engine vibration and other vibrating parts will affect the rider health as well as cause discomfort to the driver and passengers. Lower back pain, bone damage, speed blindness, reproductive organ damage are some of the problems faced when it is transmitted regularly to the human body. This paper aims in finding the level of vibration occurring in various parts of the vehicle like seat and handle bars in two wheelers which will be helpful in determining the maximum vibration and the data collected can be used to reduce it by making the necessary changes either in design or by using suitable damping. The vibration is measured in terms of acceleration using a device developed in-house, the measurements are made with different driving speeds such as 30, 35, 40 and 45 kmph and road conditions considered are a road with single bump and the road with three consecutive bumps.

Keywords*:* Vibration, Two wheeler, accelerometer, road condition

AUE005

STRUCTURAL ANALYSIS OF GO KART

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Abstract

This paper deals with the calculations and analysis results of the kart fabricated. The objective is to learn about fabricating a kart capable of seating and entertaining a single person while ensuring maximum safety which is designed & proto typed initially and then taken into small scale production. The process ought to provide technical exposure to and hands-on fabrication

AUE006

. NOVEL APPROACH IN PIEZOELECTRIC POWER GENERATION FOR COMPUTER ACCESSORY

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Abstract

Our research idea focuses the new technology for piezoelectric power generation in keyboard accessory by using voltage Tripler. It has been proven that 1 to 30 mill volts of power can be generated in pressing one key. In proposed method we are generated 3 to 90mill volts in one key pressing. With piezoelectric material, it is possible to harvest Power from vibrating structure. It like mobile phone, television remotes, laptop and other devices which employ key depressions for operation, mechanical vibrations are produced while pressing the key. Our idea describes the model of piezoelectric transducer to generate power with key board arrangement, Voltage Tripler with Voltage regulator and battery. The generated power given to the voltage Tripler which is triples the voltage and is used for charging the battery by use of voltage regulator. Keyboard arrangement is the mechanical arrangement with piezoelectric crystals. This arrangement is placed in the keyboard.

Keywords: Piezoelectric keyboard, voltage Tripler, voltage regulator, battery, CPU

AUE007

MODIFICATION AND EVALUATION FOR IMPROVEMENT OF AERODYNAMIC PERFORMANCE OF A FORMULA CAR

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Abstract

Aerodynamic Drag is the opposing force acting on a moving vehicle which influences the performance of a race car that can be reduced by adding few aerodynamic components or by optimizing the body-shape of the vehicle. As drag doesn't require any modification in power train, the race vehicle should be designed in such a way that it has minimum drag. In this paper, a model of a formula student (FS) car vehicle has been studied, analysed and tested for improving the aerodynamic performance for motorsport application. A CAD model of the formula car was developed as per the rules of the SAEINDIA Supra regulations and simulated using a CFD tool. The zones of turbulence and drag were observed and a 3D printed scaled-down model was tested in a wind tunnel for a comparative study. Later the model was modified in accordance to results of the initial model and the CFD analysis was carried out for the redesigned version. Finally, the model was further refined for better aerodynamic performance and a prototype of the same was developed, analysed and tested which had a 30% aerodynamic performance improvement. The main limitation of this research is that, manufacturing of such designs could be a challenge for the manufactures but not impossible. Results from CFD and wind tunnel may vary depending upon the surface finish and also the boundary conditions have an impact on the results.

Keywords: aerodynamics, CFD simulation, wind tunnel testing, motorsport engineering

AUE008

DEVELOPMENT OF AUTOMATIC FRESH AIR INTAKE AND WINDOW OPENING SAFETY SYSTEM FOR FOUR WHEELERS

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Abstract

When the car air conditioning system is running in recirculation mode driver and passengers experience discomfort and suffocation after some period of time, due to high level of co2 in the vehicle. In this work a fresh air intake system is developed, which will decrease the co2 level within the safety limit. The current automobile air-conditioning system operates in two modes 1. Recirculation mode 2. Fresh air intake mode. In the recirculation mode the co2 level increases both in vehicle running and idle condition compared to fresh air intake mode. In this project automatic fresh air intake system is developed in order to maintain the co_2 level in the air present on the car's cabin. Gas sensor is used to detect the percentage of co2 level in the car and sends the signals to controller, if the oxygen level falls below 17% the air conditioning system will change the mode in air conditioning from recirculation mode to fresh air intake mode and further reduce in oxygen level below 15% will open the car windows. This result ensures the overall safety and comfort of the people inside the vehicle by maintaining the oxygen level within the desired limit

Keywords— Oxygen Sensor, MQ135, Air Conditioning.

HEAT TRANSFER ANALYSIS OF FORCED CONVECTION COOLING SYSTEM FOR AIR COOLED ENGINE

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Abstract

The cooling system of air-cooled engine makes use of the convection of the air currents to cool itself. This is done efficiently only if the speed and the amount of the air current is high. This condition occurs only while the vehicle is in motion. It is a known fact that most of the heating occurs when the vehicle is at rest or in heavy traffic jams where the speed of the air current is either zero or very low. This causes the efficiency of cooling and results in engine over heating which may lead to drop in performance of the engine. To overcome this issue, an idea of forced-convection cooling system has been carried out. This system functions by forcing the air from fans over the cooling fins during idling of the vehicles in signals or heavy traffic situations. The enhanced cooling of the engine reduces the thermal expansion and thereby increases the engine life and its efficiency. The optimum temperature of the engine outer body will be around 120^0 C which is obtained from 220^0 C by using two fans which circulate air around the fins in this work.

Keywords: Air cooled engines, Cooling Fins, Forced convections, Fans

AUE010

NEW PRODUCT DEVELOPMENT USING QFD

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Abstract

New Product Development (NPD) is a term used to describe the complete process of bringing a new product to the market. It is important to maintain a competitive edge and to make a decent profit for a firm because new products are usually a source of new sales and profits. This paper aims at developing a framework for new product development by integrating various tools like fuzzy Delphi method (FDM), fuzzy interpretive structural modeling (FISM) and quality function deployment (QFD). FDM is applied to select the most important customer requirements (CRs) and engineering attributes (ECs) from the candidate lists. FISM is applied to determine the relationship between customer attributes and engineering characteristics. House Of Quality (HOQ) is constructed. The proposed paper will be illustrated with a case study related to developing automatic power loom reed cleaning machine.

Keywords*:* New product development, FDM, FISM, FQFD, and F

SIMULATION OF CRUISE CONTROL SYSTEM USING DSPACE WITH DIFFERENT CONTROLLERS

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Abstract

The concept of assisting the driver in the task of vehicle control is known as cruise control. This paper aims at the application of different controllers to simple cruise control system and the model has been built with Matlab-Simulink. The implementation of the model is being done with dSPACE R&D controller DS1104. This software and hardware platform is intended to facilitate the interfacing of Simulink models to hardware devices in real-time. Analysis of cruise control system with different controllers was done. Based on the performance specifications like the rise time, settling time, peak overshoot, gain margin, phase margin, and closed-loop stability, the best controller that suited the application has been chosen.

Keywords*:* dSPACE R&D controller, cruise control, PID controller, neuro-controller, accelerator input, Matlab-Simulink

AUE012

PERFORMANCE EVALUATION OF AIR CUSHIONED SEAT IN A MOTORCYCLE

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Abstract

Road induced vibration are the major factor that influences the ride comfort of a passenger and driver in a vehicle and it is controlled by the suspension provided in the vehicle. Even though provided by the better primary suspension, most of the two wheeler motorcycle driver experience a rough ride and so a pneumatic cushioned seat is designed to investigate the amount of vibration level experienced by the rider and driver and compare with conventional type seat in two wheeler motor cycle.

AUE013

ELECTRONIC DIFFERENTIAL CONTROLLER FOR ELECTRIC VEHICLE

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Abstract

This paper deals with the development of an electronic differential controller for an electric vehicle. The electronic differential is to replace the mechanical differential, which provides the required torque for each driving wheel and allows different wheel speeds. When cornering, the inner and outer wheels rotate at different speeds, because the inner wheels describe a small turning radius. The electronic differential uses the steering wheel command signal to control the power to each wheel.The proposed system consists of two Brushed DC motors that ensure the drive of the two back driving wheels of an electric vehicle. Electronic Differential Controller ensures the maximum torque and it can control both the driving wheel independently to turn at different speeds in any curve and also distribute the power to each motor according to the steering angle.

Keywords-Electric vehicle; Electronic differential; Steering Angle; Turning radius.

AUE014

DEVELOPMENT OF IMAGE ACQUISITION SYSTEM TO ELEMINATE BLIND SPOT OF A- PILLAR

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Abstract

Vehicle Safety gains a huge importance among the vehicle manufactures due to its importance now a days. Although automated vehicles are in the development stage with its own merits and demerits most of the vehicles on road are still driven by human beings. This paper deals about the study of driver visual capabilities and driver cabin ergonomics. The study is made to evaluate the blind spot produced due to A- pillar of the Indian Model Hyundai Santa FE and optimizing the A-Pillar orientation with respect to increase visibility. The study revealed that drag force produced by the wind shield is directly proportional to A-pillar angle which heavily determines the cornering blind spot. The Image acquisition system is developed based on this problem which leads to plays a vital role by reducing the cornering blind spot whenever required. The human elliptical vision clearly indicated that A-Pillar contributes to the blind spot in much larger level. This system in developed by considering the human visual capabilities. This system proved that it has greatly reduced the cornering blind spot and has been evaluated with a CAD model form transverse plane orientation. The visual results are valuated in terms of area hence the cabin design and the elliptical vision is developed in CAD model form transverse plane. The results proved that there is 70% of increase in cornering blind spot due to development and integrating of image acquisition system.

Keywords— Blind spot, Vehicle A-Pillar, human elliptical vision, ergonomics.

AUE015

LOWERING OF BRAKE FADE IN AUTOMOTIVE

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Abstract

Brake fade occurs in brake discs of automotive during long brakes due to high moment of inertia. Brake fade component can be reduced with the help of water quenching. In this paper a transient thermal analysis is carried out in brake disc with air convection value and water convection value and it is found that the minimum temperature obtained by air and water convection are 448°C and 60°C in 80 s from an initial temperature of about 500°C. In addition, a model experiment setup is fabricated and the working of PIC, pump is checked with an operating temperature of 35°C. The pump gets power supply from PIC when temperature reaches 35°C and hence same application can be used for 500°C. Thus, brake efficiency increases even under high moment of inertia and decreases the accidents in hill stations.

Keywords: Brake fade, Surface temperature, Condenser, Catalytic converter, ECU, Braking Unit.

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TOTAL PHENOL, FLAVONOIDS AND TANNIN CONTENT OF GYMNEMA SYLVESTRE PLANT LEAF IN COMPARISION TO CALLUS

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ABSTRACT

Medicinal plants are serving as natural potent source for the therapies and treatments since the ancient times. With the benefit of having no or less side effects and immense potential, they are widely used among various pharmaceutical industries for drug development. Thus in the present investigation, the phytochemical analysis of *Gymnema sylvestre* was proved as one of the important medicine for the treatment of diabetes I and II. The phytochemical analysis was carried out for the leaves and callus of the plant extracted using aqueous methanol solvent. The presence of high amount of phytochemical compounds suggest that the *Gymnema sylvestre* plant has higher medicinal value and can be extensively studied to extract the natural compounds which are beneficial to human beings and that could be commercialized for higher production rather than using synthetic drugs with side effects. Leaf explants were grown in MS medium with IAA 1.5 mg/l and BA 0.5 mg/l and after 2-3 weeks of incubation some parts of explants enlarged and gave raise to pale yellowish callus. In this study, naturally growing *gymnema* plants leaf extracts were compared with callus extracts to identify the bioactive compounds which were analyzed by TLC, FTIR methods.

Keywords: Gymnema sylvestre, callus culture, phytochemical analysis, TLC, FTIR

BT002

COMPLETE REMOVAL OF CARCINOGENIC SYNTHETIC DYES IN TEXTILE DYEING EFFLUENTS BY LIQUID-LIQUID EXTRACTION WITH SURFACTANT

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Abstract

Solvent extraction proposed for the removal of synthetic dye basic meganta from their aqueous solutions along with the cationic surfactant cetyltrimethyl ammonium bromide (CTAB). Iso-amyl alcohol, n-butyl alcohol, and iso-butyl alcohol were used to extract the dyes from textile dyeing effluents. The main aim of the present investigation is to use minimum quantity of solvent and surfactant to extract maximum percent of dyes from dyeing effluents. Among the solvents tested, iso-amyl alcohol showed maximum extraction (97%) of dyes. Extraction parameters such as pH, temperature, time, aqueous to solvent ratio, surfactant dose, and dye concentration were tested to obtain maximum dye extraction. Extraction parameters were also determined by using response surface methodology (RSM). Scale-up studies were also carried out for textile dyeing effluents using iso-amyl alcohol and CTAB. Results indicated that liquid-liquid extraction can be scaled-up suitably and can be used in textile dyeing industries to extract the carcinogenic dyes in textile dyeing effluents.

Keywords: Iso-amyl alcohol, n-butyl alcohol,Cetyltrimethylammonium bromide, Solvent Extraction, dyes.

TOTAL PHENOL, FLAVONOIDS AND TANNIN CONTENT OF GYMNEMA SYLVESTRE PLANT LEAF IN COMPARISION TO CALLUS

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Abstract

Medicinal plants are serving as natural potent source for the therapies and treatments since the ancient times. With the benefit of having no or less side effects and immense potential, they are widely used among various pharmaceutical industries for drug development. Thus in the present investigation, the phytochemical analysis of *Gymnema sylvestre* was proved as one of the important medicine for the treatment of diabetes I and II. The phytochemical analysis was carried out for the leaves and callus of the plant extracted using aqueous methanol solvent. The presence of high amount of phytochemical compounds suggest that the *Gymnema sylvestre* plant has higher medicinal value and can be extensively studied to extract the natural compounds which are beneficial to human beings and that could be commercialized for higher production rather than using synthetic drugs with side effects. Leaf explants were grown in MS medium with IAA 1.5 mg/l and BA 0.5 mg/l and after 2-3 weeks of incubation some parts of explants enlarged and gave raise to pale yellowish callus. In this study, naturally growing *gymnema* plants leaf extracts were compared with callus extracts to identify the bioactive compounds which were analyzed by TLC, FTIR methods.

Keywords: Gymnema sylvestre, callus culture, phytochemical analysis, TLC, FTIR

BT004

COMPLETE EXTRACTION OF SYNTHETIC DYES FROM TEXTILE DYEING EFFLUENT USING ISO-AMYL ALCOHOL AND CATIONIC SURFACTANT WITH ANNULAR CENTRIFUGAL EXTRACTOR

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Abstract

Textile dyeing industry produces large quantities of effluents are classified into two categories: i) dyebath effluent, and ii) wash liquor effluent. Both these effluents vary drastically in their composition[1]. The volume of the dyebath effluent is less (1/10) when compared to wash liquor effluent (9/10). These effluents are usually treated by number of methods. About 70% water content in the dyebath effluent is recovered by multiple effect evaporators and the recovered water is reused for various textile applications. While the residual syrup containing salt and dye is sundried on concrete slabs. After drying dry salts with dyes are packed in small bags and stored under roof. On the contrary, wash liquor effluents in Tiruppur area are treated by primary, secondary, tertiary and membrane-technology methods. Effluents from dye manufacturing and textile dyeing processes represent emerging ecological concerns, especially if they reach water reservoirs or fertileland [2-6].Therefore, it is important to remove the dyes before discharging the water into the environment in order to avoid any health hazards to human beings as well as destruction of the ecosystem. Dyes are usually derived from aromatic organic materials, allowing thus the partial absorption of the visible light, and their solubility in water is insured by a charged functional group, which may be azoic, anionic or cationic[7].

EXTRACTION OF ECOTOXIC DYES FROM TEXTILE DYEING EFFLUENTS BY SOLVENT EXTRACTION WITH NATURAL SURFACTANTS FROM PERICARP OF SOAPNUT

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Abstract:

Solvent extraction is the emerging technique to remove the dyes from effluent.In this study non polar solvent such as iso-amyl alcohol, n-butyl alcohol, and iso-butyl alcohol were used to extract the textile dyealong withnatural surfactants obtained from pericarp of soapnut. Parameters that influenced the extraction process by one-factor-at-a time were initial dye concentration, surfactant dose, time, aqueous phase to organic phase (A/O) ratio, salt concentration, pH, temperature and agitation speed. These parameters were further optimized by Plackett-Burman design and response surface methodology. Among the solvents tested, iso-amyl alcohol showed maximum percent extraction of acid green dye (90%). Scale-up studies (at 300 ml) was also carried out under the above optimized conditions, and the extraction efficiency was reduced to 56%..

Keywords: Solvents, soap nut, dye bath, Plackett-Burman design.

BT006

RECENT TRENDS AND PREDICTION OF LONG INTERGENIC NON-CODING RNA – A REVIEW

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Abstract

Long non-coding RNAs (lncRNAs) are group of transcripts synthesized within the cells of all organisms. They play a crucial role in the various cellular processes viz., transcription regulation, chromatin remodelling. At present, only a small number of lncRNAs have been studied experimentally giving some important insights on the function they play in regulating the gene expression and other cellular processes. Due to its profound involvement in the cellular process, the identification of lncRNAs have emerged to be cutting-edge trend in biology. Several computational methods and tools are available for the prediction of lncRNAs. Here, in this review the current computational tools available for prediction of lncRNA along with their features and algorithms mentioning their accuracy been discussed. In addition, various databases containing the annotated lncRNAs are been highlighted. Further, the limitations of the tools and methods with the perspective towards developing new tools for prediction were also discussed.

Keywords—Long non-coding RNAs, transcriptional regulation,computational tools

ANTI-DIABETIC POTENTIAL OF COMBINATION OF FERMENTED SOY MILK AND FLAXSEED MILK IN ALLOXAN INDUCED DIABETIC RATS

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Abstract

The aim of this study was to evaluate the effects of probiotic Soy and Flaxseed milk in Alloxan induced rats. Fermented soy and flaxseed milk (FSFM) were screened for their anti-diabetic potential in alloxan induced diabetic rats using the oral route. Fermented milk with probiotics increases the efficacy of isoflavones in the treatment of diabetic mellitus. Single and multiple dose (28 days) study were conducted to evaluate the efficacy of the fermented milk via blood glucose level, body weight, hematological profile, estimation of insulin level, biochemistry parameters as well as homeostatic model assessment for insulin resistance (HOMA-IR). *Results:* Intraperitoneal administration of alloxan into the rats caused significant diabetogenic response with increase in the levels of blood sugar as compared with normal rats.As a control, metformin was used to compare the potential of FSFM in rats. Oral administration of low dose and high dose of FSFM significantly ($p<0.01$; $p<0.05$) reduced blood glucose level in normoglycaemicand alloxan induced hyperglycaemic rats with comparative increase in the insulin production as that of metformin dose. There were no evident hematological changes in all the groups. The body weight and feed intake of the diabetes induced rats were increased after treatment with FSFM throughout the study period as compared with the normal and diabetic control group. In conclusion, the observed data showed the antidiabetic potential of FSFM against Type-1 diabetes of alloxan induced rats and can be used as an antidiabetic supplement.

Keywords: Anti-diabetic activity, Diabetic rats, Flaxseed milk, Homeostatic assessment, Hyperglyceamic, Probiotics,

BT008

COMPUTER-AIDED SIMULATION AND ECONOMIC ANALYSIS OF MEDIUM SCALE XYLANASE PRODUCTION UNIT

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Abstract

Xylanases are one of the industrially important hydrolases which are gainingvaluable attention due to their potent applications. The production of such enzymes at a low cost is a challenge and thus the development of an economically feasible process is very important. SuperPro Designer is one such software which enables its user to develop and optimize bioprocess, thereby predicting its practicability. In this work, a model process for the production of xylanase from a mesophilic bacterial species had been designed using the software SuperPro Designer v9.5. The model process consisted of various unit operations that are required for the bacterial cell cultivation, homogenization of cells for enzyme recovery and purification of the enzyme. The xylanase was produced at a rate of 79 million kg/year in this process. Four different cases had been dealt with by altering the type of homogenizer with high-pressure homogenizer and bead milling and the chromatographic techniques with ion exchange chromatography and PBA chromatography to identify the most economic combination that could be exercised in the process. Of these, the use of PBA chromatography along with high-pressure homogenizer was found to yield higher percentage of xylanase (99%). Also, it was the most economically feasible process among the other cases.

Keywords : Xylanase, model process development, economic analysis

PURIFICATION AND CHARACTERIZATION OF KERATINASE FROM BACTERIAL ISOLATE AND ITS APPLICATION IN DEHAIRING

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Abstract

Feather waste, is generated in large quantities as a byproduct of commercial poultry processing plants. It reaches millions of tons per year worldwide. Disposal of this bulk waste is an environmental problem accounting to pollution of land and underground water resources. Feather constitutes over 90% protein, the main component is beta-keratin, a fibrous and insoluble structural protein extensively cross-linked by disulfide bonds, which is not easily degradable by common proteolytic enzymes. Alternatively, keratinases which are produced by the keratinolytic organisms could be used to degrade the feather waste considered as a sustainable approach. A feather degrading bacterium was isolated from soil in dumping site. The bacterium was grown in feathers as its primary source of carbon, nitrogen, and sulfur. The organism was isolated and grown on casein agar plates. The zone of hydrolysis in casein agar plate confirm the keratinase positive bacterium. The isolated Gram-negative strain was cultured in basal medium with pretreated chicken feather for keratinase production. The total keratinase activity was found to be 16 (U/ml) in crude extract and it was partially purified by ultrafiltration. The retentate showed 54 mg/ml of protein concentration; 27 (U/ml) of total enzyme activity and 530 U of specific activity. The partially purified keratinase was investigated for its dehairing efficiency in goat rawhide. Comparative study of enzymatic dehairing over conventional dehairing suggested that partially purified keratinase is a sustainable method. This is considered to be a waste to wealth approach.

Keywords: keratin, keratinase, Feather waste, dehairing

BT010

DEVELOPMENT AND EVALUATION OF ANTI-INFLAMMATORY OINTMENT USING AQUEOUS EXTRACT OF COCCINIA GRANDIS L.

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Abstract

According to Global Burden of Disease study that was measured in DALYs (Disability-Adjusted Life Year), skin diseases contribute to 1.79 % of the global burden when compared to other serious diseases. *Coccinia grandis* is used in folk medicine to treat various skin disorders and diseases. The present study was carried to evaluate the *in vitro* anti-inflammatory activity of aqueous extract of *Coccinia grandis* and to formulate an ointment to treat the skin inflammation.Method: The aqueous leaf extract of this plant was assessed for their *in vitro* antioxidant BY ABTS and FRAP assays and anti-inflammatory activity by HRBC membrane stabilization method. The ointment formulations containing extract of the above-mentioned herb were formulated and their physical parameters like colour, odour, pH, spreadability, consistency, diffusion, solubility, washability and stability were evaluated.
Results: The membrane stabilization anti-inflammatory test showed that the aqueous leaf extract exhibited similar membrane stabilizing activity of 90.14 ± 0.942 % compared to that of standard Indomethacin which exhibited 93.63 ± 0.910 % at 10 mg/ml concentration respectively. Conclusions: The physical evaluation of ointment indicated that the formulation *Coccinia grandis* IV (C.G. IV) showed better suitability than other formulations and their effectiveness should be explored further in harnessing the potential of the plant for treating skin inflammatory diseases. Clinical Impact: Presently, there is no effective cure for skin inflammatory diseases, but it can be controlled by various treatments namely topical, drugs and biological. However, most of these therapies are of higher cost, causing a number of side effects that includes organ toxicity, carcinogenicity, immuno-suppression and are effective only for short-term.

Keywords: Skin inflammation, *Coccinia grandis*, antioxidant, anti-inflammatory, ointment

ISOLATION AND SCREENING OF PECTINASE PRODUCING BACTERIA FROM TERMITE GUT FOR COIR PITH TREATMENT

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Abstract

Objective: The aim of the present study is isolation, molecular charaterisation of pectinase producing bacteria from termite gut and evaluation of coir pith softening properties.

Method: Totally six bacteria (P1 to P6) were isolated from crushed termite extract. Extracellular production of pectinase and xylanase was confirmed by zone of clearance on plates. The 16S rRNA isolated from bacterial isolate showing maximum pectinase activity was sequenced. Application studies with inoculation of coir pith with identified bacterial isolate and estimating chemical properties such as total carbohydrate, pectin, electrical conductivity and pH of coir leachate in addition to FTIR. Results: Bacterial isolates P3 showed maximum enzymatic activity for both pectinase and xylanase. Phylogenetic tree constructed obtained from BLAST analysis revealed that the isolate belongs to the family Sphingo bacterium thalpophilum. The pectinase activity increased with pH and reached a maximum at pH 5.5. Pectinase activity reached a maximum at 50ºC and pectinase lost its activity completely after 60ºC. 50% decrease in pectin content was observed in inoculated coir leachate compared to control. Electrical conductivity showed decreasing trend on 25th day. Conclusions: Inoculation of bacterial culture started degradation of coir pith. Thus, in organic farming the agro-industrial waste coir pith can be bioconverted into useful compost. Composted coir pith has optimum physical, chemical and biological properties besides rich nutrients which will be definitely bring fruitful yield besides quality of produce.

Keywords: Pectinase, 16S rRNA, coir pith softening, termite gut

BT012

EFFECT OF CULTURE MEDIA ON GROWTH AND DOUBLING TIME OF BACTERIAL SPECIES

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Abstract

Bacterial infections are more complicated for the treatment due to its ability to develop resistance to antimicrobial agents and antibiotics. Antimicrobial agents (Antibiotics and Antimicrobial peptides) have various principal mechanism of action that include interference with cell wall synthesis (e.g. lactams and glycol peptide agents), protein synthesis inhibition (macrolides and tetracycline), interference with nucleic acid synthesis (fluoroquinolone and rifampin), metabolic Pathway inhibition (trimethoprim-sulfamethoxazole), and disruption of bacterial membrane structure (polymyxins and daptomycin). Bacteria will continue to develop resistance to currently available antibacterial drugs by either new mutations or the exchange of genetic information, which is putting old resistance genes into new hosts. Although Methicillin-resistant *S. aureus* is not always pathogenic but historically associated with Hospital Acquired Infections, respiratory infections such as sinusitis, and food poisoning. In the recent years, bacterial strains such as *Escherichia coli* (blood stream infections & urinary tract infections), *Bacillus subtilis* (pneumonia & musculoskeletal infections) have also been identified and well-studied for their ability to counteract antimicrobials. On this note, this review provides a comprehensive understanding on the antimicrobial strategies adopted globally to overcome the threat of drug resistant bacterial strains.

Keywords: Antimicrobial strategies, AMPs, Antibiotics, and Drug resistance mechanisms**.**

EFFECT OF DIARY EFFLUENTS ON SEED GERMINATION AND PLANT GROWTH OF VIGNA RADIATE (L)WILCZEZ UNDER POT EXPERIMENT

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Abstract:

The paper aims to see the effect of the waste water effluents from diary industries as a potential, alternate source for fresh water irrigation. The study was made on Green gram (*Vigna radiate* (L) Wilczez), for its fast growing property. The effluents were taken as both treated and untreated samples in the concentrations of 25, 50, 75, and 100 % with water as a control for each group individually. The samples physio-chemical properties like; pH, colour, odour, Total Dissolved solids (TDS), etc… were studied. Similary, seed germination, shoot length, root length, plant weight were studied. The plants grew exceedingly well in low concentration of treated sample compared to untreated samples of dairy effluent.

KeyWords: Effluent, Green gram, Seed germination, Growth, physio-chemical property

BT014

SIMPLE AND COST-EFFECTIVE METHODS OF WATER PURIFICATION OF RURAL COMMUNITIES

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Abstract:

The main aim of this project is to purify the ground water that has been taken from the village near annur, Coimbatore district of Tamil Nadu. In order to treat this water, we have used several traditional methods to overcome this problem. Various physiochemical properties of drinking water collected from the village are analysed. Traditional, easy and cost-effective methods to purify water are available throughout. This makes water portable and safe one. We have used around 12 materials to treat the ground water. Some of them are coconut shell, coconut coir, lemon peel, wood apple shell, goose berry seeds, sand filter, corn corb and thulsi leaves. These materials, helps to purify the water and also helps to reduce the cost of the project. And these materials are used because, they are easily available and can be used easily. Among these materials, gooseberry seeds and activated charcoal have been used. And these materials gave good results. The water has been also treated through sand filter. Comparative results have been made among the sand filter and gooseberry seeds and also with charcoal. Finally, after treating, analysis have been made effectively. To check the quality of water, has been given to a group of people containing students, staff, teachers, villagers and other people. Rice have been also cooked with the treated water. Detailed results, analysis, working process and the treated methods has been discussed in this project.

Key words: white precipitate, gooseberry seeds, activated charcoal, sand filter.

BT015

INTEGRATIVE COMPUTATIONAL NETWORK ANALYSIS IDENTIFIES KEY GENES AND PATHWAYS IN MAJOR SUBTYPES OFBREAST CANCER CELL LINES

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Abstract:

Breast cancer is a heterogeneous disease. It is one of the most common and important diseases affecting women and rare among men. Current estimates indicate that breast cancer is the cause of one quarter of all cancer deaths in females. Cell lines serve as models for cancer study and have helped the acceleration of study of the biology of cancer and to test hypotheses and to test therapeutic interventions at the cellular level.Several sub-types of cancers are recognized. The molecular portrait of the sub-types are also known. However an extensive system biology analysis, with emphasis on the key hub-genes on the bases of interaction at the protein level is lacking. Knowledge of such hub-genes opens up the possibility of targeted interventions, tailored to the breast cancer-sub-types. For the present study,data from a 56 cell line breast cancer RNAseq expression set was retrieved. The data contained expression data corresponding to 5replicates of Normal-like, 17 Basal, 27 Luminal and 7 Claudin-Low cell-types. The differential expression profile was analyzed which unique signature expression patterns including similarities and differences amongst the sub-types. A protein-protein interaction (PPI) network was constructed using Search Tool for the Retrieval of Interacting Genes (STRING), and sub networks were analyzed by MCODE. The PPI network and sub networks were visualized using Cytoscape. The significant finding of the study was the identification of hub genes (IL6, EGFR, CDH1, IL1B and EGF) with high degree of freedom, predominantly enriched at the same time unique for the subtypes. Gene Ontology analysis and Pathway enrichment analyses for DEGs were also performed using Cytoscape plugin BINGO. Keratinization, extracellular matrix organization and β1 integrin cell surface interactions were the most common pathways found in each cell line comparison. The present study provides an improved understanding of the molecular basis of pathogenesis and molecular characteristics of breast cancer sub-types and may therefore contribute to the development of therapeutic targets for breast cancer.

Keywords: Breast cancer, Bioconductor, Cytoscape, Cell lines, DEGs, RNAseq, PPI.

BT016

$CuO@SiO_2$ NANOPARTICLES ASSISTED CATALYTIC DEGRADATION OF 4-NITROPHENOL

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Abstract

In recent decades, nanopartcles based research has attracted more towards the degradation of toxic pollutants from various industries. The green synthesis of nanoparticles with the small size and have high stability paved the way to improve and protect the environment by decreasing the use of toxic chemicals and eliminating biological risks. In this study, we have investigated on $CuO@SiO_2$nanoparticles preparation, characterization and its catalytic degradation of 4-nitrophenol as a model. The previously well characterized CuO nanoparticles were used to doping on SiO_2 nanoparticles, synthesized from rice husk and was characterized by XRD. The doped nanoparticles were characterized by FTIR spectrum. The reduction of 4-nitrophenol to 4-aminophenol by $NaBH_4$ with synthesized and doped nanoparticles as a catalyst were systematically studied to exhibit the catalytic performance of the nanoparticles. It has been observed that the catalytic efficiency of $CuO@SiO_2$ is higher than the CuO and SiO_2nanopartcles alone. Hence, this study makes a platform for the degradation toxic pollutants.

Key words: CuO NP`s, $SiO_2$ NP`s, $CuO@SiO_2$ NP`s, 4-nitrophenol, Catalytic degradation

BT017

COMPUTATIONAL STUDIES ON THE SPECIFICITY OF BINDING INTERACTIONS OF EXPERIMENTALLY IDENTIFIED RNA APTAMERS WITH AMINOGLYCOSIDIC AND NON-AMINOGLYCOSIDIC ANTIBIOTICS

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Abstract

In silico designing of aptamers is an emerging field as it simulates the Systematic Evolution of Ligands by Exponential Enrichment (SELEX) experimental process of multi-round selection and enrichment of oligonucleotides that are extremely specific for targets. This approach naturally leads to obvious savings to time and money. In this study we report the development of a insilico-only approach to validate and also study the RNA aptamer-antibiotic interactions using aptamers identified by the SELEX process for aminoglycosidic antibiotics [1]–[6]. We have designed the computational approach based on the modification of the methodology proposed by Chusak [7]. This study is however probably the first to report to utilize a insilico-only approach to study RNA aptamer-small molecule interactions. The interaction pattern of RNA aptamers specific for aminoglycosidic antibiotics with the corresponding antibiotic ligands as well as antibiotics belonging to other classes like beta-lactams, Anamycins etc has been studied. Our results show the mechanism of aminoglycosidic antibiotic-RNA aptamer-binding, as well as the surprising yet important finding of a fairly strong and wide-spread cross-binding of other antibiotic classes to the RNA aptamers. This finding assumes importance as it reveals the limitations of the SELEX process, which though helps to identify high binding aptamers, yet does not exclude strong and non-specific binding to other antibiotic classes of ligands as well. Therefore we propose this computational approach to be a useful addition to the post-SELEX process, to validate the binding as well as to identify potential interferences, especially when the aptamers are likely to be used for biosensing applications in environments or samples containing diverse ligands.

Keywords: Aptamers, ligand binding, SELEX, New computational approach; RNA aptamer-binding interactions; aminoglycosidic antibiotics

BT018

IN VITRO THERAPEUTIC CORRELATIVE STUDIES OF PANDANUS ODORATISSIMUS FLOWERS AGAINST DIABETIC FOOT ULCER CAUSING BACTERIAL PATHOGENS

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Abstract:

Diabetic foot ulcer (DFU) is a major secondary complication that arouse subsequently due to careless of patient in poor therapeutic management of chronic diabetes. This may sometimes leads to amputation of foot which create mental stress and societal empathy among diabetic patients. Hence, the aim of the present investigation is formulated to evaluate and correlate the *in vitro* antioxidant efficacy, *in vitro i*nvertase inhibitory activity and *in vitro* antibacterial activity of *Pandanus odoratissimus* flower extracts. The bacterial pattern identification studies carried out with the clinical isolates (pus and blood) of diabetic foot ulcer patients have revealed the presence of *E.coli*, *S. aureus* and *P. aeurginosa* . The methanol (12 ± 2mm) and acetone (16 ± 1mm) crude extracts possessed significant zone of inhibition against *E.coli* and near satisfactory control was observed against *S. aureus* and *P. aeurginosa.* Significant dipicryl ion scavenging activity (DPPH) was recorded by methanolic (90.7 ± 2%) and aqueous extracts (81.4 ± 3%). Similarly a satisfactory cupric ion reducing property was established by the methanolic (ED_{50}: 455.3 ± 8µg/ml) and aqueous extracts (ED_{50}: 452.14 ± 5µg/ml). The effective *in vitro* invertase inhibitory activity (62.5 ± 3%) was recorded by methanolic extract. The studies have proved a strong correlation existing between antioxidant power, invertase inhibition and control against foot ulcer causing bacterial pathogens which promise *Pandanus odoratissimus* flower extracts as a sustainable traditional medicine that possesss an effective control against DFU and thereby, a significant reduction in the mortality rate.

Keywords: Diabetic foot ulcer, *Pandanus odoratissimus*, DPPH, invertase inhibition.

BT019

SYNTHESIS AND CHRATERIZATION OF STARCH BASED BIODEGRADABLE PLASTICS AND EFFECT OF PLASTICIZER IN THEIR PROPERTIES

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Abstract

Plastics play a major role in day to day life and being used all over the world for multipurpose application. But it becomes a major threatened to the environment and the public health. The project work focuses on the synthesis of biodegradable plastics and the effect of plasticizers on the biofilm properties. Synthesis of biodegradable plastic was done using starch compiled with polyvinyl alcohol (PVA) and glycerol. Various compositions of these ingredients were combined and produced to test the feasibility of the prepared biofilm. The Tensile strength analysis, biodegradation rate and capacity of water absorption of the films were carried out to analyze the film properties. Biodegradation study was performed by burying the prepared biofilm under the soil. Composition 3 has high tensile strength of 2.23 MPa and young's modulus of 1.87 MPa. Composition 5 showed the maximum elongation break of 77.90%. Composition 4 showed minimum water absorption capacity with the percentage of 5.88%. Composition 5 and 6 undergoes higher degradation in 15 and 30 days respectively, with the percentage of 56.52% and 60.51%. Further study will be exploring towards biomedical application

Key words: Biodegradation, Bioplastic, glycerol, PVA, starch, Tensile strength.

CE001

IMPROVEMENT OF PROJECT PERFORMANCE BY CONSTRAINT ANALYSIS AND ROOT CAUSE ANALYSIS OF LAST PLANNER SYSTEM

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Abstract

An effective planning is required to overcome cost over-run and time over-run problems in construction which could be achieved with the help of lean concept. The aim of lean is to maximize the value, in other words minimizing the wastes. Last Planner System(LPS) is one such lean concept developed in order to improve the project performance by reducing the inefficiencies faced in construction project. The objective of this paper to present the results obtained from implementing the Last Planner System in the construction of an apartment project. A list of constraints have been found out during constraint analysis and various remedial measures have been suggested for lookahead planning. Based on number of occurrences of constraints, root cause analysis was done to determine the causes for variation in Percentage of Plan Completed(PPC). The effectiveness and reliability of the project was found to be increased about 75% after implementation of Last Planner System(LPS). A list of success factors and barriers for improvement of project performance have also been listed.

Keywords: *Last Planner System, Look ahead planning, Constraint analysis, Root cause analysis, Percentage of plan completed*

CE002

UTILIZATION OF SLUDGE WASTE IN MANUFACTURING OF CONCRETE PAVER BLOCKS

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Abstract

Study deals with reuse of textile mill sludge in making cement based Solid blocks which can be used in practice for bulk usage of sludge. Textile sludge is mixed with cement and later with combination of cement to make paver blocks. Solid blocks are tested for compressive strength. To study the post effects of the sludge reuse, water used for curing (curing water) is also analyzed for different parameters such as pH, EC, Solids, Hardness, chlorides etc by standard methods. Reuse of textile mill sludge as building material will increase bulk usage of sludge in future, thus completely eliminating landfilling disposal option.The carbon dioxide emitted from the worldwide production of ordinary Portland cement corresponds to approximately 7% of the total greenhouse gas emissions into the atmosphere. Hence there is a demand on byproduct which can partially replace cement.

Keywords: Textile sludge, pavers, concrete

CE003

UTILIZATION OF PLASTIC WASTE AND FOUNDRY WASTE IN FLEXIBLE PAVEMENTS

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Abstract

Traditionally aggregates, soil, sand, cement, bitumen etc. are used for pavement construction concerned about this throughout the globe research works are under progress to find alternative materials for pavement construction and obviously the plastic waste from municipal solid waste and foundry sand from industrial waste materials are one such category. Plastic is a toxic & persistent material. It is generally found to be nearly 20% in municipal solid waste which is a major environmental threat. Generation of waste foundry sand as by product of metal casting industries causes environmental problems becauseof its improper disposal. Applications of foundry sand, which is technically, sound, environmentally safe for sustainable development. Use of foundry sand in various engineering applications can solve the problem of disposal of foundry sand and other purposes. There is a need for bulk use of plastic waste from municipal solid waste and foundry sand from foundry industrial wastes in our country. In this project work an attempt will made to test these materials and develop specifications to enhance the use of these wastes in flexible pavement construction from which higher economic returns may be possible. Industrial waste replaced from cumulative weight of aggregate to understand the load carrying capacity of the flexible pavement

Key words: plastic waste, foundry sand, bitumen

CE004

DIGITISATION OF STANDARD PENETRATION TEST

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Abstract

Standard Penetration Test(SPT) is available for determining the Safe Bearing Capacity of soil. This equipment confirms to IS 2131-1981. During the test 65kg hammer is lifted and dropped at an height of 75cm for more than 50 times. Atleast 8 persons are required. It is very difficult to handle the equipment and also balancing the tripod is very difficult.Electric motor is used for lifting and dropping the hammer. The motor is connected to the gear box and engine. It is operated by the microcontroller. The no of blows is recorded in the digital format.In this project it can save the time, manpower, and cost of labors and also the accurate results can received. The tripod of the equipment is made up of Mild steel (Fe250),and other parts are made up of hardened steel(EN 8).In our institution the SPT equipment is available and it is manually operated. It is very difficult for the operation. In slight modification the equipment is modified to fulfill this project

Key words Standard Penetration Test-IS 2131-1981-Electric motor- microcontroller-digital format-clutch actuator

ENHANCEMENT OF SOIL FERTILITY USING VARIOUS EFFECTIVE MICROBES

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Abstract-

Soil nutrients are the major source of soil fertility that helps for the Plant growth. Soil nutrients has become a necessary resource to be enhanced further over the past decades due to the increase in usage of inorganic fertilizers, disposal of waste water from domestic and industrial sector etc. soil resource is now facing threats due to various soil nutrients deficiency. The soil quality is equally important as that of crop production. the soil fertility enhancement were carried out using biofertilizers containing microbial organisms such as azotobacter, azospirillum, congo red yeast. The statistical analyses of the soil quality data are determined. From the statistical analysis, the soil nutrients response to microbial fertilizers is represented graphically. The results were used for predicting the spatial variability. The current soil fertility, the crop production and effects of soil fertility deficiency are analyzed and enhancement of soil fertility using bio fertilizers is discussed.

Keywords: soil nutrients, Macro and micro nutrients, azotobacter, azospirillum, Congo red yeast

CE006
REMOVAL OF HEAVY METALS FROM DYEING INDUSTRY WASTEWATER BY USING ECO-FRIENDLY ABSORBENTS

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Abstract—

Heavy metals are the very toxic materials for environment. The discharges of dyeing industrial effluents into aquatic environment cause a potential threat to the aquatic life as well as human health, which is a matter of great concern due to their toxic nature and adverse effect. The small scale dyeing industries generate a large amount of pollution load which in many cases is discharged into environment without any pre-treatment. Dyeing industries releases a harmful heavy metals which is three to four times higher than standard values and most toxic pollutants due to its carcinogenic and teratogenic nature. Several methods have been adopted for the removal of heavy metals from dyeing industry wastewater. These methods are include chemical reduction, precipitation, ion exchange, electrolysis etc., but these process contain more expensive so the small scale industries will not used those process for removal of heavy metals. Among the treatment process, absorption technique is very low cost method. In this study heavy metals from dying industry wastewater is removed by charcoal from various eco-friendly natural available absorbent materials of orange peels, Cavendish banana peels and lemon are used. The effect of various parameters such as dosage of absorbents for the removal of heavy metals, pH and effect of contact time, are studied. From this study, the removal of lead heavy metal by lemon was found to highly efficient 99.8 % at pH =6, contact time 35 min, absorbent dose 0.8 g/l. Removal of zinc heavy metal by lemon 94.39 % at pH =6, contact time 50 min, absorbent dose 0.6 g/l slightly better than banana 91.69 %, contact time 50 min, absorbent dose 1.6 g/l.

Keywords: Absorbents, Heavy metals, Various Peels

CE007

REPLACEMENT OF M-SAND USING ECO-SAND IN ORDINARY PORTLAND CEMENT CONCRETE

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Abstract –

In India, the conventional concrete is produced using natural sand from river beds as fine aggregate. Decrease in natural resources possesses the social problem and hence government restriction on river sand quarrying resulted in scarcity of sand and increase in its cost. This paper presents the optimization of partial replacement of manufactured sand by eco sand in normal concrete mix. Concrete mixes were evaluated for compressive strength, flexural strength and split tensile strength. The m-sand is partially replaced by eco sand by four proportions (0%, 20%, 40%, 60%). A mix of M30 concrete is selected for the replacement. Fresh concrete test like compaction factor test and slump cone test were undertaken as well as hardened concrete tests like compressive strength, split tensile strength, flexural strength and modulus of elasticity at the age of 7 and 28 days has to be done for M30 grade of concrete.

Key Words – *Finely Graded Silica, Manufactured Sand, Durability, Compressive strength, Modulus of Elasticity*

CE008

STUDY ON STEEL BEAM COLUMN JOINT WITH DIFFERENT TYPES OF CONNECTIONS

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Abstract –

A wide theoretical and experimental study was made on different types (welded and bolted) of beam-to-column connections has been made using Reduced Beam Section (RBS) concept. The beam is reduced on the flange with specified radii on both sides of the section. Totally 6 different models have been analysed ANSYS. Single and Double stiffeners are additionally provided in order to increase the time taken for deformation thereby avoiding sudden collapse in the structure. Total deformation is the main parameter considered in the study. Comparing the results from the ANSYS software and thereby choosing the critical section. Then the critical section is developed into a 3 storey frame for which push over analysis is performed using E-TABS. Performance of the building is observed at different stages of hinge formation and push over curve is plotted.

Index Terms – Reduced Beam Section, Stiffener, Bolted Connection, Welded Connection, Notch.

CE009

High Performance Concrete (HPC) – An Innovative Cement Concrete Mix Design to Increase the Life Span of Structures

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Abstract –

This research work proposes the innovative cement concrete mix design as per the BIS code specifications. The mix proportion was arrived based on the various trial mixes by changing the dosage of mineral and chemical admixtures. Workability of concrete was achieved by changing the dosage of super plasticizers. The fresh and hardened properties of HPC are studied with the help of various tests such as workability test, compressive strength, split tensile strength test, flexural strength test and modulus of elasticity are carried out in the laboratory. In addition to the mix design and strength properties the durability of HPC also studied with the help of water absorption test, water permeability test, Rapid Chloride Penetration Test are conducted in the laboratory. The test results was discussed and based on the test the optimum mix proportions are highlighted in the conclusion.

Key Words – High Performance Concrete, Silica fume, Metakaolin, Super plasticizer, Durability

CE010

SUBSTRATE REMOVAL KINETICS FOR ANAEROBIC HYBRID REACTOR (AHR) TREATING DAIRY INDUSTRIAL WASTEWATER

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Abstract

Anaerobic Hybrid Reactor (AHR) is one of the most commonly used high rate reactors for treating the domestic and industrial wastewater which offers the advantages of Up flow Anaerobic Sludge Blanket Reactor (UASBR) and Up flow Anaerobic Filter Reactor (UAFR) in a single reactor. In the present study determination of kinetic constants of the AHR was aimed by conducting experimental studies on a laboratory scale Anaerobic Hybrid Reactor(AHR) using different shapes of Poly Propylene Inter Media in the AHR and the dairy industrial wastewater as substrate. As the result of the calculations, Grau second-order model and Stover Kincannon model were found to be the most appropriate models for the Anaerobic Hybrid Reactors (AHRs).

KEY WORDS: - Anaerobic Hybrid Reactor (AHR), Kinetic Constants, Inert Media, Dairy Wastewater, Organic Loading Rate (OLR), Substrate

STATISTICAL ANALYSIS OF GROUND WATER QUALITY PARAMETERS IN ERODE DISTRICT, TAMINADU, INDIA

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ABSTRACT

Water can be used for domestic, agricultural and industrial activities based on the chemical composition of water. The major source of drinking water is ground water. Groundwater is water that exists in the pore spaces and fractures in rocks and sediments beneath the Earth's surface. The main aim of this study is to assess the ground water quality in the Erode district, Tamil Nadu, India. A total of 26 samples were collected from the different regions of district. It deals with the study of physical-chemical parameters, Multivariate statistical methods for analyzing the ground water quality in the Erode district. The Multivariate statistical methods involve correlation analysis and factor analysis. Interpretation of analytical data showed that about 63.273% of total variance in ground water quality during pre-monsoon season and about 73.624% of total variance in ground water quality during post-monsoon season

Keywords*: Groundwater, physical-chemical parameters, Multivariate statistical methods, correlation analysis, factor analysis and cluster analysis*

CE012

SEISMIC RETROFITTING OF BEAM-COLUMN JOINTS IN RCC BUILDINGS USING JACKETING TECHNIQUES ALONG WITH CROSS BARS

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Abstract:

An analytical study on seismic retrofitting of a reinforced concrete Beam-column joint. The beam column joint is the critical zone in reinforced concrete structures. The main objective of this study is to increase the shear capacity and load carrying capacity of the structures using retrofitting techniques. In this study, the retrofitting was done by jacketing methods like carbon fibre reinforced polymer sheets (CFRP), Glass fibre reinforced polymer mesh, Sisal fibres along with crossed bars are carried out using the ANSYS Workbench. The wrapping of beam column joint was done by single, double, triple layer of CFRP, GFRP and Sisal fibres with different thickness. During the analysis one end of the column were fixed. Cyclic loading was applied at the mid of the cantilever beam in Beam-column joint and Fixed load was applied at the top of the column. The load is applied up to the ultimate load to obtain the fatigue failure. This report discusses about the performance of the retrofitted beam column joint; and was compared with the conventional specimen.

Keywords- Beam-column joint, CFRP, GFRP, Sisal fibres, Jacketing techniques.

STUDY THE RESPONSE OF DIAGRID STRUCTURAL SYSTEM FOR TALL BUILDINGS - REVIEW PAPER

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Abstract-

Structural design of tall buildings are governed by lateral loads due to wind or earthquake. Nowadays diagrid structural system is adopted in tall buildings due to its structural efficiency and flexibility in architectural planning. Compared to closely spaced vertical columns in framed tube, diagrid structure consists of inclined columns on the exterior surface of building. Because of inclined columns lateral loads are resisted by axial action of the diagonal members. Diagrid structures generally do not require core because lateral shear can be carried out by the diagonals on the periphery of buildings. An analytical study is conducted to find out the performance of diagrid Steel structure, compared with the conventional framed steel structures, a 30- storey building with floor plan 36.6 X 36.6 m is considered, for modelling and analysis of buildings using ETABS.

KEYWORDS: Diagrid, Structural Efficiency, Inclined Columns, ETABS.

CE014

STUDY ON SEISMIC RESPONSE OF A MULTISTOREY STEEL FRAME WITH VISCOUS FLUID DAMPERS – LOWER TOGGLE CONFIGURATION

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Abstract—

A 20-Storey benchmark steel moment resisting frame [1] (Y. Ohtori et al., 2004) is taken for the study of seismic response reduction by providing viscous fluid dampers for lower toggle mechanisms. The model time history analysis of the frame subjected to four types of earthquake loads with lower toggle dampers is carried out using the SAP2000 version 14 software. The four time histories considered for analysis are N-S component of El Centro, N-S component of Kobe, N-S component of Northridge and S-E component of S_Monica. The benchmark building is assumed to be located in a region where the peak ground acceleration (PGAs) corresponding to DBE is 0.35g. The analysis is first made for bare frame structure and then dampers are placed in six different configurations to find their efficient placing which perform better under earthquake forces. The responses of absolute acceleration (a), displacements (d), inter-storey drifts (dr) for all six models are presented in this paper. The responses (a, d, dr, dd and df) of LT_M_1 model for EC, KO, NR and SM, time history earthquakes are given in Table A29 to Table A32 respectively. For six different types of lower toggle mechanism damper configuration linear time history analysis are done and 20% of damping are used for present study based upon base shear graphs. The effective placement of damper in the bare frame is found by comparing the peak average response reduction values of six different models of lower toggle dampers. The damper placements in LT_M_4 model are found to be more efficient and cost effective compared to other types of damper placement and distribution. The peak average response reduction values for the LT_M_4 model for absolute acceleration, displacements and drifts are found to be 69.0, 59.1 and 68.6 respectively.

Keywords— Time history analysis, inter-storey drifts, lower toggle, viscous fluid dampers

BASIC DESIGN ASPECTS TO ATTENUATE BLAST LOAD - AN OVERVIEW

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Abstract—
In recent years there is an exponential increase in the terrorist attacks on the commercial buildings of national importance. These buildings as they are designed to sustain only gravity loads become vulnerable when they are subjected to high intensity blast load. Unlike for military structures, Structural hardening should be the last resort in protecting a structure. Detection and prevention must remain the first line of defense. This paper sheds light on the overview of primary line of defense and the role of the material, orientation of the building, to effectively reduce the impact of blast load on the building.

Keywords— Ductile behavior, progressive collapse, pressure time-history, strain rate, peak reflected pressure

CE016
STRENGTH AND LIGHT TRANSMITTANCEOF PLASTIC FIBER CONCRETE

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Abstract
The present consumption of electricity at a high rate for illumination purposes calls for new and innovative methods to use the natural source of lighting ie.sunlight. This study aims the use of plastic fiber in concrete inorder to transmit sunlight into buildings. The properties of the cement, aggregate and plastic fiber were analyzed. The cube specimen prepared was tested for light transmittance property and compressive strength. Loss of signal strength was found to be 0.2V when attenuation experiment was carried out. The intensity of light coming from the concrete cube was found to be sufficient for viewing purpose. The cube specimens also gave sufficient strength results which makes it suitable for its use in purposes.

Keywords- Plastic Fiber, Attenuation, Light Intensity, Compressive strength

CE017
EXPERIMENTAL AND ANALYTICAL INVESTIGATION ON FLEXURAL BEHAVIOUR OF FIBRE REINFORCED HIGH STRENGTH CONCRETE BEAMS

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Abstract

The research work is to study the influence of steel fibre and polypropylene fibre in achieving High Strength Fibre Reinforced Concrete (HSFRC). High strength concrete requires high amount of cement compared to the nominal grade. Various research works have been carried out in past to identify supplementary cementitious material. This study investigates the performance of various mixtures with and without addition of fibres. The cement is replaced with 10% GGBS and 10% silica fume with 1.5% of fibre content. River sand is replaced by manufactured sand (M-sand). The employment of manufactured sand in concrete is gaining momentum recently. Conplast SP430 of 1.5% by weight of cement is used in order to improve the workability. Specimens are casted for M60 grade as per mix design. The curing process is done under normal water conditions and testing is done as per Indian standards. Three reinforced concrete rectangular simply supported beam specimens are tested under two point loading condition to investigate the flexural behavior. The test results showed that the flexural strength increases significantly as the fibre used in combination. Tests were done by the two point loading and deflection were compare with the analytical value. The analytical models were developed using ANSYS software to investigate the flexural behaviour and the analytical results were validate with that of the experimental results.

Keywords: High Strength Fibre Reinforced Concrete (HSFRC), Ground Granulated Blast Furnace Slag (GGBS), Silica Fume (SF), Polypropylene fibre, Steel fibre and M-sand.

CE018
REPLACEMENT OF STEEL SLAG AND ECOSAND AS AGGREGATE IN CONCRETE

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ABSTRACT :

There is an increasing requirement for the production of concrete globally, due to rapid infrastructure development, leading to shortage in the availability of raw materials, which in turn increase its costs. At the same time, many waste materials are also produced as by-products from various industries and construction sites, the disposal of which cause a major problem. Thus it becomes necessary to find an alternate source of raw material for infrastructure development and a proper method of utilization of waste materials from industries and demolished buildings. Natural aggregates are becoming increasingly scarce and their production and shipping is more difficult. Steel slag is an industrial by product obtained from the steel manufacturing industry and ecosand is a commercial by-product of cement manufacturing process introduced by ACC cements Ltd.. Replacing all or some portion of natural aggragate with steel slag and ecosand would lead to considerable environmental benefits. Hence in this study an attempt has been made to use steel slag as coarse aggregate replacement and ecosand as fine aggregate replacement. Optimum replacement level of steel slag as coarse aggregate and ecosand as fine aggregate was found by conducting compressive strength tests on concrete cubes for M30 grade. With the obtained optimum replacement level of ecosand, specimens were cast for various replacement levels of steel slag up to 100% to find the best combination based on 7 and 28 days compressive strength. For the mix with best combination (30% ecosand and 60% steel slag), specimens were cast to conduct the flexural strength test, split tensile strength test, water absorption test at 28 days. It was concluded that steel slag and ecosand may be used as replacements for natural aggregate in concrete and its enhances the strength.

Index Terms— (Concrete, Replacement, coarse aggregate, fine aggregate, steel slag, ecosand

CE019

CONCRETING FOR CONSTRUCTION- QUALITY CONTROL BY SIX SIGMA APPROACH

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Abstract-

A quality intensive approach towards construction concreting for the commercial industry is gaining immense importance and it has become the prime duty of every engineer to contribute towards ensuring durability and serviceability of the offered concrete. In this paper, a discussion is presented on a possible way of assuring quality of concrete by implementing six sigma principle to reduce the variability in characteristics among various batches. The methodology of DMAIC (Define-Measure-Analyse-Improve-Control) is applied to the concreting process, considering the Compressive Strength as the Critical to Quality (CTQ) factor. The concrete samples obtained from an RMC were tested for compressive strength at 3, 7 and 28 days, tabulated and analysed for variations. Also, different types of cements used are considered. Sigma levels are identified and suggestions for improving the levels are recommended, which in turn tend to reduce variations and thus streamline the strength values within narrow limits. Control charts as guidelines for further concreting are established.

Keywords: CTQ, DMAIC, DPMO, Sigma Level

CE020

RISK MITIGATION OF CONSTRUCTION PROJECTS IN HILLY AREAS

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Abstract

In Construction industry, there is no risk free project. There are various types of risk associated in a hilly construction project. Risk is identified and then risk assessment and analysis is done. Then risk management and risk mitigation process is carried out in order to reduce risk. Various types of risk associated with hilly construction projects are identified from case study, papers and field study. The identified risk factors are grouped under 9 categories. Risk factor is characterized by its occurrence and impact. The occurrence and impact score for different types of risk are collected from site and online survey from experts and weighted average mean interval score is calculated. From the score value obtained, the risk priority is given using risk heat map. Then find feasible strategy to mitigate the risk in hilly areas.

Keywords: Risk management, risk factors, risk assessment, risk factors, risk priority, feasible strategy

CE021

ANALYSIS OF RCC BUILDING WITH SHEAR WALLS AT VARIOUS LOCATIONS AND IN DIFFERENT SEISMIC ZONES

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Abstract

Shear walls are the structural systems which counteracts the effect of lateral loads such as wind and earthquake loads acting on a structure. They are usually provided as an encasement for the elevator cores, stairwells etc., thereby resisting the horizontal and vertical forces effectively. In the present study, analysis of RCC building has been carried out by changing the locations of shear walls in the building. Also, the effect of variations in seismic zones as per IS codes has been presented. The seismic analysis performed is linear dynamic response spectrum analysis using the well-known analysis and design software ETABS16.2.0. Seismic performance of the building has been investigated based on parameters such as story drift, base shear and story displacements.

Keywords: ETABS, Asymmetric building, Shear walls, Response spectrum, seismic zones

CE022

USE OF KADAPPA WASTE AS A RESOURCE MATERIAL FOR BUILDING CONSTRUCTION

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Abstract

In general burnt clay brick is an age old building material used for housing which is manufactured from good clay obtained from agricultural land. Excess use of agricultural land results in loss of good fertile soil and diversion of agricultural land. Burning of bricks using coal produces green-house gases leading to environmental pollution. Fly ash bricks are an alternative for the conventional bricks. Various properties of fly ash bricks were studied by different researchers and they found that these bricks can be used for construction of low cost houses. In addition to the innovation of fly ash bricks, an attempt has been made to utilize the kadappa stone waste as an ingredient in fly ash bricks for construction works. This study focuses on the effect on utilization of kadappa waste as an ingredient for manufacturing a building material. Experimental work is carried out on kadappa fly-ash bricks comprised of different proportions of kadappa stone waste, fly-ash and lime and the comparative study is made to fine the optimum mix proportion.

Keywords: Kadappa waste; Fly Ash; Lime; Kadappa Fly - ash bricks.

STRUCTURAL EQUATION MODEL TO ANALYZEFACTORS CAUSING COST OVERRUNS IN INDIAN CONSTRUCTION PROJECTS – A PARTIAL LEAST SQUARES APPROACH

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Abstract
Cost overruns are a very important problem in many Indian construction projects. Many construction projects in India are subjected to cost overrun. This research work is carried out on studying significant factors affecting cost performance and investigating causal relationships among these key factors in Indian construction projects using partial least squares structural equation modeling approach. Questionnaire for the survey was developed based on cost overruns factors identified from literature work and distributed to owners, consultants and contractors of Indian construction industry. A conceptual model for assessing contributing factors and cost overruns was developed and analyzed using SMART PLS software of structural equation model. Partial least square structural equation model combines factorial analysis with path analysis. Factorial analysis leads to the measurement model, and path analysis to the structural model. The result suggest that model had good reliability and validity, and providing a new perspective for further research on developing path model on causative factors of Time overrun.
Keywords: Cost overrun factors, Structural equation modeling,PLS-SEM, India.

CE024

PERFORMANCE ASSESSMENT AND COST EFFECTIVENESS IN REPLACEMENT OF AGGREGATES WITH CONSTRUCTION AND DEMOLITION WASTE IN CONCRETE

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Abstract
The demand for Fine Aggregate and Coarse Aggregate is huge owing to infrastructure developments and also a scarcity of natural resources. On the other spectrum, the quantum of a huge quantity of Construction & Demolition Waste (C & D Waste) generated is increasing every year. Disposing of this C & D waste is a posing a very serious problem as it requires a large amount of space, it affects groundwater and also it is not cost effective in case of dumping (Land Filling). So recycling of such waste by means of Segregation Process and utilizing those materials as Recycled Aggregate (RA) for construction projects is a sustainable alternative that helps in the reduction of overutilization of natural resources. This paper is an experimental investigation by means of Compaction Factor, Compressive Strength, Water Absorption and Workability of Recycled Aggregate Concrete (RAC) and also analyzing the cost to evaluate the effect of replacement of Fine Aggregate and Coarse Aggregate by C & D Waste. The research has been conducted for M25 mix. The optimum mix 20% of Recycled Fine Aggregate (RFA) and 30% of Recycled Coarse Aggregate (RCA) was chosen as the optimum mix among the 4 different mixes depending on its promising results. As a result of cost analysis, the optimum mix is cost-effective when compared with Natural Aggregate Concrete (NAC).
Keywords: Recycled Fine Aggregate (RFA), Recycled Coarse Aggregate (RCA), Natural Aggregate Concrete (NAC), Recycled Aggregate Concrete (RAC), Cost Analysis.

BEHAVIOUR OF THE STEEL SLAG BLENDED CONCRETE BY DETERMINATION OF ITS ELASTIC PROPERTIES

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Abstract

The behavior of the steel slag blended concrete is experimented, by partially replacing Coarse aggregate by steel slagto study the mechanical properties by experimenting the cylinder compressive strength (CCSHH), the modulus of elasticity (MEY) and modulus of rupture (MRE). The steel slag is used as a supplementary material in the concrete. The partial replacement for the coarse aggregate replacement was done up to 8% and partial replacement of fine aggregate with steel slag was done up to 30% and the test procedure for determining the mechanical properties of concrete was confined to ASTM STP 169D, ACI :318 and IS 516 - 1959 codal regulations. The Comparison was done with the conventional concrete and the steel slag replaced concrete in terms of strength and economy for replacement mixes. Further modeling of the relationships between the mechanical properties of CCSHH, MEY and MRE of the replacement mixes was done and validated with NZS: 3101- New Zealand Standard code 3101, AS: 3600-Australian Standard code 3600) and ACI: 318-American Concrete Institute code 318)

CE026

AN EXPERIMENTAL AND COMPARATIVE STUDY ON CANAL LINING EXPLOITATION GEOSYNTHETIC MATERIAL, CEMENT MORTAR AND MATERIAL LINING

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Abstract

This project is principally supported water insufficiency, a serious cause for individuals for all functions chiefly for irrigation. to beat this and to boost the potency of water flow and discharge in canals, the lining ways for canals ought to be modified as less permeable , increase in velocity and discharge.Canal lining is that the method of reducing flow loss of irrigation water by adding an imperviable layer. Technological development and producing of recent materials helps in varied functions. One such issue was the event of geosynthetic materials that was wide employed in construction fields in conjunction with concrete or as a separate material because the replacement for concrete. we have a tendency to selected PVC geosynthetic material for lining the canal rather than concrete, brick masonry and traditional material lining for canals. we have a tendency to created a comparative study for 3 canal linings like PVC, brick masonry and material lining close to Pollachi of alittle paradigm model in Mr. Sekar farm and notice the foremost economical material appropriate for canal lining altogether forms

Keywords: canal analysis's, Effective discharge, most economical-comparative study.

COMPARATIVE STUDY ON COMPRESSIVE STRENGTH OF ORDINARY CONCRETE AND CONCRETE REPLACED WITH CERAMIC TILES AND ECO SAND

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Abstract-

Concrete is an essential component in determining the growth of country's infrastructure. It is a composite material comprising fine aggregate, coarse aggregate and cement. Since river sand is in demand, finding a replacement for it is necessary. M sand and Eco sand are found to be a worthy replacement. M sand is produced by crushing hard granite stones and Eco sand is the by-product obtained from cement manufacturing industries. During tile manufacturing process, about 30% of the material are transformed into waste. This waste can be reused by replacing a certain quantity of coarse aggregate in concrete. In this paper, the compressive strength test results of conventional concrete and concrete replaced with M sand, Eco sand and ceramic tiles were compared. It has been identified that the latter is more efficient and leads to sustainable development. In brief, the concrete of M20 grade with replacement is found to attain the strength of M30 grade of concrete.

Keywords: ceramic tiles, M sand, Eco sand, compressive strength

CE028

PROPERTIES OF CONCRETE WITH PARTIAL REPLACEMENT OF ITS INGREDIENTS - A REVIEW

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Abstract—

In the current scenario, concrete has become an inevitable material. Concrete is a family of various materials such as cement, water, coarse aggregate and fine aggregate. At present, the construction cost is rapidly increasing due to the decrease in naturally available materials. The demand for each of the concrete ingredients are increasing day by day with each ingredients having certain limitations and effects on the environment. Statistics shows that production of 1 ton of cement emits 0.9 ton of CO2. Also there is no surplus availability of sources for coarse aggregate and fine aggregate. Due to the scarcity of materials, an obligation arises to partially replace the concrete ingredients with materials such as marble powder, recycled glass, fly ash, silica fume, rice husk ash, sugarcane bagasse ash, rubber, natural and artificial fibers, red mud and various other materials. The prime objective of this paper is to reveal the different kinds of materials used as an alternative in the concrete and the behavior it exhibits due to the replacements. In addition to this, the most effective replacement to obtain the properties of concrete is studied.

Keywords— effective replacement, properties, marble powder, recycled glass, fly ash, silica fume, rice husk ash, sugarcane bagasse ash, rubber, natural and artificial fibers, red mud

FLEXURAL BEHAVIOUR OF RC BEAMS WITH RECYCLED AGGREGATES

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Abstract
The continuous raw material demand was increased in concrete productions which requires good quality and cost efficient alternative materials like Recycled Coarse Aggregate, Manufacturing Sand and Glass Aggregate replacement. This paper reports the behavior of concrete using Glass aggregate as Fine Aggregate and Recycled aggregate as Coarse Aggregate replacement in concrete up to 15% and 30% respectively. In this project work, the concrete grade M25 was selected and IS method was used for mix design. The properties of Cement, Fine Aggregate (M-Sand), Coarse Aggregate, Glass Aggregate and Recycled Aggregate were investigated. The Beam Specimens were casted with and without C&D waste (Coarse Aggregate Replaced with Recycled Aggregate at 30% and Fine Aggregates replaced with Glass Aggregate at 15%). Vibration Analysis were made by using FFT analyser to determine acceleration characteristics. The work is focused on possible conservation of natural resources by substituting with waste material by suggesting a possible reuse option for C&D waste.
Keywords: Construction and Demolition Waste (C&D Waste), Recycled Aggregate, Glass Powder, and Vibration Analysis.

CE030
EXPERIMENTAL ANALYSIS OF PARTIAL REPLACEMENT OF CEMENT AND FINE AGGREGATE BY ECO FRIENDLY MATERIAL

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Abstract
The objective of this paper is to study the feasibility of calcined bamboo leaf ash as a partial substitute to cement and its effect on compressive strength, pozzolanic activity, sorptivity and porosity characteristics in hardened concrete. Cement was replaced with BLA with a percentage of 10% to 30% with a uniform increment of 5%. Fallen dry bamboo leaves burnt in open atmosphere were heated in a muffle furnace for 4 hours at 500°C to induce pozzolanic activity. The grade of concrete was taken in such a way that it will give a characteristic compressive strength of 20 MPa. In this study, compressive quality test was directed to know the quality of cement with three unique temperatures. Banana trunk is cut layer by layer and bum in heater. Banana leaves ash and Bamboo Leaf ash is replaced by cement in concrete upto 30% at an interval of 10% and then properties of concrete like compressive is checked after 7, 14 and 28 days curing.. The purpose for taking up this investigation owing to the fact that now a day's natural sand confirming to Indian Standards is becoming scarcer and costlier due to its non-availability in time because of Law of Land, illegal dredging by sand mafia, accessibility to the river source during rainy season, non-confirming with IS 383-1970. Hence the present investigation was taken up with a view to verify the suitability, feasibility and potential use of crusher dust, an attempt is made to replace the natural sand in concrete control mixes of M25 M30 grades designed for 100 to 120mm and slump at replacement levels of 30%, 40%, 50% and 60% using Portland Pozzolana Cement.

Key Words: Bamboo leaf ash, Banana leaf ash, Quarry dust, Replacement of cement, fine aggregate, compressive strength, spilt tensile and flexural strength.

SEISMIC ANALYSIS OF VERTICAL IRREGULARITY RCC BUILDING BY EXTENDED N2 METHOD

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Abstract

N2 method is a simplified nonlinear static analysis procedure used for the seismic evaluation and design of structures. The improvement of this procedure is known as extended N2 method and it is made possible to seismic evaluation of irregular structures. Asymmetric setback is a common form of vertical irregularity found in multi-storied building frames. The present study is made for the G+5 Reinforced Cement Concrete vertical setbacks irregularity building in the seismic zone IV. Analysis of the structure was done by extended N2 method.The seismic demand in terms of displacements and storey drifts was obtained for the G+5 storey building by the extended N2 method. The same structure is analysed by the Non-linear Time History Analysis. The results obtained from extended N2 method was compared with the Non-linear Time History Analysis. A model and the analysis of the structure is made by using SAP2000.

CE032

ANALYTICAL STUDY ON BEHAVIOR OF CONCRETE ENCASED STEEL CASTELLATED BEAM

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Abstract

This paper study about the analytical behavior of Concrete beam encased with Steel castellated beam as composite member with various web opening section of the castellated beam as optimization of section by its maximum Load carrying capacity and deflection. The modelling and Finite Element Analysis was done using Ansys Workbench 16.2. The Concrete beam having section size of 150mm x 170 mm x 1500mm encased with Structural Steel ISMB100 of span 1400mm is used for castellated beam for various shape of web opening are provided. The parametric study has shown the Deflection and Load carrying capacity of the various cross sectional beams with Hexagonal opening (inscribed in the circle 25mm radius) which has high load carrying capacity and the less deflection while compared to the other sections of circular web opening (25mm radius), hexagonal wide web opening (25mm with 1:1:1 web ratio), and rectangular web opening of (25mm x 50mm). Alternate incremental loading is applied by using Ansys workbench 16.2 and results and graphs are plotted.

Keywords: Composite Beam, Castellated Beam, finite element analysis, web opening, circular web opening, hexagonal web opening, rectangular web opening, hexagonal wide web opening

COMPARATIVE STUDY ON BEHAVIOUR OF COLD-FORMED PURLIN SECTION

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Abstract
Cold Formed Steel has been widely used presently in construction industry. The property of the cold-formed steel makes it economic and feasible. In this project work, Cold- Formed Channel Section with lip (50mm x 50mm x 15mm x 2mm) , Channel Section without lip (50mm x 50mm x2mm) , Z Section with lip (80mm x 40mm x 20mm x 1.6mm), and Z Section without lip (80mm x 40mm x 1.6mm) respectively each of length 1m is modeled and analyzed. Non-linear Finite Element Modeling is performed for the above mentioned cold-formed steel sections under static loading condition using ANSYS 16.2. The parameter study about the comparison of Load carrying capacity and Deflection for the various Cold Formed Section.

Keywords: Cold Formed Section, Finite element analysis, Channel Section with Lip, Channel Section without Lip, Z section with Lip, ZSection without Lip, Load carrying capacity.

CE034

STUDY ON COMPOSITE LIGHT GAUGE FRAMES SUBJECTED TO LATERAL LOAD

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Abstract
Cold form steel (CFS) sections are used in beams, columns and truss members of buildings. Generally hollow section fails due to torsional buckling, local buckling and distortional bucking. In order to avoid this failure CFS sections are in- filled. Frames are constructed using cold form steel. Cold form steel sections are filled with light weight concrete to resist the failures. Using this frame, experimental results of deflection and strength characteristics are obtained for the hollow cold form steel frame in-filled with concrete subjected to lateral load. It is compared with hollow cold formed steel without in filling of concrete (bare frame). These frames tested by applying lateral load by a hydraulic jack of 500KN capacity and loads are measured using load cell and deflections are measured by dial gauges . A non –linear finite element modeling is done to analyze cold form steel in-filled frame section under static loading using ANSYS16.2 WORKBENCH. Deflection characteristics stresses and strains are analyzed for the hollow section with and without in-filled concrete.

Keywords – Light gauge frame, Composite frame, Foamed concrete, Lightweight concrete.

COMPARATIVE STUDY OF NATURAL AND ARTIFICIAL COAGULANTS FOR TREATING INSTITUTIONAL WASTE WATER

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Abstract
This project reveals about the treatment system for purification and reuse of waste water generated from an institution (kitchen and domestic waste). The characteristics of waste water were analysed; it is found that the turbidity value was quite high. In order to reduce the turbidity of wastewater, the experiments were conducted by varying the natural and artificial coagulants. The main objective of the study is to compare the removal efficiency of suspended solids by using various natural and artificial coagulants and to find out the optimum dosage of those coagulants. Alum is a universal coagulant which particularly reduces the turbidity and increases the chlorides and hardness. The natural coagulants used are orange peel, banana peel and neem seed powder for the treatment of sample water. Jar test experiments were carried out with the coagulant dosages of 0.5g/l, 1 g/l , 1.5g/l, 2 g/l, 2.5 g/l and 3 g/l for run time of 1,2,3 and 4 hours. The values of hardness, chloride and pH were found to be within the permissible limits of drinking water (CPHEEO 2012). Thus it is found that the efficiency of orange peel was found to be 96.9% when the dosage of coagulant was 1.5g in 3 hr run period. Orange peel is capable of reducing the suspended solids by formation of floc particles in the sufficient run time compared to the other coagulants.

Keywords: Alum, Natural Coagulants, Suspended Solid, Floc

CE036

EFFICIENCY OF POLYETHENE NON-WOVEN FIBRE FILTER FOR TREATING INSTITUTIONAL WASTE WATER BY MEMBRANE BIO REACTOR PROCESS

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Abstract
Treatment of waste water involves a variety of Advanced Oxidation Process. The most advanced one is Membrane Bio Reactor (MBR). The unique features of MBR are higher order MLSS in the range of 12,000 mg/l and reduces the sludge production. This process is efficient in removing Total Solids in waste water. Due to the fact that the membrane being too costly, an alternative approach was taken which featured **Polyethylene Non-woven Fibre Filter** that gave promising results. The study involves the treatment of Institutional waste water by a laboratory membrane reactor. A small scale reactor is formed by scaling with the treatment plant of capacity 3MLD in the ratio 1:4000. The process involves combination of activated sludge process and membrane filtration. The waste water is pumped to the aeration tank by peristaltic pump from the collection tank. The water is filled in the tank by leaving the freeboard space. The air is supplied by reverse process of peristaltic pump for 2.5 hrs (HRT). After the aeration process, the water is passed over the membrane for filtration. The organic impurities which are present in the membrane after treatment are returned to the aeration tank for the next process (3hrs HRT).The process is continued till the maximum efficiency is attained by varying the run time. The BOD and Turbidity is tested for the treated water at various runtime The Hydraulic Retention Time (HRT) is varied in the range 2.5 hrs, 3 hrs, 3.5 hrs, 4 hrs, 4.5 hrs, 5 hrs, 5.5 hrs, 6 hrs. The maximum BOD removal efficiency obtained was 98% and turbidity removal efficiency was 97% in the 6 hrs HRT. In comparison with the conventional activated sludge process and Sequential Batch Reactor, the MBR system presents many advantages, such as higher MLSS rate which reduces the size of the basin, elimination of sedimentation unit, removal of Total Dissolved Solids, less sludge production. Various studies of MBR technology has compared with conventional activated Sludge process in terms of removal of pollutants from waste water. The drawback of MBR process is high installation and operation cost. Thus an alternative approach of replacing the membrane by Polyethylene non woven fibre membrane is used which gave the promising results.

Keywords: Membrane Bio Reactor, Polyethylene Non-woven Fibre Filter, HRT

ANALYTICAL STUDY OF PUNCHING SHEAR IN FLAT SLAB

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Abstract
Buildings with flat slab are gaining importance in architectural point of view and they have many advantages like reduced building height, less construction time, easy removal of formwork, large clear ceiling height, easy installation of reinforcement. Modern trends towards high rise buildings increases recently due to the increase in the number of tall buildings, both residential and commercial use. In every part of the world flat slab construction are widely incorporated in reinforced concrete structures. Without beams, floor slab system directly supports columns. In general while designing a flat slab the major problem caused is due to punching shear failure. This study investigated the performance of different types of drop pattern in a Multi-storied building along with cut-outs near to the drops on the slab to analyse the punching shear in all different types of models using E-TABS software.
Keywords: Flat slab , Punching shear , shear reinforcement near cut-outs.

CE038
EXPERIMENTAL STUDIES ON DURABILITY ASPECTS OF HIGH STRENGTH CONCRETE USING FLYASH AND ALCCOFINE

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Abstract
The experimental work is to study the influence of FLY ASH and ALCCOFINE 1203 in achieving High Strength Concrete (HSC). This study analyses the performance of various combinations of concrete in which cement is partially replaced with 30% fly ash with different proportions of alccofine of grade 1203, micro fine silica includes 0%, 4%, 8%, 12% respectively. Super plasticizer Conplast SP430 of 1.5% for every specimen is added in order to improve the workability of the mix. Specimens are casted for M 60 grade as per mix design using manufactured sand (M sand) as fine aggregate. Durability tests conducted includes rapid chloride penetration test, water absorption test, carbonation test and water permeability test. Scanning electron microscopic analysis was carried out to determine the development of micro structural configuration of the concrete.
Keywords: High strength concrete, rapid chloride penetration test, water absorption test, carbonation test, water permeability test, and scanning electron microscopy

EFFECT OF SOIL STRUCTURE INTERACTION ON DYNAMIC BEHAVIOUR OF BUILDINGS

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Abstract

Soil Structure Interaction (SSI) is the response of soil which influences the motion of the structure or the motion of the structure which alters the response of soilduring earthquake. Soil structure interaction is prominent for heavy structures, especially for high rise buildings located on soft soil. Incorporation of soil structure interaction effect will reduce the base shear and flexibility of soil. Because of this the stiffness of the building is getting reduced resulting, increase in the natural period of the structure during earthquake. This study analyses the performance of the multi-storied buildings of ten (G+10) and twenty storey (G+20) with ground floor, located under fixed support and over raft foundation of varying depth 0.8 m, 1 m, and 1.2 m respectively. Area springs are included in the local 'z' axis to make the foundation flexible there by creating the effect of soil structure interaction. Response spectrum analysis is done using the software E-TABS. The response of the building is analyzed in terms of fundamental natural period, lateral displacement, storey drift, lateral deflection and seismic base shear. This study shows that, the SSI will have an influence on dynamic behavior of the building needs to be considered in the design of earthquake resistant buildings..

Keywords: Soil structure interaction, flexibility, Area springs, raft foundation, lateral displacement, storey drift, lateral deflection, seismic base shear

CE040

EFFECTIVE USAGE OF WASTE GLASS IN CONCRETE

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Abstract

The total annual domestic glass product usage is approximately 4.2million tons, among which sheet glass for windows occupies about 36%, fiber glass products 6% and disposable glassware and other glass materials are about 58%. The increasing trend of waste glass generation due to urbanization during the past 2 decades has raised a social and environmental concern for recycling these glasses. The main objective of this study is to identify whether the waste glass generated could be reused in concrete for construction industry. This study details about the use of crushed glass for partial replacement of fine aggregates in concrete and determining the strength of concrete. The percentages of replacement that are considered for the study are 10%, 20%, 30%, 40% and 50% by weight of the aggregate. The compressive strength values of glass concrete or glasscrete and control specimen are determined and compared after 7 and 28 days of curing. The test shows variations in compressive strength values and an optimum percentage of replacement of fine aggregate with the domestic glass in concrete has also been arrived. The split tensile strength for the optimum percentage of replacement was also determined for concrete up to the optimum percentage of replacement.

Keywords --- Compressive strength, Fine aggregate, Glasscrete, Waste glass, Split tensile strength.

MECHANICAL PROPERTIES OF SELF COMPACTING CONCRETE ELEMENT'S USING METAKAOLIN AND NANOMETAKAOLIN

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Abstract

Scarcity of good quality of natural river sand is scarce due to depletion of resources and restriction due to environmental consideration. River sand is most widely used construction material it suffers from disadvantages scarcity of river sand, cost is more, and the availability of sand is less. In order to overcome the above deficiencies of river sand, a new alternative material called "Manufactured sand" is used nowadays for all major construction projects. By continuing the use of large quantities of cement produces increasing CO2 emissions, and has a great effect in green house. A Nanotechnology offers the opportunity to enhance the understanding of concrete behavior, to engineer its properties and to lower production and ecological cost of construction materials. A better method to reduce the cement content in concrete mixes is the use of metakoline fines. One of the metakoline genes with high potential as cement replacement in concrete additive as Nano-metakoline. Self-compacting concrete (SCC) is an innovative development of conventional concrete, which requires high binder content to increase its segregation resistance and improved way of concreting operation that does not require vibration for placing it. The considerable amount of research has been done on the nano technology concrete using river sand. But no works have been carried out so far to study the mechanical properties of concrete in nano metakoline with M-sand. Hence, in the present investigation, it has been planned to study the behavior and mechanical properties of Self compacting concrete incorporating M-sand and utilizing Nano-Metakoline as a cementitious replacement material. Our research analyzes the performance of Normal concrete and self-compacting concrete structural elements and discusses the potential use of SCC in such structural elements. Workability test is used to assess the workability characteristics of Self Compacting concrete using Nano-metakoline

Keywords: Manufactured sand, Nanotechnology, Self-compacting concrete (SCC), Workability test

CE042

ADVANCEMENT AND APPLICATION OF NANO CONCRETE IN SELF CONSOLIDATING CONCRETE-A DETAILED REVIEW

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Abstract

Self compacting concrete- a special concrete with an extra ordinary property of compacting itself, reduces the possibility of human error. With this, the combination of Nano technology gives a marvelous growth in the construction field .Though the use of SCC, reduces the cost of manual compaction ,the use of SCC along with Nano particles helps in finishing the construction work faster by acquiring strength faster .This present study is about the influence of Nano technology on the properties of self compacting concrete .By adding Nano materials like Nano silica, Nano Fe2O3,nano TiO2, Nano Al2O3 ,etc., to SCC, the rate of hydration, permeability, Durability, Compressive strength, Split tensile strength, Flexural strength is increased with increase in concentration of Nano materials. The outcome of this paper is to enhance the usage of nano particles in concrete to predict the properties of concrete

Keywords: Self compacting concrete, Nano silica, Nano technology, Flexural strength, Durability, Compressive strength

NUMERICAL INVESTIGATION ON STIFFENED COLD FORMED STEEL CHANNEL SECTION

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Abstract

In this study, the cold-formed steel (CFS) compression members were studied to understand the buckling behavior of the sections under axial compression. The specimens were modelled to form a lipped channel section with an edge and intermediate stiffeners. From this different channel section with edge and various forms of intermediate stiffeners in flange and web were produced. Cold-formed steel sheets of thickness were 2mm, and 1.2mm was used in this study. To determine the nominal buckling load carried by the specimens and the buckling behavior, the finite element software package of ANSYS was used to perform the numerical analysis. The finite element analysis was performed on fixed supports of length 500mm and 1000mm. The numerical results obtained from the Finite Element Modeling (FEM) were compared with the theoretical analysis results calculated using Direct Strength Method (DSM) according to the North American Specification (NAS) for cold-formed steel section.

Keywords: Cold formed steel, stiffeners, buckling, local – distortional, Global buckling, lipped channels, direct strength method (DSM)

CE044

NUMERICAL INVESTIGATION ON STRENGTHRNING OF BEAM COLUMN JOINTS USING GFRP

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Abstract

In this paper the effectiveness of Glass Fiber Reinforced Polymer (GFRP) layers for strengthening the exterior beam column joints was studied through finite element model. A nonlinear finite element analysis is carried out using the commercial program ABAQUS for the simulation of the behaviour of beam column joints. Exterior reinforced concrete beam column joints including control specimen and FRP strengthened specimens were developed. Ductile detailing is carried out in the joint region as per IS 13920. Quasi static loading is applied to the beam and the column is subjected to a constant axial load. The finite element model was developed using concrete damage plasticity for concrete. Finally the influence of various parameters such as stress pattern, displacement pattern and load carrying capacity was investigated on the behaviour of strengthened joint.

Keywords: Finite element analysis, GFRP, concrete damaged plasticity, ABAQUS, beam column joint.

BEHAVIOUR OF SELF-COMPACTING CONCRETE WITH CEMENT REPLACEMENT MATERIALS

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Abstract

Self-compacting concrete is an innovative concrete that does not require vibration for placing and compaction. One of the disadvantage of self-compacting concrete is its cost due to additional use of Portland cement and admixtures.The cost of self-compacting concrete can be reduced by replacement of cement by cement replacement materials .In this paper fly ash, wood ash and their combinations are used as cement replacement materials. Fly ash is an mineral admixture that can be used in concrete. The Wood ash containing less CaO and significant quaitity of SiO2 may be used for replacement of cement. The incorporation of these replacement materials eliminates the need for viscosity enhancing chemical admixtures. The lower water content of the concrete leads to higher durability, in addition to better mechanical integrity of the structure.Experimental investigations on mechanical properties such as compressive, flexural, split tensile strength of self-compacting concrete containing cement replacement materials are conducted. Workability tests (slump,L-box, V-funnel) on the corresponding mix are also used to study the characteristics.The methodology adopted is that cement replacement materials are replaced by 10%,20% for Portland cement and the performance is measured. In order to improve the workability of the concrete 1.5 % of superplasticizer (glenium B233) by weight of the cement is used as chemical admixture. Guidelines given by EFNARC are followed to design the mix. From this investigation it is observed that the optimum replacement of 10% of wood ash and fly ash in self- compacting concrete increases the compressive strength of the of the concrete mixture.

CE046

A FLOATING CONCRETE – A BRIEF REVIEW

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Abstract

This project mainly deals the concrete to float in water by using the combination of light weight aggregate and Air entraining agent of Aluminium powder .The main idea of our project is that the light weight aggregate in the concrete lowers the concrete's self-weight, so that concrete's density also reduces. Hence its density is less than 1000kg/m3, the concrete floats in water. For making this type of light weight concrete, we don't know the proportion to be mixed in concrete, So that we have adopted the trial and error method to solve this problem. The density of concrete comes under the limit of 500 to 900 kg/m3. The proper mix design of the floating concrete is not arrived, so we have taken the mix ratio from the help of journals. We have used various materials like Fly-ash, gypsum, Lime powder, Pumice stone, Aluminium powder, Polypropylene, GGBS, Vermiculate, Sand, Cement etc. we have successfully achieved the floating property of the concrete from the combination of below ingredients Cement, Lime powder, Gypsum, Fly-ash, Aluminium powder, Polypropylene, Sand . We have partially replacing the cement by Fly-ash (48%), Lime(17%), Gypsum(6%), and then fine aggregate of the sand is replaced by 50% of polypropylene. We have added air entraining agent of Aluminium powder by 2-10%. Finally the floating property and the compressive strength of the concrete are tested.

Keywords: Floating Concrete, Polypropylene, Aluminium Powder, Pumice Stone, Density, Fly Ash, Floating Property, Compressive Strength, GGBS, Gypsum

STUDY AND COMPARISON OF STEEL HAUNCHED AND TAPERED BEAM

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Abstract

Steel framed buildings are flexible, ductile and light weight compared to that of reinforced concrete buildings. Intense research had been conducted in the last decades regarding the fatigue and ductility behaviour of structural steel beam. Prismatic beams are the beams with uniform cross-section in the entire span of the beam. Non-prismatic beams are used to increase the efficiency of the beam, by increasing the strength per unit mass than that of prismatic beam. In this study, the load-deformation, stress-strain analysis, the fatigue and ductile behaviour of non-prismatic steel beams with hunched and tapered ends was compared with prismatic beam for different loading condition. The beams were subjected to static loading conditions during analysis.

Keywords: Prismatic beam, non-prismatic beam, stress-strain analysis, static loading, fatigue and ductile behavior

CE048

ENVIRONMENTAL IMPACT ASSESSMENT OF IMPROPER DUMPING OF MUNICIPAL SOLID WASTE IN SALEM CITY, TAMILNADU, INDIA

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Abstract

Salem City is one of the hundred cities selected under the Smart Cites Mission Program by the Government of India and positioned at sixth place out of twelve selected Smart Cities in Tamil Nadu State with an area of 100 sq.km and a population of 8,51,577. It generates around 335 MT per day of Municipal Solid Waste (MSW) at a rate of 393 gram per capita per day. At present the entire solid waste generated from the city has been dumped in an unscientific manner in Erumapalayam Landfill area of 28 acres which is located 12 km away from the city. The open dumping of Salem City MSW in the landfill area due to without liners and without a leachate management facility causes groundwater pollution and as well as saturation of an existing landfill site. Hence, in the present study an attempt has been made to quantify the impacts on land and water environments due to improper disposal of Salem city MSW in and around the Erumapalayam Landfill through an Environmental Impact Assessment (EIA) study. From the detailed investigation of the water quality analysis of ground water in and around the dumping yard, it was found that the ground water was not suitable for drinking at places within 1000m radius of the landfill and this was exclusively due to the infiltration of leachate from the dumping yard which caused the ground water pollution. Similarly, the Environmental Impact Assessment study on soil environment revealed that the top soil layer is not polluted due to the improper dumping of MSW in the landfill area at present, nevertheless if the prevailing situation continues, it will affect the soil fertility in the near future

Keywords: Environmental Impact Assessment (EIA), Leachate, ground water pollution, Landfill, Water Quality Index (WQI), Soil quality

CE049

A REVIEW PAPER ON EXAMINATION OF RISK ASSESSMENT IN BRIDGE PROJECTS

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Abstract

This study chiefly discusses the crucial risk factors and its assessment techniques through comparative study of assorted international Bridge projects. Regarding fifteen relevant articles revealed over the last twenty five years are reviewed. Such risk assessments facilitate to incorporate within the budget and programing for the booming completion of the project in correct manner.

Keywords: Risk assessment, Bridges, Uncertainty, Risk ranking

CE050

NON- LINEAR ANALYSIS OF BUCKLING RESTRAINED BRACES

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Abstract:

Seismic vibrations generated during an earthquake can be reduced by diverting the forces using energy dissipative systems and seismic isolators. This helps in reducing the dynamic response of the structures ensuring safety to its structural components. The lateral displacements that occur during an earthquake causes geometric deformations and damage to beam-column joints in moment- resisting frames. The conventional bracing systems, that found to be an economical means of active energy dissipation connecting the beam-column joints, had proved ineffective, in the recent past, as they fail by buckling under compression loading.The present study deals with the comparison of performance of a new type of bracing mechanism, the Buckling restrained braces (BRBs) with the conventional braces. Also, non-linear cyclic analysis is performed on different materials of the core of the BRBs to study their energy dissipation capabilities for varying moduli of elasticity. As observed, the new All-steel BRBs proved to be more economical and can be used as reliable alternatives to conventional braces in case of seismic resistant design of structures.

Keywords: Buckling restrained braces (BRBs), Conventional Braces, Earthquake, Energy dissipation, Non-Linear cyclic analysis

MECHANICAL AND DURABILITY PROPERTIES OF CONCRETE USING LITHIUM BASED ADMIXTURE

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Abstract

Lithium is a challenging element in recycling of lithium-ion batteries, which possesses great threat to the environment. The disposal of electronic waste is a major problem, which our country is currently facing. If lithium is properly extracted, it can be used for structural engineering purpose. Lithium, if used in concrete, it controls the cracks due to alkali silica reaction (ASR), resulting in increased strength and durability of the concrete. The main objective of this paper is to assess the effectiveness of $LiNO_3$ at various dosage levels in concrete. In this paper, the effect of $LiNO_3$ on the mechanical and durability properties of concrete are studied. The mechanical and durability properties of concrete was investigated for six mix proportions comprising of control mix, lithium nitrate at 0.6M, 0.65M, 0.7M, 0.75M, 0.8M. The optimum lithium dosage is 0.75M. The durability studies are performed in concrete for acid resistance, sulphate resistance and rapid chloride penetration characteristics. The results indicate that the concrete with 0.75M $LiNO_3$ has better durability.

Keywords – ASR gel, Lithium Admixture, Mechanical properties & Durability properties

CE052

SEISMIC BEHAVIOUR OF A MULTI-STOREYED REINFORCED CONCRETE IRREGULAR BUILDING WITH OUTRIGGER BELT TRUSS SYSTEM

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Abstract—

In the conventional design methods, structural members are assumed to carry the gravity loads. It is important to identify the proper structural system for resisting the lateral loads depending upon the height of the building. Lateral forces in the tall structure produce structural and non-structural damages. In tall structures lateral forces are induced and moments are created, which is tremendous when compared to gravity load and these moment leads to overturning of the structure. There are many structural systems that can be used for the lateral resistance of tall buildings. The outrigger system is one of the most common and efficient system that can be used to improve the performance of tall buildings under wind and seismic forces. An Outrigger is a horizontal projection attached to any member and helps in increasing its stability. The outrigger trusses helps in connecting the core wall of the building to external columns along the height of the structure and they act like spreaders. In the present work, a 7×7 bay RC irregular building is taken for the study and its performance with different configuration of belt truss system under wind forces and seismic forces are investigated. The response of the RC frame under Time history analysis, Response spectrum analysis, due to seismic forces found out using *IS 1893 (Part-1): 2002*, and wind forces are found out for the 30 storey RC model frame with various configuration of belt truss systems using the ETABS software. The performance of the frame under lateral loads like maximum storey displacements, maximum storey drifts, Maximum storey acceleration are found out for the RC frame with various configuration of belt truss system. Based on the analysis results the optimum position of the belt truss system for the RC frame is arrived.

Keywords— Time history Analysis, response spectrum analysis, storey drift, storey accelerations

PERFORMANCE OF SELF COMPACTING CONCRETE CONTAINING MICRO-SILICA AND STEEL FIBRE

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Abstract.

Self-compacting concrete (SCC) originated in the late 1980's by Japense in order to compensate the shortage of labour. The SCC is a special type of labour-friendly concrete that possess the ability to flow and compact by its self-weight. When properly designed, it could save time, eliminates the need for vibration, better compaction is produced compared to the conventional control mix. SCC contains more of binder content consisting of higher cement content. This cement was replaced by micro-silica at varying percentage and also steel fibres were used to improve the ductile nature. In addition to this, micro-silica have been used to improve the strength and durability of concrete. Addition of silica to a concrete mix alters the cement paste structure. Then the resulting paste contains more of the calcium-silicate hydrates and less of the weak and easily soluble calcium hydroxides. Due to its smaller particle size distribution, they disperse among and separate the cement particles. In the present study, the different mix ratio using steel fibres, micro-silica has been prepared and the fresh and hardened properties of SCC has been studied.

Keywords : Micro-silica, Steel fibre, SCC, Water absorption.

CE054

IMPACT OF CLIMATE CHANGE ON RESERVOIR INFLOW PREDICTIONS: A CASE STUDY

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ABSTRACT

Hydrological cycle is inherent of climate processes with lot of interactions thereby making the system to be complex. The modeling of hydrological cycle to simulate the water resource has been well researched for more than a decade. In the recent past the studies are initiated to capture the influence of climate parameters on the hydrological cycle. One of the major inferences from the above is that, influence of climate parameters in arid and semiarid climatic region is not very significant. To understand the generalized behavior stated by the research community on arid regions, in this research paper we explored the inflow database of stanely reservoir, Tamilnadu. A modeling framework has been developed that predicts the reservoir inflow considering the future climatic scenarios. From the developed model, we inferred that the generalized stated on arid region valid only in case of regional / macro modeling, and it does not valid for specific case as micro climate variables influences the hydrological cycle.

ENHANCING CUSTOMER ENGAGEMENT USING BEACONS

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Abstract

Most of the people these days use mobile phones for almost everything. Many technologies have been used in a smartphone which provides a variety of services like Social networking, payment, marketing etc. A new way of marketing which uses BLE beacon technology can be incorporated with a mobile application which is used to send personalized notifications to customers using the Indoor positioning system using Beacons. Existing GPS can't be used for Indoor Positioning System, as there are some shortcomings like power consumption and also the accuracy of the system indoors due to obstructions to the satellite. RFID technology is accurate indoors but the range is too small which is only up to 15 meters. To overcome this Beacon is used which is a low-cost, low-energy transmitter equipped with Bluetooth Low Energy or BLE also known as Bluetooth 4.0 or Bluetooth Smart that can end proximity-based, context-aware messages over distances ranging from 15 cm to 70m.The Hardware used here is a beacon which transmits a signal which contains a Unique ID at regular intervals which can be detected within a certain range. A custom Mobile App is developed which receives the signal while in a certain proximity of the beacon and is programmed to calculate the distance. The Custom Mobile App connects to a Web server which makes use of the Unique Id received along with the signal to retrieve information corresponding to that Unique ID. The Web server contains a Database which keeps track of all the Unique Id's and the appropriate information corresponding to each Unique ID.

Keywords: Indoor Positioning, Bluetooth Low Energy, Positioning Accuracy, Practical Path Loss Model, Radio map- based Positioning

CSE002

INTERACTIVE CODING PLATFORM FOR STUDENTS

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Abstract:

Programming has become one of the most demanded skill of a working professional in almost every industry. Even though we have a lot of platform to work on and learn from, we are not properly trained in this domain . This has increased the need for a platform that is targeted only for the colleges students to develop a coding culture among them , right from the start. The project that we aim to develop solves this particular issue and will also enhance the skills of the students by continuous feedback learning. The end-product will be a web application which the teachers can use to set problems and give assignments while the students will use the application to solve the assignments. The application will be developed using : VueJS in the front-end , the database will be MongoDB and the back-end will be composed of ExpressJS and NodeJS entities. Thus, MEVN is the technology stack on which the web application will be built because most of the operations in the project will be I/0 based and NodeJS is the perfect tool to handle asynchronous calls. The data will be transferred in the form of a JSON contract for easy interpretation. The web application will be composed of REST api endpoints for performing various operations. The application will be built on MicroServices Architecture to support modularity, scalability and ease of use. Some of the features provided by the application are performance comparison of the students, customizable test environment, compilation and execution of the code, cloud storage for sensitive data and support for many languages. Thus, this web application will solve the critical need for skills that are to be possessed by the individuals graduating out of the college as demanded by the IT industry**.**

Keywords: Programming, Microservices, MEVN stack , REST

Exploratory Data Analysis of Drug Consumption

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Abstract:

Drug utilization is the consumption of the drug in all the state or country. In the rushing world, technology development is peaked. Human beings are fully addicted with technology, intake of food and that leads to easy attack on diseases results. To cure the disease, intake of medicines at over dosage of chemical compounds leads to lot of side effects. In previous analysis, it tells about the maximum and minimum utilization of drugs and increase in number of enrols and the mean number of prescription can be found. In addition to that, amount spent for drugs for Medicaid enrols has been increased in the last decade dramatically Exploratory data analysis (EDA) is an approach for analyzing data sets to summarize their main characteristics, often with visual methods. The methodologies used for this analysis are statistical analysis - collecting, exploring and presenting large amounts of data in a graphical view-pie chart, bar, line graph can be plotted. This analysis speaks the maximum and minimum utilization of drug with limited dosage in a particular state, comparison of the drug with maximum utilization in every quarter can be analysed with the count of prescriptions given in the data set. Maximum drug used in particular time period and the survey of disease is shown

CSE004

IOT BASED DECISION SUPPORT SYSTEM FOR AGRICULTURE YIELD ENHANCEMENTS

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Abstract:

The Expert systems (ES) are now being widely used in various fields of agriculture. The modern farmer often relies on agricultural specialists and advisors to provide information for decision making. These expert system are used by the farmers and other persons who don't have much experience of using computers .This paper discusses the role of expert systems in agriculture and its applications in efficient crop production and protection technologies. An expert system is also called a knowledge based system and a tool for information generation from existing nowledge. Expert system helps the farmers in making economically viable and environmentally strong decision related to crop management. After considering success of expert system, various expert systems were developed in agriculture. In recent years, the application of IOT plays a key role in agriculture. The concept of IOT and architecture of IOT are discussed. An Expert system based on the Internet of Things (IOT) that uses the input data collected in real time is proposed in this paper. In this paper, an expert system in cloud infrastructure is used. IOT components such as &Cube (IOT Gateway) and Mobius (IOT service platform) are integrated in proposed system. In the proposed system, Kalman filter (KF) is used in sensor node to minimize the noise in sensor fusion. This paper explains need of expert system in agriculture and the advantages of IOT based farming.

A REAL TIME SYSTEM FOR TWO WAY COMMUNICATION OF HEARING AND SPEECH IMPAIRED PEOPLE

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ABSTRACT

Generally Sign language uses hand gestures for communication; it is used by the hearing and the speech impaired people to interact with others. But it is very difficult for the normal people to understand it, so this paper proposes a real time system for better communication with normal people and disabled people. The gestures shown by the impaired people will be captured and the corresponding voice output is produced as one way and the voice input by normal people is taken and the periodic gesture will be displayed to them as another.

This system uses RASPBERRY PI kit as the hardware, where a Pi camera, LCD display, Speaker and Microphone will be attached along with it. First the image acquisition is carried where it captures the input image and then image pre-processing is done to extract the foreground image from the background, then feature extraction is carried out to extract the necessary details. The extracted image is matched with the dataset and the corresponding voice output is generated for that gesture. Likewise, a microphone is used to capture the speech input of the normal people, then it is pre-processed to remove the extra noise in the speech signal and feature extraction is carried out to identify the necessary details and finally extracted voice is matched with the dataset and the corresponding hand gestured image will be displayed in LCD display. By using this method the communication gap between the impaired and normal people get reduced.

***Keywords*:** Feature extraction, pre-processing, matching

CSE006

A REPORT ON THE ISSUES IN MOBILE ADHOC NETWORK

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Abstract

Mobile Adhoc Network (MANET) is a self-configured network with mobile nodes. MANET is a infrastructure-less network. The main features of MANET are dynamic topology, point-to-point communications and network boundary security are more challengeable. Due to the mobile nodes and the wired networks, the routes used for the transmission of the data packets are not fixed. The primary obstacle for MANET is real-time routing protocol. The characteristic issue in the mobile adhoc network is unreliable wireless communication between the mobile nodes due to the eminent limitation in energy resource. This paper is a survey on the issues and obstacles in Mobile Adhoc Network.

Keywords: MANET, Wired networks, Dynamic topology.

SPORTHAND MOBILE APP

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Abstract

The objective of the mobile application and webpage is to help the students to know the various activities and sports events which happen in inter and intra colleges. It helps the students to know the availability of the grounds which is used to avoid the coincidence between the students. It is used to know the coach availability and also helps the students to make complaint to sports head through this application, if they meet any facility problems in the ground. The students can apply the "On duty" from their place without doing any paper work.

Keywords*:* User Interface, App, On Duty, Ground booking

CSE008

Exploratory Data Analysis of Drug Consumption

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Abstract:

Drug utilization is the consumption of the drug in all the state or country. In the rushing world, technology development is peaked. Human beings are fully addicted with technology, intake of food and that leads to easy attack on diseases results. To cure the disease, intake of medicines at over dosage of chemical compounds leads to lot of side effects. In previous analysis, it tells about the maximum and minimum utilization of drugs and increase in number of enrols and the mean number of prescription can be found. In addition to that, amount spent for drugs for Medicaid enrols has been increased in the last decade dramatically Exploratory data analysis (EDA) is an approach for analyzing data sets to summarize their main characteristics, often with visual methods. The methodologies used for this analysis are statistical analysis - collecting, exploring and presenting large amounts of data in a graphical view-pie chart, bar, line graph can be plotted. This analysis speaks the maximum and minimum utilization of drug with limited dosage in a particular state, comparison of the drug with maximum utilization in every quarter can be analysed with the count of prescriptions given in the data set. Maximum drug used in particular time period and the survey of disease is shown

METHODS FOR INFORMATION DESSEMINATION

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Abstract

Effective Connecting Methods for Information Dissemination is to research the potential need for a web application amongst a wider range of clubs and to produce an interactive web application to help with the day to day running of the club and dissemination of information to its members. This website must be easy to setup, customizable and easily maintained by the average computer user. The project helps to communicate with clubs in the college. And based on the selection the detail is shown and user can select what he wants. This software reduces the burden of coordinator and students. The coordinator receives the information of the students as soon as they post them. Thus, the Effective Connecting Methods for Information Disseminationcan aid to the growth of all the clubs.

CSE010

IOT BASED HEALTH MONITORING SYSTEM FOR COMA PATIENT

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Abstract

It is very essential to continuously monitor the unconscious/coma patients to understand their health condition. The aim of the proposed work is to monitorand alert the healthcare professionals when the comatose gains consciousness or whenever the movement is detected. IoT(Internet of Things) based monitoring system uses various sensors likeeye blink, flex sensor to monitor the body movements such as eye blink movement and hand movement to detect the conscious state of an individual. This system will be helpful in assisting the doctor about the health condition of the unconscious patient and alerting the doctor whenever care is required. The proposed system will assist the doctor by giving an alarm about the health condition of the patient if the set of sensor values reaches threshold value. These results are displayed in the web application where the user/doctor can access the data from anywhere.

Keywords: IoT, Health Monitoring, Motion Detection System, Patient Monitoring

AUTOMATIC CAR PARKING SYSTEM

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Abstract

Due to the proliferation in the number of vehicles on the road, traffic problems are bound to exist. This is due to the fact that the current transportation infrastructure and car park facility developed are unable to cope with the influx of vehicles on the road. To alleviate the aforementioned problems, the smart parking system has been developed. This is an application based on Internet of Things (IoT) that in Real-Time environment have sensors and devices embedded into parking spaces, transmitting data on the occupancy status; and the vehicle drivers can search for parking availability using their mobile phones or any infotainment system that is attached to the vehicle. Hence the driver would know where there is an available spot to park his vehicle in less time, reducing the energy consumption and air pollution. The Client or the sensor posts the parking slot occupancy status to a web service URL. The Java based web service is built using Spring and Hibernate to connect to the backend system. The web service (.war) file is deployed on Apache Tomcat Server and the backend used is MySQL database.

Keywords: Android Application, Automated Parking System.

CSE012

IoT based Smart Parking Management System

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Abstract

In this fast-growing economy, the number of vehicle users increases exponentially demanding more parking space. Pervasive presence of smart phone encourages users to prefer mobile application based solutions. Growth of IoT has paved way for integration of mobile devices, wireless communication technologies and mobile Applications. This paper proposes an IoT based Smart parking system that integrates with mobile Application. It provides a comprehensive parking solution both for the user and owner of the parking space. Features are provided for reserving a parking space, authenticating a reserved user, identifying nearest free space depending on the size of the vehicle, navigating to the parking slot and computes accounts information on daily, weekly and monthly basis. IR sensors are used to identify if a parking spot is free. Availability of a free slot with its location information is transmitted using WIFI module technology, microcontroller and wireless communication technology to the server and is retrieved though a mobile application. RFID tag attached to a vehicle is used to authenticate a user who reserves the parking slot on a hourly, daily, weekly or monthly basis. A scheduling algorithm is used to identify the nearest free slot based on the size of a vehicle. The owner of the parking space can get the analytics of the number of free and available slots for a given period, the occupancy rate on week days and weekend and the amount collected for a given period and can use it for fixing variable parking fees. The mobile application is designed to provide rich customer experience.

Keywords:*Smart Parking, IoT, Mobile Application, RFID, Analytics*

CSE013

STREET LIGHT CONTROL SYSTEM USING MUTLI SENSORS

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Abstract*:*

Street Lights provide safety measures for prevention of accidents during the night, especially for the pedestrians. Street lighting has been found to reduce pedestrian crashes by approximately 50%. However, still the power is not managed thereby resulting in wastage. Some of street light control systems have been developed to control and reduce energy consumption of public lighting system. This project is to automate the working of street lights mainly on national highways. The system makes use of LDR for light detection and Ultra Sonic Sensor for object movement. This system can bring major change to the economy as it effectively reduces the wastage of electric power. This system does not need any human power and is automatically controlled by Arduino.

Keywords*:* Light Dependent Resistor (LDR), Global System for Mobile communication (GSM), Ultra Sonic Sensor, Arduino, Smart Street light

CSE014

BCI based EEG signals for Emotion Classification

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Abstract:

The human brain which is the central processing unit of the human machine is responsible for multiple tasks such as perception, cognition, attention, emotion, memory and action. In human life emotions significantly affect one's wellbeing. Providing methodologies to access to human emotions would be a key for successful human machine interaction. Understanding Brain Computer Interface (BCI) techniques to identify the emotions also help in aiding people to interact with the world like a common man. Many techniques were devised to identify the human emotions of which usage of EEG signals to classify the emotions as happiness, fear, anger and sadness were found promising. These emotions are evoked by many means such as showing subjects pictures of smile and cry facial expressions, by hearing to emotionally mixed audios or by watching videos and at time combination of these. This paper is a survey of all the optimized methods to filter the EEG signal and comparative study of the various classification methods used to classify the emotions is carried out and a multimodal classification technique which makes use of EEG signals and at the same time efficiency is measured with Natural Language Processing(NLP) is proposed for improving the accuracy.

Keywords*:* EEG signal, Emotion Classification, BCI, multimodal, NLP.

INTERACTIVE CODING PLATFORM FOR STUDENTS

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Abstract:

Programming has become one of the most demanded skill of a working professional in almost every industry. Even though we have a lot of platform to work on and learn from, we are not properly trained in this domain . This has increased the need for a platform that is targeted only for the colleges students to develop a coding culture among them , right from the start. The project that we aim to develop solves this particular issue and will also enhance the skills of the students by continuous feedback learning. The end-product will be a web application which the teachers can use to set problems and give assignments while the students will use the application to solve the assignments. The application will be developed using : VueJS in the front-end , the database will be MongoDB and the back-end will be composed of ExpressJS and NodeJS entities. Thus, MEVN is the technology stack on which the web application will be built because most of the operations in the project will be I/0 based and NodeJS is the perfect tool to handle asynchronous calls. The data will be transferred in the form of a JSON contract for easy interpretation. The web application will be composed of REST api endpoints for performing various operations. The application will be built on MicroServices Architecture to support modularity, scalability and ease of use. Some of the features provided by the application are performance comparison of the students, customizable test environment, compilation and execution of the code, cloud storage for sensitive data and support for many languages. Thus, this web application will solve the critical need for skills that are to be possessed by the individuals graduating out of the college as demanded by the IT industry**.**

Keywords: Programming, Microservices, MEVN stack , REST

CSE016

ENHANCING CUSTOMER ENGAGEMENT USING BEACONS

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Abstrac*t*

Most of the people these days use mobile phones for almost everything. Many technologies have been used in a smartphone which provides a variety of services like Social networking, payment, marketing etc. A new way of marketing which uses BLE beacon technology can be incorporated with a mobile application which is used to send personalized notifications to customers using the Indoor positioning system using Beacons. Existing GPS can't be used for Indoor Positioning System, as there are some shortcomings like power consumption and also the accuracy of the system indoors due to obstructions to the satellite. RFID technology is accurate indoors but the range is too small which is only up to 15 meters. To overcome this Beacon is used which is a low-cost, low-energy transmitter equipped with Bluetooth Low Energy or BLE also known as Bluetooth 4.0 or Bluetooth Smart that can end proximity-based, context-aware messages over distances ranging from 15 cm to 70m.The Hardware used here is a beacon which transmits a signal which contains a Unique ID at regular intervals which can be detected within a certain range. A custom Mobile App is developed which receives the signal while in a certain proximity of the beacon and is programmed to calculate the distance. The Custom Mobile App connects to a Web server which makes use of the Unique Id received along with the signal to retrieve information corresponding to that Unique ID. The Web server contains a Database which keeps track of all the Unique Id's and the appropriate information corresponding to each Unique ID.

Keywords: Indoor Positioning, Bluetooth Low Energy, Positioning Accuracy, Practical Path Loss Model, Radio map- based Positioning

SKELETAL BONE AGE ASSESSMENT USING TANNER & WHITEHOUSE METHOD

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Abstract:

This paper presents an efficient implementation of an automated system for Bone Age Assessment (BAA).The Bone age assessment is used to estimate the skeletal maturity of children. BAA methods are popular to estimate the growth rate of children .The system uses tanner and Whitehouse (TW3) method to estimate the skeletal maturity of a child's bone. BAA is used to find the bone age of children for the age group (0-18) years for both boys and girls. Left hand wrist image is taken as input for BAA and the bone age will be estimated through TW3 method.BAA system involves 1). image preprocessing, 2).feature extraction, 3).Feature Analysis and Selection using Independent Component Analysis (ICA), and 4).Fuzzy iterative Dichotomiser 3(ID3) decision tree classifier for classifying the age group of a bones.BAA is used to find hormone problems such as thyroid, diabetes, obesity and also finds genetic disorders such as deletion of genes, chromosome abnormalities.

Index terms:Bone Age Assessment (BAA), carpal/ phalangeal features, Tanner and Whitehouse (TW2, TW3), Region of Interest (ROI).

CSE018

ANDROID APPLICATION: MEDICINE INTAKE REMINDER AND MONITOR

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Abstract:

Out-patient medication administration has been identified as the most error-prone procedure in modernhealth-care. Under or over doses due to erratic in-takes, drug-drug or drug-food interactions caused by un-reconciled prescriptions and the absence of in-take enforcement and monitoring mechanisms have caused medication errors to become the common cases of all medical errors. Most medication administration errors were made when patients bought prescribed and over-the-counter medicines from several drug stores and use them at home without little or no guidance. Elderly or chronically ill patients are particularly susceptible to these mistakes. In this paper, we introduce a application designed to help patients avoiding these mistakes.Itcan remind its users to take the correct medicines on timeandrecord the in-take schedules for later review by healthcare professionals. It has two distinguished features: (1) it can alert the patients about potential drug-drug/drug-food interactions and plana proper in-take schedule to avoid these interactions; (2) it can revise the in-take schedule automatically when a dose was missed. In both cases, the software always tries to produce the simplest schedule with least number of in-takes. Itis equipped with user friendly interfaces to help its users to recognize the proper medicines and obtain the correct instructions of taking these drugs. It can maintain the medicinein-take records on board, synchronize them with a database on a host machine or upload them onto a Personal Heath Record system.

Keywords*:* Tele monitoring, Medication Error Prevention, Mobile computing, Real-time scheduling**.**

FISHERMEN HELPING SYSTEM

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Abstract*:*

The idea of this project is to prevent the fishermen's boat from crossing the boundary while going to the sea for fishing. When the boat is on board, its position is tracked and checked if it is crossing the border. Once the boat is about to cross the safe border and enter into the prohibited zone, a notification is sent to the control unit in the land and a buzzer is also set in the control unit. The control unit controls and turns the boat into the safe side. This prevents the boat from crossing the country's border and the fishermen and their boat can also reach the shore safely. The position of the boat is tracked by using the GPS (Global Positioning System) and every movement of the boat can be noted. By using a GSM module, the boat can be connected to the control unit in the land. The position of boat is sent to the control unit using a GSM module via cloud. When the border is crossed by the boat, the buzzer goes on in the control unit and the boat is immediately controlled.

Keywords:GPS,GSM module, relay, relay driver.

CSE020

IOT Enabled Air Pollution Monitoring and Awareness Creation System

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Abstract:

The air pollution rates now a days are drastically increasing in all the developed and the developing countries which requires a more portable and cost effective solution. The proposed system includes the design for monitoring air pollution and creating awareness among the public. This paper aims at using IOT along with cloud to make the services real time and faster. The proposed system is installed in a particular locality where there is acute air pollution. The level of each hazardous pollutant is monitored at periodic intervals. The Air Quality Index (AQI) for the observed pollutants is determined and awareness is created among the public through an android app which displays the level of each observed pollutant and also the air quality index in that particular location. Thus the quality of air in that area can be understood by the public by viewing the concentration of the gases in both numerical and graphical format. Further this system is to be extended in future by allowing the public to register themselves in an app which pushes weekly or monthly air quality report through message which reaches the user as a notification that is more comfortable in access.

Keywords: Arduino, hazardous pollutants, AQI, Thingspeak, Android

COMPREHENSIVE SURVEY OF MULTIMODAL IMAGE FUSION SCHEMES

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Abstract:

Multimodal images are scenes with anatomy details that are captured using two different devices. Different imaging techniques give complementary details about what is visualized. infrared and visual images are examples of multimodal images that are fused together in order to obtain a single comprehensive fused image. Combining multimodal images yield enhanced features for image analysis, feature extraction and detection. Infrared(IR) and Visual image(VI) fusion is devised to combine and fuse numerous source images into a single extensive image to raise the imaging quality and decrease the redundancy in image information. This is broadly used in different applications to improve the visual perception of the scene. The reliability, accuracy and complementary details of the scene in the resultant fused image makes these approaches be used in multiple areas. Recently, many fusion methods have been formulated due to the sprouting demands & advancement of image depiction schemes. However, a unified survey paper about this field has not been published in a few years. Consequently, we make a survey report to record the algorithmic advancements of visual and infrared image fusion. In this paper, firstly the overview of applications of IR and VI image fusion is represented. Secondly, we present the existing state of the art fusion techniques. Finally, image quality metrics are discussed to measure the efficiency of the fusion algorithm. Although, this survey halts with various fusion methods that have been proposed earlier there is still room for improvement in research in the field of multimodal image fusion.

Keywords*:* Multimodal ,Image Analysis, Image Fusion.

CSE022

A SURVEY ON STATE-OF-ART TECHNOLOGIES IN MODERN TOILETS

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Abstract

In a country like India, where 60% of the world population do open defecation public toilets play a vital role. Though now-a-days open defecation is reducing by the open toilets constructed by the government, the maintenance of these toilets in hygienic manner is still an issue. The usage of the public toilets is reduced due to the improper maintenance of the toilets and foul smell from it. Moreover, the peoples started using the open places which leads to many health problems. One of the health issue caused is the diarrhoea. In India, this disease kills one child per minute. Hence, the issue of maintenance of the public toilet has to be dealt seriously. In this paper, we survey on the technologies proposed for modern public toilet facilities
.

Keywords *:* open defecation, open toilets, water, maintenance

JUMPER FIRE FLY OPTIMIZATION ALGORITHM FOR MOBILE ANCHOR BASED LOCALIZATION

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Abstract:

Localization of sensor nodes is considered as one of the significant issue in a Wireless sensor Network (WSN). Localization problem is the identification of sensor's node position. Many applications such as routing, target tracking etc. are all location dependent .This work aims at determining the location of the sensor nodes by providing minimal localization error and thereby increasing localization accuracy. This work is initially based on localization using Mobile Anchors, a range–free localization method used for localization the nodes. The proposed algorithm used for Localization is Jumper Firefly Optimization Algorithm with Mobile Anchor Positioning (JFA-MAP).The objective is to apply JFA – MAP algorithm over the results of MAP with Mobile Anchor &Neighbor (MAP-M&N) to improve the location accuracy. Based on Root Mean Square Error (RMSE), the simulation results convey that the proposed JFA-MAP approach is effective in bringing down the localization error to a greater extent when compared to MAP-M&N algorithm**.**

Key words*:*Localization; Mobile Anchor; Jumper Fire fly; Root Mean Square Error.

CSE024

DETECTION OF MICROANEURYSMS AND HAEMORRHAGES IN RETINAL FUNDUS IMAGE - AN OVERVIEW

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Abstract:

Computer Aided Diagnosis (CAD) with image processing algorithms aids to detect the Diabetic Retinopathy in Fundus image. It has gained significant attention from researchers and clinicians perspective for two reasons. Firstly, Research in DR to detect it at the early stage would reduce the visual impairment. Secondly, Computer aided detection of retinal abnormalities would reduce the burden on clinicians by identifying the landmarks indicators of DR at early stage, Clinicians need to provide the validation and suggest further treatment required. Detection of Microaneurysms (MA) and Haemorrhages (HE) in Retinal Fundus image is the foremost signs to identify the Diabetic Retinopathy (DR). This motivated us to review the existing Image processing algorithms to identify and assess the MAs and HEs. This study would enable us to develop a best performing system for detection of DR without human intervention. In this paper, we have explored the challenges in extracting the normal and abnormal features in fundus image and current trends of research in the detection of MAs and HEs.

Keywords: Fundus Image , Microaneurysms (MA) , Haemorrages(HE), Pre-processing, Feature extraction

THREATS TO MOBILE SECURITY AND PRIVACY

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Abstract:

Market research reports from Forrester estimates the global mobile penetration to be around 50% in2017 and is forecast to reach 66% by 2022. In India, Mobile Internet Penetration using Smart Phone hasreached 36% as of 2016 from 0.1% in 1998. With the grand new push towards Digital India and low cashtransactions, mobile transactions including mobile payments have seen significant thrust in the recenttimes. Many startups as well as major enterprises and government has been continually providing andpromoting many mobile apps for variety of transactions from multimedia messaging to digital payments.In this paper, we present a survey of the threats and a clear demonstration of the risks of usage ofmobile on security and privacy of the person using it and his/her communications.

CSE026

MOBILE LEARNING FOR EDUCATION IN INDIAA FEASIBILITY STUDY

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Abstract:

The speedy growth and implementation of mobile technologies made societal changes in several areas such as Communication, Entertainment, Technology and so on. This evolution guided to the introduction and use of mobile phones in education. Since India is one of the fastest growing markets for mobile phone services, this paper presents the prospects and challenges in implementing mobile learning for education in India. The primary purpose of this paper is to describe the current state of mobile learning, benefits, challenges, and its barriers to support teaching and learning. This paper analyses the different study carried out on the acceptance of mobile learning in different countries and brought in connotation of mobile learning and proposed the theoretical significance of mobile learning in education. .

Keywords*:Mobile learning, M-Learning, Educational technology, higher education*

LIKEMINDED – A RECOMMENDER SYSTEM BASED KNOWLEDGE SHARING APPLICATION FOR STUDENTS

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Abstract:

Students in college/university face many issues in doing a project, organizing an event, finding a mentor to guide them. The main reason for this problem is lack of proper networking among students and professors. In order to solve this problem, within the college/university, there must be a proper networking channel among students and professors so that they come to know about each other. Consider a scenario in which a mechanical student wants to do an "Object Following Rover" project. In order to do the project, he/she needs skills like mechanical design, image processing, electronic controller, programming and many more. It is not possible for a single student to be expert in all these fields. He/she may be an expert in mechanical design, for the rest he/she needs to find students from other departments or their seniors, and for mentoring he/she needs to find a professor who has worked in that area. This team formation is possible only if the student knows about what others are doing in the college/university, what other students skill-set are, and in what field they are expert in. This information cannot be obtained easily because a college/university contains 5000+ students and professors. So, it is very difficult for a single person to know about most of the people in their college/university. This application provides solution to this problem, by providing a platform for a student to share his/her works, skills and reaching them out to target audience by using suitable recommendation algorithms and helping out students to know what their peers are doing, what are their skill-sets. This paper focuses on the various recommendation approaches that are used for this application in delivering the contents to the target audience.

Index Terms: Machine learning, Graph theory, recommender system

CSE028

FEATURE CLUSTERING ALGORITHM FOR TEXT CLASSIFICATION

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Abstract

Text Classification is a challenging and a red hot field in the current technological scenarios and has greater impact in text mining applications. The major hurdle in the text classification problem is the dimensionality of feature vector. The efficiency of text classification can be improved if the dimensionality of feature vector is reduced. Feature clustering is a method to reduce the dimensionality of feature vectors for text classification. This project uses Fuzzy Self constructing feature Clustering Algorithm which is a feature clustering approach to score text documents. This is a clustering approach in which features that are similar to each other are grouped into the same cluster. Each cluster will be having one extracted feature.In this algorithm, the derived membership functions match closely with each other and describe the real distribution of the training data.

Index terms: Decision Support System (DSS)

PERFORMANCE ANALYSIS IN OLYMPIC GAMES USING EXPLORATORY DATA ANALYSIS TECHNIQUES

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Abstract:

The Olympic games are international sports events with more than 200 nations participating in various competitions. The Sportspersons from various countries participate in competitions and make their countries proud of their excellence in sports. Despite massive population, many most populous countries fail to grab many medals at the Olympic games. The primary objective of this paper is to analyse the Olympic dataset using python to compare overall performance of countries and to evaluate the contribution of each country in Olympics. These analyses will give deeper insight into the performance of countries in Olympics over the years and helps sportspersons to quickly analyse their own and the competitor's performance. In this paper, the exploratory data analysis techniques are used to provide comparison between performance of various countries and the contribution of each country in Olympics. Visualization of Olympics dataset in many aspects provides the status of countries in Olympics and helps countries with poor performance to produce quality players and improve nation's performance in Olympics.

Keywords:international, excellence, performance analysis, visualization

CSE030

PRESERVING PRIVACY USING THIRD PARTY AUDITOR IN CLOUD FOR DATA STORAGE

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Abstract:

Cloud computing is a vision for technologies that provide computation, software, data access, and storage services that do not require end-user knowledge of the physical location and configuration of the system that delivers the services. By data outsourcing, users can be relieved from the burden of local data storage and maintenance. Cloud computing moves the application software and databases to the centralized large data centers, where the management of the data and services may not be fully trustworthy. Here comes the problem of ensuring the Integrity of the data stored in the cloud computing. order to provide trustworthy environment, third Party Auditor (TPA) has been securely introduced, on behalf of the cloud client to maintain and verify the Integrity of the data in cloud. TPA should be able to efficiently audit the cloud data storage and should not provide any vulnerability towards user data integrity. TPA stores the log file information of the data stored in the cloud by the users. TPA audits the data stored in the cloud by block tag authentication.TPA perform the auditing by sending block number to the cloud and checks the signature of the particular block and verify it with its signature. In this work also performs data dynamic operations such as data insertion, deletion and update in the user's data in cloud.

Index terms: Third Party Auditor (TPA),Provable data possession (PDP)

ZIGBEE BASED CHILD TRACKING IN INDOOR ENVIRONMENTS

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Abstract:

Wireless Sensor Networks (WSNs) are a kind of ad-hoc networks where the nodes in the network have sensors on board and can sense different phenomena around the sensors deployed in the field. WSNs became very popular due to its diverse nature of applications including Cyber-Physical Systems, Precision Agriculture, Disaster relief & Rescue operation, Object Tracking in terrestrial environment, Health care application to monitor the physical parameters of a human, space application etc. Most applications use the location information of a sensor node as an inherent characteristic. Location information is mandatory to identify in which spatial coordinate the sensor data originates. Broadly, the localization techniques are classified as: range based and range free methods. In this busy world, it is difficult for the parents to control child movement's in crowded places. There is a substantial risk that the child may get lost in the crowd. This has motivated to propose a solution to track the child movement in the crowded area like shopping mall, theatre, Play station etc. This proposed system helps to track the location of the child in In-Door environment using range based localization technique. RSSI is a parameter used to estimate the child location and communicate its position to parents. Child and parents are considered as nodes, child would be wearing ZigBee and GSM modules which periodically sends signals to the parent node. If the child gets moved away from parent, then parent receive the accurate location of the child and track the children within a range. With the use of distance measurement, position of children will be computed and location of child is informed to parents

CSE032

AN INNOVATIVE LOCKER

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Abstract:

Nowadays, the Internet of Things is becoming a reality more and more. Beside smart thermostats, light switches and power outlets controllable by smart phone apps creating smart homes, technology has solutions for daily encountered problems as well. We have identified two specific problems related to locking system and we proposed solution for the same.The one is vehicle and the second is mail box. Having a lock on a bike or mail box is not a guarantee that the vehicle or the documents won't get stolen. The proposed work provides a convenient way of locking, providing reliable security system for the vehicle/mail box. The proposed locking system uses the IoT technology and the application of smart phone communication technology to conventional device to lock or unlock remotely through authentication. In particular, this work proposes security enhancement against any physical damage or theft. "Locker" comprises of simple sub-systems that allows one to lock and unlock easily and securely. Using user's phone, the lock system can be locked/unlocked by entering a pass code in the Android application. One can also use the system using the registered touch patterns that can be entered through a touch sensor present in the lock. It provides intelligent lock/unlock with the location of your phone to the locker with the Bluetooth strength. It also provides theft alert to the user.

Keywords: IoT, Locker, lock on a bike, mail box

AN INTRODUCTION TO DOCKER AND ITS PERFORMANCE REVIEW

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Abstract:

Computational reproducibility has becomean issue of increasing importance to computer systems researchers and domain scientists alike. Though computational reproducibility seems straighter forward than replicating physical experiments, the complexity and rapidly changing nature of computer environments makes being able to reproduce and extend such work a serious challenge. Thus the concept of emerging technology Docker have explained so that it combines several areas from systems research such as operating system virtualization, cross-platform portability,modular re-usable elements, versioning, and a DevOps philosophy, to address these challenges.

Keywords: Docker, DevOPs, cgroups, Ansible, Virtualization.

CSE034

IMAGE PROCESSING BASED FAULT DETECTION AND ISOLATION FOR MECHANICAL COMPONENTS

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Abstract:

Fault Detection and Isolation (FDI) is essential in mechanical industry to detect and isolate objects with manufacturing defect. At present in assembly line, mechanical components are transported from one stage to other stage for assembly, packing etc. During this process, components are randomly drawn from the conveyor belt and manually inspected. Since the random inspection is done manually, there is a chance of missing out defected components in the assembly line. Manual inspection is time consuming and all the features of the components cannot be verified accurately. Hence, there is a need for a image processing based system to detect the anomalies in the components sent in the conveyor belt. In this work, camera is mounted above the conveyor module and captures the images of nuts and bolts which moving on conveyor belt. Captured images are preprocessed to remove background noise, then image is enhanced to get the appropriate features and Region of Interest (diameter of nut) is extracted to measure the diameter. If any anomaly is found in the attributes (diameter) of the mechanical components, an electrical signal will be sent to the Solenoid valve and then it actuates deflector plate by the pneumatic cylinder. Defected component is then carried by the secondary conveyor to the re-matching and the quality product are then carried to the packaging will passed to the separator through microcontroller. In this way, components with manufacturing defect are identified and isolated from assembly line.

GATE CAPSULE- AN APPLICATION TOWARDS THE CREATIVE LEARNING EXPERIENCE

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Abstract:

Gate Capsule is an android application which is used by the students for the preparation of Gate Exams. There are many mobile application which are previously available for Gate Preparation. This application improves our knowledge completely on one entire subject, in the form of Lectures and PDF. The lectures will be of both kinds documents and video. The incorporation of practice tests is helpful to understand the strengths and weakness in the particular subject. There are also provisions given where the reference towards the previous GATE question papers from which we can know which question is repeated often and the format of questions asked. The rating and review about an application through play store can also be given. This app is lesser in size and this app is a user friendly app and also it is an offline app. Gate Capsule which is free of cost, so anybody can use the app for the preparation of Gate Exams.

Keywords: Gate, Android app

CSE036

THREATS TO MOBILE SECURITY AND PRIVACY

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Abstract:

Market research reports from Forrester estimates the global mobile penetration to be around 50% in2017 and is forecast to reach 66% by 2022. In India, Mobile Internet Penetration using Smart Phone hasreached 36% as of 2016 from 0.1% in 1998. With the grand new push towards Digital India and low cashtransactions, mobile transactions including mobile payments have seen significant thrust in the recenttimes. Many startups as well as major enterprises and government has been continually providing andpromoting many mobile apps for variety of transactions from multimedia messaging to digital payments.In this paper, we present a survey of the threats and a clear demonstration of the risks of usage ofmobile on security and privacy of the person using it and his/her communications.

SECURITY SYSTEM FOR DECISIVE DATA USING LIFI TECHNOLOGY

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Abstract:

Wherever there is a light source, there can be data transmission. Light bulbs are present everywhere – in homes, offices, shops, malls and even planes, meaning that high-speed data transmission could be available everywhere. There is a rising concern over depletion of bandwidth used in wifi. Also there are harmful radiations involved with radio waves which can be avoided using visible light. The technology used in our project is LiFi (Light Fidelity) which was invented by Dr. Harald Hass at University of Edinburgh in 2011. LiFi is a Visible Light Communication (VLC) system running in bidirectional communication system and also travelling at very high speeds. LiFi uses LED (Light Emitting Diodes) light bulbs to enable data transfer, boasting high speeds which is more efficient and faster than the existing methods like Wi-Fi. LED transfers the data by means of binary where '0's are represented by LED off state and binary '1's are represented by LED on state. LED's are used rather than any other fluorescent bulbs because it's a solid state device consisting of a semiconductor and can be switched on/off instantly at comparatively greater speed. Though the LEDs are switched on/off simultaneously, it will not be perceived by the human eyes. This project uses PIC16F877A Microcontroller which controls the whole process of data transfer. Data is transmitted serially at 300 baud rate. Distance of 15 cm is achieved. In addition to implementing Li-fi technology, an environment is also modeled in which, if there is any incident of fire or gas leakage, the data will automatically be transferred from the microcontroller to a system using Li-fi

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Keywords: Visible light communication, LED, microcontroller

CSE038

A SURVEY ON ITEM SELECTION APPROACHES FOR COMPUTER BASED ADAPTIVE TESTING

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Abstract:

Assessment is an essential part in determining the level of attainment of education. In spite of availability of several formal and informal methods, Computer Based Assessment (CBT) is predominantly used for very large scale assessments. Adaptive Testing, a form of CBT has better estimation properties if the difficulties of its items match the ability of the student. Items that are too simple or too difficult give unpredictable reactions and can't give much information about the ability of the student. It is therefore essential to select items from the large pool so that the selected item gives maximum information about the ability of the student. This paper reviews the various methods for the item selection during the computerized adaptive testing.

Keywords: Computer Adaptive Testing, Item selection approaches

ENACTMENT OF THREE PORT DC-DC CONVERTER INTERFACE WITH RENEWABLE ENERGY FOR ENHANCEMENT OF HYBRID VEHICLE

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Abstract:

In present scenario, automobiles industry, commercial industry and domestic household are using renewable energy sources to reduce the pollution and the cost. Renewable energy sources like Fuel cell, Photo Voltaic arrays, mainly used by this industry. For stand-alone system energy storage electronic devices required for backup power and fast dynamic response. A power electronics circuit is interfaces the sources with the load with energy storage. As multi-port converter has single stage conversion it reduces the size and cost of the electronic device and improve the control strategy and power management**.**

Keywords:PV-Photo-voltaic arrays, Buck Converter, Fuel Cells, Energy Storage, and MATLAB Simulink

CSE040

LAZY LEARNING ASSOCIATIVE CLASSIFICATION IN MAPREDUCE FRAMEWORK

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Abstract:

The objective of the work is to propose a distributed environment based lazy learning associative classification. Associative Classification (AC) is a hybrid version of data mining tasks which integrated both Association Rule Mining (ARM) and Classification technique to build accurate classifier. Unfortunately, the AC used for learning these classifier are less popular in real time for building application due to its higher computation time complexity and memory constraints in large volume of datasets. Moreover, single processor's CPU resources and memory are limited, which makes the algorithm inefficient to handle such datasets. To overcome such drawbacks, we propose a parallel and distributed computing for lazy learning associative classification for accelerating algorithm performance by projecting the testing instances with large training datasets. In this work, we have implemented MapReduce based algorithms which reduce the computation by eliminates the need of constructing generalized classifier. It also well handled rare rules and generated institutive rules. The proposed algorithm may be suitable in area such as network intrusion detection, fraud detection, crowd analysis, rare disease prediction and crime analysis. Our algorithm has been compared with well known existing algorithms in terms of accuracy and computation time. The experiments result has strengthened the proposed algorithm well handle the rare rules in distributed environment and turns to be practically address the big datasets.

Keywords: Association Rule Mining, Rare rules, Classification, Associative Classification.

AUTOMATIC TICKET VALIDATION SYSTEM FOR INDIAN RAILWAYS

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Abstract:
Railway system places a vital role in public transportation. Railways are widely used commutation by the public. There are many services provided by it like a ticket, catering, etc. Ticketing system has evolved from paper ticketing system to electronic ticketing system. In a metro train, the system provides smart card where a passenger can recharge and buy tickets using that, this may be regular or seasonal ticket smart card which will calculate the fare for travel. In order to book tickets for long distance travel, passengers can buy e-ticket via an internet or can in person at railway stations. In case of e-ticket, the tickets would be validated by ticket examiner (TTE) with a valid original identity proof. Passengers will be in trouble if they forget to take the ID card. Lack of Ticket Examiner leads minimal verification of the passenger's ticket. In the proposed system by the use of online services with the internet, passengers can add their own unique national Identity proof (Aadhaar card) while booking tickets, which helps automatic ticket validation. Biometric checks of the passenger take place at the entrance and exit of each compartment of the train. With the help of cloud storage, the details can be validated by comparing Aadhaar database. In case of mismatching tickets alarm rings and alert message will be sent to Ticket Examiner. Using GPS on a train, location can be obtained and the source and destination of the passenger can be validated. Checking at the exit path, the destination can be checked and can avoid the persons travelling long distance with short distance travelling ticket. Also, the system prevents the person travels without buying tickets. The proposed system is implemented using Raspberry Pi, fingerprint scanner and GPS Receiver.

Keywords: Indian Railways, automatic ticket validation, biometric checking, Aadhaar data base.

CSE042

EXPLORATORY DATA ANALYSIS OF DRUG CONSUMPTION DATA

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Abstract:
Drug utilization is the consumption of the drug in all the state or country. In the rushing world, technology development is peaked. Human beings are fully addicted with technology, intake of food and that leads to easy attack on diseases results. To cure the disease, intake of medicines at over dosage of chemical compounds leads to lot of side effects. In previous analysis, it tells about the maximum and minimum utilization of drugs and increase in number of enrolls and the mean number of prescription can be found. In addition to that, amount spent for drugs for Medicaid enrolls has been increased in the last decade dramatically Exploratory data analysis (EDA) is an approach for analyzing data sets to summarize their main characteristics, often with visual methods. The methodologies used for this analysis are statistical analysis -collecting, exploring and presenting large amounts of data in a graphical view-pie chart, bar, line graph can be plotted. This analysis speaks the maximum and minimum utilization of drug with limited dosage in a particular state, comparison of the drug with maximum utilization in every quarter can be analyzed with the count of prescriptions given in the data set. Maximum drug used in particular time period and the survey of disease is shown.

Keywords: Drug consumption,Drug utilization,reimbursement of Medicaid and non-Medicaid agencies,Food and drug administration,state code, no of prescriptions

CSE043

ENCOUNTERING PRIVACY - SENSITIVE INFORMATION IN MEDICAL DOCUMENTS

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ABSTRACT:

Trust Relationship between a healthcare provider and patient lies in the level of confidentiality of their entrusted information. With data becoming more attainable, protecting patient confidentiality is a task which cannot be disregarded or trivialized. There are many laws and regulations to protect these sensitive information and prevents revealing them without patient's consent. Milestone services of cloud computing technologies drive the industries including healthcare to claim a step ahead in their business management. As healthcare domains involve patient privacy information, they are uncertain to adopt the cloud. By playing proper privacy preserving methodologies on electronic health records security of patient's data can be ensured. Identification of privacy related or sensitive information in a textual medical document is a vital and complex process. The motivation of this paper is to identify the sensitive information from the medical documents, remove stop words and to avoid their influence in the computation by means of web queries. The methodology used helps in dealing with complexity in health information data by combining machine learning techniques with keyword-based, rule-based approaches and Natural language processing tools which also makes use of NP(noun-phrases), tokenization and so on.

CSE044

DATA ANALYTICS IN FOOTBALL SPORT TO IDENTIFY GAPS FOR THE IMPROVEMENT OF QUALITY OPPORTUNITIES THROUGHOUT WORLD-WIDE TEAMS

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Abstract:

Football is a widely known sport. Billions watch and play the game around the world. Data Analytics has assumed a huge role in the world of Football. It has transformed how people approach games, team formation, player selection etc. Data analytics has enabled teams from around the world to understand their game better and perform better. Data analytics is also used to predict the outcomes of games enabling people to make educated guesses while betting. There is no doubt that Football is worldwide sport. However, there are so many teams worldwide who haven't improved when compared to some of the others. Few teams don't even manage to make into the main tournaments like FIFA. Some countries lack funding and some teams don't have the exposure to standard equipment, coaching opportunities etc. It is very important for a Football enthusiast to know that the game keeps evolving towards a point where there are more quality teams around the world. It is very important for data analytics to move into this direction of finding answers to the question "What can be done to provide quality opportunities to the teams worldwide?". The present paper discusses exactly that and looks to provide an answer to that very question.

Index Terms: Data analytics, Football, Pandas, Players, Python, Sports, Statistics.

CSE045

IMPACT OF ACADEMIC AND SOCIAL FACTORS ON THE ACADEMIC PERFORMANCE OF FIRST YEAR ENGINEERING STUDENTS

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Abstract:

To study about the learning outcome and measuring the same has considerable amount of complexity. Each student has his/her own way of learning pattern and every individual is prone to deviate from learning because of the pace of distraction for them. This study focuses on measuring and assessing students learning outcome. Assessment primarily starts with the measurement of outcomes. Measurable outcomes involve student's behavior / outcome, assessment method and criteria for success. Learning outcomes are measured with student's knowledge, skills, regularity in attending regular classes, daily activities / time spent on each activity and values on completion of a courses/program. It can be measured directly or indirectly. This study will formulate a strategy to improve the success rate of the students.

Keywords: outcomes, learning outcome, program outcome, assessment and students behavior

CSE046

AN EXPLORATORY DATA ANALYSIS ON IMPACT OF VARIOUS FACTORS ON MOVIE SUCCESS

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Abstract:

The film industry plays a major role in the planetary or world-wide economy. It is the symbolic contributor to the global economy. Every year more than hundreds to thousands of movies are released to the public audience with the hope that the movies getting released will be the next block buster. According to the movie industry statistics, six to seven movies out of ten movies gets unprofitable, only one third of the movie gets success. The producers, studios, investors, sponsors in the movie industry are alike interested in predicting the box office success of the movie. This paper is on analysing the film genre, the release date around holidays, the release month of movies, the language and country with more movies from the movie review dataset. The attributes like country, languages, genre, movie release date, budget and revenue are taken from the dataset and analysed to determine the movie success. The analysed data is plotted in the graphs for statistical observation of the movie success.

Keywords: predicting box office success, genre count, release month, movie profit

GDP BASED MEDAL COUNT ANALYSIS IN SUMMER OLYMPICS GAMES FOR TWO DECADES - AN EXPLORATORY ANALYSIS

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Abstract:

The Olympics games started way long back with many participants and winners from all over the world. The game involved in many disciplines and made a bigger impact on the participants and the audience as well. A big data boom is on the horizon, so it's more important than ever to take control of this data. Instinctively this analysis recognise that to perform better than the competitors, this need accurate evidence and data to base the decisions on. The game had its debut in the year 1896 and the progress till now is recorded with the athlete's respective years, disciplines, total medal counts. The goal of this thesis included improved understanding of the competing countries and to develop the players' skills more efficiently for both the extremes (First 10 and Last 10 countries). The analysis is taken by the data of last 5 summer Olympics Games using statistical methods such as correlation factor. Performance analysis is based on the correlation factor with respect to country's GDP (Gross Domestic Product), total medal counts and gold medal counts. This analysis results in an outcome for both extremes meant to amplify the information, which can make the users get higher knowledge about their competitors and country to proceed. There are attributes(year, GDP in million) taken from the dataset and derived attributes(country wise total medal count and country wise men and women athletes count and distinct medal counts for men and women) obtained and analysed to give the knowledge of both extreme countries' (First 10 and Last 10 countries) performance in each year. Finally, the analysed data is plotted in graphs, which can help to find the successes as well as disappointments.

Keywords: exploratory data analysis; olympics analytics; medal count analysis; gross domestic product (GDP);

CSE048

ROAD TRAFFIC MONITORING SYSTEM

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Abstract:

Nowadays, the Congestion in traffic is one of the major issues in many cities.There are different causes of congestion in traffic like insufficient capacity, unrestrained demand, large Red Light delays , increase the number of vehicles etc. As populations are growing, it is difficult to manage the traffic on the roads and also the people has to wait for the green signal for a long time as it is not depend on the density of traffic in the real time. This paper presents the method to find the density of the traffics in each signal by using camera and sensors. According to the vehicle density on road, the decisions are made to switch the traffic lights to red or green. As the result it will reduce the traffic congestion on roads which will help lower the number of accidents

Keywords: Density of traffic, Internet of Things, congestion, sensors

CSE049

SOFTWARE DEFECT PREDICTION MODEL USING CASCADED RANDOM FOREST

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Abstract:

Software quality is considered to be of great importance in the area of software engineering and development. Software Defect Prediction (SDP) plays a major role to predict the fault in software. This paper provides an overview of Cascaded Random Forest (CRF)and its application to predict defect prone modules. This proposed model helps in achieving high software reliability.Two publicly available NASA Promise repository datasets: PROMISE DATASET and BUG PREDICTION DATASET are employed for training and testing the proposed SDP model. The predictor model accuracy obtained using CRF model was compared with Decision Tree algorithm. Predicting lower value in FNR means that most fault-prone modules can be detected prior to the system testing which is useful for testers and project managers to allocate their time and resources on those parts while there is a limited time and budget for testing any software project.The superiority of CRF over the Decision Tree algorithm in predicting error prone modules is established in this paper.

Keywords: Software Defects, Cascaded Random Forest, Decision Tree

CSE050

SMART FARMING USING IOT AND BIG DATA

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Abstract:

Crop production is the major problem in agriculture sector due to less number of workers in the farm. Computing devices such as sensors are embedded in the farm field and are communicated with each other through its unique id. The values sensed by the various sensors are collected and controlled remotely using Internet of Things. Various Sensor such as temperature sensor, humidity sensor and pH sensor are deployed at different location in the farm field to measure temperature of the atmosphere, humidity of the soil and pH of the soil respectively. The values sensed by the sensor are analysed and processed to predict the crops to be grown. The huge amount of crop and soil related data's are collected from various heterogeneous resources over the years and stored in the knowledgebase, which leads to big data. R tool is used to extract the semantic information and stored in a database. The sets of rules formed for the sensed data are then compared with the semantic rules in the knowledgebase and provides suitable list of crop to be grown. The corresponding decision from the knowledge base is sent to the land owner's mobile through SMS using radiofrequency which consumes less power. Sensors are coordinated through GPS and are connected to the base station in an adhoc network using WLAN. Automatic crop monitoring is done by controlling the computing devices remotely through IoT. If rainfall comes, land owners no need to irrigate the land because humidity gets changed. So, water can be saved which in turn consumes power. Also if the temperature or humidity or pH goes beyond the threshold level, then it generates alert to the corresponding land owners.

Keywords: Internet of things, Big Data, Farming, ICT

CSE051

AN IOT BASED AUTOMATIC SOLAR PANEL CLEANING ROBOT

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Abstract:

The Solar energy is the most important source of energy for life forms as it is a renewable source of energy unlike non- renewable sources such as fossil fuels. Solar power in India is a fast developing industry. Solar power plants use the photo voltaic modules to produce electricity. The amount of accumulated dust on the surface of the photovoltaic module affects the overall energy delivered from the PV module on a daily, monthly, seasonal and annual basis. Annual losses caused by this trend due to soiling ranges from 1.5% to 6.2% depending on the location of the PV plant. Cleaning the panels can improve the production.Therefore a system is needed to clean the panel automatically in order to increase the productivity and avoid manual cleaning. Thus an automatic solar panel cleaning robot can serve as a solution. This robot helps in cleaning the dust on solar panels by sensing the dust on the photovoltaic module through a dust sensor. The robot senses the intensity of dust, moves over the panel and collects the dust in a bin attached to it.

Keywords: Solar panel cleaning system, Robot, Internet of Things based robot, panel Cleaning system, Dust cleaning system

CSE052

SECURE DATA ACCESS PRIVACY PRESERVING USING CLOUD SERVICES

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Abstract:

In spite of the tremendous computationaladvantages, outsourcing data to the public cloud is also preventing customers' direct control over the systems that use their data, which unavoidably brings in new security challenges. Cloud computing gives numerous advantages and unparalleled convenience for the users to enjoy the on-demand access of cloud provided that the local infrastructure limitations need not be taken into account. While accessing data, there may be a co-operative relationship among different users which makes sharing and exchanging of information, a tedious process. The view of current security solutions is mainly on authentication to apprehend that the data of an individual cannot be approached illegally, but there arose a privacy issue when a user request for data sharing to other users through cloud server. The users' privacy may be exposed by challenged access request itself regardless of whether the data access permission for the user is obtained or not. In the proposed system, a privacy-preserving authentication protocol is employed to prevent the above privacy complications. In this technique, authority of data through shared access is achieved by the process of sending anonymous access request which gives privacy to the cloud users. Access control is based on attributes so that the cloud users can only access their own authorized data fields. Advanced encryption standard algorithm is used to achieve data anonymity and data protection. The proposed method dealt with secure privacy preserving data access authority is attractive for multiple-user in cloud real time storage.

Index Terms: Cloud computing, authentication protocol,shared authority, privacy preservation, data anonymity.

AUTOMATED GENERATION OF QUESTION ANSWERING SYSTEM USING SEMANTIC WEB

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Abstract:

Question answering system provides answer to user's question according to the requirement. Question answering used in various fields such as Information Retrieval, Natural Language Processing, Artificial intelligence, Document Retrieval and Automatic evaluations. In Question answering system, once the question is posted by the user, the system need to find meaning of the words such as synonyms and provide correct answer to the user. It is very difficult to find answer from huge amount of information available in World Wide Web. The process involved in QA is question generation,answer filtering and store in the database. The proposed approach is used to retrieve the answers for the posted query in an efficient manner and reduce time consumption. WAD approach is used to analyze the answer and rank the accuracy of the answer with the existing method.

Keywords: Answer Ranking, Natural Language Processing, Cloud, Named Entity Recognition, Information Retrieval

CSE054

REVIEW ON PRIVACY PRESERVING MODELS FOR EFFICIENT HEALTHCARE BIG DATA SHARING IN CLOUD

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Abstract:

Healthcare data is highly confidential and thus sharing of those data is complex. But to diagnose a patient,the professionals need to access their healthcare data. Those data will be in the form of Electronic Medical Record (EMR) which includes multimedia data like X-ray, Scan and ECG. Size of the EMR is rapidly growing thus it is to be stored in format of Big Data. Major issue in Big Data is privacy, as EMR is taken into account a tiny change in data could create a larger impact. Data theft attack is considered to be the serious security breaches of Big Data. On the other hand limiting the access of EMR must not restrict the data flow within the authorized users.

Keywords

Electronic Medical Record (EMR), KP-ABE algorithm

TWITTER SENTIMENTAL ANALYSIS

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Abstract:

In this modern era, social media plays a vital role in information exchange, sharing their thoughts. Emotional Effect of a person maintains an important role on their day to day life. Sentiment Analysis is a process of analyzing the opinions and polarity of thoughts of the person. Twitter is a main platform on sharing the thought's, opinion and sentiments on different occasions. Twitter Sentimental Analysis is method of analyzing the emotions from tweets (message posted by user in twitter). Tweets are helpful in extracting the Sentimental values from the user. The data provide the Polarity indication like positive, negative or neutral values. It is focused on the person's tweets and the hash tags for understanding the situations in each aspect of the criteria. The paper is to analyse the famous person's id's (@realdonaldtrump) or hash tags (#IPL2018) for understanding the mindset of people in each situation when the person has tweeted or has acted upon some incidents. The proposed system is to analyze the sentiment of the people using python, twitter API, TextBlob (Library for processing text). As the results it helps to analysis the post with a better accuracy**.**

CSE056

CONTEXT BASED IMPROVEMENT OF BIOMEDICAL WORD SENSE DISAMBIGUATION

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Abstract

Context information is very important to identify the sense of a polysemous word and may offer clues to the Word Sense Disambiguation (WSD). WSD algorithms, therefore, mostly rely on an External Source of Knowledge like a Thesaurus or Ontology to automatically select the proper concept of an ambiguous term in a given Window of Context. SenseRelate is a well-known WSD algorithm, which uses a fixed window size and takes into consideration the distance weight on how far the terms in the context are from the target word. This may impact negatively on the yielded concepts or senses. To overcome this problem, and therefore to enhance the process of Biomedical WSD, in this work we propose a simple modified version of SenseRelate Algorithm named Walkers method which simply ignores the distance, that is, the terms in the context will have the same distance weight. In this study, we realize a comparative study between SenseRelate and Walkers algorithm, and evaluate the effect of context window size to WSD Context-Based, by exploiting Semantic Similarity and Relatedness measures extracted from Biomedical Resources. We evaluate our system on a biomedical dataset (WSD) that contains ambiguous terms and acronyms. The obtained results show that Walkers method consistently obtain higher disambiguation accuracy on window size. However, when window size is 2, SenseRelate method obtains higher disambiguation accuracy than Walkers method.

Keywords: polysemous word, Thesaurus or Ontology, ambiguous terms, SenseRelate, Walkers algorithm.

WORD SENSE DISAMBIGUATION USING OPTIMIZATION TECHNIQUES

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Abstract:

In the field of Computational Linguistics, Word Sense Disambiguation(WSD) is a problem of high significance which helps us to find the correct sense of a word or a sequence of words based on the given context. Word sense disambiguation is treated as a combinatorial optimization algorithm wherein the aim is to discover the set of senses which help to improve the semantic relatedness among the target words. Nature inspired algorithms are helpful to find optimal solutions in reduced time. They make use of collection of agents that interact with the surrounding environment in a coordinated manner. In this article, two such algorithms, namely, Cuckoo Search and Firefly algorithms, have been used for solving this problem and their performance have been compared with the D-Bees algorithm based on Bee Colony optimization algorithm. They have been evaluated using the standard SemEval 2016 task 11 data set for complex word identification. Experimental results show that Firefly algorithm is performing the best.

Keywords: Word sense disambiguation, Cuckoo search, optimization, firefly, Bees algorithm, unsupervised

CSE058

PRESERVING ACCESS CONFIDENTIALITY BY SHUFFLING AMONG CLOUD SERVERS

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Abstract:

Cloud computing has emerged as a successful solution to improve the utilization of IT resources with low cost. Many enterprises are attracted towards cloud due to itscost-effective services. While the data are outsourced by the data owners to cloud, they lose their control over their data. Though a certain level of content security and access security are assured by cloud service provider, it is required to address the malicious attacks. While accessing the data multiple times from a particular server for a similar request, intruders may gain knowledge on the data location and access pattern. This may help them to access the data by identifying other details particularly data location. Hence shuffling data among different servers may prevent the data location from them. This article focuses on access confidentiality by shuffling the data among different servers owned by a service provider. The analysis shows that the proposed method has significant improvement on security when compared to existing methods.

Keywords: Cloud Computing, Public Cloud, Access confidentiality, Shuffling

AN EXPLORATORY DATA ANALYSIS OF BOWLER'S PERFORMANCE IN IPL

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Abstract:

Indian premier league is one of the most popular cricket league. So, it attracts more cricket admirers. Bowlers are the one of key players for the every team especially in twenty –twenty cricket. Their performance change the match result. In this study, the bowler's performance is analysed in every season of the Indian premier league. Performance parameters chosen are number of wickets, number of maiden overs bowled, economy rate and number of boundaries. Among the various parameters, economy rate and wickets are the significant for the match. We also analysed which bowler performed consistently and also whom performed well in good batting pitch.

Keywords:wickets taken , maiden overs bowled ,economyrate, consistent , bowler's performance.

CSE060

RESOURCE OPTIMIZATION TO IMPROVE CONFIDENTIALITY BASED DOCUMENT FRAGMENTATION

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Abstract:

Wide adaptation of cloud pressurizes the cloud service provider to ensure the security of all services and resources that they provide. As security and efficiency has become trade off, an optimized heuristic approach is required for gaining customer satisfaction. Service providers can employ fragmentation, replication combined with encryption to promote efficient secure data sharing. When a document is divided into variable size data chunks based on the confidentiality involved, fragmentation cost increases as the confidentiality increases. Also the encryption cost increase with data size when a single encryption methodology is employed. The proposed method optimizes the fragmentation cost by dynamically allocating proper size of virtual machines. High parallelism is achieved by increasing the number of VMs in CPU bound fragmentation whereas VMs are reduced in case of low confidentiality to avoid the needless energy consumption. The experiments analyze the impact of high resource utilization on fragmentation with an efficient confidentiality measure. The results reveal that the proposed approach increases the performance of fragmentation in terms of time complexity.

Key words: Security, Confidentiality, Document fragmentation , Dynamic resource allocation, Optimization

AN ANALYSIS OF FACTORS AFFECT THE AGRICULTURE PRODUCTION RATE IN INDIA FOR ONE DECADE

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Abstract:

Due to fast growth in information technology, the availability of agricultural data is enormous. It is necessary to extract useful information from these data. An analysis was done on agricultural data containing the production of various crops year wise from 1997-2007. The aim of this paper is to identify the factors that might have played a role in affecting the amount of production in India. An exploratory data analysis technique is applied on this data to identify the major factors affects production rate. The extracted information is useful to identify the factors that affect the growth of crops. The identified factors are less availability of cultivable land and the rising temperatures in India. The neighbouring countries like China, Sri Lanka and Pakisthan crop production data are compared with India. To increase production, the remedies are to increase the amount of cultivable land in India by preserving arable land and avoid the conversion of agricultural land into residential areas. Modern agricultural methods can be adopted to increase production**.**

Keywords: Exploratory data analysis, land analysis, crop analysis, agriculture data analysis

CSE062

A COMPREHENSIVE SURVEY OF MULTIMODAL IMAGE FUSION SCHEMES

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Abstract:

Multimodal images are scenes with anatomy details that are captured using two different devices. Different imaging techniques give complementary details about what is visualized. Infrared and visual images are examples of multimodal images that are fused together in order to obtain a single comprehensive fused image. Combining multimodal images yield enhanced features for image analysis, feature extraction and detection. Infrared(IR) and Visual image(VI) fusion is devised to combine and fuse numerous source images into a single extensive image to raise the imaging quality and decrease the redundancy in image information. This is broadly used in different applications to improve the visual perception of the scene. The reliability, accuracy and complementary details of the scene in the resultant fused image makes these approaches be used in multiple areas. Recently, many fusion methods have been formulated due to the sprouting demands & advancement of image depiction schemes. However, a unified survey paper about this field has not been published in a few years. Consequently, we make a survey report to record the algorithmic advancements of visual and infrared image fusion. In this paper, firstly the overview of applications of IR and VI image fusion is represented. Secondly, we present the existing state of the art fusion techniques. Finally, image quality metrics are discussed to measure the efficiency of the fusion algorithm. Although, this survey halts with various fusion methods that have been proposed earlier there is still room for improvement in research in the field of multimodal image fusion.

Keywords: Multimodal ,Image Analysis, Image Fusion**.**

AN EXPLORATORY DATA ANALYSIS FOR LOAN PREDICTION BASED ON NATURE OF THE CLIENTS

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Abstract:

In India, the number of people applying for the loans gets increased for various reasons in recent years. The bank employees are not able to analyse or predict whether the customer can payback the amount or not (good customer or bad customer) for the given interest rate. The aim of this paper is to find the nature of the client applying for the personal loan. An exploratory data analysis technique is used to deal with this problem. The result of the analysis shows that short term loans are preferred by majority of the clients and the clients majorly apply loans for debt consolidation. The results are shown in graphs that helps the bankers to understand the client's behaviour

Keywords : Loan analysis, exploratory data analysis technique, client's analysis, financial categories analysis**.**

CSE064

A REVIEW ON SPECTRUM SENSING AND SPECTRUM SHARING OF COGNITIVE RADIO

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Abstract:

Cognitive radio technology has the potential to deal with the radio spectrum dearth, most of the spectrum is not efficiently utilized and the requirement for spectrum band has been increasing tremendously .To meet the stringent requirements of wireless communication, cognitive radio can be used as an agile technology where unlicensed cognitive users can able to use the licensed band of primary user without causing any interference to them. The cognitive relay network enhances the capacity, coverage area and network throughput. This paper reviews about spectrum sensing and spectrum sharing of cognitive radio and cooperative communication protocols in addition to that the BER performance of multi relay using DF is analyzed.

Keywords: Cognitive radio (CR), Spectrum sensing Spectrum sharing, Cooperative communication, AF, DF, Multi-relay

A SHORT INVESTIGATION ON EFFECTIVE SPECTRAL PROPERTIES OF MULTISPECTRAL AND HYPERSPECTRAL IMAGES FOR OBJECT DETECTION

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Abstract:

The Satellite based imaging system which is based on a network of artificial satellites is more efficient for remote monitoring of our ecosystem. It provides geospatial positioning and high precision information regarding the local time which can be used in global positioning, air and sea traffic and so on. Effective monitoring of our ecosystem has been achieved through remote sensing which extracts even fine spatial details of the earth, thus producing an image with good resolution for better clarity to be analyzed. This paper discusses about two different variants of satellite imaging on spatial objects which varies with the spatial significance. These satellite imaging instruments are primarily stresses on the pixel count for ejecting an accurate and more specific image. Increase in spatial resolution produces an accurate and precise overview about the chosen spatial entity thereby supporting the data collection technology and offers effective data interpretation. This can bring out better discrimination among the various resolution strategies and their relevance to a specific need.

CSE066

SPEECH EMOTION RECOGNITION USING DEEP LEARNING

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Abstract:

Emotion recognition is the part of speech recognition which is gaining more popularity and need for it increases enormously. Although there are methods to recognize emotion using machine learning techniques, this project attempts to use deep learning and image classification method to recognize emotion and classify the emotion according to the speech signals. Various datasets are investigated and explored for training emotion recognition model are explained in this paper. Some of the issues on database, existing methodologies are addressed in the paper. Inception Net is used for emotion recognition with IEMOCAP datasets. Final accuracy of this emotion recognition model using Inception Net v3 Model is 35%(~).

Index Terms: speech recognition; emotion recognition; automatic speech recognition; deep learning; image recognition; speech technology; signal processing; image classification

SIMULATION OF FIRE SAFETY TRAINING ENVIRONMENT USING IMMERSIVE VIRTUAL REALITY

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Abstract:

Virtual reality (VR) has been used to simulate environments that are very difficult and dangerous to practice in real time and also used as a learning tool in the simulated virtual environment. This study was conducted as part of a larger more comprehensive long-term research project which aims to combine the two techniques and demonstrate a novel application of the result, using immersive VR to help people learn about fire hazards and practice escape techniques. A game like interface techniques is used for VR fire-safety training interaction in order to improve motivation for learning and were encouraged to explore the virtual world. People were given full control to navigate through the virtual environment and to interact with virtual objects using a VR controller which gives a feel of an active user. Few home fire hazards situations are identified and then practiced escaping from a simulated fire in the virtual environment. A PASS training for fire extinguishers was included as a core concept of the project. PASS stands for Pull, Aim, Squeeze and Sweep while using a fire extinguisher. Knowing these techniques in times of trouble could be really helpful and mandatory.

Index Terms: Fire Safety, Fire extinguishers, Immersive, PASS Training, Virtual Reality (VR), Game interface

CSE068

A COMPREHENSIVE SURVEY ON WASTE MANAGEMENT AND ITS CHALLENGES

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Abstract*:*

Now-a-days waste management seems to be a challenge in every city right from its inception to its disposal. Waste management involves the collection of waste from its source, transportation and its disposal at the respective location. Garbage collections bins are flooded due to incremental increase in waste which emits foul odour causing health hazards, diseases and environmental pollution. In this paper, we survey on the mechanisms available for scientific collection and disposal of waste along with its challenges. From the descriptive survey we analyse the present scenario in waste management. It is seen that India faces challenges related to waste policy, waste technology selection and the availability of appropriately trained people in the waste management sectors.

Keywords: IoT, Waste Management, smart city, real time monitoring

AN ONLINE QUESTION & ANSWER PLATFORM

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Abstract:

(A Question and Answer Software is a software that focuses on answering the questions one might put up on an online platform. These are usually implemented by large organizations which aim on implementing a platform where users can clear their doubts about their respective fields. It varies from small scale to large scale or from topic to topic. Many of these platforms may restrict access to either their employees or make it a public one. The disadvantages of the existing systems are less security, searching efficiency is less, chances of faking answer. One may access these sites/applications from another's system in case they are not public or access the ones which are and post answers which aren't relevant. Sometimes people even lie on such platforms and there might not be any checker to cross-analyze these answers. Now one might also want similar answers to their question which may resolve their query beforehand. Problems which are undertaken are first, making sure that there is more security and safety. Second, helping the users to search answers for similar questions which may answer their question beforehand and even highlight other important points worth knowing. There had to be a way to find if the answers are worth trusting. One can't just blindly trust anything they read on the internet. They either look for other users who've said the same thing or maybe a trustworthy person like an expert. So in order to resolve these problems, the software created focuses on ensuring that a user has to make an account in order to access the website. Both users and experts can make their accounts and help out people with their queries. Third, there would be a similarity check that would allow the person to review similar questions and get more information. Lastly, this is a system which allows you to grade the answer you read with respect to how much it helped a person so others can trust the answer and its eligibility and see if it's legit. One can find a number of such platforms, varying from technical to a know-all domain. Quora or Yahoo! Answers are standalone Question and Answer Softwares and along with StackOverflow, Qhub, and they all are open source.**)**

Keywords -: Software, questions, answers, platform, similar, query

EXCSE002

SECURITY AND SAFETY WITH FACIAL RECOGNITION FEATURE FOR NEXT GENERATION AUTOMOBILES

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Abstract:

This is the era of automated cars or self-driving cars. All car vendors are trying to come up with different advancements in the cars (Like Automatic car parking, Automatic Lane changing, automatic braking systems, android auto, car connect, Vehicle to external environment technology etc). In the automation industry, TESLA, Google and Audi are the most competent leader among each other as well as for other automation business also. Modern vehicles are all equipped with different technologies like navigation system, driver assistant mode, weather mode, Bluetooth, and other safety features which brings broader impact to quality of human's life, environmental sustainability. This paper explains how the proposed feature, unlocks the semiautonomous cars or autonomous cars safely and provides the safety to the entry level cars. The acknowledged pictures are put away in the picture database amid confront acknowledgment by utilizing Support Vector Machine (SVM) classifier. Information from confront pictures through picture pressure utilizing the two-dimensional discrete cosine change transformation (2D-DCT). A self-arranging map (SOM) utilizing an unsupervised learning method is utilized to order DCT-based element vectors into gatherings to distinguish if the picture is "available" or "not available" in the picture database. The face is detected by the event that the framework perceives faces, only the authentic users are able to start the ignition of the car and untheorized users are not allow to start the ignition.

Keywords : Face detection, Controller , Autonomous vehicles, safety , new feature , driverless cars , SVM

ANN BASED ENERGY MANAGEMENT STRATEGY FOR AN ELECTRIC VEHICLE WITH BATTERY/ULTRA-CAPACITOR MODULE

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Abstract

Multi-input converters (MICs) in hybrid energy storage systems (HESSs) presents several advantages such as low component count, control simplicity and fully control of source energies. The power levels of sources in these systems need to be determined wisely by an energy management strategy (EMS). This system has an EMS for a battery/ultra-capacitor (UC) HESS(Hybrid Energy Storage System) including a bidirectional MIC for electric vehicles (EVs). The energy flow between battery and UC is free in this MIC. The proposed EMS not only regulates the state-of-charge of UC but also smoothens the battery power profile by using an Artificial Neural Network (ANN). Therefore, it results in a sustainable HESS with a longer battery life. Based on experimental results, battery cycle life improvement due to the battery/UC hybridization is also explored..

Keywords: Battery, Electric Vehicle, Energy Management Strategy, Hybrid energy storage system, Ultracapacitor.

EEE002

A COMPARATIVE STUDY OF STATCOM AND TCR FOR POWER QUALITY ENHANCEMENT IN TRANSMISSION SYSTEM

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Abstract

A new STATCOM scheme is proposed in this research work, which overcomes the drawbacks of the conventional Δ-connected reactor bank with a harmonic current filter. This arrangement prevents the triplen harmonics generated by the Y- bank from entering into the supply system and also results in cancellation of some major characteristic harmonics from the source current. Thus, without using any additional filters or phase-shifting two-winding transformer, this scheme facilitates reactive power control over a wide range and also meets the requisite harmonics standards. The scheme is simple and provides a cost-effective solution to the VAr compensation problems. It also results in performance enhancement over the basic TCR scheme by improving the power quality standards. This paper determinesthe Total Harmoic distortion of FACTS devices.The proposed system is implemented in MATLAB/Simulink.

Keywords: harmonics, powerquality, filters

EEE003

WASTE SEGREGATION USING DEEP LEARNING ALGORITHM

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Abstract

In 2017, India is in 177th position of the Green ranking in World Economic Forum. Due to poor handling of air pollution and waste management, India has moved from 141st position to 177th position. An Indian government for the welfare of sanitation workers has raised the need for an automated system in waste management. Global Waste Management reported that the amount of waste generated worldwide produced is 2.02 billion tones. The existing garbage disposal system in India consists of unclassified waste collected from homes which are then segregated at a station manually. The segregation of solid waste done by manual labor can bring about many health hazards for the waste sorters in addition to being less efficient, time-consuming and not completely feasible due to their large amount of waste. In our paper, we proposed an automated recognition system using Deep Learning algorithm in Artificial Intelligent to classify objects as biodegradable and non-biodegradable, that identify objects real-time and classify them almost accurately. This algorithm has suitable for a large amount of waste segregation process. Using python index package of spyder has done by identify an object of waste from webcam and then detect what type of object. In this paper was developed only simulation. This process will make ever green India. Biodegradable waste is used to generate power, and also as food to animals. This process does not harm the earth making it valuable, ecologically safe and helps us to protect our environment, rich ecosystem and human inhabitants in future.

Keywords:

EEE004

A NOVEL ELEVEN LEVEL INVERTER EMPLOYING ONE VOLTAGE SOURCE AND REDUCED COMPONENTS FED INDUCTION MOTOR DRIVES

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Abstract

This paper proposes a new multi-level inverter topology for multilevel output voltage. The design of this topology is based on capacitor switching technique and the number of output levels is determined by the number of capacitor switching cells. Only one DC voltage source (i.e., solar panel) is used and the issue of capacitor voltage balancing is avoided as well. This model can be enhanced higher rating, and also it has simplified gate driver circuit due to reduced number of switches. Operating principle of this multilevel inverter and the modulation techniques are presented, and power losses are also discussed. Finally, the performance of the proposed eleven level multilevel inverter is calculated with both the simulation result and experimental results of an eleven-level prototype inverter to run an induction motor.

Keywords:

EEE005

REAL TIMEMONITORING SYSTEM: IMPLEMENTATION OF FACE DETECTION AND RECOGNITION ALGORITHM

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Abstract

Face detection and recognition is used in biometric applications to identify the faces in real time and compared with the database. The main goal of this paper is to develop a simulation and a real time hardware monitoring system based on an FPGA platform. The canny edge detection algorithm is used to detect the face edges in real time. The simulation can be done by using MATLAB and the hardware platform can be developed by using an Altera DE1-SoC development board, 5 mega pixel TRDB-D5M CMOS camera and a PC monitor. The hardware programming language here used in Verilog HDL to perform the real time canny edge detection algorithmusing Quartus Prime Lite Edison. The end result of the system is given to the alarm system and motor control system.

Keywords: Open Computer Vision, FPGA, Quartus Prime, image processing, edge detection, TRDB-D5M camera and DE1-SoC board

EEE006

A NOVEL METHOD OFREAL TIME CLOTH SIZE MEASUREMENT ALGORITHM BASED ON FPGA PLATFORM

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Abstract

Measurements are the very important parameter in all fields like automobile, textile, farming, construction, etc... In this paper we present a method of automatically measuring sizes of a garment from a single picture. The main objective of this paper is to develop real time hardware measurement system based on Field Programmable Gate Array for high accuracy and simulation method using edge and contour detection technique. The simulation can be done by using OPEN CV and hardware platform is based on Xilinx PYNQ-Z1 board which has a combination of ARM Cortex A9 dual processor with an FPGA logic blocks and Logitech C270 USB camera. In this study, we design a set of equipment to capture images of tiled cloths of any style and any color, and propose an automatic cloth measurement approach using image recognition. A garment template is introduced to recognize contour area of given cloths, which are used to calculate the cloth size measurement. The method provides a useful and efficient tool for cloth measurement. Experimental results show that the accuracy of the approach can meet the requirements of the apparel industry.

Keywords: Image Processing, contour detection, Open Computer Vision, Python, FPGA, Xilinx PYNQ-Z1 board, Logitech C270 USB camera, cloth measurement, PC monitor.

PV FED BLDC MOTOR USING ZETA CONVERTER

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Abstract

This paper proposes a zeta converter fed photovoltaic array as input power source for effective control of BLDC motor. The maximum power available from the SPV array is attained and it is conveniently utilized by the Zeta converter. The voltage source inverter (VSI) is used to perform electronic commutation of the BLDC motor and it plays a vital role in avoiding switching losses caused by the high frequency switching pulses. The output power of the zeta converter is used to drive the BLDC motor. The speed control of BLDC motor is resolved by governing the switching pulses of VSI by the electronic commutation of the BLDC motor. The suitability of proposed system at different possible operating conditions is exhibited through simulation results using MATLAB/ Simulink software.
Keywords: BLDC motor, SPV array, Zeta converter

EEE008

WIRELESS IRRIGATION SYSTEM VIA PHONE CALL & SMS

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Abstract

In India, Agriculture is the most important occupation. India is the second largest country in terms of total arable land. Over 60 percent of India's land area is arable. Today there are different types of farm irrigation systems currently in use. And they are included in the four main categories of flood, sprinkler, drip and micro irrigation. From this, the most water-conscious of irrigation systems is drip irrigation. The water is distributed directly onto the root system of the plant. So 90% of farmers follow drip irrigation system to water their crops, this makes farmers need to go to their farm for a particular interval of time and switch motor and gate valves manually. As well as, the crops need fertilizers periodically. During night time, farmers might get injuries and burns due to electric shock while switching the motor. Technology has played a big role in developing the agricultural industry. The product will be carried from the farm to the consumer in time when it's still fresh, so the technology has turned farming into a real business. This saves the farmer money and time. Every farmer uses this technology in their own way. Some use it to create fertilizers, others use it to market their products, and others use it in production. This paper mainly based on remotely operated watering system for agricultural farms using GSM, so that farmers can do their watering from their home itself. This paper introduces the integration of water source level with motor and gate valve (solenoid valve) switching via SMS and phone call, which help the farmers to manage the watering far away from their farm.
Keywords: GSM (Global System for Mobile communication), Solenoid valve, AT Commands, SMS (Short Message Service).

SMART HEALTH CARE MONITORING SYSTEM

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Abstract

Due to advancement in technology the health care sensors plays a vital role in hospitals to monitor the patient's health. By integrating the temperature sensor and heartbeat sensor, blood pressure sensor, glucose sensor all together in one kit which will monitor the patient's health continuously and also eliminates the use of thermometers and other devices for monitoring the health condition. This project describes the design of a simple microcontroller based heart rate, body temperature, sugar level & blood pressure measuring device with LCD and BLUETOOTH output. Heart beat rate of the patient is measured from the index finger using Infra Red Device (IRD) sensors and the rate is then averaged and displayed on a text based LCD. The threshold value fixed for the project is 20 to 120 pulses per minute for heart beat indication, 18°C to 38°C for temperature, 120/80 for blood pressure and 70/120 for glucose. This information about the Heart Rate & the Body Temperature, sugar level and pressure level is then transmitted wirelessly to the doctor which in not in the vicinity of the patient through GSM technique. The sensors measure the information and transmit it through GSM Modem on the same frequency as on which cell phones work.

Keywords: IRD, GSM, Threshold value

EEE010

DUAL INPUT LUO CONVERTER FOR SOLAR PV APPLICATIONS

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Abstract

The conversion of solar energy into electrical energy is one of the major requirements in the current scenario. The solar energy can be converted into electrical energy or thermal energy. The conversion of solar energy into electrical energy is very effective and environmental free from pollution. The electrical energy can be produced from photovoltaic cell. The Solar PV system produces DC power when photon strikes on the Solar PV cell .The output voltage of the solar cell varies with variation of solar irradiation. This conversion is done effectively using DC/DC converter. To obtain a high voltage transfer gain in a DC/DC conversion, the positive voltage super-lift technique is thesis. This thesis presents DC/DC LUO converter for maintain constant output voltage which provides a large conversion ratio, high power density and high efficiency. The output voltage of thesis positive super-lift LUO converter also increases the efficiency with low ripple content. The converter employs the elementary super-lift technique to obtain the boosted output voltage. This system performance is analyzed using both conventional PI and fuzzy controller.

Keywords: Solar-PV system, Dual input DC-DC LUO converter

EEE011

IDENTIFICATION OF GESTURE BASED ON EXTREME LEARNING MACHINE ALGORITHM

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Abstract

Gesture based interaction has a wide range of applications in a computing environment, which is a natural way of human machine interaction. It provides an efficient human-machine interaction for interactive and intelligent computing. The accelerometer sensor is used for data acquisition. The gesture recognition mainly comprises of two stages: Training stage and Testing stage. The training stage is performed offline and it comprises of collection of acceleration signals from the accelerometer sensor and the feature extraction of the acceleration signals. The testing stage is done online. In this project, two gestures are used with two features. All the two gestures are trained using a single network. The method used to train the gestures is Extreme Learning Machines (ELM) which is a type of neural network. The algorithm is simulated in eclipse and implemented in arduino for real time. The accuracy observed for all the three gestures is more than 90%.

Keywords: Gesture, Gesture Recognition, accelerometer sensor, Training, Feature Extraction, Testing, ELM, Neural Network.

EEE013

EMBEDDED SYSTEM BASED SECURED CAR PARKING SYSTEM

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Abstract

Due to increase in both population and in the usage of cars the city experiences traffic congestion and air pollution. In order to overcome these issues, a scheduled parking system must be deployed. At least 50 people per day roam around the city in finding a free parking slot; this again leads to traffic congestion and air pollution. For this problem, many of them have suggested few solutions, but those solutions are not scalable and cost-effective.This paper proposes a solution for intelligent car parking and pre-booking system with pre-booking, cost-effective and a scalable solution. This can be implemented using sensors and processors. Ultrasonic sensors are placed in each slot for finding the presence of cars and the data of ultrasonic sensor is fed to the Arduino Mega for processing. The processed data is transmitted to the cloud server using Node MCU and that information can be accessible by a user through a mobile application or web page and mechanical system is added for security purposes.

Keywords: Sensors, Processor, Arduino Mega, Node MCU, Ultrasonic sensor, Cloud server, Mobile application and Web page

EEE014

EMBEDDED SYSTEM BASED HOME SECURITY SURVEILLANCE USING RASPBERRY PI

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Abstract

This paper is based on home based security system. In modern world people are instructed on home automation, but don't care about home security. Security is much more important than automation of home because it can save life and commodity of the people. This paper proposes two main important aspects. One of the processes is automatic sending of message to home owner with help of GSM when door is open by unauthorised user using PIC-microcontroller and next one is surveillance camera usage for home security by raspberry pi-3. Raspberry pi is used for image processing, image processing can be done only if user can enter wrong password it will indicate to raspberry pi for image processing for finding out the unauthorised person.

Keywords: Home automation, camera, GSM, PIC-microcontroller.

EEE015

IDENTIFICATION OF GESTURE BASED ON EXTREME MACHINE LEARNING ALGORITHM

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Abstract

Gesture based interaction has a wide range of applications in a computing environment, which is a natural way of human machine interaction. It provides an efficient human-machine interaction for interactive and intelligent computing. The accelerometer sensor is used for data acquisition. The gesture recognition mainly comprises of two stages: Training stage and Testing stage. The training stage is performed offline and it comprises of collection of acceleration signals from the accelerometer sensor and the feature extraction of the acceleration signals. The testing stage is done online. In this project, two gestures are used with two features. All the two gestures are trained using a single network. The method used to train the gestures is Extreme Learning Machines (ELM) which is a type of neural network. The algorithm is simulated in eclipse and implemented in arduino for real time. The accuracy observed for all the three gestures is more than 90%.

Keywords: Gesture, Gesture Recognition, accelerometer sensor, Training, Feature Extraction, Testing, ELM, Neural Network.

AUTOMATIC TOLLBOOTH CREDIT SYSTEM USING VEHICLE DETECTION AND NUMBER IDENTIFICATION

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Abstract

A computer vision based toll booth credit system is proposed using vehicle (object tracking) detection and Number (textrecognition) identification. Set of vehicles database loaded in a predetermine network and support vector machine (SVM)classifier identify the vehicle. Name plate details recognize using optical character recognition(OCR)and corresponding details produce inside the toking scheme with minimal ”imbinarize” global method. Additionally Histogram of Oriented Gradient (HOG) for partitioning the data with extracted feature. The proposed scheme shows the excellent automatic credit system than any-other existing scheme.

Keywords*:* Object tracking, toll booth, OCR, SVM and HOG

EEE017

A NOVEL IMPROVED RESONANT LLC CONVERTER WITH MINIMAL COMPONENTS

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Abstract

This paper presented a novel improved resonant LLC converter with minimal components compared with existing design. Conventional Full H-Bridge in converter replace with differential boost for improving the overall gain of the circuit and also able to operated buck, boost and buck-boost. As a result, the component size is significantly reduced and enhance the size and cost of the converter. Different modes of operations presented for understanding the new converter in terms of switching frequency and gain. Experimental and simulation results confirms the effectiveness of the proposed inverter.

Keywords: Resonant tank, DC-DC converter, buck, boost, buck-boost, switching frequency, inverter, overall gain

EEE018

IMPLEMENTATION OF HYBRID CONTROLLER BASED PMSM DRIVE FOR IMPROVED DYNAMIC RESPONSE

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Abstract

This paper presents a closed loop Field Oriented Control incorporating Fuzzy Logic Controller for torque ripple minimization and speed control of permanent magnet synchronous motor drive. The performance of the proposed FLC is compared with that of the conventional Proportional Intelligent controller. The effectiveness of the proposed controller is analysed in simulation for different operating conditions. It is found that FLC based PMSM drive provides improved speed and torque response compared to conventional controller. The proposed system is implemented in MATLAB/Simulink.

Keywords*:* Permanent Magnet Synchronous Motor (PMSM), Field Oriented Control (FOC), Space Vector Pulse Width Modulation (SVPWM), Vector control, Proportional Integral (PI) controller and Fuzzy Logic Controller (FLC).

EEE019

ARTIFICIAL NEURAL NETWORK CONTROLLED SHUNT ACTIVE POWER FILTER FOR MINIMIZATION OF CURRENT HARMONICS IN INDUSTRIAL DRIVES

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Abstract

This paper presents the development of shunt active power filter is designed to compensate the harmonic current distortion of nonlinear system. The designed system overcomes the limitations of passive filter because of resonance and bulky size. Shunt active power filter is the effective method for compensating harmonic components caused by the nonlinear load. The classical PI controller is implemented in the present system, in order to reduce the ripple voltage of the DC capacitor of the inverter. The control method involves the concept of P-Q theory and neural network based intelligent control to compute the reference compensating currents. The proposed shunt active power filter and the control technique have been implemented. The results are compared with classical PI controller and with intelligent technique such as artificial neural network and simulation are carried out through MATLAB/ Simulink environment.

Keywords: PI controller, Shunt Active Power Filter (SAPF), ANN controller, Total Harmonic Distortion (THD)

EEE023

WIRELESS SMART BIOMETRIC ATTENDANCE SYSTEM

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Abstract

The most well-known methods for following understudy participation in the classroom is by asking the understudies to physically sign the participation sheet which is typically passed around the classroom while the teacher is leading the address. The past approach is physically taking and keeping up the participation records was badly designed errand. Having Biometric sensor associated to a PC all the fingerprints can be checked and put away. Unique finger impression distinguishing proof is one of the most surely understood and normal biometric distinguishing proof frameworks. In view of their uniqueness and consistency after some time, fingerprints have been utilized for ID over numerous a long time, all the more as of late getting to be mechanized because of headway in processing abilities. Along these lines, here the unique finger impression distinguishing proof procedure was utilized for keeping up the participation record. The record of the fingerprints of different understudies was kept up in a database. The correspondence between the PC and Module was done remotely finished Zigbee modules and send sms to their watchmen.

Keywords*:* GSM, Fingerprint sensor, Zigbee modules

EEE024

LIGHT FIDELITY BASED SMART CANE FOR VISUALLY IMPAIRED PEOPLE

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Abstract

Visually impaired people have many challenges when they navigate from one place to another. Also locating their position in an unknown atmosphere is complex. This paper proposes an electronic cane that involves sensor system to detect obstacles, their distance along the path of the user and also helps in detecting their indoor position using a cost effective Light Fidelity technology. The obstacle detection has been realized by the property of measuring distance using ultrasonic sensors that were positioned at different angles in a cane to cover the three directional sides and it provides the audio voice signal about their next movement. The indoor positioning system employs the use of emerging Light Fidelity (Visible Light Communication) technology that provides the information about their current position in an indoor environment. The cane is experimentally tested and it had detected the obstacles in front, right and left directional sides each covering an angle of 50º.

Keywords: obstacle detection, Electronic travel aid, indoor navigation, light fidelity

EEE027

EMBEDDED SYSTEM BASED ALIVE HUMAN DETECTION ROBOT USING PIR

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Abstract

The remote correspondence innovations are quickly spreading to new zones, for example, information Acquisition, building control, observing framework and some more. These advances are likewise utilized as a part of military zone. The vast majority of the military association takes the assistance of robot for settling numerous unsafe occupations that is impossible by the troopers. The reason for automated framework identify alive human body in tremor or any unfortunate occasion and in military region. These frameworks utilize a particular arrangement of sensors and engine system. There are two modes where automated framework is working physically work mode and client controllable mode. Robot works in physically worked mode in which all sensors are useful for programmed activity and in client controllable mode client sends the flag to robot utilizing RF module and control it physically. Human Detection Robot is a robot that can distinguish the nearness of human; it sends the flag from the transmitter side to the beneficiary side and advises it to the client by nonstop buzz. Robot can move toward all path to build the space of location. The robot is physically controlled to move in left, appropriate, forward and.

Keywords: Battery ARDUINO, PIR sensor, Metal Detection Sensor, IR sensor, Motor Driver, Adafruit software.

EEE028

IMPLEMENTATION OF GRID-CONNECTED MULTI-LEVEL INVERTER BASED ON EMBEDDED FPGA CONTROLLER

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Abstract

In this paper analysis the performance of grid connected Inductor Impedance source inverter (L-ZSI) with that of Impedance source inverter (ZSI). The performance of the grid-connected ZSI inverter is compared with that of L-ZSI. For the same DC input voltage both grid connected ZSI and grid connected L-ZSI circuits are simulated, using MATLAB/ Simulink. This paper also presents the most relevant control and modulation methods developed for multilevel sinusoidal pulse width modulation. An embedded based Field programmable gate array (FPGA) is applied to implement the multichannel Modified Space Vector Pulse width Modulation (MSPWM) strategy for the inverter. The proposed modified space vector modulation provides better DC link voltage boost by turning the maximum period of the traditional zero periods into shoot-through zero period. The Total Harmonic Distortion (THD) level of grid current connected to ZSI and ML-ZSI are further compared with Multi level inverter (MLI). To demonstrate the adaptability of the proposed method for wave forms with a lower THD, experimental results on a 1-KVA 300-V, three-level ML-LZS inverter are also shown at the end of this paper.

Keywords*:* Multilevel- Inductor impedance source inverter, Space Vector Pulse Width Modulation (MSPWM), Total Harmonic Distortion (THD), Field programmable gate array (FPGA).

EEE029

MINIMAX OPTIMIZATION OF PV PANEL SPECIFICATIONS FOR DIFFERENT TEMPERATURES

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Abstract

Mini-max optimization scheme used for identify the PV Panel parameters for different temperatures is presented. PV panel parameters such as output current and voltage with temperatures ideal data taken into account for optimization. Analysis done for both normal and abnormal temperatures. Initially, the data sheet parameters use for setting default values for setting the optimization criteria. This values are developed from Short circuit current and corresponding resistances. After the optimization, the value minimize the maximum values responsible for deviation in the optimization produce improved results. Error calculation done for showing the accuracy of the proposed method and optimization curve match with presented data.

Keywords Terms—PV panel specification, Mini-max Optimization, Temperature variation, Data Extraction.

EEE030

SPREAD SPECTRUM MODULATION FOR MULTI-INPUT DC-DC CONVERTER

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Abstract

This project develops a Spread Spectrum Modulation for multiple-input buck DCDC converter, with reduced number of components. Simultaneous or independent power transfer capability has been provided for input sources. The bidirectional power flow capability has also been provided through usage of a battery without any additional switches. This makes the topology very suitable for hybrid energy systems or hybrid electric vehicle/electric vehicle applications. Different operational modes of proposed topology have been presented. Then, a generalized relationship has been proposed for calculation of critical inductance of proposed n-input buck topology. Also, a simple proportional integral based controller has been applied to regulate output voltage and assign the portion of power that each input source should provide. To confirm the validity of proposed topology and theoretical concepts, the three-input version has been modeled and simulated in Proteus software and implemented experimentally.

Keywords: Spread Spectrum Modulation, DC-DC converter, Random Pulse width, Renewable applications.

STACKED MULTICELL CONVERTER DESIGN FOR GENERATION OF HIGH VOLTAGE AND FREQUENCY ELECTRIC FIELDS USED IN IRREVERSIBLE ELECTROPORATION FOR CANCER CELL ABLATION

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Abstract

Irreversible electroporation (IRE) is a minimally invasive non-thermal cell ablation technique used in cancer therapy. Ultra-short, high frequency and high voltage electric fields are applied to the affected area to create permanent nanopores in the cell membrane, which leads to focused and gradual cell death. This paper proposes the development of a Cascaded stacked multicell Topology which provides better controllability and power handling capability. The proposed converter topology is versatile and can operate at voltage level required to produce the respective electric field. The capacitors in the converter are voltage balanced using simple logic equations making the converter highly reliable.

Keywords: Irreversible Electroporation, Stacked Multicell Converter, Capacitor Voltage balancing.

EEE032

SMART HEALTH CARE MONITORING SYSTEM

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Abstract

Due to advancement in technology the health care sensor plays a vital role in hospitals to monitor the patient's health. By integrating the temperature sensor and heartbeat sensor, blood pressure sensor, glucose sensor all together in one kit which will monitor the patient's health continuously and also eliminates the use of thermometers and other devices for monitoring the health condition. This project describes the design of a simple microcontroller based heart rate, body temperature, sugar level & blood pressure measuring device with LCD and BLUETOOTH output. Heart beat rate of the patient is measured from the index finger using Infra-Red Device (IRD) sensors and the rate is then averaged and displayed on a text based LCD. The threshold value fixed for the project is 20 to 120 pulses per minute for heart beat indication, 18°C to 38°C for temperature, 120/80 for blood pressure and 70/120 for glucose. This information about the Heart Rate & the Body Temperature, sugar level and pressure level is then transmitted wirelessly to the doctor which in not in the vicinity of the patient through GSM technique. The sensors measure the information and transmit it through GSM Modem on the same frequency as on which cell phones work.

Keywords: IRD, GSM, Threshold value.

INTELLIGENT TRANSPORT AND SAFETY ASSISTING SYSTEM

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Abstract

Rapid growth in population makes the use of roadways a vital mode of transportation and it leads to many complications. Everyday problems that occur in the roads of urban and rural areas are traffic congestion, accidents due to high speed of vehicles, unawareness of wearing seat belt. The main problem existing in Delhi is emission of gases from vehicles leading to many harm effects which is need to be solved immediately by checking the quality of emission from vehicles. From the recent study, as the number of vehicle rate increases the accident rates also increases. Mostly 66.48% of fatalities occur at the age group of 18-24.

The novel concept Intelligent Transportation System (ITS) has been framed in this paper that provides accident detection system, seat belt monitoring, vehicle pollution monitoring and density based dynamic traffic control. Accident Detection system provides the information about the accident cases occurred in a place through GPS and GSM where the vibration of the vehicles after a certain limit is indicated using vibration sensor. In pollution monitoring system if the quality of emission of gas from the vehicle is not at standard rates it is detected by gas detection sensor and high emission is indicated by an alarm. When the seat belt is locked the motor gets triggered and starts the vehicle else the motor remains non- triggered. The traffic can be controlled dynamically using sensors and it sends data to the controller based on the density at each intersection of the junction. All these information assist the user to enhance the efficiency and accuracy.

Keywords: Battery ITS, Density control, Safety assistant.

EEE034

ENERGY REHASHING

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Abstract

Energy conservation is unquestionably of great importance to the entire field, since the requirement is relied on energy for everything in day to day. The use of efficient energy is of significant concern to both the industry and the utility practices. Energy can also be conserved from the rotational energy of motors. Mechanical energy from the motor can be conserved and rehashed for another load. For eg: fan motors - Split phase motors and capacitor start motors are the types of fan motors. Capacitor start motors are mostly preferred because it provides double the torque with less current than the split-phase motor, allowing it to start and run effectively with heavy loads and increased strain. The generated power from the fan can be stored in the battery for later usage or it can be used directly for powering some devices. This paper presents about electrifying the load through rotational energy obtained from table fan.

Keywords:

A NOVEL ELEVEN-LEVEL INVERTER EMPLOYING ONE VOLTAGE SOURCE AND REDUCED COMPONENTS AS HIGH FREQUENCY AC POWER SOURCE

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Abstract

This paper proposes a new multi level inverter topology for multilevel output voltage. The design of this topology is based on capacitor switching technique and the number of output levels is determined by the number of capacitor switching cells. Only one DC voltage source (or solar panel) is used and the issue of capacitor voltage balancing is avoided as well. This model can be enhanced higher rating, and also it has simplified gate driver circuit due to reduced number of switches. Operating principle of this multilevel inverter and the modulation techniques are presented and performance of the inverter with existing method is also discussed. The proposed eleven level multilevel inverter is modeled using Matlab/simulink, results are presented and also compared with existing 9 level inverter topology.

Keywords:

EEE036

A NOVEL PMSG BASED WECS FOR GRID INTEGRATION USING DIRECT MATRIX CONVERTER

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Abstract

The project represents the work carried out to regulate the active and reactive power in output with maximum extractable power from wind through matrix converter using space vector modulation (SVM) fed grid with voltage oriented vector control (VOC) scheme .Direct matrix converter is used and PMSG based wind energy conversion system is used for the proposed work. The maximum extractable power which is evaluated is set as reference for active power while reference for the reactive power is zero. The change in generated power due to change in wind speed is regulated using PI controller which regulate the voltage gain of the matrix converter. This VOC scheme extracts maximum power from the wind energy conversion system and it is directly fed to the existing grid at the desired output voltage and frequency, also at nearly unity input power factor. The voltage and frequency of the generated power in grid side and also load side fluctuates under variable wind speed. The proposed system regulates the output power at required maximum wind power irrespective of the changes in wind speed.

Keywords:

COMPARISION OF SELECTIVE HARMONIC ELIMINATION PWM TECHNIQUE FOR THREE PHASE MATRIX CONVERTER WITH CONVENTIONAL ALGORITHMS

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Abstract

Renewable Energy sources which is the alternative energy source have been initiated new challenges when it is connected to grid. When wind power injection in to an electric grid affects power quality of grid due to fluctuation in the wind power. So AC –AC converter is used for connecting RES with grid. Three phase Matrix converter which converts AC-AC can be used than DC link AC_AC converter in WECS fed grid for better performance. There are some carrier based modulation techniques available for switching of a 3 phase MC such as venturini modulation, optimum venturini modulation and space vector modulation techniques. SHEPWM algorithm is the novel technique in MC. This paper compares various conventional algorithm and also with SHEPWM algorithm. SHEPWM technique control in MC optimizes the linear control of the fundamental component of output voltage and it eliminates the lower order harmonics.The above SHEPWM technique and conventional modulation algorithms based three phase MC are modelled in MATLAB/simulink. Selective harmonic elimination technique in MC have been developed in MATLAB code. Simulation results are discussed and compared with conventional modulation algorithms. It is intended that the proposed SHEPWM technique based three phase MC gives better performance in terms of reduced THD and lower order harmonics in WECS fed grid compared to conventional modulation algorithms.

Keywords: Battery Matrix converter, Selective Harmonic Elimination PWM Inverter, Total Harmonic Distortion, Venturini algorithm, Space Vector Modulation algorithm

EEE040

HAZARDOUS GAS MONITORING SYSTEM IN INDUSTRIES AND WASHROOMS

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Abstract

A gas detector is a vital device in industries that detects the presence of hazardous gases often as part of a safety system. This type of equipment is used to detect a gas leak or other emissions and provide signal and alarm giving the employees the opportunity to evacuate. The main idea of this project is to apply gas monitoring system in washroom and industry. In India most of the washrooms are not cleaned regularly which leads to lots of hygienic problem and restricts the usage of public. The main gases in the washroom are hydrogen sulfide, methane, ammonia, carbon monoxide and nitrogen oxides. This project is proposed to initiate the use of public washrooms in India without any hesitation. The gases are detected using sensors MQ-4, TGS-2602andMQ-136 respectively and GSM will send a message to the server GSM, which will indicate washroom should be cleaned.

Keywords: obstacle detection, Electronic travel aid, indoor navigation, light fidelity.

EEE041

STACKED MULTICELL CONVERTER DESIGN FOR GENERATION OF HIGH VOLTAGE AND FREQUENCY ELECTRIC FIELDS USED IN IRREVERSIBLE ELECTROPORATION FOR CANCER CELL ABLATION

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Abstract

Irreversible electroporation (IRE) is a minimally invasive non-thermal cell ablation technique used in cancer therapy. Ultra-short, high frequency and high voltage electric fields are applied to the affected area to create permanent nanopores in the cell membrane, which leads to focused and gradual cell death. This paper proposes the development of a Cascaded stacked multicell Topology which provides better controllability and power handling capability. The proposed converter topology is versatile and can operate at voltage level required to produce the respective electric field. The capacitors in the converter are voltage balanced using simple logic equations making the converter highly reliable.

Keywords : Irreversible Electroporation, Stacked Multicell Converter, Capacitor Voltage balancing

EEE043

SEQUENTIAL QUADRATIC PROGRAMMING (SQP) BASED SELECTIVE HARMONIC ELIMINATION FOR MULTILEVEL INVERTER

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Abstract

Multilevel inverters are most preferable due to it reduced harmonic content and clean waveform. Since the Total Harmonic Distortion (THD) is a major selection criterion for an inverter, the reduction of the same must be most important for power electronics engineer. There are option for reduction of THD, usually filters are employed at output side to reduce THD and harmonic content. Also mathematically, it can be reduced using optimization techniques. The stepped voltage/current waveform of a MLI may synthesis a sinusoidal waveform with reduced THD, if the levels of MLI are increased. Lower order harmonics are dominating in nature which needs to be reduced. This proposed paper brings out a unique technique for suppressing/reducing the lower order harmonics using Selective Harmonic Elimination (SHE) technique. Sequential Quadratic Programming (SQP) algorithm is a optimizing algorithm which is used to find the angles where fifth and seventh harmonic are suppressed in a seven level inverter. SQP based optimized results shows better performance such as reduction of Total Harmonic Distortion (THD) and suppressing of lower order harmonics which is compared with particle swarm optimization (PSO) technique. Validity of the analysis has been proved by simulation and experimental results

Keywords:

EEE044

ANALYSIS OF SELECTIVE HARMONIC ELIMINATION FOR MULTILEVEL INVERTER WITH VARIOUS ALGORITHMS

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Abstract

The multilevel inverters are attractive in industrial application due to low total harmonic distortion (THD), low stress on power switches and free from EMI issues. The quality of output power from an inverter can be improved using various control and modulation techniques such as Sine Pulse Width Modulation (SPWM), Space Vector Modulation (SVM) and Selective Harmonic Elimination (SHE) techniques. SPWM and its variants are pretty in control due to ease of control. But switching losses are high due to high switching frequencies. In the SHE technique, an inverter works with low switching frequency thereby switching losses are less. Further lowest harmonics can be removed to reduce the filtering components. The optimization algorithms are used to find the switching angles which eliminate the lower order harmonics. In this work, the comparative analysis for optimizing switching angles using algorithms such as Cuckoo Search Algorithm (CSA), Particle Swarm Optimization (PSO), Simulated Annealing and BAT Algorithm (BA) are discussed for nine level inverter and the experimental results have been verified with simulation results.

Keywords: Optimization; SHE technique; cuckoo search algorithm (CSA); particle swarm optimization (PSO); Simulated annealing; BAT algorithm (BA)

EEE045

SMART WAY OF AUGUMENTING ECOLOGICAL ENVIRONMENT – SMART ORGANIC FARMING

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Abstract

Agricultural Runoff is a serious concern of fertilizers used in agriculture: Chemical fertilizer usually contains chemicals which are not easily biodegradable and those chemicals leech in to the soil and run in to the ponds, canals, rivers and sea with rain water which pollutes our environment and leads to serious consequences. The nitrogen and other chemical present in chemical fertilizers can contaminate the ground water. To avoid the negative effect of the chemical fertilizer these days people prefer using organic fertilizer in their farms. Chemical fertilizers have many negative effects for our health and environment. It makes the plant to grow well but not actually healthy; almost all essential natural resources from air, soil, and water has been polluted in the big city. Among the types of pollution, the worst pollution is water pollution through chemical fertilizers or inorganic fertilizer.

From the above details, it is noted that Chemical fertilizers and pesticides acts as a slow poison for the future generation. To make the living environment healthier, Organic fertilizer (Ancient organic farming method - Panchagavya) is the best choice. This paper introduces the smart way of organic fertilizer production and utilization thereby makes the process simpler and cost effective accessibility of benefits by each and every farmers.

Keywords: Chemical Fertilizer-effects; Organic and inorganic fertilizer; Panchagavya; Production; Utilization Healthy environment; Smart way

EEE046

OPTIMAL REDUCTION OF TRAFFIC FLOW DENSITY AT HIGHWAYS USING SMART TOLL PLAZA

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Abstract

Nowadays there is a huge rush in the toll plazas to pay the tax. In order to reduce the traffic congestion near Toll plazas and to save the time, payment can be made prior using RFID. An android app is developed based on i-Beacon Technology which will communicate to the RFID readers at the toll gates. Customer's bank account can be linked with this Android app. The verification of payment at the toll gates can be done with RFID and i-Beacon technology. The payment can also be made through an app by choosing the route. If the payment has been done already toll gate opens, else the customer has to pay the toll tax manually. For further toll gates, the beacons will connect to the payment app to verify the payment details.

Keywords: Toll tax, smart-RFID, i-Beacon technology, Android app.

EEE047

DESIGN AND DEVELOPMENT OF FLEET TRACKING AND MANAGEMENT FOR IMPROVED PRODUCTIVITY USING SENSOR NODES

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Abstract

This paper describes about the work done in design and development of low cost fleet tracking and management for improved productivity and security features. The system is divided into three major parts such as fleet tracking, fleet management and security. The problem of identifying good driver who ride the vehicle with maximum fuel consumption and security is really a hard thing for the big management. This problem is solved by the devised model. Fleet tracking is based upon the inbuilt GPS which gives accurate position of the location of the vehicle, security is made by two component such as OTP based vehicle unlocking and prevention of unlocking when the driver seems to be drunken. All the On-board sensor data is collected and send through the remote server through Wi-Fi Protocol. The gained information is broke down and handled and send back to the proprietor of the vehicle through SMS and online administrations. The created framework is verified by the functionality with developed prototype

Keywords: Tracking, Vehicle Management, RFID Secured, IoT.

EEE048

DEVELOPMENT OF WEB APPLICATION FOR HOSTEL FOOD FEEDBACK

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Abstract

It is necessary to collect feedback from the hostel students in a college or institution regarding the food provided. It is mandatory for the management to check on this regularly to improve quality of food and change the food pattern according to the student needs. To collect the feedback from the students, a Web App would be greatly useful. A web app using Angular is designed to make the collection of the feedback more efficient. Angular is a Google developed Web Framework for development of large and complex Web App within a short span. The students can submit their feedback on this Web App for Breakfast, Lunch, Evening Snacks and Dinner. The feedback contains a rating scale out of five and a comment section where the students can provide their thoughts on the provided food. The collected information is safely saved in a NoSQL relational database. The choice of database used here is Google's Firestore. Firestore provides faster loading of contents even under high load condition. The data is stored in the form of JSON in the database. The Web App is designed only for the members of the college or institution. So, it is made necessary to login before using the Web App. Only the official email ID's of the college or institution will be able to authenticate through the Web App. Authentication into the Web App using any other Email ID will be returned with an error. Authentication is provided through Auth0 for Angular. The collected information can be viewed by the management on another Web App which is also designed using Angular.

Keywords: Angular, NoSQL, JSON, Web App, Auth0, Firestore

EEE049

IMPLEMENTATION OF EMBEDDED SYSTEM BASED RASPBERRY PI FOR HI TECH GREEN INDIA

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Abstract

Indian government has initiated smart city program all over the nation. This proposed project is helpful to monitor the residential area using Surveillance camera and the street light, garbage, drainage system details are display on the website. Therefore, the corrective actions can be taken by the government authority. In this proposal, the street light can be operated from the website and the status of ON/OFF will also be displayed on the web page. This can be possible because only by the LDR sensors. This system also shows the percentage of waste filled in the garbage bins and drainage. Thus, measurement can be taken without any delay by an embedded system. For garbage bins status can be find out using ultrasonic sensor and float sensors is used to find out the drainage level. And another important method is image processing for security in city. We are going to implement this project by using Raspberry Pi and coding is done by python language. These are connected over internet with the help of IOT based embedded system.

Keywords: LDR sensor, Ultrasonic sensor, Float sensor, Raspberry Pi, Python, IOT, Surveillance camera.

EEE050

SMART SOCKET FOR ELIMINATING PHANTOM POWER

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Abstract

In our modern age, many people have multiple devices such as laptops, tablets, and smart phones, all of which needs to be frequently charged to keep us connected. This has led to multiple chargers being left at home and at the office, often plugged into the wall with the cord conveniently waiting to charge your phone for next time. Chargers continually draw power from a wall socket, even when your device is not attached, and while this amount could be as little say 0.25 Watts of energy, imagine that compounded over 4-5 devices for a year will lead to 2190 Wh per year for a single user. According to Telecom authority of India, Tamil Nadu has 71.81 million smart phone subscribers [1] so this phantom power consumption must be accountable. Additionally standby loads are found to be next phantom power consumers which consumes power when appliance switched off or not performing its primary functions. This proposed work will eliminate wastage of power at standby and prevent overcharging of mobile phones furthermore turn off scheduler is incorporated for planned operated loads.

Keywords: Standby loads, Smart socket, Over charging, Demand, Energy saving.

EEE051

DEVELOPMENT OF NEXT GENERATION IOT BASEDAGRICULTURAL MODEL WITH INTEGRATED LANDTESTING EQUIPMENT

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Abstract

Agriculture is the backbone of our country that contributes to 45% of the total GDP that is responsible for the enhancement of country's economy. The project aims at building an integrated module for improving the efficiency of the present agricultural modules. The proposed module consists of a series of array of sensors such as ambient temperature, moisture, air quality and the pH sensor to measure the pH of the soil and environmental condition. All this data are sampled at regular interval of time, formatted and send to the cloud for backend works such as comparing it with the stored data and predicting the type of crop that can be grown in the particular land and these data will be saved in the cloud so that during disaster time, it will be helpful for the government and insurance agents for speedy approval of insurance claim. The developed model would considerably reduce the need for experts to visit the place and to perform manual testing during the disaster.

Keywords*:* Microcontrollers, Precision Agriculture, Sensor Networks.

EEE052

PROFILING OF OSEK OS FOR INSTRUMENT CLUSTER

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Abstract

Modern embedded software is often complex and consists of multiple tasks running time-independently and interrupt service routines (ISRs). Timing becomes the most important factor while considering the distributed automotive embedded real-time systems. In this letter how the interrupts execution time is calculated separately to avoid deadline misses of preempted task is presented with OSEK OS services and illustrated how to configure the runnable task measurement point in Davinci Configurator Pro tool to measure the sub task function execution time. Experimental results demonstrate the CPU Load of each task.

Keywords*:* Measurement Point, CPU Load, Frames per Second, Run Time Measurement C

EEE053

ESTABLISHING COUNSELLING SERVICES IN ACADEMIC INSTITUTIONS: AN EXPERIENTIAL SKETCH

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Abstract

Counselling is a process of helping individuals to help themselves in times of their stressful situations. Enrolling in a professional course and pursuing it is a significant phase in a student's life. During this journey, the student experiences massive changes both in physical self and in emotional self. In addition, the environment and the learning pattern also changes. A counsellor can contact, connect and counsel the clients (here the students) in this phase. Counselling can be offered for Emotional, Behavioural and Academic reasons, and can facilitate the clients to move on from their limitations at their own pace. This paper describes the experiential journey of the author as a counsellor who has established a Counselling Service Centre (CSC) in an academic institution to support and facilitate the present young generation.

Keywords:

EEE054

DESIGN AND IMPLEMENTATION OF IN-NETWORK MULTILEVEL DATA AGGREGATION IN WIRELESS SENSOR NETWORKS

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Abstract

In Wireless Sensor Network (WSN), the role of data computation and communication among the sensor nodes are noteworthy. At the instant of covering a huge area, lot of issues faced like lifetime of nodes, energy consumption, redundancy of data, faster data communication etc. To prevail over these issues, the multilevel data aggregation within the network is designed and implemented with the help of PIC and ARM microcontrollers. The multilevel aggregation superintends the redundancy of data effectually in contrast to single or two level data aggregation. It is appended to intensify the lifetime of the network by decreasing the amount of data transmission to Base Station (BS) and aggregating the similar as well as near similar data packets in an effective methodology. By exploiting this in a wide agriculture fields, diverse parameters can be easily monitored such as temperature, moisture, soil and water levels etc. Using the BS data, the required actions can be performed in the field.

Keywords: Wireless sensor network, In-network, Multi level data aggregation, Microcontrollers, Lifetime, Energy, Agriculture.

EEE055

OFFLINE ANALYSIS OF SENSOR CAN PROTOCOL LOGS WITHOUT CAN/VECTOR TOOL USAGE

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Abstract

This paper presents Offline Sensor CAN protocol Log file Analysis. Windows platform C language Compiler tool is selected to replace the conventional Analysis using Vector CANoe tool because of its advantages in terms of simplicity, flexibility, license-free hardware, less execution time and portability. In the proposed method, a C script was developed to tokenize the desired CAN elements into array of structures for various Analysis using any C compiler windows platform tool. According to Analysis, the CAN elements of interest are brought into Analysis performed. An optimized C script developed gives the expected result similar to results obtained in Vector CANoe using CAPL script. Performance can be analyzed in terms of execution time, and cross checking the Analysis results obtained using both CAPL script and C script. The purpose of this optimized technique is to ensure Test Analysis can be made possible even without costly Vector hardware license and to obtain Test results offline with less processing time

Keywords: CAN Protocol, CAN channel, RAdio Detection And Ranging, CAN Access Programming Language.

EEE056

DESIGN AND IMPLEMENTATION OF AN INTELLIGENT PARKING MANAGEMENT SYSTEM USING IMAGE PROCESSING

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Abstract

This paper aims to present a smart system that automatically detects the type of vehicle, directs it, counts the number of vehicles and identify the empty plot number at the parking area. This system uses image processing technique. Whenever a vehicle approaches the parking entrance, the image of the vehicle is captured. Based on the image acquired, the system detects the vehicle type. The types of vehicle used in this system are Bus, Car and Two-wheeler. Also, the image of the parking area is captured and the system counts the number of vehicles, the plot number and displays the parking status. If Bus is detected at the entrance, it is directed towards west and if Car is detected, it is directed towards the east and if Two-Wheeler is detected, it is directed towards north side of the parking area based on the availability of parking status. This proposed system can be effectively used in the parking area which involves the parking of different types of vehicles.

Keywords: Vehicle detection, Vehicle counting, Parking space detection, Parking slot number identification, Image processing.

EEE057

WIRELESS SENSOR NETWORKS BASED ONLINE AMBIENT MONITORING

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Abstract

This paper involves the development of a compact battery powered system which monitors the various parameters such as level of carbon dioxide, relative humidity, temperature, intensity of light in indoor spaces and absolute pressure. The data which is measured is sent using the existent wireless infrastructure which is based on the IEEE 802.11 b/g standards. The characteristics and performance of the resulted device are comparable with the ones that are provided by recognized solutions, like ZigBee-based sensor nodes. The solution can be used for the remote gathering and further processing of measurement data by combining wifi connectivity with ambient sensors. As a result of testing, it is revealed that the system can continuously operate for up to three years on a single 3 V small battery.

Keywords: Sensor systems, wireless sensor networks, reconfigurable architecture, Internet.

IOT BASED DISTRIBUTION AUTOMATION

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Abstract

The aim of this paper is to develop a IOT based distribution simulation package for energy loss reduction. A smart LV substation is proposed as a solution that will handle intelligent operations, such as real time monitoring, control and system management in a successful manner. withrapidly- evolving IOT network, maintaining cyber privacy and security will present a great challenge in the future and solutions to efficiently overcome these drawbacks should be investigated and developed.

Keywords: Cyber security, smart grid, Internet of Things, Distribution automation.

EEE060

SELECTIVE HARMONIC ELIMINATION AND MINIMIZATION OF THD TECHNIQUES IN CASCADED MULTILEVEL INVERTER

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Abstract

Multi-Level Inverters(MLI) are the state of the art technology used for harmonic reduction in inverters. Selective Harmonic Elimination-Pulse Width Modulation (SHE-PWM) technique and THD minimization technique are the preferred low frequency modulation technique for improvement of harmonic profile in Symmetric Cascaded Multi-Level Inverter (SCMLI). The objective function of SHE-PWM and THD minimization is a challenging task in multilevel inverter as the function is non-transcendental in nature with multiple local minima. Thus BBO and PSO algorithm are applied to optimize the switching angles of SHE-PWM and MTHD technique. The simulated harmonic spectrum of seven-level SCMLI with SHE-PWM technique is compared with the MTHD technique. The FPGA based hardware implementation of seven-level SCMLI is discussed and the experimental results are presented. Also the performance of seven-level SCMLI is analyzed in the entire range of MI.

Keywords: Cascaded Multilevel Inverter, SHE-PWM, THD, PSO, BBO

CIRCULAR CAR PARKING USING PIC MICROCONTROLLER

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Abstract
Automation is the one of the most promising sector with advent of technology. Due to the increasing population in urban settlements, the vehicle traffic has also increased in these settlements. In this study, in order to overcome these problems, a circular multi-stored automatic parking system model that is fully controlled by PIC (Peripheral Interface Controller) microcontroller is built. The vehicle recognition as well as the parking slot detection is efficiently carried out by ultra-sonic sensors and infra-red sensors. The results obtained have showed that the model can provide significant contributions to the solution of problems resulting from parking.
Keywords: PIC microcontroller, Sensors, Parking lot automation, Vertical moving rods

EEE062

MODELLING OF PV FED BOOST, BUCK-BOOST, CUK, SEPIC, ZETA DC-DC CONVERTER

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Abstract
The non-conventional energy sources such as solar PV, Fuel cell has low output voltage characteristics. To connect these energy output voltage into the grid, it should be stepped up with high efficiency to the electrical network standards. The power electronic converters are used to regulate the power from renewable sources to match the load demand and grid requirement to improve the dynamic and steady-state characteristics of the systems. In this paper, a various DC-DC converter topologies are analyzed mathematically and simulated using MATLAB SIMULINK software. The performance of these converters is evaluated based on the results obtained. Thus, the suitable converter for renewable application is identified.
Keywords: Boost, Buck-Boost, Cuk, SEPIC and Zeta Converter, Duty ratio, PV system.

INTELLIGENT ARCHITECTURE FOR ILLUMINATION CONTROL IN LED LIGHTING SYSTEM

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Abstract

Nowadays energy consumption in buildings largely depends on the lighting system. To get light naturally Sun is the source but it is not available all the time. Hence we are always in need of an artificial source to produce light. This artificial source should contribute in energy consumption. Therefore, the selection of luminaries should be better in the working environment. In this paper, Light Emitting Diode (LED) based lighting system is implemented. The illumination control is not based on sensors for LED lightings which are networked. In order to model all nonlinear and linear relationship, a scheme is introduced which has Multiple Inputs Multiple Outputs (MIMO) and closed loop neural network. Since the scheme does not depend on lighting simulation software, microcontrollers are used in the hardware setup for easy implementation and flexibility. Light sensors are not used in control loops for energy saving. Hence, the installation will be easy and accuracy will also be high. The closed loop neural network system has faster response. In addition with this, buzzer circuit is included for safety measures within the buildings.

Keywords: Illumination Control, Energy saving, LED Lighting System, Feedback control, MIMO, PIC, Skin range.

EEE064

SMART GARBAGE MANAGEMENT USING GPS AND GSM

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Abstract

Nowadays world faces lot of problem in waste collection and management. Other main problem in garbage bin is overflow waste, due to this many problems occur to the nearby peoples and also effect the environment. Difficultly arises for finding out the garbage bins whether it is filled or not. The proposed system gives solution to the above stated problem. It will save the time and it also prevents the environment from pollution. This method is used to detect the level of bins automatically and the send data to the cloud and display it using user interface. Ultrasonic sensor is gives data based on the bins level in the garbage. Arduino is used to process the data from it and the NODE MCU is used to send the data to the cloud by interfacing arduino with NODE MCU. GPS is used to find out the exact location of the bin and that information can be send to the truck driver by user interface. With the help of that message, truck driver can identify the location and the status of the bins. This method also has gas sensor to find out the harmful gases from the garbage bin and temperature sensor is used to detect fire in bin that information is passed to nearby fire station using GSM if there is any fire accidents.

Keywords*:* Automation, GPS, GSM, Ultrasonic Sensor, Temperature sensor, Microcontroller and Node MCU.

EEE065

ROBO FARMING - A PLATFORM FOR UNMANNED AGRICULTURE

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Abstract

Modernization in the field of agriculture augments day by day. The robotic control systems play imperative role in modernization of diverse fields. For farm preparation in agriculture field a system based on robots is developed, which reduces the human power. The proposed architecture has two main sections such as monitoring section and control (robotic) section. The communication between them is done through wireless technologies. The control section is constructed by using temperature sensor, humidity sensor, seed dispenser, seed storage, sprayer construction, robotic system with motors, wireless camera network, microcontroller, Zigbee transceiver and power supply. The entire system is controlled by microcontroller, which dictates the operating sequence to all networks. Here sensor outputs are processed by their corresponding embedded programs, robot driven by their internal motors in desired directions. Based on the wireless camera footages monitoring section transmits the commands for ploughing, seed sowing and spraying using LABVIEW software through Zigbee.

Keywords:

EXEEE02

UNBALANCED NONLINEAR LOAD COMPENSATION USING THREE-PHASE FOUR-WIRE APF INTEGRATED PV SYSTEM EMPLOYING SLIDING MODE CONTROL

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Abstract

This paper presents a sliding mode(SM)controlled maximum power point tracking (MPPT) dc-dc converter to extract maximum PV energy from panel with a three-phase four-wire current controlled voltage source inverter(CCVSI) functioning as shunt active power filter(APF). The shunt APF has the features of power quality enhancement to compensate neutral current harmonics to make sinusoidal grid current and reactive power due to unbalanced nonlinear loads. The main contribution of this paper is to design an improved transient response of two stage grid integrated PV system in terms of settling time , chattering magnitude and peak overshoot of PV voltage and dc bus voltage by using sliding mode control (SMC). The SMC-MPPT boost converter is designed with dynamic state space model followed by an equivalent control approach. The dynamic and compensation performance for the proposed system are presented by the simulation results with different operating conditions of environmental and load perturbation. The results were obtained for the proposed one to confirm both the theoretical and practical aspects and usefulness of the controller to compensate unbalanced nonlinear load as well injection of maximum PV power to distribution grid.

Keywords: Active power filter, boost converter, dynamic response, Grid integrated, integral SMC, MPPT, neutral current harmonics, Photovoltaic, power quality, PCC.

EXEEE03

AN ARTIFICIAL NEURAL NETWORK APPROACH TO FAULT DETECTION IN GRID CONNECTED PHOTOVOLTAIC SYSTEM

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Abstract

Even though the government encourages renewable energy sources especially Photovoltaic System (PV) for power generation, the dependence on fossil fuels is still increasing. The solar PV based power generation will increase if the performance of PV is increased. An important reason for performance loss is faults occurring in the PV system. Continuous researches have been performed to specify the faults and solve them. Nowadays, with the availability of promising intelligent techniques the faults can be identified quickly. In this paper, Artificial Neural Network (ANN) approach is employed to immediately detect the faults. The solar panel output power losses due to the faults which may occurred in PV panel, Maximum Power Point Tracking (MPPT), boost converter, inverter and grid. The simulation is carried out on 100 kW PV system using Matlab. The extracted results indicate that the proposed method can identify the faults rapidly. And implementing the proposed least cost fault detection system increases the efficiency of the PV systems and decreases the maintenance.

Keywords: Back propagation algorithm, fault detection, grid connected PV system, neural network

EXEEE04

DESIGN OF INTELLIGENT TRANSPORT SYSTEM USING PIC16F877 MICROCONTROLLER

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Abstract

In this fast moving world, people are in a real haste to move to their desired destination at no time. This makes them to drive the vehicles fast and many times it results in road accidents and invaluable life loss. These road accidents are due to traffic signal violation, rash driving of vehicles. In order to avoid such road accidents, we have proposed an Embedded based Vehicle Motion Control system. This enables the vehicles to be run at controlled speeds depending upon the nature of the area the vehicle crosses. Also, drunken driving is strictly prohibited. This adds safety to the drivers and also to the public people. The system consists of PIC 16F877A microcontroller, RF transmitter and RF receiver modules. The RF transmitter unit will be found along with the traffic signals and also in school, hospital, temple zones, etc. The RF receiver unit will be found in the vehicles. RF transmitters transmit signals which will be processed by the microcontroller unit enclosed with the receiver unit and it controls the speed of the vehicles when they reach the respective zones.

Keywords: RF Transmitter, RF Receiver, Vehicle, Transport System, Microcontroller

ECE 001

IMPLEMENTATION OF ACO ALGORITHM IN RWA

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Abstract:

The major problem in the optical mesh network is routing and wavelength assignment (RWA) and this trouble arises due to more number of tracks present in the network. When huge networks are used for transmission of information from source to destination, there will be a need for wavelength assignment to the track in that network. Solution for Routing and wavelength assignment problem has been done using various optimization algorithms such as Genetic Algorithm, Simulated Annealing, Particle Swarming Optimization, Memetic Algorithms, etc. It is found that the mean execution time and mean blocking probability are more while using these algorithms in the optical mesh networks. Here the RWA problem is solved using Ant Colony Optimization Algorithm and it noticed that it is better than the other optimization algorithms. The standard mesh network NSFNET network (14node) is considered for the simulation. The performance metrics such as mean execution time and mean blocking probability using first-fit & random wavelength assignment techniques are considered. The results obtained for mean execution time is lesser compared to the other optimization algorithms and mean blocking probability using first-fit, random, wavelength ordering and round robin wavelength assignment techniques are compared to each other.

Keyword: Ant Colony Optimization (ACO), Routing and Wavelength assignment (RWA), Wavelength Division Multiplexing (WDM), Time Division Multiplexing (TDM)

ECE 002

IOT BASED SMART SENSOR NETWORK FOR SAFETY MINING ENVIRONMENT

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Abstract:

Currently, we know that mining is a risky process where miners are risking their life to get the desired work done. It is not fault of one individual whenever a accident happens inside a mine. It is actually a natural cause and one thing an individual can do is to predict and prevent. Though high-end technologies are developing for the prevention, a stable design is not yet confirmed. Miners are dying and accidents are going in increased rate day by day. This project is about assisting miners using a smart safety helmet node with miners and mine monitoring node. Helmet and monitoring nodes are with sensors to detect fire, harmful gases and land slip in mines and interact with each other using transceiver in case of emergencies. Both the nodes are designed and implemented using TI cc3200 board and tested for its functionality. It is observed that node sends alert signal to other node after detecting emergency condition using sensors. All these values are uploaded to the IOT cloud based system and can be inferred by any authorized user. The proposed project will be helpful to miners to manage the emergency situation with prior alert so that massive disaster can be predicted and prevented

DESIGN AND ANALYSIS OF MEMRISTOR MEMORY CELL USING DIFFERENT WINDOWING FUNCTIONS

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ABSTRACT
In recent years, the rapid growth of battery operated devices has made the low power memory design a desire in the industry. As the number of transistor increases, the leakage current has made the SRAM unit a power hungry block from both the static and dynamic perspectives. Nowadays, the SRAM block is an important part in SOC design. For memory design, the power dissipation and area are the main factors. In this design, scaling of memory density must continue to track the scaling trends of logic. Technology scaling has been aggressively developed during last several years and almost close to the final states. In order to cope with high density new technology, silicon based memory cell also needs to be replaced by alternate devices. Memristor is one of the promising novel elements for memory cell. It can be seen that memristance M depends on charge q, which is defined as the time integral of the memristor current. It is a non linear passive two terminal electrical component which limits or regulates the flow of electrical current in a circuit and remembers the amount of charge that has previously flowed through it. It maintains a connection between the time integrals of current and voltage across the two terminals. Thus it can be regarded as a nonlinear resistor with memory.
In this project Memristor and its performance is analysed by using two different window functions in MATLAB. Hysteresis curve is obtained for analysis. Conventional 6T SRAM cell is modified to add memristor elements and CMOS-Memristor based memory
cell is designed and simulated in LT spice for its performance in 180nm technology. Peak
and average power are obtained for conventional 6T SRAM cell and proposed memristor memory cell. Power results are compared and shows that power reduction in memristor based memory cell is up to 94% compared with conventional 6TSRAM cell.

KEYWORDS: SRAM, Memristor, Hysteresis, window function and LT spice.

ECE 004

Virtualization Technology

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Abstract—Since wireless network virtualization enables abstraction and sharing of infrastructure and radio spectrum resources, the overall expenses of wireless network deployment and operation can be reduced significantly. Moreover, wireless network virtualization provides easier migration to newer products or technologies by isolating part of the network. Nowadays virtualization is a technology that is applied for sharing the capabilities of physical computers by splitting resources among Oss. In this paper, we provide a brief survey on some of the works that have already been done to achieve wireless network virtualization, and discuss some research issues and challenges.

Key words---- Wireless network ,virtualization ,infrastructure, spectrum, migration.

ECE 005

Agriculture Aspects and Grievances Approached and Solved by Concept of Machine Learning

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Abstract— This paper explains about the monitoring of crops using sensor technology and displaying the factors. Agriculture is evolving with the advent of information and communication technology. Efforts are being made to reduce losses in crops and to maintain the crops. Soil sensors play an important role for the small farmers grieving themselves for the incremental development in agriculture. The main objective is to use sensors for ferreting out the water content, temperature and temperature based cropping. We propose an expert system based on sensors indicating the multiple factors in the crop growth and paternity. It will help to be aware of the factors and lead to the healthy survival of agriculture.

Key words---- Knowledge Banks, Sensors, Multiple Probes, Data Logger, Digital Display

ECE 006

IoT based Automation in Waste Management – Intelligent Bin (i-Bin)

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Abstract—

In the recent decades, Urbanization has increased tremendously. At the same phase, there is an increase in waste production. Waste management has been a crucial issue to be considered. This idea of i-Bin is a way to achieve this good cause. In our city many times we see that the garbage bins or dustbins placed at public places are overflowing. It creates unhygienic conditions for people. Also it affects cleanliness of that place spreading a bad odour. The present system has separate section of workers allotted for monitoring and cleaning the trashes at periodic intervals. But this is not properly maintaining the sanitation and management of wastes. The concept of connecting all the trash bins to a common network will be helpful in providing a control and overview of trash bins in the city. This i-bin aims to solve the problem of trash overflow and helping the workers in cleaning the necessary bins.We have taken an initiative by implementing the idea of automation in waste management all over the city using intelligent bin(i-Bin). i-Bin is using the new technologies like Raspberry Pi, IR distance/ultrasonic sensor, actuators and weight sensors along with a web application to improve and smoothen ground level mechanisms for waste collection and efficient processing of waste.

Accident Prevention, Monitoring And Reporting System Using Safety Helmet

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***Abstract*—** India has the highest rate of traffic collisions in the world says National Crime Records Bureau. In that Tamil Nadu records the highest road accidents and its capital Chennai has more accidents than any other city in India. The major causes of traffic collisions are driving over the speed limit, not using helmets and consuming alcohol. Also the google maps being displayed in the helmet helps for navigation and the other sensor helps in monitoring the bike's stability, distance and biker's condition. This helmet also helps in alerting the relatives of the biker in case of accident with the location and the live heart monitoring link. By using this we can also prevent accidents, thus providing more confidence and safety for the bikers.

ECE 008

GROUND PENETRATING RADAR (GPR) ANTENNA DESIGN: A COMPARATIVE STUDY

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ABSTRACT

-A detailed study on Ultra-wideband (UWB) antennae equipped Ground Penetrating Radar (GPR) applications is done. High gain and wide bandwidth are the two antenna parameters to be considered for deep penetration in GPR applications. Among the many antennae, a comparative study on six different geometry is presented. The six different geometries include Planar, Slot, Horn, Vivaldi, Reflector and Bowtie are compared with respect to physical dimensions, operating frequency, S11, Gain and Bandwidth. Among these six structures, Vivaldi and slot antennae outperform the others with respect to gain as well as bandwidth. Planar monopole antennae are also highly preferred to achieve high gain and wide bandwidth. Use of planar monopole antenna for GPR applications is also suggested.
Keywords: UWB antenna, GPR, S11, Gain, Planar Monopole.

Medicinal Picture Watermarking System ForRecovering Embedded Information from Therapeutic Restorative Picture

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Abstract- In this paper, we propose a novel delicate piece based medicinal picture watermarking system for installing information of patient into therapeutic picture, confirming the trustworthiness of ROI (Region of Interest), distinguishing the altered squares inside ROI and recouping unique ROI with less size verification and recuperation information and with basic scientific estimations. In the proposed technique, the restorative picture is separated into three locales called ROI, RONI (Region of Non Interest) and outskirt pixels. Afterward, validation information of ROI and Electronic Patient Record (EPR) are compacted utilizing Run Length Encoding (RLE) strategy and after that inserted into ROI. Recuperation data of ROI is inserted inside RONI and data of ROI is installed inside outskirt pixels. Consequences of trials directed on a few therapeutic pictures uncover that proposed technique creates superb watermarked medicinal pictures, distinguishes altered territories inside ROI of watermarked restorative pictures and recuperates the first ROI.

Keywords: Watermarking, ROI, RONI, RLE, Tamper Detection, Recovery

ECE 010
An IoT based Monitoring System for Digital Agriculture

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Abstract:-Agriculture is important to human beings because it forms the basis for food security. In India, the total GDP exists was 16% of agriculture and exports of 10%. Nowadays the latest technologies for agriculture was internet technology, moisture and temperature sensors, aerial images. In real world farmers face problems in monitoring their farms, when huge lands are there. To overcome it, this paper designed the IoT based monitoring system to monitor the crop field. And also it monitors the temperature in the animal shelter. The maintenance of theft, temperature and humidity detection was major part of smart warehouse management. The field data is updated to the main server by using wi-fi module. Then the user can see the field condition and control it, by the web page.

A COMPACT PLANAR MONOPOLE WIDEBAND ANTENNA FOR ISM & WIMAX APPLICATIONS WITH RHOMBUS RADIATOR

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Abstract

This paper presents a compact planar monopole wideband antenna (40×50×1.6 mm3) with rhombus shaped radiator and partial ground plane. High Frequency Structure Simulator (HFSS) tool is used to design and simulate the proposed antenna. The antenna resonates from 2.21GHz to 4.12GHz with (<-10dB), useful for the wireless communication systems operating in ISM and WiMAX bands. It suits for 2.45 GHz WLAN bands, 2.5GHz/3.5GHz WiMAX bands and other IEEE 802.11(b/g/n/ax) wireless communication services. The proposed antenna provides a bandwidth of 1.91 GHz and a peak gain of 9.6dB at 2.6 GHz. The prototype is fabricated and tested. The simulated and tested results are compared.

Keywords: Planar monopole wideband antenna, ISM, WIMAX, HFSS

ECE 012

MALWARE ATTACKS ON IOT

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Abstract

Over the last couple of years, technology evangelists have discussed the vast benefits of the Internet of Things (IoT) and are now drawing attention to the risks that IoT has created, in particular the vulnerability to cyberattacks. Attackers are repurposing connected Internet of Things (IoT). They use malware to recruit an army of botnets that are used in coordinated massive attacks. Not only did the volume of malware grow, but the number of their variants grew as well. This paper addresses the vulnerabilities that are exploited by malware in Internet of Things, the most relevant among them are addressed in details.

Keywords: IOT, malware attacks, IOT vulnerabilities, ICS, SIS, DOS.

DESIGN, SIMULATE AND ANALYZE THE PERFORMANCE OF PARALLEL COUPLED MICROSTRIP BANDPASS FILTER AT 1.5GHZ FOR GPS APPLICATIONS

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Abstract- In this trending generation, world is mainly focusing on system miniaturization, without affecting the performance of the system. Global Positioning System (GPS) is the satellite based navigation system, mainly used for tracking. Radio Frequency (RF) filters used in this GPS receiver should be in compact size. One of the RF transmission line structure is micro strip line structure, and it is the most preferable one because of its low cost, compact size, less weight etc. In this paper, a compact sized parallel coupled microstrip band pass filter was designed with the frequency of 1.5GHz lies in the L band and 200MHz bandwidth. The simulation was carried out by using the software, Advanced Design System 2016 (ADS). Easily available and cost effective FR4 substrate with the dielectric constant of 4.4 was used to design the filter. The designed filter meets the required insertion and return loss values.

Keywords- Parallel coupled microstrip line structure, Band pass filter, GPS, FR4, ADS 2010

ECE 014

DESIGN ,ANALYSIS AND FABRICATION OF A MICROSTRIP SLOT ANTENNA

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Abstract— Antenna technology has come a long way in modern day electronics and communication world: from being a wire to printed technology. Most of the communication advancement is due to the rapid advancement in the field of antenna. High frequency electromagnetic signals are being used for communication and telemetry purposes. In this paper a antenna is designed for working in microwave frequencies The objective of this work is to design and simulate modern day advanced antenna and to obtain a better insight towards the working of an antenna and its characteristics .To keep design minimalistic and fabrication easy,a microstrip slot antenna is chosen.It is low profile simple to design and fabricate. Since microwave frequencies are being used nowadays,it would be apt to learn and analyse how an antenna works in those frequencies .Hence the idea is to design a mcirostrip slot antenna of resonant frequency 2.4 GHz,on a glass/FR4 substrate of 100mm,having a slot length 43mm and a slot width 1mm,with a microstrip line feed and stub matching,analyse and study about its characteristics,fabricate the design and test to see its conformance..

Keywords---,Microstrip antenna, slot antenna, complementary antenna,patch antenna

LUNG CANCER DETECTION AND CLASSIFICATION USING DEEP CNN

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Abstract- Lung cancer is one of the most dreadful diseases in the developing countries and the detection of the cancer at the early stage is a challenge. Analysis and cure of lung malignancy have been one of the greatest difficulties faced by humans over the most recent couple of decades. Early identification of tumour would facilitate in sparing a huge number of lives over the globe consistently. This paper presents an approach which utilizes a Convolutional Neural Network (CNN) to classify the tumours found in lung as malignant or benign. The accuracy obtained by means of CNN is 96%, which is more efficient when compared to accuracy obtained by the traditional neural network systems.

Key words: Lung cancer, Computed Tomography, Chest CT image, Neural Network, Deep Learning, Convolutional Neural Network

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ECE 016

IMAGE FUSION FOR HIGH SPATIAL HYPERSPECTRAL IMAGE

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Abstract—Image fusion is the phenomenon of combining one or more images to acquire a composite image which caters with better and enhanced spatial and spectral information. A hyperspectral image provides an innovative means for visualizing information about a scene or object that exists outside the visible spectrum. Hyperspectral images are used for geological mapping due to their high spectral resolution. The main advantage of using hyperspectral imagery is that the spectral signature of each pixel can help identify the materials in the scene. However, precise spectral information generally comes at the cost of low spatial image resolution. And so, the unmixing-based fusion of hyperspectral and multispectral data enables the production of high-spatial-resolution hyperspectral data.

INTERDIGITAL BANDPASS FILTER FOR 2.5 GHZ LTE APPLICATION: DESIGN AND PERFORMANCE ANALYSIS

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Abstract—Microwave filter is an indispensable component in all types of communication systems. The most desired features for filters thus designed are accuracy and satisfying degree of performance. The objective of this paper is to design an Interdigital bandpass filter operating at a frequency of 2.5 GHz. This filter is therefore, suitable for LTE(Long Term Evolution) systems. The implementation of the filter is done using FR4 substrate and the simulation of the filter is done using Keysight ADS (Advanced Design System) software. Parameters such as insertion loss, returnloss and 3-dB bandwidth are measured for analyzing the performance of the filter.

Keywords— LTE, Keysight ADS, Interdigital, Microwave filter.

ECE 018
Improvement of Power System Stability in Transmission Line using Static Synchronous Series Compensator (SSSC)

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ABSTRACT
In electric power system, network have continuous demand and heavy load,that may lead to voltage instability. Under heavy loaded condition there may be insufficient reactive power causing the voltage drop. This may lead to drop in voltage at various buses. The result would be the occurrence of voltage stability control problems. Thus, real and reactive power compensation in transmission line is needed and this improves the stability of ac system. Flexible Alternating Current Transmission System (FACTS) technology helps to control the power. The controller minimizes the generating error. In power system, Static Synchronous Series Compensator (SSSC) is used as a series reactive power compensation .Series injected voltage, which leads or lags the line current by 90° is the output of an SSSC, thus emulating a controllable inductive or capacitive reactance. SSSC can be used to minimize the line impedance and improve the active power transfer capability of the line. This project is done using MATLAB in Simulink The current results analyze that SSSC systems provide good performance.

Key words: Static Synchronous Series Compensator (SSSC), Fuzzy Controller, Flexible Alternating Current Transmission System(FACTS).

TOWARDS ENHANCING THE PERFORMANCE OF A STRESS DETECTION SYSTEM

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Abstract—Stress has now become a ubiquitous part of the fast-moving life, due to which many people are affected. Stress, is identified by physical signs of tension, like irritation, anger, nervousness and sadness at an exceeding level. A stressed individual has an abnormal heart rate, blood pressure and breathing. This may cause major variations in mood, productive lifestyle, and quality of life. This work concentrates on detecting the stress of a person by using the time series analysis of Electromyogram (EMG) , Galvanic Skin Response (GSR hand and foot), Electrocardiogram (ECG) levels collected from physionet database. The obtained data is analysed and a dataset with healthy and stressed population is prepared. This work concentrates on improving the performance of a stress detection system using Support Vector Machine classifier. The Performance of the proposed system is measured using metrics like accuracy, sensitivity and specificity. A significant improvement in the metrics of the proposed system claims that this method will aid in diagnosing the stress rate of a person and aftermath necessary steps required to reduce the stress of the being.

Keywords—Stress, Physiological signals, time-series analysis, feature transformation, feature reduction, intelligent system, wearables.

ECE 020

DYE SENSITIZED SOLAR CELLS WITH NATURAL DYES AS SENSITIZERS -A REVIEW

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ABSTRACT: Excitonic solar cells which include organic, hybrid organic–inorganic and dye-sensitized cells (DSCs) are promising devices for inexpensive, large-scale solar energy conversion. Dye sensitized solar cells (DSSC) as a promising candidate has improved the development lines of renewable energy. Light is absorbed by a sensitizer, which is anchored to the surface of a wide band semiconductor. Natural dye usage is a boon to this field. Natural dyes are cutting down high cost of metal complex sensitizers and also replacing expensive chemical synthesis through its simple extraction process. Natural dyes are abundant, easily extractable, safe material with no environmental threats. These can be extracted from flower petals, leaves, roots and barks in the form of anthocyanin, carotenoid, flavonoid, modified chlorophyll/neoxanthin and chlorophyll pigments. This review summarizes about the working of Dye sensitized solar cells and the natural dyes used as sensitizersin DSSC.

Keywords :Dye-sensitized solar cells, Sensitizers, Natural dyes.

EDGE COMPUTING FOR WATER QUALITY ANALYSIS

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ABSTRACT— Water quality monitoring is a major aspect in the current scenario. Real time data's are obtained by the sensors distributed over a geographical area. Water is analyzed at regular intervals and the data from the sensor is sent to the base station for further processing. This paper addresses the issue of data handling and sustained battery life by using edge devices as sink node to perform all the data This paper proposes a novel idea of pooling data obtained by the numerous sensors distributed over an area and bring them into one sink node which does the local computation or analysis and sends it to the cloud server. Here a simple circuit to measure pH level and temperature of water using an ultra low power Mixed Signal Processor (MSP 430G 2533) microcontroller. The sensor nodes just collect raw data from the sensor and send it to the base station node. The base station node is built around an ARM M3 controller capable of providing data security during transmission. The communication is made using GSM to send the data. The base station is GPS enabled. The data from the base station is sent to the cloud server where the pH value and temperature from different sensors are aggregated and sent along with the location data, this data is then used for further analysis.

Keywords—water quality monitoring, pH sensor,Temprature sensor, data handling, edge computing

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ECE 022

INVERTER DESIGN USING JUNCTION LESS GATE ALL AROUND TUNNEL FIELD EFFECT TRANSISTOR

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Abstract - The escalating pressure to defeat the drawbacks of conventional MOSFET such as physical limitations due to its short channel effects has inspired the engineering of a number of superior device geometries and materials. In the midst of these novel devices are FinFET, Nanowires and Carbon Nanotube based FETs, featuring quasi two- and one-dimensional channel geometries for better electrostatics. While a lot of of these modernizations aims only on building up high-performance devices, the making of a roadmap to forecast in-circuit performance combined with large scale integration for these technologies is highly desirable. In this paper we have incorporated Junctionless gate all around TFET thus leading to ease of fabrication because of absence of doping concentration gradients for specific regions. In addition low power consumption is obtainable by TFETs as they are less prone to second order effects. The basic inverter circuit has been designed using the device and their performance is examined.

EVOLUTION OF EV AND ITS FUTURE SCOPE

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Abstract –

Electrification is the most appropriate way to establish a clean and energy efficient transportation. The environmental concerns seem to be a serious issue. The adoption of electric vehicles provides a promising technology in the automotive industry as well in the power sector. This green vehicle also helps in providing a reliable backup source of power for household applications. It also helps in integrating the intermittent resources for charging purposes. As this vehicle have a prominent feature in providing less maintenance and charging at residential premises. The EV technology plays a vital role in smart grid applications and thereby communicating with the grid by presenting itself as smart vehicle. This paper elaborates the challenges of the electric vehicle and its penetration into the automobile market.

Index Terms – Electric vehicle, intermittent resources, smart grid

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ECE 024

Inverter Design using Junction less Gate All Around Tunnel Field Effect Transistor

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Abstract –

The escalating pressure to defeat the drawbacks of conventional MOSFET such as physical limitations due to its short channel effects has inspired the engineering of a number of superior device geometries and materials. In the midst of these novel devices are FinFET, Nanowires and Carbon Nanotube based FETs, featuring quasi two- and one-dimensional channel geometries for better electrostatics. While a lot of of these modernizations aims only on building up high-performance devices, the making of a roadmap to forecast in-circuit performance combined with large scale integration for these technologies is highly desirable. In this paper we have incorporated Junctionless gate all around TFET thus leading to ease of fabrication because of absence of doping concentration gradients for specific regions. In addition low power consumption is obtainable by TFETs as they are less prone to second order effects. The basic inverter circuit has been designed using the device and their performance isexamined.

ECE 025

ADAPTIVE FILTER ARCHITECTURE FOR FPGA IMPLEMENTATIONS

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Abstract—

Adaptive filters play a vital role in digital signal processing but their implementation in real time consumes high area and power. Several architectures have been proposed for their real time implementation such as Distributed Arithmetic, CORDIC, Systolic, etc. which reduces the area and improves the speed. All these architectures are multiplier less and among these, the CORDIC structure is simple and gives reduction in area at the cost of speed. To overcome this drawback, it is modified by implementing it along with Karatsuba algorithm (KA). The combination of KA algorithm and CORDIC structure gives better performance in terms of area and speed. The proposed work is implemented using Xilinx system generator. The structure is tested for different bit representations and the results show that the proposed structure performs well compared with the existing CORDIC structures. The proposed structure can be used in applications such as RADAR, Channel Equalizers and Noise Cancellers.

ECE 026

SPEED BREAKER DETECTION USING GLCM FEATURES

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Abstract

Road accidents are increasing worldwide, that leads to death, injuries and vehicle damages. Most of the accidents happen due to the improper warning sign and unnoticeable speed breakers on the road especially during night. Identification and notification of road signs and speed breakers to the driver at proper time is very important to avoid accidents. In this paper, speed breaker identification using Gray Level Co-occurrence Matrix (GLCM) features is proposed. This method has three stages namely pre-processing, feature extraction and classification. Noise removal, Resizing the image and gray scale conversion has been done as a part of pre-processing. In the feature extraction step, the spatial relationship between the pixels is obtained. GLCM features are the second order statistical features of the image. These features includes correlation, Angular Second Moment, Entropy, Homogeneity and contrast. In this paper, features are consider as the shape, texture and feature statistics. Neural Network based classifier is used in the third stage to identify the presence of speed breaker. The performance of the classifier is evaluated by calculating the confusion matrix.

Index Terms—speed breaker, image processing, GLCM, feature extraction.

ECE 027

TRIPLE BAND RECTIFIER DESIGN FOR RF ENERGY HARVESTING IN WIRELESS SENSOR NETWORKS

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Abstract

Ambient energy harvesting is a key technology to the success of wireless sensor networks. Among various energy sources available in daily environment, Radio Frequency (RF) energy is a good source due to the wide signal coverage from various wireless communication systems. Harvesting a wide frequency band RF signals is useful to boost the total energy level. In this paper, the design of triple bands rectifier to rectify the harvested RF energy from cellular network frequency bands (900 MHz and 1900 MHz) and Wi-Fi sources (2.4 GHz) available in ambience is presented. Advanced Design System (ADS) simulator was utilized to design a 4-stage voltage multiplier RF energy harvesting circuit. This voltage multiplier makes use of Agilent diode HSMS-2850 for rectification purpose. The exploratory outcome demonstrates that the proposed design can gather more power than the power obtained from a single band.

Keywords— Ambient energy, sensor networks, voltage multiplier, rectifier, radio frequency

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ECE 028

A LOW SAR TRIANGULAR PATCH TEXTILE ANTENNA FOR HEALTH MONITORING SYSTEMS

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Abstract — In this article, a triangular patch textile antenna has been proposed for health monitoring systems. The patch is fabricated using copper tape and substrate is made up of cotton. Two slots have been introduced near feedline in order to improve the bandwidth. The dimension of the proposed antenna is 90 x 80 mm². The textile antenna is powered through microstrip feedline structure. The antenna resonates at ISM band of 2.4GHz. Over the resonating frequency, the antenna provides a maximum gain of 3.15 dBi and radiation efficiency of 81.33%. The proposed work also analyses the effects of electromagnetic (EM) radiation on human head and hand. The EM radiation is measured in terms of Specific Absorption Rate at different distances from human head and hand. The antenna parameters like radiation efficiency, radiation pattern, return loss and directivity have been evaluated. The antenna is designed and simulated using FEM based High frequency structure simulator (HFSS) software and the fabricated prototype antenna is tested using network analyser.Keywords—Triangular patch, Textile substrate, Specific Absorption Rate

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ECE 030

INTERACTIVE VOICE RESPONSE SYSTEM DEVELOPMENT

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Abstract—. Interactive voice response (IVR) is a automation tool that allows a system to talk with humans using voice (speech recognition) and dual tone multi frequency (DTMF) tones input via keypad. IVR helps to improve customer experience. They allow customers to solve their own problems by accessing the right information, at the right time. IVR uses text to speech technology to speak dynamic information.. IVR will route callers to the most appropriate department or the agent depending on their IVR input.. This proposed IVR integrates self-service applications and agent assisted applications for a great customer and this Interactive Voice Response solutions provide a cost-effective, efficient platform to deliver a personalized customer experience while reducing operating costs and increasing productivity. It blend inbound calls with outbound IVR and increase actual talk-time with customers. In this work we designed an IVR application for one of the tenants. Here advanced outbound features have been implemented and tested successfully.

Index Terms— Interactive voice response, Dual tone multi frequency,self-service applications,agent assisted.

ECE 031

ACTIVE LEARNING IN CLASSIFICATION OF HYPERSPECTRAL IMAGING-A REVIEW

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***Abstract*:-**The expeditious development of multichannel optical imaging sensors has led to expandedusage of hyperspectral data for remote sensing. Hyperspectral Images (HSI) are used to characterize the objects with unprecedented accuracy of the data. For classification of hyperspectral data, an informative training set is necessary for ensuring robust performance. However, in remote sensing and other image analysis applications, labelled samples are often difficult, expensive, and time-consuming to obtain. This makes Active Learning (AL) an important part of an image analysis framework.AL aims at providing efficient training set by iterating the samples.AL is used to select informative samples from unlabelled data and to transfer the knowledge from the labelled data smoothly to the unlabelled data. This paper reviews various AL algorithms for classification of remote sensing image or HSI. For each of them, the methodologies in the remote sensing community are discussed.
***Keywords*-** *Hyperspectral image,Classification, Active learning, Remote sensing*

AUGMENTED MODEL OF STACKED AUTOENCODER FOR IMAGE CLASSIFICATION

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Abstract –

Stacked Auto Encoder(SAE)is used to pertain the deep networking the training phase of thei ndividual layer for classifying complex real time data MNIST and IMAGENET are used to train the network. Time consumed and accuracy during the training period is calculated for the MNIST dataset which is binary image and IMAGENET dataset includes color image applying the Stacked Auto Encoder algorithm which is trained done layer at a time. Here the SAE consist of three layers which is stacked together and its parameters are varied in such a way that the constructed SAE outer forms achieving time and accuracy trade-off. The SAE mode improves the accuracy of the image classifier in both binary and color image dataset with the reduced time.

Keywords- Artificial Neural Network,, Stacked Auto Encoder ,Image classification

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ECE 033

ENERGY EFFICIENT LOW-POWER FULL-ADDER BY 65NM CMOS TECHNOLOGY IN ALU

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Abstract-

Energy Efficient Low-power 9T full-adder is proposed in this paper. Its functioning basis of Power delay product (PDP), Delay, power and area is distinguished in accordance with that current 1 bit full-adder simulated by utilizing various Complementary MOS logic designs. Output provides an average minimization of 99.28% in power usage, 67.87% in area, 99.89% in delay, and 99.99% in power-delay product (PDP) distinguished to the traditional 28 Transistors CMOS logic. The ALU design has been implemented using 9T full adder. These logic gates are analysis at 65nm technology of CMOS by utilizing Schematic Editor Tool.

Keywords*: Power delay product (PDP), Area, delay, Average power*

DESIGN AND ANALYSIS OF MEMRISTOR BASED MEMORY CELL

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Abstract –

In recent years, the growth of battery operated devices has made the low power memory design an urge in the industry. As transistor count increases, the leakage current has made the SRAM unit a power hungry block from both the static and dynamic perspectives. Also the SRAM block is an important part in SOC design nowadays. Here the power dissipation and area are the main factors in designing the memory. Technology scaling has been developed during last several years and almost close to the final states. SRAM's are also volatile in nature; they lose what was stored in them if the power is turned off. In order to cope with high density new technology, silicon based memory cell also needs to be replaced by alternate devices. Memristor is one of the promising novel elements for memory cell. It can be seen that memristance M depends on charge q, which is defined as the time integral of the memristor current. Thus, the memristor can be regarded as a nonlinear resistor with memory. This paper is based on memory cell using memristor. It has the property of non volatileness. It increases the packing density and reduces the power in system on chip (SOC). These techniques help in reducing the leakage power in the device without loss of stored data. SRAM takes large part of power & area, therefore memristor based SRAM is designed to improve power & speed of memory cell. The memristor based memory cell is designed using LT spice EDA tool in 180nm technology. Conventional 6T SRAM cell is modified with memristor and CMOS - Memristor based memory cell is designed and simulated in LT spice for its performance in 180nm technology. Peak and average power are obtained for conventional 6T SRAM cell and proposed memristor memory cell. Power results are compared and shows that power reduction is achieved in memristor based memory cell when compared with conventional 6T SRAM cell. Read and write operation is simulated to evaluate the read time and write time of proposed memory cell.

Keywords – Memristor, Hysteresis, Non – volatile

ECE 035
RTOS BASED ONLINE CONDITION MONITORING AND DIAGNOSIS OF ELECTRICAL EQUIPMENT

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Abstract—

In an electrical system the scheduled maintenance leads to unexpected failure before our next scheduled maintenance break. RTOS based Online condition monitoring techniques for electrical equipment mainly including system status, system performance, system recovery and automatic diagnosis. Electrical system if complex, are better implemented if split into number of tasks. These tasks will have different priorities and timing deadline and hence must be managed by a real time operating system. The scheduling algorithm is evaluated in RTX kernel in order to manage various tasks. With the help of C language, the program has been written to assign the task priorities, timing deadline to monitor the tasks, recovery actions which should be carried over if fault occurs. This program has been flashed at ARM7 processor as per that the entire system works. This emulation supports online condition monitoring to monitor and diagnosis of electrical equipment in real time.

Keywords— RTOS, ARM7 processor, Matlab-Simulink, LPC2148 kit

PERFORMANCE ANALYSIS OF LOW NOISE AMPLIFIER USING JUNCTIONLESS GAA TFET AND CONVENTIONAL MOSFET

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Abstract –

The rising demands to overcome the disadvantage of conventional MOSFET such as physical limitations due to its short channel effects has stimulated the engineering of a number of greater device geometries and materials. In the midst of these novel devices are FinFET, Nanowires and Carbon Nanotube based FETs, featuring quasi two- and one-dimensional channel geometries for better electrostatics. While a lot of these modernizations aims only on building up high-performance devices, the making of a roadmap to forecast in analog circuit performance combined with large scale integration for these technologies is highly required. In this paper we have incorporated Junctionless gate all around TFET for analog circuit design thus leading to ease of fabrication because of absence of doping concentration gradients for specific regions. In addition low power consumption is obtained by TFETs as they are less prone to second order effects. The common source low noise amplifier circuit has been designed using the device as well as MOSFET and their performances are analyzed using various parameters like gain and noise figure.

Keywords: Junctionless Gate all around TFET, MOSFET, Low Noise Amplifier, Gain, Noise figure.

ECE 037
WIRELESS IPV6 SECURE ROUTING FOR CONTIKIRPL

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ABSTRACT

RPL is a standardized 6LoWPAN complaint routing protocol suitable for low power and lossy networks that can be used for various applications of Wireless Sensor Networks such as health care, military, home automation. With increased use of 6LoWPAN in wireless sensor networks, routing security has become a basic necessity. Security implementation for RPL is an unattended task keeping in mind the undetermined cost measures such as memory and power consumption. This paper prioritizes the implementation and analysis of secure ContikiRPL with the help of various encryption and message authentication algorithms compatible to the resource constrained WSN environment using COOJA simulator. The experimental results encompasses not only on the effects of security implementations on the behavior of RPL but also on the cost of memory and power consumption.

Keywords— *RPL; security; WSN; Contiki; COOJA*

DESIGN AND ANALYSIS OF LOW POWER FULL ADDER IN ALU USING 65NM CMOS TECHNOLOGY

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Abstract-

In this paper the different topologies of one bit full adders in ALU including the most interesting of one proposed is analysed and compared for Area, Power Results have shown that the proposed full adder cell exhibits least power consumption and propagation delay in the voltage range of 0.5 volts to 1 volts. The circuits have been designed and simulated at 65nm Technology using Tanner EDA tool.

Keywords: CMOS, Area, Average power

ECE 039

LESS POWER CONSUMPTION HIGH EFFICIENCY BYPASSING-BASED MULTIPLIER DESIGN USING 65NM CMOS TECHNOLOGY

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Abstract. Presently, in VLSI design, Power management has turn out to be a major issue. In this research, an Implementation of Low-Power High Efficiency Bypassing-Based 2D Multiplier Design using 65nm CMOS Technology was presented. When matched up with digital row bypassing based multiplier design, digital column bypassing based multiplier design and digital low power two dimension bypassing based multiplier design, the experimentation outcomes shown our presented Multiplier Design decreases 30.4% of the power dissipation for 4*4 Multiplier.

Keywords: low power multiplier, , CMOS, bypassing

AN INSIGHT TO CLOSED LOOP INSULIN DRUG DELIVERY: REVIEW

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Abstract—

Diabetes is a silent killer, one of the most common diseases which is widespread all over the world. It may also leads to many secondary diseases from head to toe. There is a myth that it is a incurable disease but can be treated. This paper presents various different types of insulin delivery methods which are currently available like insulin injection, insulin pen, insulin pump, inhaled insulin, insulin jet injector and microchips. Of these methods oral insulin is considered to be the best one. Since it doesn't require any pricking mechanism or self training, it is effective. The ease of using a pill could make more people willing to start and maintain the insulin therapy routine that could lead to better control of their diabetes. Oral insulin mimics the precise functional route as it is absorbed from gastrointestinal tract into portal vein. Several companies across the world are developing different technologies for better absorption and to withstand the enzymatic degradation. The ultimate goal of this review is provide an idea of different insulin delivery systems.***Keywords***— Insulin Delivery, Diabetes, Nanomaterials

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ECE 041
VEHICLE – VEHICLE COMMUNICATION USING LI FI TECHNOLOGY-A REVIEW

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Abstract- Vehicle-Vehicle communication (V2V) is the most wanted technology to the today's traffic and accidents being held. The abstract gives the definite idea on what is being done in the forthcoming discussions. Rather than making this LiFi technology to revolve only around customary radio recurrence as in WiFi, opting to make the world visible that it also got its unique feature that it can be utilized as a transported motion. Most of the accidents occur due to the mischance of hitting the other one without any notice or breaking the rules of traffic light. So its better to have this problem in mind and then define a solution. By keen on the path of ITS (Intelligent transportation system) we could make it possible to have a communication between two vehicular system based on the significant thing, so called IOT. When this two technologies blended they give us the result which is been discussed in upcoming sections.

KeyWords: Wireless Technology, Wi fi , Li fi , Visible light , LED

DESIGN OF MULTIBAND WEARABLE RECTANGULAR SLOT ANTENNA FOR WIMAX AND WLAN APPLICATIONS

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Abstract—
This paper presents the design of multiband wearable rectangular slot antenna resonating at 2.9 GHz, 3.9 GHz and 5.1 GHz bands. The wearable antenna has several requirements must be considered during the designing of antenna such as small size, light weight, flexible, maintenance free, conformal to devices and also operating with minimal degradation in proximity to the human body. For increasing the flexibility and comfortability to the user, denim is used as a substrate material and Silver is used as a conducting material. The overall size of the proposed antenna is 68x60 mm^2. The simulated S-Parameter, VSWR, Gain and Directivity of the proposed structure show an excellent performance of the antenna. For the multiband operation the proposed antenna has a gain of 5.117 dB, 5.023 dB and 8.462 dB with VSWR of 1.517, 1.816 and 1.173 for 2.9 GHz, 3.9 GHz and 5.1 GHz respectively. This proposed work also analyzed the effects of EM radiation on the human body. The SAR was measured from the antenna by using the Voxel model. The average SAR values of the proposed antenna are 0.8722 W/kg, 1.49 W/kg, 1.44 W/kg. The proposed antenna meets the SAR limits recommended by the ICNIRP, which is 1.6 W/kg averaged over 1 g of tissue. The proposed antenna is optimized on software package Computer Simulation Technology (CST) Microwave Studio package 2017.. This antenna is suitable for the application required a multiband wearable antenna within the WiMAX and WLAN bands.

Keywords—Wearable Antenna, WLAN, WIMAX, Specific Absorption Rate, Multiband, Denim, Silver.

ECE 043
SUPPRESSION OF MUTUAL COUPLING BETWEEN DUAL ELEMENT MIMO ANTENNAS FOR 5G

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Abstract –
5G is the proposed next telecommunications standard beyond the current 4G/IMT-Advance standards, operating from 2GHz-8GHz.Multiple-InputMultiple-Output (MIMO) communication techniques have been an important area of focus for the Fifth generation wireless systems because of their potential for spectral efficiency, increased diversity, energy efficiency and interference suppression. Antenna integration along with the reduction of mutual coupling is one of the major challenges. For this purpose planar Microstrip antenna is used because of compact size, easy and inexpensive to manufacture using printed-circuit technology, mechanically robust when mounted on rigid surfaces. Rectangular Fractal slots are used to enhance bandwidth without any matching element and for good radiation pattern. In this paper we have designed dual element of Multiband MIMO antenna for 5G application which operates in 3.1GHz, 3.6GHZ and 3.9GHz with reduced mutual coupling. To analyse the mutual coupling, the two antennas are placed at a distance of 0.125λ.Various methods to reduce mutual coupling like Electromagnetic Band Gap (EBG),Meander line, Defective Ground Structure(DGS) are implemented and out of which DGS has the adverse effect. An isolation of -59dB has been achieved with the DGS structure relative to -29dB without the DGS.

Keywords:Mimo Antenna,Mutual coupling,Electromagnetic Band Gap(EBG),Meanderline,Defective Ground Structure(DGS),High Frequency StructureSimulator(HFSS).

USE OF MICROPROCESSOR, MICROCONTROLLER & SOC DEVELOPMENT PLATFORMS IN AUTOMOBILE ENGINEERING COURSES – A SURVEY

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Abstract*:*

Automotive industry no longer will be a mechanical thing. Electrical & Electronics plays a predominant role in automotive. Current and future automotive technology relies on smart, self-driving cars which intern employs the smart sensors, processors, actuators. Open source and proprietary development boards enhance learning skills of students. Availability of Microprocessor, Microcontroller & SoC development platforms are rich. Usability and user friendliness are two main parameters. Students consider Cost, Power usage and Data rate as critical factors. Online Resources like Blogs, engineering community forums provide good support for learning and using microcontrollers. Studies found that students felt comfortable with practice based learning. This study will look at the attitude of students in choosing Microprocessor, Microcontroller & SoC development platforms for Automobile engineering courses. Keywords : Electronics in Automobiles, SoC based Automotive system development, Automotive ECUs

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ECE 045

DESIGN OF A FORK SHAPED FREQUENCY RECONFIGURABLE ANTENNA FOR WLAN APPLICATIONS

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Abstract—

The information age of communication systems and networking finds rapid growth and there has been a growing demand for new RF technology to improve system capacity. In this, it is essential to utilize the available spectrum effectively to avoid spectrum scarcity. Cognitive radio is an intelligent system which makes use of reconfigurable antennas to overcome spectrum scarcity by switching its radiation patterns, frequency and polarization. This work presented the design of dual-band frequency reconfigurable fork shaped dipole antenna. The proposed antenna is designed to operate WLAN applications (2.4 -5.8 GHz). This antenna can operate in dual-band as well as single-band mode depending on switching combination. This work makes use of RF-MEMS (Radio Frequency Microelectromechanical System) switches to provide frequency configurability. Depending on the switch positions, the antenna's dimension gets varied that makes it to resonate for different frequencies. The simulations were carried out in Ansoft HFSS.

Keywords— Frequency Reconfigurable, Cognitive Radio,E-Shaped Patch, Radio Frequency Microelectromechanical System(RF-MEMS), Ansoft HFSS.

REVIEW OF DESIGN TECHNIQUES FOR COMPACT MICROSTRIP ANTENNAS

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Abstract:

Micro strip patch antenna are widely deployed in recent times in applications such as wireless communication and Telemedicine. Patch antennas are replacing the conventional antennas in many applications, these advancements necessitates Microstrip patch antenna design that can incorporate wide range of specifications. The design of multiband antenna places constrains on the geometrical dimension and antenna parameters such as gain and efficiency. To incorporate the specifications various design methodologies have been employed. Variations in geometry, inclusion of slots, Switching devices, FSS, EBG or PBG structures and Ring resonators have a great impact on the performance of the antenna. This paper provides a comprehensive review of the design practices employed in a microstrip Patch antenna.

Keywords: Micro strip, Antenna,Slots,,EBG,,PBG &DGS

ECE 047
DESIGN AND FABIRACATION OF OPTIMIZER MACHINE

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***Abstract*—.**

Medicinal machines are at the heart of poultry industry. The primary goal of the project is the fabrication a tailor made automated medicine mixing machine , which is the lighter, automated to keep it simple but effective, and to provide a homogeneous mixing environment to mix the medicine in the shortest time. chickens require nutritious food for required weight gain . Along with the food, medicine for immunity is sprayed using the medicine. The machine has the capability to mix together up to six liquids. The market requires an optimized mixing machine. The mechanical, electronics and electrical aspect of the project is completed, with the design and fabrication of a suitable impeller, mixing tank, storage tank and the frame of support. Suitable material was selected base on machinability, weldability and corrosion resistance. FEA analysis was conducted to determine total deformation, maximum principles stress and strain, maximum shear stress and strain. Compared to the conventional models, we have reduce the weight, stress intensities and deformation as a result of applied load.

SMART GLOVE TO MONITOR PARKINSON'S PATIENTS

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Abstract
-The smart glove to monitor the Parkinson's patients is an efficient system to monitor the tremors and rigidity levels of that patient. Parkinson disease (PD) patients suffer from a bodykinesia, resting tremor, rigidity, postural instability and gait difficulty. General means of assessing these symptoms however, confide heavily on patient self-accessing, which often fails to provide the necessary level of detail. Wearable accelerometer is a major tool that can detect and objectively define these movement abnormalities in both the clinical setting and the patient's home environment. This system is integrated into a smart glove where these accelerometers are embedded to record the movements and tremors to assess the cardinal motor symptoms of PD (tremor and rigidity of hand and arm). The gloves are relatedto smart phones, which process the information and transfer it to neurologists in their offices. Moreover this system helps the doctors to control the treatment plan of the patient day-to-day, ensuring that medication is working properly and eradicating the obligation for patients to make stressful clinical visits regularly.

Keywords*:-smart glove, parkinson disease, symptoms, wearable accelerometers, Tremor level detection*

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ECE 049
3D Visualization of Breast Masses using Cranio-Caudal (CC) view and Medio-Lateral Oblique (MLO) view

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Abstract—

This paper focuses on the classification of breast masses into normal, benign or malignant using Cranio-Caudal (CC) and Medio-Lateral Oblique (MLO) views of mammograms. First, the proposed method preprocesses the input images. The preprocessing process removes the unwanted artifacts from the images. These artifacts do not contribute anything in the analysis of the breast cancer. Then, the proposed method uses Watershed algorithm to segment the suspicions in the images. Then, it extracts the texture features of the suspicions from the segmented images. The method uses Gray Level Co-occurrence Matrix (GLCM) for extracting the texture features.Then, this method classifies the suspicions into normal, benign or malignant tumor based on the texture features of the suspicions. It uses Back Propagation Neural network (BPN) for the classification of the suspicions. The classification step has two parts. The first part involves the usage of single views i.e. considering the CC and MLO views individually for classification. The second part uses two views i.e. both CC and MLO views for classification. Next, this method compares the classification results obtained for individual CC, MLO views and combined CC and MLO views. Finally, the segmented masses are represented in 3D to provide better visualization of the masses.

Keywords— Mass, Cranio-Caudal view, Medio-Lateral Oblique view, Preprocessing, Watershed algorithm, Gray Level Co-occurrence Matrix, Classification.

HYPERSPECTRAL IMAGE: A SURVEY

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Abstract—
Hyperspectral imaging (HSI) is one of the progressive remote sensing techniques. HSI captures data in large number of continuous spectral bands with the spectral range from visible light to (near) infrared, so it is capable of detecting and identifying the minute differences of objects and their changes in temperature and moisture. But its high dimensional nature makes its analysis complex. Various methods have been developed to reduce the dimension of hyperspectral image by feature extraction. This paper highlights the advantages and drawbacks of number of classical dimension reduction algorithms in machine learning communities for HSI classification.

Keywords—Hyperspectral imaging, dimension reduction, feature extrction,classification

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ECE 051

GAIN ENHANCEMENT OF A SQUARE PATCH ANTENNA USING EBG STRUCTURE

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Abstract —
In this article, the gain enhancement of a square patch antenna using an electromagnetic bandgap (EBG) structure has been presented. The dimension of the proposed antenna is 57x57 x1.6 mm^3. The proposed square patch antenna is designed on a commercially available FR4 substrate with dielectric constant of about 4.7. The proposed antenna resonates at ISM band of 2.45 GHz. The antenna is powered by 50Ω transmission line using the microstrip feedline structure. The gain of this antenna is 3.5 dBi greater than that of a conventional square patch antenna. The antenna parameters like radiation pattern, return loss, VSWR and gain have been evaluated. The antenna is designed and simulated on Computer Simulation Technology (CST) microwave studio.

Keywords—Square patch, Electromagnetic Bandgap, Gain enhancement**.**

ECE 052
HIGH PERFORMANCE BAUGH-WOOLEY MULTIPLIER USING HPM

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Abstract –
This paper presents an implementation of high-speed multiplier using VHDL (Very High Speed Integrated Circuits Hardware Description Language).In Booth multiplier multiplication process is done by both encoding and decoding. The Baugh-Wooley algorithm is performing signed multiplication and two's complement. In both modified Baugh-Wooley and modified Booth recoded multiplier the critical path delay has been reduced by using HPM tree concept and the speed is enhanced. Here the design of 8-bit Modified Baugh-Wooley multiplier and Booth multiplier has been designed and implemented by conventional method and also using High-Performance Multiplier Reduction tree (HPM) technique. The speed of Modified HPM Baugh-Wooley operation is increased by appending ripple carry adder. The results are evaluated and synthesized using Xilinx ISE 14.7..

Keywords: HPM tree, FPGA, VHDL, Ripple carry adder, Xilinx, Modified Baugh-Wooley multiplier

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ECE 053
PERFORMANCE EFFICIENT SUCCESSIVE APPROXIMATION ADC WITH DOUBLE TAIL DYNAMIC LATCH COMPARATOR

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Abstract-
Analog to Digital converters (ADC) focused for use in medical equipment which serves a critical part as the interface between analog signal and digital signal processing system. Ordinarily, low power usage is required for a long battery lifetime. In such application which requires low power use and direct speed and determination, a champion among the most ordinarily used ADC models is the Successive Approximation Register (SAR) ADC. The other famous ADC models are Pipeline ADC, Flash ADC, Integrating ADC, and Sigma Delta ADC. ADCs are chosen by particular application inside the thought of resolution, power, size, sampling frequency, performance and so on. A SAR ADC is normally first considered for its low power and little size with medium determination applications. The essential engineering of SAR ADC comprise of test and hold circuit, progressive estimate enlist, computerized to-simple converter and a simple voltage comparator. This paper manages the outline of an enhanced double tail dynamic latch comparator which is put in the comparator piece of SAR ADCs and different parameter estimations, for example, control utilization, Signal to Noise contortion proportion, Effective Number of bits are taken and contrasted and the SAR ADC planned with ordinary comparator. The schematics are composed and handled in Tanner tool.

Keywords*:* Analog to Digital converters, Sample and Hold circuit, Low power, Resolution, SAR ADC.

ECE 054

SPACE RADIATION SHIELDING USING NANO-PARTICLES
THE FIRE WAY TO MARS!!- NANO COATING

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Abstract

We are now in the world which is under the control of hardware and software technologies. Though we stepped out of Earth a lot of times, it remains a big brain teaser for scientists and engineers to shield astronauts and space ships from approaching space radiations. Manned mission to Mars has been a goal for many space agencies since 1950's. Among many hardships for habituating in Mars, the effect of space radiations stands first as a hard booby-trap. As per my understanding, our own planet has magnetosphere to block such radiations. Hence things and lives on Earth experience a very pretty quantity of broadcast when compared with deep space. So sustain habitation seems hardly possible in Mars. According to our present knowledge, it seems that astronauts in ISS experience for radiations for one year less than a single trip to deep sky. Shielding is essential for unmanned missions as well (though not as much), as these radiations may affect computer systems too. There are various types of space radiations. A single comment space radiation encloses three kinds of broadcasts. They are the particles trapped from Earth's magnetic field, particles walked out during solar flares, galactic cosmic rays (GCR). GCRs, speeding with high energy protons are cureless when compared with others. It is known that no reasonable amount of shielding can shotgun to the end. As per studies, it is predicted that hydrogen rich materials are pretty good at solar wind shielding when compared with some other broadcast shielding materials such as Al, lead. These are heavy materials in which the shielding effectiveness is broken down to reflection when it is exposed to electrified particles like protons and it also results in radiation shower which leads to maximization of incident activated particles. Heavier materials can provide sufficing shielding under Earth's orbit and for short trips like moon but not much effective for long term deep space missions. The preproposal solutions for this problem are using hydrogenated materials, boron components, etc. Here our innovation comes by using the above types of materials in the form of Nano-particles. Since Nano particles can store hydrogen more effectively, it is also easiest way to move. By adding this layer in space craft layer and space suits the direct effect of broadcasts will be shortlisted. The main advantage of this layer is that it produces much less secondary radiations when compared with lead and also reduces weight added to space craft. So, these materials in the form of Nano particles might act as better shielding element and in my view it might be the safest and cheapest way to go with. Though these lighter elements can't shield the crew completely from space radiations, they can slash it to gob, which probably results in reducing harmful effects just like under the tree to shotgun from complete drizzling during rain. It is well known that the theoretical proposals are not exactly the mirror of practical ones. Hence, it is just an expectation that polyethylene might take us farther away than we ever imagined.

Keywords: Hydrogen rich polymer, plastic coating, radiation shielding, GCR protection, Nano particles.

ECE 055

INDUCTORLESS REALIZATION CHUA'S CIRCUIT

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Abstract—
Nonlinear systems may exhibit many types of complex behaviour such as chaos, and this complexity has attracted many scientists from various fields to study such systems. Simple electronic circuits may exhibit chaotic behaviour. Among such electronic circuits, the Chua's circuit received a great deal of attention since it is quite simple and can easily be realized in the laboratory using standard electronic components. Experimentally Chaos can be observed using a simple circuit named Chua's circuit and it is the first physical implemented system. Several alternative realizations are possible for Chua's circuit. Inductors are used in most of the chaotic signal generators, which is inconvenient for various reasons. An Inductorless realisation of Chua's circuit, which exhibits chaotic behaviour is presented in various circuits. This new realization consists of the Wien bridge circuit or op amp based circuit, which is in parallel with the same nonlinear resistor used in the standard realisation of Chua's circuit. In this paper an Inductorless realization of Chua's Circuit is presented using op-amps. Simulated results for two synthetic values of inductance L=18mH and L= 8.2mH is presented.

Keywords—*Chua's Circuit, Inductorless, Chaos*

ECE 056

TOWARDS ENHANCING ENGINEERING EDUCATION THROUGH INNOVATIVE PRACTICES IN TEACHING LEARNING

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Abstract—
Engineering is a discipline which demands lot of analytical skills, technical expertise and intuitive understanding. The quality of students produced by engineering institutes is deteriorating at a rapid pace. Academic Institutions play a major role in creating high quality engineers with needed skill set toface global competition. However, the use of conventional teaching learning pedagogy limits producing high quality engineers. The proposed work aims at incorporating innovative methods in teaching learning pedagogy such as collaborative learning, peer learning, technology enabled learning and participative learning strategies for students with different learning styles. The impact of employing the innovative methods are assessed using students feedback, course end survey and assessment results. A significant improvement in the student performance claims the effectiveness of proposed techniques to improve the in-depth understanding, employability rate and knowledge level of budding engineers.

Keywords—Pedagogy, teaching learning, active learning, collaborative learning, peer learning, technology enabled learning.

ECE 057

VEHICLE – VEHICLE COMMUNICATION USING LI FI TECHNOLOGY

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Abstract:

Vehicle-Vehicle communication (V2V) is the most wanted technology to the today's traffic and accidents being held. The abstract gives the definite idea on what is being done in the forthcoming discussions. Rather than making this LiFi technology to revolve only around customary radio recurrence as in WiFi, opting to make the world visible that it also got its unique feature that it can be utilized as a transported motion. Most of the accidents occur due to the mischance of hitting the other one without any notice or breaking the rules of traffic light. So its better to have this problem in mind and then define a solution. By keen on the path of ITS (Intelligent transportation system) we could make it possible to have a communication between two vehicular system based on the significant thing, so called IOT. When this two technologies blended they give us the result which is been discussed in upcoming sections.

KeyWords: Wireless Technology, Wi fi , Li fi , Visible light , LED

EIE001

PRESSURE PLANT AUTOMATION SYSTEM USING DCS SYSTEM

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Abstract

At present time, most of the process industries are in the position to monitor and control many different manufacturing processes at the same instant of time. Global monitoring and controlling of all the process at a same time of instance will lead to increase the process productivity and plant safety. Distributed control and centralized monitoring are the key-factors to ensure the plant safety. This paper aims to enhance the flexibility in controlling and monitoring of pressure process station by configuring and developing a HMI using DCS. The PID controller attempts to minimize the error by adjusting the controller output. The pid gain values are calculated by using cohen and coon tuning algorithm.The field output of pressure process station is fetched and the parameters have been sent to the distributed control system (DCS) where the controlling is distributed and monitoring is centralized. Hence the optimized control of different industrial process has been achieved.

Keywords: DCS-Distributed control system, HIS-Human InterfaceSystem, FCS-Field Control Station, VP-Vigilant Plant, PID-Proportional Integral Derivative.

EIE002

REAL TIME CONTROL OF CONICAL TANK SYSTEM USING ADAPTIVE FUZZY PID USINGLABVIEW

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Abstract

Implementation of control algorithms for a highly non linear system is often complicated due to variations in process dynamics. In this paper a control scheme based on Adaptive Fuzzy PID is implemented for a non linear conical tank system and monitored in real time using LabVIEW. It is observed that the Adaptive fuzzy PID controller gives better performance in real time compared to conventional controllers like PID, FLC. A comparison is made between fuzzy logic controller and adaptive fuzzy PID controller.

Keywords: Conical tank; controller; FLC; PID; LabVIEW.

EIE003

ANALYSIS OF BIOMARKERS IN SWEAT AND ITS COMPARATIVE STUDY WITH BLOOD

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Abstract

In the current medical field, the many methods used to analyze the bio fluids for biomarkers are blood, urine, saliva and sweat. Blood testing by sampling is to be done frequently for analysis from patients rendering them prone to higher chances of infection and storage for the procedure also proves difficult. Investigations into biomarkers contained in Sweat have so far been limited. Compare to blood, most of the drugs are accumulated in sweat. It is noteworthy that certain biomarkers like nitrogenous compounds, metal and non-metal ions, metabolites and xenobiotics are found in sweat in such the amount approximately equal to other biofluids.In this paper, the collection of sweat and its analysis for determining biomarkers are proposed. Additionally, comparison of biomarkers in blood and sweat had done and tried to prove that sweat is noninvasive, cost effective and accurate analysis compared to blood.

Keywords: biomarker; spectrophotometer,atomic emission spectrophotometer, heavy metals.

EIE004

A LOW COST SMART ENERGY MONITORING AND CONTROL SYSTEM FOR BUILDINGS

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Abstract

With the global energy demand to rise significantly in future, the duty is to reduce energy wastage by employing smart real-time energy-consumption monitoring and control. In this work, an energy consumption measuring device is designed and developed which monitors and controls energy usage of appliances in real-time. The design itself is based on low-cost, commercially available hardware such as a voltage transformer, rectifier IC, ESP8266 Wi-Fi module (Node MCU), Hall Effect sensor, etc. The in parallel NODE MCU acts as a server in a locally hosted WI-Fi network. It provides an IP address using which the data can be viewed on an HTML page to alert the user of the power utility factor. The monitoring and annunciator system developed has shown low average error rate of 0.40% in power measurement when compared to commercially deployed energy meters, hence proving its accuracy. The analysis of individual feedback on energy usage based on these smart monitors is being carried out as part of a three weeks field trial. In these three weeks of trial, the proposed system has led to about 12% reduction in average power consumption when compared with legacy systems that do not involve smart monitoring systems.

Keywords: Index Terms—Smart energy meter, intelligent energy networks (IENs), NODE MCU.

EXEIE01

DESIGN AND DEVELOPMENT OF LOW COST CREVICE TESTING EQUIPMENT FOR PROCESS INDUSTRIES

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Abstract:

Packaging is very important process in many pharmaceutical, food and manufacturing industries. For packaging most of the industries prefers plastic bottles, tins, glass bottles and plastic covers. At the time of packing it's important to ensure the cans are not damaged. To ensure this handful of techniques are being implemented in the industry. Among them, most common technique is bubble testing method. This method has a drawback of rusting with time and high initial cost. Presence of water in the can may affect the quality of the final product in the can. To overcome these drawbacks PLC and photo resistive effect based system have proposed and developed. This proposed system is classified into transport unit, testing unit and control unit. The transporting unit is a conveyor belt arrangement, testing unit comprises of photo resistive effect based system and control unit to monitor and control overall operation of the system. The control unit rejects damaged cans from the conveyor by monitoring. This system has been developed at low cost and with faster response rate.

Keywords: Crevice Testing, Non Contact Crevice Testing, Photo resistive Based Crevice Testing, Automation, PLC

PREDICTION OF THERMAL AND MOISTURE COMFORT PROPERTIES OF POLYESTER FILAMENT PLAIN KNITTED FABRIC FROM ITS STRUCTURAL PARAMETERS

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Abstract

The thermal and moisture comfort of a fabric mainly depends on air permeability and vapour transport, sweat absorption and drying ability. At present polyester knitted fabric is increasingly used in sports apparels. The main objectives of this study are to study the influence of fabric structural factors on moisture comfort properties to develop predictive models for moisture comfort properties from the fabric structural factors and to decide the structural factors for optimum moisture comfort for wearing in extreme environmental conditions. So polyester filament yarn is knitted in plain structure with independent variation in filament denier, fabric tightness factor and the yarn denier and tested for its wicking time, water vapour permeability, air permeability, water absorbency and drying time. It is concluded from the study that the yarn denier is positively correlated with the absorbency and drying time and negatively correlated with wicking time and air permeability. Secondly tightness factor is positively correlated with the absorbency and drying time, but negatively correlated with wicking time, water vapour permeability and air permeability. Third, filament denier is positively correlated wicking time, water vapour permeability, air permeability but negatively correlated with moisture absorbency and drying time. In this study the extent of influence of individual parameters on the individual moisture comfort properties is discussed. The quadratic regression equations are also predicated for all the moisture comfort properties and validated. Based on this study the structural parameters for optimum moisture comfort for different climatic conditions for single jersey polyester knitted fabrics are discussed

Keywords— tightness factor, filament denier, yarn denier, wicking time, air permeability, water vapor permeability, absorbency, drying time

FT002

MECHANICAL AND DIELECTRIC PROPERTIES OF PP COMPOSITES REINFORCED BY SILK AND WOOL FIBRES – A COMPARATIVE STUDY TO PP

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Abstract

The effects of reinforcing silk and wool fibres in polypropylene resin on the mechanical and dielectric properties of the composites were studied. The composites were fabricated in compression moulding machine. The mechanical properties such as tensile, flexural and impact properties of the composites were evaluated. Scanning electron microscopic images were taken to study the interfacial adhesion between fibre and matrix. The composites reinforced with silk fibres have shown 66.67, 66.89, 68.84, 66.89 and 53.79 % improvement in tensile strength, tensile modulus, flexural strength, flexural modulus and impact strength when compared to the pure polypropylene composites. It was also observed that the incorporation of silk and wool fibres in polypropylene resin increased the dielectric constant and dissipation factor values of the composites.

Index Terms— Silk, wool, mechanical properties, PP, compression moulding

A STUDY ON THE VARIOUS FIBRES, FINISHES AND STANDARDS FOR FLAME PROOFING OF HOME TEXTILES

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Abstract

Home textile industry is a fast growing industry in India and the demand for specially treated fabrics are very high. The Flame retardant fabrics have a significant role in home textiles. Many home textile products are exported and one of the mandatory requirements today is flame retardancy finish. The cold environmental conditions call for the use of modern centralized heating systems or conventional fire places in buildings. The tendency to ignite bedding and bed linen has made this finish as a mandatory requirement. This paper deals with the study on various fibres , conventional means of finishing, recent technologies involved in finishing of flame retardants and standards for flame proofing of various home textiles. The home textile market is very competitive and exclusive and functional products are in demand. Standards and certifications for functional finishes have become a necessity and to reach the specifications of the buyer these finishes have come into vogue. The current trend is to impart multiple finishes for a home textile product called as engineered finishing technology. Innovative methods, standards and certificate requirements have made home textiles special in the global market.

Keywords: Home textiles, flame retardant, fibres, finishes, standards

FT004

DEVELOPMENT OF KNITTED FABRICS USING HEMP/MICROMODAL AND STUDY OF COMFORT PROPERTIES

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Abstract

This project deals with the development of knitted fabric using Hemp/Micromodal blend. The raw hemp fibre was tested for its single fibre strength and blended with micro modal fibres in 50:50 proportions besides using the micromodal fibres in 100%. The blended fibre and 100% micromodal was made into yarn using open end spinning machine in 10's count. The produced open end yarns were tested for its single yarn strength. The developed yarns were knitted using flat knitting machine. The knitted fabrics produced from the above blends are dyed using reactive dye. The dyed knitted fabrics made from the above blends were tested for its physical and comfort properties like bursting strength, moisture management capability, air permeability, water vapour transmission and thermal resistance.

Keywords: Hemp,Micromodal,Yarn,Fabric,Comfort.

STUDY ON DEVELOPMENT OF LIGHT WEIGHT HOOKS FOR HAND LOOM JACQUARD

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Abstract:

Handloom weaving is one of the oldest methods of making fabrics in India. The jacquard equipment is used to create designs in the fabric and the weight of the jacquard equipment is very high affecting the weaver's health, production of fabrics. This research aims at reducing the weight of jacquard equipment by reducing the weight of hooks in the jacquard. The Al-Mg 5052 alloy material and Nylon GF were selected by considering density of the material and tensile strength required to raise an individual warp end along with its lingos.

Keywords: Handloom, Jacquard, Hook, Al-Mg 5052 alloy, Nylon GF

FT006

A CRITICAL REVIEW OF HEMP AND LINEN FIBRES

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Abstract

This paper deals with the literature review of hemp and linen fibres. The literature review involves the harvesting and cultivation process of hemp, characteristics of hemp, applications of hemp, pre-treatments of hemp and linen fabrics, global footprint of hemp, comfort properties of linen and linen blended fabrics, advancements in the spinning of linen fibres, sustainability of linen and hemp fibres, and properties that enhance the application of hemp and linen fibres for apparel.

COMFORT ANALYSIS OF STRUCTURALLY MODIFIED POLYESTER/PVA YARNS PRODUCED THROUGH DREF SPINNING SYSTEM

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Abstract

The structurally modified friction spun yarn fabric by using polyester as a sheath material and PVA is used as a core material. The processing of fabric to dissolve the core and making the yarn structure as hollow. Thus a fabric with hollow polyester yarn is produced. The various comfort characteristics of the fabric were tested and the results were compared between before and after dissolving PVA core component fabric. The various comfort characteristics going to test are Air permeability, Thermal conductivity, Wicking, Tensile strength, Moisture management test. All the above mentioned tests were to be carried out as per the standards testing procedures. Due to the variation in yarn structure that is the hollowness of the yarn, the characteristics like Air permeability, Water vapour permeability and resistance to flow of heat are better than the normal fabric. Thus comfort characteristics of the fabric are better than the normal polyester fabric.

Keywords: Comfort, Moisture Management, wetting, Wicking, Polyester, PVA

FT008

OPTIMIZATION OF NONWOVEN FLEXIBLE COMPOSITE FROM RECYCLED POLYESTER AND RECYCLED COTTON BLENDS USING BOX-BEHNKEN STATISTICAL DESIGN.

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Abstract

Today's textile industrial production is dominated by the concept of sustainability and zero waste is the primary aim of any industry to survive in the competitive world. Recycling is a tool in the hands of many manufacturers to obtain sustainability aspects and to market their products to expectant consumers. H&M, GAP, JC Penny and other leaders in the global apparel market are offering 15-20% discount to consumers for the purchase of new garments when they return soiled or old ones. Utilization of raw materials requires constant monitoring and judicious decision making as it is scarce, leading to new technologies and systems. Reduction in raw material usage, Carbon and water foot print and pollution hazards has resulted by the use of recycled polyester from PET bottles. Fabric cut waste is a result of apparel production, the challenge being the extent to which it can be lowered by adopting careful production systems. Value is added to apparel when the label speaks of the extent of recycled material present in the product. This study deals with the reuse of recycled polyester(RP) and recycled cotton(RC) (from apparel cut waste) for the manufacture of recycled nonwovens. The Box-Behnken statistical model has been used to optimize the Blend ratio(RP:RC), Needle penetration depth and Stitch density being the thee important variables for the manufacturing of recycled nonwovens. The best results obtained were Blend ratioRP:RC = 80:20, needle penetration depth 8mm and Stitch density 200mm when Thermal conductivity, Air permeability and Tensile strength were taken into consideration. The optimized nonwoven flexible composite was found to be suitable for use as interlinings in jackets and could be taken for industrial manufacture.

STUDY OF PHYTOCHEMICAL AND ANTI- BACTERIAL ACTIVITY ON TRIDAX PROCUMBENS HERBAL EXTRACT FOR WOUND CARE APPLICATIONS

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Abstract

The functional requirements of medical textiles have led to the innovative use of variety of natural plants with wound healing properties for wound care applications. The Tridax Procumbens is one of the incredibly important natural resource which is available in the all areas with plenty of hygienic properties. in this research work Tridax procumbens herb leaves were collected and extracted and it was applied on bamboo fabric. the extract was tested under qualitative phytochemical screening and the test results revealed the presence of phytochemical constituents. the anti-microbial property of tridax ethanol extract 15% and 25% concentrated treated samples were tested using standard AATCC 147qualitative and AATCC 100 quantitative tests against both gram positive bacterial pathogens staphylococcus aureus, klebsiella pneumoniae and gram negative bacterial pathogens pseudomonas auruginosa, escherichia coli . the test result shows that the tridax treated samples has good antibacterial activity

Keywords-Tridax Procumbens, Ethanolic extract, Phytochemical constituents, Anti bacterial activity, Microorganisms, Agar well diffusion.

FT010

NANOSTRUCTURES AND THEIR APPLICATION IN TEXTILES: A REVIEW

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Abstract

Nanotechnology is a most promising field for generating new applications in medicine. However, only few nano products are currently used for medical purposes. The use of many anti-microbial agents have been avoided because of their toxic effects. Inorganic nanoparticles and their nano-composites would be a good alternative. The properties and applications of various nano-structured materials such as ZnO,TiO2, SiO2, Gold, Silver with good anti-microbial activity which are potential for textile modification are discussed in this paper. One of the most prominent nanoproduct is nanosilver. Nanosilver particles are generally smaller than 100 nm and contain 20–15,000 silver atoms. Due to its strong antibacterial activity, nanosilver coatings are used on various textiles intended for medical use as well as on certain medical implants. This review focusses on major questions associated with the increased medical use of nanosilver and related nanomaterials along with its tendency to modify the textile materials used as substrates.

Keywords - nanotechnology, nanosilver, medical textiles, textile finishing

A STUDY OF ANTIBACTERIAL FINISH ON COTTON FOR HOSPITAL TEXTILES

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Abstract -.

The awareness of health and hygiene for consumers has increased the demand for antimicrobial textiles. Antimicrobial finish on fabrics can minimize the transfer of microorganisms onto the wearer by creating a physical barrier. The various medicinal plants found in nature exhibit excellent anti-microbial properties. A novel attempt has been imparted in this research work to analyze the effect of antimicrobial finished fabrics using the flower extracts of *Chrysanthemum* which were screened for their antimicrobial activity. It involves the applications of flower extracts of the plant onto cotton fabric by pad dry cure method with the optimizing finish process conditions. The antibacterial activity is assessed in herbal treated and untreated samples by the standard AATCC 147 qualitative and AATCC 100 quantitative antimicrobial tests against both positive and negative bacteria. The results showed that the maximum zone of inhibition is found in 2 hr floral extract treated fabric with the mordant alum in the material liquor ratio of 1:20 against staphylococcus and E.coli bacteria. The application of herbal extract on fabrics lasts up to 12 washes in pad dry treated fabrics. The present study is an effective method of controlling the spreading of disease through the coated textile for medical applications.

FT012

APPLICATION OF KEY PERFORMANCE INDICATORS FORAPPAREL MANUFACTURING INDUSTRY

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Abstract

Indian apparel manufacturing industries are facing challenges due to global markets and changes in competition. To sustain and achieve business excellence, Industries have to implement strategies for their continuous improvement. As Performance measurement is identified as an important strategy, Key performance Indicators are used as tools for monitoring the company performance. Though common Key performance Indicators can be used, Apparel manufacturing Industry goals need to be approached specific to their functional areas. This paper describes the department level KPI for apparel industry and ideas to achieve it.

Keywords—Apparel industry,KPI, Dashboard

INFLUENCE OF BANANA SAP FINISH ON COMFORT PROPERTIES OF COTTON FABRIC

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Abstract:

The protective finish of Mosquito repellent material is one of the most innovative textile product that protects the human beings from the bite of mosquitoes thereby promising safety from the diseases like malaria and Nile fever. Mosquito transmit deadly disease to humans through their bite. Worldwide, over one million people die each year due to mosquito-borne diseases. The controlling and preventing measures for the diseases, a special protective finish of the mosquito repellency using natural medicinal herbs is given to the textile material. The various medicinal plants found in nature exhibit excellent Mosquito repellent properties. A novel attempt has been imparted in this research work to analyze the effect of Mosquito repellent finished fabrics using the Banana SAP which are screened for their Mosquito repellent activity. It involves the applications of flower extracts onto cotton fabric by pad dry cure and. The mosquito repellency of herbal finished samples with reference to the untreated sample is tested by U.S. Patent 5,198,287 and USDA Laboratory Method and the results showed 30% good mosquito repellent property.

Key Words:, Banana SAP, mosquito repellent, Pad dry, Non-toxic.

FT014

DEVELOPMENT OF ANTI – FATIGUE GARMENT (BELT) USING ELECTRO MUSCULAR STIMULATION FOR NERVE RELATED PAIN

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Abstract

Integrating electronic components toApparels (Smart textiles) pave a new path for various application domain such as healthcare, sports & fitness, entertainment and military applications. Now-a-days many people suffer from muscular fatigue due to constant posture, regress practice for fitness, tension, stress, overuse and minor injuries. The neuromuscular activity of the body can be stimulated using different methods such as NMES (Neuro-Muscular Electrical Stimulation), TENS (Transcutaneous electrical nerve stimulation), FES (Functional Electrical Stimulation) by applying electrical stimulus on particular body area with different frequency range from 2Hz to 150Hz. The main objective of this project is to focus in designing textile based electrodes interconnecting the stretchable substrate and integrating them as comfortable apparels in the domain of healthcare. This treatment provides relaxation to the muscles and reduces pain without drugs. Reliability of the system has to be validated for various parameters such as temperature, humidity and washing.

Index Terms – Apparels, Transcutaneous electrical nerve stimulation, Functional Electrical Stimulation, Smart textiles.

DEVELOPMENT OF WORK WEAR FOR SEWAGE CLEANERS

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Abstract

The work is about "Development of workwear for sewage cleaners". Antibacterial and water repellent finish has been applied to the cotton woven fabric to be developed into a workwear for sewage cleaners. The aloe vera (150gpl, 75gpl, 50gpl) has been applied to the fabric imparting antibacterial activity by the pad-dry-cure method. The aloe vera treated fabric was then imparted with water repellence using fluorocarbon (80gpl, 50gpl) using the pad-dry-cure method. The effectiveness of antibacterial, water repellent finish for various concentrations were tested. The tests include comfort and chemical property to ensure the performance properties of the textile fabric. The basic test done here are antibacterial, water repellent, wettability, wickability, air permeability and water permeability.The research shows that the wettabilty and wickability decreases in the coated fabric as the concentration increases. And the antimicrobial activity of the cotton fabric against e.coli is restricted after it has been treated with Aloe vera. Thus it is inferred that work wear treated with aloe vera and fluorocarbon provide better hygiene to the sewage cleaners.

Keywords: Sewage cleaner workwear, aloevera, fluorocarbon, anti bacterial, water repellent, wettability, wickability.

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UNIQUE IDENTICAL WEIGHTAGE BASED SERVICE ANALYSIS CLASSIFICATION METHODS FOR ONLINE CUSTOMER QUERIES

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Abstract:

E-commerce systems plays the vital role in Information Technology and communication applications. Compared to the technology of olden days, people now days buys their required products and services from the online service transactions. Buying and selling products are frequently increasing factor for both the buyer and seller. From the customer point of view searching of quality products with the consumable cost is a big challenge. The proposed system Unique Identical weightage (UIW) system reveals about the customer searching analysis using the weightage system approach. Whereas, the UIS analysis system will track the identity of the customer queries with respect to the searching categories. The proposed system will make the classification based on the customer searching criteria. Ranking weightage is allotted based on the searching method and finally produce the judgemental range of searching choices to the customer. The advantage of the system will provide quick searching solutions to the customer.

Keywords*:* Capture collector system, PD review Database, Frequent access website Database, Quality consideration Database, weightage management system, Final document description.

IT002

PREDICTIVE ANALYSIS FOR IDENTIFYING THE RELATIONSHIP BETWEEN FOREST COVER AND TIGER POPULATION

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Abstract *:*

This paper analyzes the forest cover in India as a whole and also in terms of states. The species growth with respect to the forest cover and the survival of species based on their Kingdoms of Classification is studied. The dependencies between the forest covers of India with the flora of India is studied. With respect to fauna, this paper discusses the state population of India's national animal, Tiger and its relationship to the degree of deforestation over years. This also studies the wasteland cover and the areas of improvement for the betterment of Indian flora and vegetation. This also checks for relationships, dependencies and variations between flora and fauna to obtain patterns for improving the Indian Ecosystem.

Keywords : environment, prediction analysis, forest cover, Deforestation, Tiger population

IT003

ELEPHANT INTRUSION DETECTION AND REPULSIVE SYSTEM

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Abstract:

Elephant intrusion causes a major problem which leads to crop damage, human death and injuries. Elephant Intrusion has been on the rise in the forest border areas with herds of elephants entering into human habitation and creating a great loss to grown plants in agriculture land and their properties. The surveillance and tracking of elephants by humans alone may not always be effective. Mostly the elephants enter into the agriculture land in the night. Detecting elephant intrusion and driving it back is very difficult by the farmers because human cannot watch full night. So, we develop a system which detects the elephant intrusion, creates an alert and repel the elephant away from human habitat. Elephant intrusion detection are useful to avoid human elephant conflict as they stray into agriculture areas searching for food, resulting to economic losses and in extreme cases human casualties. Hence a system to detect elephant intrusion into human habitat and to alert the habitat and forest officials is essential

IT004

AUTOMATIC WATER IRRIGATION SYSTEM APPROACH FOR SMART HOMES

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Abstract:

In agriculture, irrigation plays an important role. Normally, we have many issues in irrigating the plants. Over irrigation of plants leads to decay of plants and low irrigation of plants leads to retardation of crop growth, late flowering. To overcome from this issues the proposed system define a method called Automatic Irrigation system for Smart Homes (AI-SH). The proposed model build an automatic irrigation system approach using Arduino in which moisture sensor senses the moisture content present in the soil. According to the moisture content level water will be pumped to the soil by the DC motor. The sensor continuously monitors the soil moisture content, when it reaches the required water tank level will be used for planting water and its water level will be continuously monitored from an Ultrasonic sensor using distance value. If the range goes beyond the certain level, then the system will send message notification to the user mobile. By this proposed AI –SH approach the user can know the pouring method of water for home plants. If the user he/she are far away from their home can also monitor the plant water easily and quickly.

Keywords*:* soil moisture sensor, ultra sonic sensor, motor driver circuit

DIABETES MELLITUS DETECTION USING FACIAL BLOCK COLOR USING CLASSIFICATION ALGORITHMS

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Abstract:

Diabetes Mellitus (DM) is a condition in which glucose level in the body is much higher than the normal. The traditional way to diagnosis DM is Fasting Plasma Glucose (FPG) test. As this method is slightly painful and uncomfortable several another method which are more comfortable and non-invasive are found. In this paper, we propose a new non-invasive method to detect DM based on facial block color features using various classification algorithms. Facial images are first captured using a specially designed non-invasive device, and calibrated to ensure consistency in feature extraction and analysis. Four facial blocks are extracted automatically from face image and used to represent a face features. A facial color gamut is constructed with six color centroids (red, yellow, light yellow, gloss, deep red, and black) to compute a facial color feature vector, characterizing each facial block. Finally, the features are classified using J48. For J48, two sub dictionaries, a Healthy facial color features sub dictionary and DM facial color features sub dictionary, are employed in the classification process. Apart from this we also use ZeroR and Support vector machine (SVM)[8] to determine the accuracy, precision and recall using the data set that comprises of healthy and DM samples. Finally, we compare all these algorithms and choose the efficient one using its accuracy level.

Keywords*: non-invasive, algorithm efficiency, health enhancement*

IT006

HEART DISEASE WITH RISK PREDICTION USING MACHINE LEARNING ALGORITHMS

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Abstract*:*

Heart disease (HD) is a disease of the heart or blood vessels, which causes death. In recent scenario, health issues are huge, due to this nature predicting and classifying into different conditions are very tedious. The field of data mining has involved in those domains to predict and to classify the abnormality along with its risk level. The previous studies have used several features to diagnosis the disease, which has been collected from patients. By applying different data mining algorithms, the patient data can be used for diagnosis as training samples.[9] The main drawbacks of the previous studies are that need accurate and more number of features. In this proposed work, an improved data mining algorithm are developed from the existing algorithms. The proposed system implements a Weighted Principle Analysis (WPCA) and Modified Genetic algorithm (GA) to improve the prediction accuracy and to investigate the risk level of the heart disease. The proposed technique helps to the medical domain for predicting HD with its various co-morbid (types of heart diseases) conditions. The study proposed a new classification and prediction scheme for Heart disease data. The system has two main objectives, which are improving diagnosis accuracy and reducing classification delay. The WPCA represents with the effective splitting criteria which has been applied into the genetic algorithm. The system effectively identifies the disease and its sub types, the sub type which is referred as the level of class such as normal and mild or extreme. Using combinatorial methods from data mining decision making has been simplified and the proposed work achieved 96.34% accuracy, which is higher than the known approaches in the literature.

Keywords:*Data mining, Classification, Weighted Principle Analysis (WPCA), Modified Genetic algorithm (GA), Heart Disease.*

INFORMATION SYSTEM FOR PERFORMANCE IMPROVEMENT OF SMALL AND MEDIUM SCALE ENTERPRISES

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Abstract:

Indian small and medium scale enterprises (SMEs) have wide scope to improve the efficiency of operations by incorporating Information Technology (IT) tools. Applications of Information technologies in SMEs are comparatively less due to additional investment and low retention of skilled employees. This work is to develop a software tool for automating the process of documentation and report generation in quality management system. Proposed tool will perform ISO 9001:2008 documentation and also generate reports. The generated reports will assist decision making for improving the overall performance of the ISO certified SMEs. The developed tool is implemented in a medium scale enterprise and the performance of quality management is compared. Proposed tool doesn't require huge investment as it was developed using open source software. Majority of the departments witnessed 10% of performance improvement when compared to earlier scenario.

Keywords: Quality management system, Small and medium scale enterprise, IT tool, Open source software, ISO9001:2008

IT008

ENVIRONMENTAL RISK FACTORS AND PARKINSON'S DISEASE – A STUDY REPORT

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Abstract:

Parkinson's Disease (PD) also known as Parkinson's is the painful and dangerous disease that occurs when the nerve cells or neurons in the brain die or become enervated. The risk of Parkinson's takes place due to environmental risk factors such as age, gender, head injury, area of residence, occupation, pesticide exposure, herbicide exposure, exposure to metals, solvents and polychlorinated biphenyls (PCBs) and genetic predisposition. The current research is to study the people of TamilNadu state with list of questionnaires to find them experiencing various symptoms in their routine life. In this article the study is carried out to identify environmental factors and their origins for Parkinsonism. The outcome of this paper is to discriminate healthy people from those with PD based on environmental risks and other factors that affects the ageing people.

Keywords: Parkinson's Disease, Neurons, Environmental risk factors, Questionnaires, Smart phone, Mobile android application, PD questionnaire, Spiral test, Tapping speed.

ANALYSING THE PURCHASE BEHAVIOR OF A CUSTOMER FOR IMPROVING THE SALES OF A PRODUCT

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Abstract:

Modern techniques such as predictive analytics have gained a lot of research attraction these days. In the competitive world, it is important for a business people to predict the pulse of customer to shine. With predictive analytics, it is possible to see what a customer will buy next. The goal is to increase the profit earned by a company. In this paper, various hypothesis tests have been conducted for analysing the purchases of a customer. Initially, the purchases have been analysed by grouping the purchases gender wise and by analysing what group of people buy more products. It also finds out which group prefers for promotion codes and discounts and for what type of products they preferred more. In which store, the sales of products are more and in which state, the sales are maximum. Based on this, techniques for improving the sales of a product is suggested.

Keywords: Data Analytics, Purchasing behaviour, product recommendation, Predictive Analytics, Data mining

IT010

CATCH THEM YOUNG: IMPORTANCE OF CAREER PLANNING IN INDIAN SCHOOL EDUCATION SYSTEMS

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Abstract:

Higher Education Systems receive a lot of attention from the researchers on identifying good teaching practices in higher education to make it student attractive since it is the nearest point of education towards career and early life education is often ignored. But the primary factor in the choice of higher education in India is the current popularity of the stream (on the basis of the mass and media opinion) and not the aspiration and interest of the students. The lack of systematic student profiling to understand their strengths and encourage them in the correct career path is the major drawback of the Indian School Education System. This paper provides a framework for the steps to be followed to introduce life career planning education in schools and the various factors to be considered while profiling the students.

Keywords: student profiling, SWOT analysis, school education, career and life planning,

AUTOMATIC ELECTRICITY BILL GENERATING SYSTEM

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Abstract:

The traditional energy meter reading is an expensive work where the meter reader has to go to each meter and take the reading manually. This manual reading is entered into the billing software to generate the bill and automate the payment process. The manual reading has short comings, such as error in reading and involves huge labor. To overcome this issue, an automatic power meter reading and billing system is proposed. Automating the energy meter reading and billing data entry process would reduce the laborious task and financial wastage. The proposed work measures the energy consumption in the house and generate bill automatically with Arduino and Wi-Fi. The main objective of this work is to help in reducing the energy consumption in house, as the owner is continuously being notified about the number of units that are consumed. The goal of this work is to generate the bill automatically by checking the electricity unit's consumption in a house and hence reduces the manual labor. The calculations are performed automatically and the bill is updated on the Internet by the help of Wi-Fi. The bill amount can be checked by the owner anywhere and at any time by visiting the online portal or the website.

Keywords: Arduino, Electric meter, Wi-Fi module, Billing

IT012

INFORMATION SYSTEM FOR PERFORMANCE IMPROVEMENT OF SMALL AND MEDIUM SCALE ENTERPRISES

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Abstract:

Indian small and medium scale enterprises (SMEs) have wide scope to improve the efficiency of operations by incorporating Information Technology (IT) tools. Applications of Information technologies in SMEs are comparatively less due to additional investment and low retention of skilled employees. This work is to develop a software tool for automating the process of documentation and report generation in quality management system. Proposed tool will perform ISO 9001:2008 documentation and also generate reports. The generated reports will assist decision making for improving the overall performance of the ISO certified SMEs. The developed tool is implemented in a medium scale enterprise and the performance of quality management is compared. Proposed tool doesn't require huge investment as it was developed using open source software. Majority of the departments witnessed 10% of performance improvement when compared to earlier scenario.

Keywords: Quality management system, Small and medium scale enterprise, IT tool, Open source software, ISO9001:2008

PREDICTION OF FORMULA ONE RESULTS USING MACHINE LEARNING TECHNIQUES

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Abstract:

This project aims to predict the results of Formula 1 races i.e., the finishing position of each driver in a race by making use of machine learning algorithms. Different machine learning models have been built with an aim to compare the results of different models and decide on the best models for prediction of the race results. The prediction is done by analyzing historical Formula One race records and extracting features of importance, which are then fed to different regression techniques such as random forests ,neural networks, support vector machine etc in order to train the models. These models are then used to predict the results of the races. The dataset was analyzed and multiple features based on driver and constructor were extracted to help in prediction of results. Some of the prominent features include starting grid position, current rank in season, last year standings etc. The available dataset was divided into two sets containing training and testing data respectively. A Random Forest model, Multi Layer Perceptron model and a Support Vector Machine model were built in order to predict the race results. The results show a RMSE error of around 2.5, 2.6 and 2.8 when using the Random Forest Regressor, Multi Layer Perceptron (MLP Regressor) and SVR (Support Vector Regressor) models respectively. The results show that RandomForests is the best model for prediction of race results, followed by Support Vector Machine and then MLP neural network.

Index Terms: Regression Techniques, RandomForests, Neural Networks, MLP, SVR Random Forest Regressor, MLP Regressor, Support Vector Regressor.

EXIT002

REMOTE AUTHENTICATION USING FACE RECOGNITION WITH STEGANOGRAPHY

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Abstract:

In today's world securing data from the hackers and other unauthorized attackers is a critical task. Almost all the system has some kind of authentication which allows the user to access their data. Most of these system are limited to one layer of security like textual passwords. The authentication using textual password is famous as it is straightforward. But the simplicity comes at the cost of vulnerability. These authentication methods are prone to spyware and dictionary attacks. As the systems are becoming more powerful than ever, it is easy to launch a dictionary attack. Another form of attack is to monitor the request and response between the client and server. It is possible when the attacker has gained physical access to the communication medium. Intruder just has to analyze the packets to figure out the delicate information such as password. There are many networks that cannot afford any kind of breach. Steganography, the art of hiding the existence of message by embedding the secret message into another medium, can be exploited in authentication system. Steganography has emerged as technology with various application which introduced steganalysis, the process to detect the hidden information. The user has to undergo face recognition as well as textual authentication. Since any of the request and response between server and client will not have password in plain text form, it is not possible to breach the password. The system is combination of face recognition and steganography.

Keywords: Remote Authentication, Steganography, Cryptography

APPLICATION BASED LOCAL AND OUTDOORNAVIGATION SYSTEM FOR VISUALLY IMPAIRED PEOPLE

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Abstract:

Travelling for blind people is risky. They do not have confidence to travel more distance and they have to depend on others for travelling. Hence in the present proposed work Application based local and outdoor navigation system for visually impaired people is developed. A blind cane along with the Android Application is developed, which will assist the blind in travelling from one place to other i.e., either indoor or outdoor. The proposed system is based on application for outdoor navigation system for visually impaired people to navigate from one place to another place..The developed system contains a micro controller ATMEGA328p, which processes the signals or information obtained from the sensors and identifies obstacles like pot holes, Water present, fire exploration etc. and conveys the same information as audio signal. Android studio is used to develop an Application for blind person that is interfaced with the Google maps and helps him to navigate from one location to other location when the person is travelling outdoor. The developed product is cased which is very light in weight, easy to operate, cost effective, reliable and portable.

Index terms: ATMEGA 328p, Sensors, Android Application, Visually impaired, Navigation

EXIT004

APPLICATION BASED LOCAL AND OUTDOOR NAVIGATION SYSTEM FOR VISUALLY IMPAIRED PEOPLE

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Abstract:

Travelling for blind people is risky. They do not have confidence to travel more distance and they have to depend on others for travelling. Hence in the present proposed work Application based local and outdoor navigation system for visually impaired people is developed. A blind cane along with the Android Application is developed, which will assist the blind in travelling from one place to other i.e., either indoor or outdoor. The proposed system is based on application for outdoor navigation system for visually impaired people to navigate from one place to another place.. The developed system contains a micro controller ATMEGA328p, which processes the signals or information obtained from the sensors and identifies obstacles like pot holes, Water present, fire exploration etc. and conveys the same information as audio signal. Android studio is used to develop an Application for blind person that is interfaced with the Google maps and helps him to navigate from one location to other location when the person is travelling outdoor. The developed product is cased which is very light in weight, easy to operate, cost effective, reliable and portable.

Index terms: ATMEGA 328p, Sensors, Android Application, Visually impaired, Navigation

MBA001

DOES THE MOOC COURSE IMPROVE EMPLOYABLE SKILLS? CONSUMER PERSPECTIVES IN INDIA

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Abstract

Massive open online course (MOOC) is the recent technology in distance education. The course becomes very popular with in a very short span of time due to various attractive course features. The literature review states that around 58 million learners have signed for at least one MOOC Course. Published sources indicates that the MOOC learners are predominantly the job holders and most of them possess at least a bachelor degree. However, in spite of huge popularity the major challenge faced by the MOOC industry is the high dropdown rate. Hence the author has addressed the issue of low success, by exploring the potential of MOOC in importing job oriented skills. The researcher has collected data from 84 Indian consumers who are salaried or self-employed and completed at least one MOOC course using the social media website. The researcher investigated the consumer's opinion on applying the knowledge and the skills gained in the course in their existing job. The researcher in this study has taken an attempt to explore the consumer motives in learning MOOC Course and also the extent to which the course satisfied the consumer in achieving the basic motive behind the enrolment. The variable Motive was measured using three sub construct Intrinsic Motive, Extrinsic Motive and Social Motive. The data analysis indicates the highest score for extrinsic motives, further it reveals that acquiring job oriented skills for better carrier growth was considered as one the major extrinsic motive. Though acquiring job oriented skills are the major motive behind learning the MOOC Course, it was found in the research that only less than 50% of the respondents were able to use the skills acquired in their existing job. The remaining 57 % of the consumers agree that they have not acquired any skills out of course. Base on the results the author has provided feasible suggestions to the course providers for further improvement. It was suggested to offer relevant and Unique learning resources, Application oriented assignment and activities to improve the job oriented skills and subject knowledge. This is very much required to satisfy the consumers intrinsic and extrinsic motives. The author further pointed that the course platform should encourage the interaction and encourage to build the network among the peers and also between the facilitator and the participant. Facilitating online discussion through discussion forum plays vital role in satisfying consumers social motive.

Keywords: Technology, Online learning, Intrinsic Motive, Extrinsic Motive and Social Motive.

FACTORS DRIVING EFFECTIVE USAGE OF WEBSITE: CONSUMER PERSPECTIVES

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Abstract

Understanding the factors driving the effective use of website is the basic motive behind this research. The authors have identified five dimensions through the published resources which includes website design, Website interactivity, Navigation, security, Functionality which determines end user usage. The entire research has been carried out for an organization who basically provides website development and design service for the clients located at UK and USA. The author has collected details from 150 end users who have accessed the client's website. Application of multivariate analysis proved that all the five dimensions identified is significant in influencing the end-user usage of website. Security and site interaction aspects of the website is found to more significant in influence the end usage. The authors have offered feasible suggestions for further improvement of security and site interactivity aspects.
Keywords: Website, Consumer perspective, Effective usage

MBA003

CHALLENGES AND ISSUES FACED IN BUYING AND SELLING ORGANIC PRODUCTS: PERSPECTIVES OF CONSUMERS AND ENTREPRENEURS

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Abstract

Published resources indicates that there is a growing demand for consuming organic products. Growing awareness on health concern and related benefits of consuming organic products is the major driving factor behind the growth of organic products. The literature on the other hand also claims that, Though the market potential for organic products are good, organic food producers and retailers on the other side are facing many challenges. In this paper the researchers has taken an attempt to understand the problems faced by the consumers in accessing the organics goods and also attempt has been made by the authors to understand the problems faced by the producers in producing and selling the organic products

The authors have adopted a combination of qualitative and quantitative study in this method. Data has been collected through the well-structured questionnaire from the customers visiting organic shop and also an interview has been conducted with the produces selling organic products. Problems faced by both consumer and producers has been identified and feasible suggestion has been recommended
Keywords: Organic Products, Perspectives, Consumers

INFLUENCE OF ONLINE MARKETING STIMULI STRATEGY ON IMPULSIVE BUYING TENDENCY

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Abstract

Introduction of faster and cheaper internet connection provide Indian customers a new horizon to explore for shopping at their convenience. This study primarily deals with how online shoppers impulsive buying tendency trigger with that of marketers E-Comers marketing strategy. Data has been collected from 600 respondents residing in coimbatore. Multiple regression was used to analyze objectives and it was found that marketing stimuli strategy like Web store quality, and Product display are significantly influencing the cognitive impulsive buying tendency while pricing and promotion offers were found to be significant in the case of Affective impulsive buying tendency.

Keywords: Stimuli strategy, Impulsive buying, Buying tendency

MBA005

ANALYSIS & PREDICTION ON TRAFFIC VOLUMEIN COIMBATORE BYPASS ROAD USING PYTHON &TABLEAU

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Abstract

Traffic jam is a well-known problem in all major cities. The roads for Coimbatore bypass with two lane was built on 19th January 2000 it is now 18 years old due to increase in number of vehicles there is a huge congestion. There have been continuous efforts to improve and mitigate traffic condition, still there are rooms for improvement. The study involves predicting the traffic growth for the next 10 years and to identify the seasonal trends of the traffic in Coimbatore bypass road. The predictability of Python using ARIMA method is compared with the tableau software. The study concludes the traffic volume for the vehicle type CJV is going to increase over the period it has, the highest volume rate compared other mode of vehicles.

Keywords: Time-series forecasting, Traffic volume, Exponential smoothing, ARIMA, Prediction,RMSE,etc

PREDICTING BITCOIN PRICE USING LSTMAND COMPARE ITS PREDICTABILITY WITH ARIMA MODEL

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Abstract

Due to the difficulty in assessing the exact nature of a time series, it is often considerably challenging to generate appropriate forecasts. Over the years, various forecasting models have been developed in the literature, but they have produced minimum accuracy in forecasting the bitcoin price. The study involves the time series forecasting of the bitcoin prices with improved efficiency using long short-term memory techniques (LSTM) and compares its predictability with the traditional method (ARIMA).TheRMSE of ARIMA Model is 700.69 whereas for the LSTM is 456.78 which proves that tradition (ARIMA) model outperforms the machine learning algorithms in our case LSTM model.

Keywords: Time-series forecasting, Bitcoin, LSTM, ARIMA, Prediction, RMSE, Keras, Tensorflo

MBA007

PREDICTING THE GENDER AND ETHNICITY USING THE FIRST NAME AND LAST NAME USING MACHINE LEARNING

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Abstract

This examination is to anticipate the gender prediction expectation, and ethnicity of the patient using the online interface of the affiliation. The gender orientation is expected using the essential name by using machine learning strategies and calculation. The ethnicity can be foreseen using the last name of people by using machine learning techniques and count. Here the sexual introduction is foreseen in light of the principle name the precision of this desire procedure is 96%. Additionally, the dataset is for the most part in perspective of the patients. Here we can find generally male patients are using there section. We can see that generally male are available to using virtual remedial organizations than female .The ethnicity of people is race in this desire. The race of patients relies upon the probability and utilizing the LSTM. Moreover, here the white appearance people are more probable the virtual restorative administration more than shadowy.

TECHNOLOGY VERTICAL LEAD GENERATION

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Abstract

This study is to build a model which generate leads from major project posting portals like freelancer, based on the technology verticals of the company. It is highly important to reach out the potential target customer than by selling to everyone in the market hence identifying the right project to bid is very essential.The study also finds the area of skill set enhancement by finding the frequently demanded skills along with the key skills of the technical team, which increases their scope of getting more projects.

Keywords: Competition, lead generation, model, market, skill set, services, target customer**.**

MBA009

GROWING AGRIBUSINESS MSMEs IN URBAN COIMBATORE, TAMILNADU

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Abstract

Micro, Small and Medium Enterprises (MSMEs) plays a major role in the development of the country's agriculture sector. Since the performance of the MSME sector is closely associated with the performance of the nation, the purpose of the study on MSME of urban Coimbatore to know the opportunities and challenges involved in agribusiness enterprises, about the food processing industries multiplier effect and employment potential, the increased demand for value added service and increased risk of effectiveness in yield, price and income among enterprises of urban Coimbatore. The study was conducted on both manufacturing and service agribusiness enterprises also considering micro, small and medium enterprises using snowball sampling. The agribusiness enterprises across the urban areas of Coimbatore were considered for the descriptive study with the objective of examining the support of innovation in successful establishment of agribusiness enterprises. The study revealed the factors affecting the MSME's growth, government support for MSMEs, awareness of digital marketing, interest towards research and development on agricultural products, impact of innovation in agribusiness, workforce level in agribusiness enterprises and overall satisfaction level of MSME owners on their agribusiness in urban Coimbatore, India.

Keywords: Agri Business, Urban, MSME

A STUDY OF LONG TERM ORIENTATION ON SUPPLIER – RETAILER RELATIONSHIP IN BEVERAGES INDUSTRY

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Abstract

Retailer's Long – term orientation is the perception of interdependence of outcomes in which both the supplier's outcomes and joint outcomes are expected to benefit the retailer in the long run. The goal of this research was to examine how Retailer satisfactions and trust influences the Relationship Intention which directly results in Long - term orientation in the context of the beverages retailer-supplier relationship. Moreover, this study investigated the moderating influences of Supplier loyalty and openness in Retailer Satisfaction and Retailer Trust. The non probability samples are chosen based on the criteria and the criteria is the retailers should sell any of the soft drink brands at least for two years in their shops. A total of 70 retailers has responded. Multiple Regression has proved that Retailer Satisfaction and Trust have a positive influence on Long term orientation. Furthermore, the results showed positive influences of Supplier loyalty and openness on Retailer Satisfaction and Trust. The results of the research contribute to a more in-depth understanding of the retailer-supplier relationship, which is highly important to all the firms.

Keywords: Long term orientation, Retailer Satisfaction, Retailer Trust, Supplier Loyalty, Supplier Retailer Relationship

MBA011

A STUDY ON THE LEVEL OF COMMITMENT ANDITS IMPACT ON PERFORMANCEIN A MANUFACTURING INDUSTRY, COIMBATORE

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Abstract

In today's competitive world every organization is facing new challenges regarding organization performance and creating a committed workforce. Now a day's no organization can perform at peak levels unless each employee is committed to the organization's objectives. Therefore the study focuses on the level of Commitment of employees can be an important instrument for improving the performance of organizations. For this commitment level is divided into three levels namely affective, continuance, and normative commitments. Organizations value commitment among their employees because it is typically assumed to reduce withdrawal behaviour, such as lateness, absenteeism and turnover. Hence, there is no doubt that these values appear to have potentially serious consequences for overall organizational performance.A committed employee has less absenteeism, lateness and turnover than non-committed employees. Employees with a sense of commitment are likely to engage in good behaviour and are more willing to accept change. Hence it is easy for organisation to bring about changes in employee behaviour if they are committed and responsible. Employees who develop a high level of employee commitment tend to be highly satisfied and are fulfilled by their jobs. In the current global economic scenario, organizational change is a continuous process that requires support of all employees in the hierarchical structure. Most organizations have realized that the performance of their workers plays a vital role in determining the success of the organization.

Keywords: Organisational commitment, Performance, Turnover, Retention.

CONSUMER ACTIVISM AND CONSUMER KNOWLEDGE ON CAVINS DAIRY, TIRUPPUR

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Abstract

This paper dealt with consumer activism and consumer knowledge on cavins dairy at Tiruppur. Consumer activism is a process by which activists seek to influence the way in which goods or services are produced or delivered. Consumer activism includes both activism on behalf of consumers for consumer protection and activism by consumers themselves. It is very important that milk particularly after production is handled in a hygienic manner and processed properly so that it not only retains its quality and but also remains good for a longer period before consumption.
Keywords: Activism, consumption, Healthiness, Nutritional value.

MBA013

NEED FOR FREEDOM AND HIGH CAREER ASPIRATION OF GEN Y STUDENTS OF SELECTED B- SCHOOLS IN COIMBATORE DISTRICT.

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Abstract

Organizations are not only progressing technically but also in terms of people, age and Experience. Generation Y who are also known as millennials are expected to be the higher working population in India by 2022. The new generation are having different Career aspiration from their predecessors. Generation Y employees are technology saving employees than the Generation X and Baby Boomers. They are the most interconnected and technology friendly in their workforce. The main aim of the paper is to develop the Empirical framework to understand the Career aspiration of Business School Students and motivation towards their work life and provide further research directions. Data were obtained from the Business School Students, Coimbatore through a survey and data related to their Career aspirations and Preferences were captured. An analysis has been made which is helpful for the employers to create more job offerings and Work Environments that are more likely to engage employees.
Keywords: Generation Y, Career aspiration, Baby Boomers, Generation X.

A STUDY ON RELATIONSHIP BETWEEN LOCUS OF CONTROL AND OCCUPATIONAL STRESS AT SPINNING MILLS WITH SPECIAL REFERENCE TO COIMBATORE

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Abstract

Since the early 1990's , the spread of globalization and its attendant corollaries have began to impact organizations far and wide. Among organizations in developing countries, the imperatives of globalization could no longer be ignored or circumvented. To these organizations, creating and sustaining competitive advantages through various forms and means have become a major preoccupation. Given this context of globalization and intensified competition, organizational employees are driven to perform beyond their routines. Employees are expected to learn the different cultures, languages, and rules and regulations of international trade resulting in increased work loads, the pressure to enhance job skills and long working hours. Such changes in the rates of job, working environment and organizational behavior would undoubtedly increase occupational stress of the workers, which in turn effects workers physical and mental health.

Keywords: Occupational Stress, Spinning Mills, Locus of control

MBA015

A STUDY ON STUDENT'S PERCEPTION TOWARDS VARIOUS FACILITIES IN KUMARAGURU COLLEGE OF TECHNOLOGY – COIMBATORE

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Abstract

The study was aimed to find out the Perception of KCT students towards various facilities available in the campus. Kumaraguru College of Technology has state of arts facilities to help students get the best experience of their college life. These facilities also help them to ease with their academic and extra- curricular activities. This study aims at finding out what is the students perception about the available facilities and what suggestions they have for improving the same. Their feedback is important since students are the main resource in the campus and they are the largest group that study and live on campus. The concept of facilities management itself emphasizes on the client feedbacks in providing the continuous quality improvement. The method used to obtain the required data is through 5-point Likert scale questionnaires survey. Data were collected from 150 students and it's been analyzed. The responses are in relation to facilities in aspect of convenience and comfort, landscape and environment, accessibility, transportation, security, and lighting.

Keywords: Perception, Facilities; Campus; Quality; Feedback

EFFECTS OF WORKPLACE FUN ON EMPLOYEE BEHAVIORS: AN EMPRICAL STUDY

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Abstract

Fun plays a pivotal role in the workplace as in daily life can be a powerful form of friendship, leading to extra role behaviour in cognition, emotion and physical engagement. In the scope of organization management, nowadays having fun in the workplace creates a positive environment to energize the employees. The present study aims in examining the influence of fun at workplace on employee's attitude &behaviour and effects of work place fun. In order to determine the factors of workplace fun on employee behaviour to know whether there is a positive effect on attitude towards workplace fun, salience, perceived consequences, job satisfaction, task performance and interpersonal citizenship behaviour etc. The sample size collected for this study are 110 respondents working in the organization .. This study provides a new insight into the effects of workplace fun on employees through task performance, interpersonal citizenship behaviour through job satisfaction. The findings highlights that employees has a positive impact of fun in the organization. Implications for fun at workplace also discussed.

Keywords: Workplace fun, attitude towards workplace fun, salience, perceived consequences, job satisfaction, task performance and interpersonal citizenship behaviour.

MBA017

WOMEN RETURNERS: EXECS AT TRANSITION POINT

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Abstract

The recent trends in workforce manifest the sudden surge of women participation in labor force. The study focuses on women returners with the aim of exploring the factors influencing their return decisions. Also, to discover the impact of these decisions on attitude of second career women towards work after the career break. The study constructs included organizational factors like work family culture (WFC), organizational justice (OJ), perceived organizational support (POS) and their effects on attitude of women returners like job satisfaction, career satisfaction and career commitment.

Keywords: Women Returners, Execs, Career re-entry, Second career women, Confirmatory Factor Analysis.

INVESTMENT DECISIONS IN REAL ESTATE: A THEORY OF PLANNED BEHAVIOR (TPB) BASED APPROACH

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Abstract

Real estate investment decision is an extremely emotional pursuit. Attitude, Subjective Norm (SN), Perceived Behavior Control (PBC) and Intention to buy are the precursors used to measure the Investment Decision. The study aims to assess if the irrational factors have an impact on investment decision of individual investors in real estate. Theory of planned behavior is used to predict the behavior of investor in real estate investments. To define the determinants of investment decision, questionnaire with 29 variables (Ajzen& Driver, 1992) were used. Data analysis revealed that select constructs of TPB are the key determinants of investment decision.

Keywords: Investment, TPB, Real Estate.

MBA 019

SMARTPHONE USAGE & JOB PERFORMANCE - ASSISTANCE OR INTERFERENCE TO WORK

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Abstract

Smartphone's have become increasingly popular for personal and work use. This research investigates Smartphone usage at workplace, whether it is of assistance or interference to work and its implications on performance of employees. This survey method consists of a sample of 576 IT Professionals. It was observed that knowledge sharing and flexibility has more influence on the assistance to work variables on the job performance of the employees. Moreover Non-work purposes and Job Stress has more influence among the interference to work variables on the job performance of the employees.

Keywords: Smartphone usage, Job performance, Interference

MBA 020

PUBLIC AWARENESS ABOUT CASHLESS ECONOMY WITH REFERENCE TO BANKING SECTORS IN SUBURBAN AREA

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Abstract

Our Prime Minister Narendra Modi introduced Digital India programme with a vision to transform India into a digitally empowered society and knowledge economy. This was also a step taken to remove black money and abolish corruption. During the time of demonetization many people in rural and semi-urban area were affected because of lag in knowledge of technological facilities.This research is carried out to study the awareness level of people with respect to cashless economy. The objective focuses the reasons for non-acceptance and satisfaction level of respondents to improve the service of the banks, to identify the customer's perceptions about internet banking and drivers that motivate customers to use new techniques. This study is based on Descriptive research and data is collected through structured questionnaire in semi urban area (bank account holders). The population size is infinite. So the research is based on Convenience sampling and approximately 150 sample size has being take the finding of the research will be helpful for the bank to fulfill the knowledge gap of customers and improve their service to take adequate reforms in terms of banking in semi-urban area. It helps public to migrate towards cashless society.
Keywords: Technological development in banking sectors, Demonetizations, Net banking

MBA 021

A STUDY ON EMOTIONAL LABOR AND ITS IMPACT ON TURNOVER INTENTION AMONG IT PROFESSIONALS

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Abstract

Emotional Labor refers to the act of managing emotions and emotional expressions in order to be consistent with organisational 'display rules', defined as the organizationally required emotions during interpersonal service transactions. As these display rules interact with employees spontaneous feelings, they regularly induce a clash between inner/real and required feelings. The current study examined how the emotional labor and burnout components, directly and indirectly, influence IT professional's turnover intentions. Data were collected from 214 IT professionals, in and around Coimbatore district. The dependent variable is the turnover intention and the independent variables are emotional labor, burnout components (emotional exhaustion, depersonalization, and personal accomplishments). Results revel that burnout highly impacts IT professionals turnover intention.
Keywords: Emotional labor, Surface acting, Deepacting, Burnout, Turnover Intention.

MBA 022

ANALYSIS ON PHYSICAL HEALTH CONDITION OF THE EMPLOYEES PERTAINING TO AN ESTABLISHED PUBLIC SECTOR MANUFACTURING UNIT IN COIMBATORE

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Abstract

The study aims at identifying and maintaining a healthy workforce in the organisation which brings a whole lot of benefits including workforce positivity, efficiency, and employee retention. The physical well being of an individual simply encourages him to sustain a happy and healthy outcome which is also a key factor in avoiding sickness absence from the outset. The analysis emphasizes on sorting the major health hazards in the distant future of the employees from which the organisation can have a specific perception of their contribution in improving their employee's health though transforming their work style and design a wellness program. The paper usefully confirms that organizations must strive continually to design and implement health programs as HR practices where the health of organisation and that of the employees go hand in hand.

Keywords: Physical Health, Employees, Manufacturing unit

MBA 023

WORKFORCE PLANNING – A SYSTAMATIC APPROACH FOR MEETING THE FUTURE DEMAND OF MANPOWER

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Abstract

The demand for electric vehicles in India is increasing day by day and is expected to grow drastically in the upcoming years .This requires the electric vehicle manufactures to plan for expansion. The expansion can be done in two ways (i) open up a new plant (ii) expand the capacity of the existing plant . The study was carried out to support one of the major electric vehicle manufacturers in their manpower planning for the upcoming years as the management felt it is more important to consider the manpower issues other than operational deals. A detailed observation was done on each and every process of production and time study was taken to understand the time spent on each process by the manpower involved in assembly line before planning the manpower for the upcoming years. This would help the HR department in understanding the actual efficiency and utilization of the manpower involved in the production .The manpower for the next upcoming year was calculated using ratio analysis method by taking up the production data and the efficiency of the manpower involved.

Keywords: Manpower planning, workforce efficiency, electric vehicle production.

MBA 024

PRICE FORECASTING OF CARDAMOM (LARGE) USING ARIMA MODEL

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Abstract

Price discovery is an essential economic function. The price behavior of a commodity plays a crucial role in farm level crop production planning. This study intends to forecast the monthly Cardamom (Large) price for the period of Jan 2016 to Dec 2017 using statistical time-series modeling techniques. Box-Jenkins Autoregressive Integrated Moving Average (ARIMA) was employed to analyze Cardamom (Large) Price data (monthly) in Indian Market from January 2016 to December 2017. By using standard criteria such as mean absolute percentage error (MAPE), mean square error (MSE), root mean square error (RMSE), Schwarz's Bayesian Information criterion (SBC) and Akaike Information Criteria (AIC) and the forecasting performance of the chosen models were evaluated. By using Stata 12, an ARIMA (p,d,q) (P,D,Q)12 model is constructed based on autocorrelation and partial autocorrelation and forecasts were made based on the model developed. On validation of the forecasts from these models, ARIMA (1,0, 0) (0,0,0)12 model performed better in forecasting the prices for cardamom(large) in the Indian market. The validation percentage ranged between around 95% from Jan 2016 to Dec 2017.

Keywords: Cardamom(Large), Price Forecast, ARMA model.

MBA025

DYNAMIC LINKAGE BETWEEN GOLD, OIL, EXCHANGE RATE AND STOCK MARKET RETURNS: EVIDENCE FROM INDIA

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Abstract

India as an emerging economy in the recent past had experienced a volatile situation in its financial markets and ran into a massive current account deficit (CAD), in which the oil bill is the most significant component. Foreign Exchange markets witnessed continuous weakening of rupee against dollar, followed by falling crude oil prices, the rise in gold prices and high volatility in Indian stock market. The complicated relationship between among the economic variables has grasped the attention of researchers, policymakersand business people. This study is an attempt to examine the interdependencies and to identify direct and indirect linkages between oil, gold, exchange rate and the stock market in India. The study has taken daily data from 2003:01 to 2017:12 constituting 3730 observations. By adopting the techniques of time series, the study tried to capture the dynamic and stable relationship between these variables using Cointegration test and Granger Causality techniques to establish our results.

Keywords: Unit root tests, Cointegration, Granger Causality.

MBA026

CAUSALITY BETWEEN TRADE AND ECONOMIC GROWTH: EVIDENCE FROM INDIA

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Abstract

Economic indicators play an important role in the assessment of overall performance of an economy. This paper studies the existence or non existence of relationship between imports, exports, and growth of Indian economy. Time series data for the study is taken from 1980:2016. Purpose of the study is to assess the causality between GDP, Exports and Imports. Econometric tests performed are unit root test (ADF), Granger Causality test is applied to assess short term relationship, and cointegration test under unlimited Vector Auto Regression is carried over to assess the long term relationship between the chosen variables. By applying unit root test all variables became stationery at first difference which leads to the use of cointegration test. By applying cointegration test, results imply the absence of long run relationship between the chosen variables for study. Vector autoregressive model shows that growth in GDP, imports and exports significantly depends on previous year's growth rate. Overall, the implication from the study is that both imports and exports play an important role in stimulating growth of Indian economy.

Keywords: GDP, Exports, Imports, India.

MBA027

STUDY ON INFLUENCE OF BEHAVIOURAL FACTORS TOWARDS INVESTMENT IN COIMBATORE DISTRICT

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Abstract

Investments are choices made by individuals to put in their specific amount of money in a specified investment avenue for a specified period of time in anticipation that they will get more at the end in the form of returns. Such decisions are usually taken by individuals, but the behavioural factors of the individuals paly a very important role in deciding about the investments. In this paper an attempt has been made to find the influence of behavioural factors towards investments. A structured questionnaire was used to collect data from 527 respondents in Coimbatore city. Factor was used to identify the most influencing behavioural factors in deciding about the investments. Study revealed that Family, Friends, sources of information and annual income of an individual to a large extent influence the individuals.

Keywords: Investment, Behavioural factors, Factor analysis.

MBA028

AWARENESS, APPLICATION AND PERFORMANCE OF SMES IN B2B E-COMMERCE MARKETPLACE

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Abstract

Enterprises should find a new business model for their development, so as to make better use of their own advantages. At the same time, with rapid development of the economy and of science technology, the competition between small and medium-sized enterprises (SMEs) and large enterprises is inevitable, so it is very important for small and medium-sized enterprises to find better ways to improve their ability to compete1. E-commerce is a new medium of commerce in this 21st century, so as to promote the quantity development of SMEs and enhance the risk management ability of enterprises.

Compared with the traditional business model, e-commerce has the strength as streamline distribution, lower cost, no time restriction and other advantages, at the same time, electronic commerce also has the advantages of less investment, easy to learn, flexible operation, etc. These characteristics fully meet the development model of small and medium-sized enterprises (SMEs); therefore, SMEs can improve their business performance effectively by using electronic commerce.

Keywords: E-Commerce, Market Place, SMEs

MBA029

BEAUTIFICATION: A EMPIRICAL STUDY ON MARKET SEGMENTS AND TARGET GROUPS

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Abstract

Health and beauty salon Industry is growing exponentially in Indian market especially in last decade which is equal to U.S and European markets. KPMG Wellness Sector report released in April 2017 projected that the size of India's beauty and wellness market would nearly double to Rs 80,370 cr by 2017-18 from Rs 41,224 cr in 2012-13. The raising affluence of various segments, the change in needs, smart phone revolution, social media pressures and also the peer influence has changed the consumption pattern of beauty services. The market is big enough for many players, in recent years the industry is witnessing many changes Unisex salons, franchising models, private equity, venture capital investments, and so on. In this growing scene of beatification its prime time to understand the customer groups, the services they prefer and also the determinates of choosing a service selection of service providers. The study includes samples of 270 respondents using purposive sampling methods. The instrument used was highly reliable with Cronbach alpha value of (0.806). The study results have categorised the respondents based on their service consumption patters. And also the important factors which influence in their decision making.

Keywords: Beautification, Market segments, Targets, Service providers, Service consumption.

MBA030

BRAND EQUITY – A MEASURING TOOL FOR CUSTOMER EXPECTATIONS AND SATISFACTION ON BANKING SERVICES

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Abstract

During recent times, the equity of the brand is important because, if the brand has positive brand equity, we can charge more for the products and services than the generic products or other competitors. Conversely, if the brand has negative brand equity, consumers will be inclined to pay more for generic products or products from the competitors. Brand equity is essential for the business identity and it also influences various factors in the business, including the profitability. This study focuses in the influence of dimensions like(trust, loyalty, reliability, service quality, goodwill, customer satisfaction, association, perceived quality, empathy, awareness, recall, exposure, experience, and customer relationship or support),on the development of brand equity The sample comprised of 278 bank customers from Tuticorin and the surveys were administered for data collection and testing the hypothesis. The findings of this study have practical applications for enhancing the brand equity of banks and other financial institutions by strengthening the marketing practices. This study also suggests some insightful directions for improvement

Keywords: Brand equity, banks, dimensions of brand equity.

MBA031

A STUDY ON CUSTOMERS PERCEPTION TOWARDS LOCATION BASED MARKETING

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Abstract

The paper describes an approach for mall management using Wi-Fi based beacon devices to increase generate foot traffic and limit ads spending and likely to convert customer insights which are significant. The study examined in-store smart phone usage of customers, the intrusiveness of push messages and its effectiveness on their shopping behaviours. The authors used three stages to understand the perception and implementation of proximity marketing. First, involved mall management for convergent interviews and focus group discussions with shoppers in order to understand their interest on proximity marketing. Secondly, collected primary data from the customers in order to find their interest and adoption behaviours. Final stage is installation of beacon devices with help of ibuss Wi-Fi provider and checking the efficiency of perception. All the interviews and Focus group discussion expressed their confidence in the value of the mobile medium for marketing and It was a positive indicator for the future. Survey consisted of 23 questions and included one screening questions to confirm if the participants owned a smartphone. Participants were asked to agree or disagree, on a four-point bipolar scale ranging from 'strongly agree' to 'strongly disagree' with 10 attitude statements. The topic of proximity marketing is new for most consumers. Hence, offering a five-point scale could lead to receiving responses as 'don't know/can't say' which would not contribute to the study. All statements reflected the three areas of research; effectiveness, intrusiveness and personalization of proximity marketing. The research hypothesis was tested and found to be significant. Suggestions and managerial implications was presented to optimize the implementation process for the mall management.

Keywords: Proximity Marketing, Personalised Promotion, Mall Management, location-based marketing.

MBA032

IMPLEMENTATION OF 5S TECHNIQUES IN MAJESTIC MACHINE WORKS, COIMBATORE

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Abstract

This research paper aims at providing the perfect workplace in an organisation for the employees by means of implementing the 5 S principles. The research focuses on understanding the problems faced by the employees in accessing the materials from the store ,to change the layout in order to improve productivity and to implement sort and set in order to understand the effectiveness in 5s implementation .The need for the implementation of '5S' is because of unorganized warehouse materials, uncomfortable space in the stores and excessive wastes . The study concludes that introducing the 5S rules bring the great changes in the company.

Keywords: 5S, productivity, seiri, seiton, seiso, seiketsu, shitsuke.

MBA033

IMPLEMENTATION OF ZERO DEFECT THROUGH POKA YOKE APPROACHES IN THE ASSEMBLY LINE OF COMPRESSOR MANUFACTURING INDUSTRY

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Abstract

Any company, to survive in this competitive world must have known the importance of reducing the operational cost. It can be further explained in the way that Operational cost of a company has an inverse relationship with the profit return of the Company. Having business is different from earning profit out of it. Hence, to earn profit out of business, the only direct and effective way is to reduce operational cost. Operational cost not only incurs machine, material and manpower costs but also rejection and reworks cost which is hidden and severely affects the reputation and profit of the business, once taken place. This has been understood by many business experts and researchers all over the world and started introducing many techniques like Kaizen (Continuous improvement). Lean manufacturing, Total Quality Management, Total Productive maintenance, Zero Defect, Six sigma, Just-In-Time, 7 quality tools, Robust design, SS, 7 Midas and so on. One among these techniques is "Poka-yoke" which means "Mistake proofing". This is considered to be the most cost and time effective technique to reduce RPN, reworks and rejections. The concept of mistake proofing explains us that employees are not only the reason for errors happening in the workplace, it is the system that should provide a platform where there is no chance for the employee to make errors.

Keywords: Lean manufacturing, Total Quality Management, Total Productive maintenance, Zero Defect, Six sigma, Just-In-Time, Poka yoke and Kaizen.

MBA034

A STUDY ON OPTIMIZATION OF WAITING TIME FOR OUTPATIENTS AT GANGA HOSPITAL, COIMBATORE

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Abstract

To identify the various procedures at the outpatient clinic as well as to investigate the possible operational problems that may lead to excessive patients' waiting time. A patient's experience in waiting time will radically influence his/her perceptions on quality of the service. Method: The study was carried out in one of the leading hospital in Coimbatore The subjects were outpatients who came to the outpatient clinic at Ganga hospital. Data were analyzed using the DMAIC method and supported by the statistical tools. Direct observation and oral survey was conducted in order to study the current process and make some improvements. Conclusion: The main cause for the outpatient waiting time and total process time is the delay in x-ray due to higher patient arrival rate. A model is proposed based on scheduling the patients that helps to reduce the waiting time of the patients.

Keywords: patients, scheduling, DMAIC method, outpatient waiting time.

MBA035

ANALYSIS AND IMPROVEMENT IN CUSTOMER ORDER LEAD TIME IN WET GRINDER MANUFACTURING INDUSTRIES, COIMBATORE

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Abstract

This paper aims at analysing the factors leading to delay in completion of customer orders and providing solutions to improve customer order lead time. The factors contributing to longer customer order lead time were determined using root cause analysis and production order completion details. Two causes – material shortages and improper allocation of works to workstations were found to contribute major to the longer customer order lead time.The research focuses on understanding the two major causes and solutions were provided to improve customer order lead time. Demand forecasting, ABC analysis, Economic Order Quantity and Material Requirement Planning improves the control over material management. By using effective material planning and control tools like Demand forecasting, ABC analysis and Economic Order Quantity and Material Requirement Planning, material shortages during production time can be eliminated.Proper allocation of works to workstation improves the control over efficient completion of production orders. By Proper allocation of works to workstations and workmen, idle time in workstations can be reduced and production capacity can be increased.

Keywords: Customer order, Lead Time, Manufacturing Industries.

MBA036

BANKING SERVICE ON EDUCTIONAL LOANS IN COIMBATORE CITY

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Abstract

The students who have good academic record but don't have any option to study further due to the financial condition go for loan option. Once the loan is approved, the financial institution will guarantee the students education but student should be ready to study and work hard to repay the loan. This paper dealt with how students get satisfied with regards to banking service, and the various parameters which influence to provide educational loan.
Keywords: Interest rate, Security, Documentation, Procedure.

MBA037

IMPROVEMENT OF INBOUND LOGISTICS USING QUALITY CHECK TRIGGER (QCT) METHOD

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Abstract

Competitive landscape has forced the companies to embrace lean approach in their supply chain. New challenges now include a focus on supply to determine the right time and place for product delivery (Chin et al., 2004; Robinson & Malhotra, 2005). International business competition is no longer limited to organizations but now includes supply chains (Kuei et al., 2001). The aim of this study is to visualize the inbound logistics of OEMs from Tier-1 suppliers by adopting VSM to explore the possibilities of reducing supply lead time. The literature evidences indicate that in recent past, Value Stream Mapping (VSM) technique has been used in Supply Chain Management (SCM) to eliminate non-value adding activities to optimize the supply chain performance. An attempt has been made through this study to introduce the VSM in inbound logistics and improving the supply process by automating the inward quality check using Quality Check Trigger (QCT) method. This QCT model would reduce the quality check lead time without compromising the quality of the supplier and helps to increase the efficiency of the inward logistics.
Keywords: Supply Chain, Value Stream Mapping, Inbound Logistics, Quality Check Trigger.

MBA038

APPLICATION OF KAIZEN METHODOLOGY FOR PROCESS IMPROVEMENT IN TEXTILE MILL

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Abstract

Organizations today have started incorporating methodologies for reduction or elimination of wastages in various forms thereby focusing on the value adding activities for productivity and quality improvement. One of the powerful methodology is through application of Kaizen (Continuous Improvement). The philosophy behind this concept is addressing a problem in a systematic manner for achieving an incremental improvement. The methodology has 4 stages viz., Plan, Do, Check and Act, (PDCA) that helps to reduce or eliminate the problem identified. This study focuses on improvement in the production processes by identifying problems in various sections of organisation and to reduce or eliminate the problems by applying KAIZEN methodology. Based on the Kaizen results, suggestions for improvement in the processes were given.

All the departments in the spinning process were studied thoroughly and the problems at various stages of the processes were identified in each section. Direct interaction with the employees and from the middle level and top level managers helped to identify the problems in the production process. These problems were addressed through KAIZEN using PDCA cycle (also known as Deming Wheel) and optimum solutions were suggested. 3W1H approach was applied for improvement in the planning stage.

Keywords: KAIZEN, Process improvement, Textile Mill.

MBA039

A STUDY ON IMPLEMENTATION OF POKA – YOKE TECHNIQUE IN IMPROVING THE OPERATIONAL PERFORMANCE BY REDUCING THE REJECTION RATE IN THE ASSEMBLY LINE

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Abstract

In today's competitive world any organization has to manufacture high quality, defect free products at optimum cost. The success of any industry depends on quality of their product. During actual manufacturing of any product, different operations are carried out by operators .The whole production depends on operator mentality and their interest in work which ultimately causes silly mistake or errors by the operator. Rejection of manufactured product cannot be ignored now a days in manufacturing industry due to worldwide competition. To avoid mistakes in assembly line, pokayoke mechanism plays an important role in manufacturing industry. In the present work, an attempt is made to identify the areas of improvement in equipment. Kaizen and poka-yoke are implemented to enhance the overall performance to increase the productivity. Why-why method of root cause analysis is used to eliminate the causes. This paper focuses on process improvement in a horn manufacturing company, using mistake proofing technique or Poka -Yoke. The study is aimed at providing process improvement ideas for existing bottleneck areas. The long term success of poka yoke gives output of saving time and can release work pressure in the minds of workers.

Keywords: Poka Yoke, Process Improvement, Quality, Rejection, Productivity.

MBA040

A STUDY ON APPLICATION OF LEAN SIX SIGMA TECHNIQUES TO OPTIMISE THE ASSEMBLY PROCESS FOR A PUMP MANUFACTURING UNIT IN COIMBATORE

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Abstract

Value stream mapping is a lean tool which refers to all activities in understanding the process of designing, manufacturing and delivering goods and services to customers. Value stream maps are special type of process maps which represent all the actions in the manufacturing process that includes work in process, value added and non value added actions required to produce the finished goods. The main objective of the study was to draw the current state map for the assembly of 4 submersible bore well pumps, to identify and reduce the non value added activities, to propose a future state to reduce the total lead time, total cycle time, work in process, number of operators and also to increase the product line efficiency. Defects in the assembly line of 4 submersible bore well pumps and motors were calculated by means of DPMO and the root causes for defects were found and alternatives to prevent these defects were suggested.

Keywords: Takt Time, Value Stream Mapping, Line Balancing, DPMO, Six – Sigma.

MBA041

EFFECTS AND EXPERIENCES OF VISUAL MERCHANDISING TOWARDS LIFESTYLE RETAILING - CUSTOMER EXPERIENCES AT SHOPPERS STOP, BENGALURU

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Abstract

The current study contemplates and analyzes the influence of visual merchandising towards enhancing customer experience and behaviour during lifestyle product purchases. Past scenarios of visual merchandising have constantly emulated the fact that visual merchandisings have positively impacted the customer experience and behaviour. The study was conducted at Shoppers Stop retail outlet at Bengaluru where the study predominantly concentrates on several external and internal factors that drive the experience and purchase behaviour of customers walking into hyper markets for lifestyle purchases.. The study was carried out for a period of 40 days with a sample size of 200 using systematic sampling techniques. The study has incorporated the various experiences and impact of various visual merchandising elements which included window displays, store design, atmospherics and aesthetics. The study has vividly helped to understand the expectation of the customers towards shopping experiences and behaviour. Interactive responses were analyzed through various parametric and non parametric tests. The study has confirmed the relevance of various factors of visual merchandising in enhancing the experience of the customer walk ins at Hyper markets and has proven when creatively and effectively used, visual merchandising elements catalyses the sales and profitability for hyper markets

Keywords- Visual merchandising, Lifestyle purchases, customer experiences, consumer behaviour.

MBA042

ANALYSIS OF WEAK FORM EFFICIENCY OF SELECTED SECTORAL INDICES AND COMPANIES WITH REFERENCE TO NATIONAL STOCK EXCHANGE

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Abstract

The economic growth of country is linked with the financial market of the country and stock market is used as indicator of nation's economy. Capital market is an integral part of financial system and its plays a strategic role in a country's economic growth by witnessing a tremendous growth. It facilitates the exchange of funds between company as demander and investor as supplier by believing that the overall growth of economy depends on how efficiently the stock market performs. The existence of capital market enables company to obtain an alternative source of fund. On the other hands, it gives flexibility for investor to choose investment based on their preference. The company and investor who are involved in the capital market, understanding about capital market condition becomes matter in order to understand how the market is actually works. The concept of Efficient Market Hypothesis (EMH) is very vital in the development of stock market and overall economy. If the stock market is efficient then fundamental and technical analysis is a pointless exercise as all available information is already reflected in stock prices. Hence it is not possible to make any extra ordinary return above the stock market return and that in turn, leads to "Less or No Arbitrage Opportunity" in stock market The stock market is booming at a very high rate and the number of investors investing in it is also increasing. In spite of the incremental trend in indices, the investors still have less idea and knowledge about which company and indices are best to invest their money in appropriate period. The previous studies probed the efficiency in the Zimbabwe Stock Exchange, Baltic Stock market, Taiwan stock market, Saudi stock Exchange, Russian Stock Market and determined the random walk for few indices.

Keywords: Stock Market, Sectoral indices, National stock exchange.

MBA043

THE RELATIONSHIP BETWEEN SERVICE QUALITY AND CUSTOMER SATISFACTION - A COMPARATIVE STUDY AMONG INDIAN AND EUROPE PASSENGERS

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Abstract

The relationship of service quality and customer satisfaction have been established in the airlines service management literature but there are few studies available to understand the difference in perception on the relationship of service quality and customer satisfaction. The previous studies used first order service quality dimensions in predicting the relationship with customer satisfaction. This study will used hierarchical second order service quality for predicting the relationship with Customer satisfaction. A survey questionnaire was used for the collected the response from the airlines passengers from developing country India and developed countries of Europe. A permutation Multi group analysis method was employed to assess the passenger group of developing and developed countries on the relationship between service quality and customer satisfaction.

Keywords: Airqual, Service quality, Customer satisfaction, Multi group , Indian passengers, Europe Passengers.

MBA044

ANALYSIS OF IMPACT OF GST WITH REFERENCE TO PERSPECTIVE OF SMALL BUSINESS STAKEHOLDERS

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Abstract

India has transitioned to GST implementation last year. Since the launch of the uniform tax system, there are many gaps that are encountered in the implementation of the system. This report is focused on the key issues both positive and negative that are discussed among the public domain and the industrial circles. Pointing to the key issues that are discussed vividly among the public, the impact survey is conducted with small and micro business traders for response on the overall impact of GST on their business and some significant factors that are impacting the actual outcome. It is imperative from the response survey that the opinions of the respondent's areneither too neither negative nor positive and it's in a balanced condition. If the government can ensure to address some of the teethi ng issues, the process could lead to sustainable economic development in the country.
Keywords: GST, GST for Fuel, GSTIN, GSTIN Network, GST impact.

MBA045

ANALYSIS ON IMPACT OF HUMAN CAPITAL IN BANKING INDUSTRIES – A COMPARATIVE STUDY BETWEEN PRIVATE AND PUBLIC SECTOR BANKS IN INDIA

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Abstract

Human capital is an economic estimation of an employee's skill set in any organisation. It is the aggregate skill, learning, knowledge and other intangible assets of the individual which can be utilized to make financial incentive for the people, their employers, or their group of community. Human capital management (HCM) is responsible for the people dimension of an organization. It has a significant role to play in today's world in that it not only has to assist the organization in achieving its strategic direction. Human capital refers to the collective skills and knowledge of the total workforce of an organization that hold economic value for the organization. It enhances the productivity and profitability of the organization. In order to ensure that human capital generates more wealth as well as leads to value creation, it is important that human capital is utilized and managed efficiently and effectively. When the value of the people is enhanced, it enhances the value of the organization. According to economics theory, two of the main reasons for pooling of human resources into companies are the cost reduction that is achieved with partitioning of work and the need for management of work, which is divided between numerous employees. The distinction in value that people bring to the organization had been lost in the past as financial capital, physical capital and technological capital were viewed as the driving energies behind the success of organizations.
Keywords:

MBA046

START-UP JOURNEY MANOEUVRING: CASE SCENARIO OF INDIAN START-UPS

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Abstract

Start-Ups are always a fascinating arena, wherein dynamics are changing rapidly and are garnering global attention. The Start-up Scenario in India is too no lesser interesting than the global developments. However, considering the success ratio, it adds substance in reviewing the start-up trends, exploring how the start-ups environment is turning out to be the combination of conducive and non-conducive practices and notion. This study discusses and highlights the fulcrum aspects of start-up success and the key measures that the start-up companies should consider for value addition. Key insights like measures of start –up success and the parameters in which the real-value generation of a start-up has to be evaluated were also discussed in this report. The study concludes on the importance of holistic evaluation approach while focusing on the value of a start-up organization.

Keywords: Start-ups, India Start-ups, Start-up Value proposition, Any-how and some-how management, India Un-Inc.

MBA047

A CONTENT ANALYSIS OF PORTRAYAL OF PRODUCTS IN INDIAN, U.S. AND AUSTRALIAN FAMILY MAGAZINE ADVERTISEMENTS

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Abstract

Advertisements featuring different products are examined to describe the nature of the portrayal using the general attributes, visual design and people related content. Cultural differences are found in terms of products or services with which adults, old people or children are associated and the physical and social settings in which they are portrayed. The results of the study are discussed in the lines of theoretical and applied issues.

Keywords: Advertisements, Content Analysis, Culture, Family Magazine.

MBA048

DHAANYA AGRICULTURAL COMMODITY INDEX – AN OVERVIEW

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Abstract

While most common people are aware about the stock Exchanges like BSE, NSE, and so on, there is less knowledge among people about the agricultural commodity market. This paper aims to highlight some important factors about agricultural commodity market in India, and the role played by Dhaanya, an agricultural commodity index which is computed by NCDEX, a dependable yardstick through simple and transparent methodology for the trading of agricultural commodities in India. The constituents of Dhaanya belong to the Indian agri industry from various sub-sectors of the country and accounts for almost 70% of the exchange on the NCDEX platform for trading.
Keywords: Dhaanya, NCDEX.

MBA049

CONDESCENSION OF SUPERMARKET: SHOPPER'S PROCLIVITY

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Abstract

Satisfied Shoppers loyalty guarantees the organizations about their accomplishment in their business and their rival's condition. Investigation of consumer Satisfaction and unwaveringness has turned into the principal factor among organizations whether they are associated with promoting of immaterial administrations in the 21st century. Customer is the point of convergence for a retail business. This exploration endeavors to contemplate the Shoppers Satisfaction and devotion in composed retail locations of urban areas of South Chennai. In this examination just a single configuration of composed retail locations, grocery store is reviewed to comprehend consumer loyalty and steadfastness. To narrow down the research, scope of the research has been restricted to only Groceries in supermarkets and three format of supermarket have been used for data collection, namely Big Bazaar, Spencers, and Reliance fresh. Purposive and random sampling of 596 supermarket chain shoppers established the impact of satisfaction with supermarket chain store on store image with the help of structured questionnaire. A reliability test has been performed on the primary data, before proceeding for the statistical analysis. It can be finished up from the examination that SEM Model, fits Moderate to normal with the characterized targets, and planned research instrument (survey) is bolsters this model.
Keywords: Supermarket, Chain Stores, Store quality, Store trust, Satisfaction, Store image.

MBA050

CAN INDIA MOVE TOWARDS DIGITAL SOVERIGN CURRENCY? A STUDY ON PERCEPTION OF CONSUMERS TOWARDS DIGITAL PAYMENT

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Abstract

Digital payment system is an electronic medium that allows consumers to make electronic commerce transactions for their purchase. Consumers have moderate level of perception about digital payment and there is significant difference between socio-economic status of consumers and their perception towards digital payment. The rate of adoption of digital payment is positively and significantly affected by perception of consumers. At the same time, the digital payment system should adopt appropriate measures to overcome undue delay in processing payments.
Keywords: Consumers, Digital Payment, Perception

MBA051

A STUDY ON USAGE OF TECHNOLOGY ON K-12 EDUCATION IN INDIA WITH REFERENCE TO CHENNAI CITY

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Abstract

The application of information and communication technologies in school education is a prospect for emerging a cognitive resource based method in students and improves knowledge and competency and the significance of life long learning and unremitting education. nearly three fifth of school students perceived the level of impact of technology on their skill development at high level and significant association exits in impact of technology on their skill development among profile of school students. The problems solving skills and hours spend on technology by school students is highly interrelated. Therefore, school students should be encouraged to spend more time in technology for educational purposes only.
Keywords: k-12 Education, School Students, Technology

MBA052

PRODUCT-LINE EXTENSIONS BY MULTINATIONAL BEVERAGE CORPORATION FROM SOFT DRINKS TO HEALTH DRINKS: REFLECTION OF CONSUMERS PERCEPTION.

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Abstract

The major constituent of our body is filled with liquid fluid, and it is an essential requirement and needs to be fulfilled. In modern life, there are different kinds of drinks available in the market such as carbonated drinks, juices, milk products and fruit drinks. Companies uses different strategies to exploit the opportunity on the above lines and product extension is one such strategy. Product line extension is extensively used as one of the prominent strategies to bring new product into the market. This approach will help the company to stay in the market for the extended period and closely connect with consumer's memory and recall. The purpose of the research is to identify the perception of consumers towards Product-line extensions from Soft Drinks to Health Drinks. Consumer's perception in this study is measured through four significant variable such as Culture, Social, and Personal and Psychological factors obtained from 300 samples in the Coimbatore Region.

Keywords: Consumers Perception, Customers Preference, Health Drinks, Soft Drinks.

MBA053

A REVIEW ON FACTORS INFLUENCING CONSUMER PURCHASING BEHAVIOR IN SHOPPING MALLS IN EMERGING CITY WITH REFERENCE TO COIMBATORE DISTRICT

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Abstract

In present days, customers choose shopping malls because they provide a various shopping experiences such as convenience, physical amenities, entertainment and value addition and emotional and economical benefits. Quality, promotion, mall environment, entertainment and comfortability are the factors influencing consumer purchasing behaviour in shopping malls. Significant difference exits between profile of consumers of shopping malls and factors influencing consumer purchasing behaviour in shopping malls. The promotion, quality, entertainment, mall environment and comfortability are significantly and positively impacting satisfaction of consumers towards shopping malls. Therefore, the shopping malls should give reasonable price discounts, quality differentiation of products and services and support consumers in order to fulfill their needs and wants.

Keywords: Consumer, Purchasing Behaviour, Shopping Malls.

MBA054

A REVIEW ON FACTORS INFLUENCING CONSUMER PURCHASING BEHAVIOR IN SHOPPING MALLS IN EMERGING CITY WITH REFERENCE TO COIMBATORE DISTRICT

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Abstract

In present days, customers choose shopping malls because they provide a various shopping experiences such as convenience, physical amenities, entertainment and value addition and emotional and economical benefits. Quality, promotion, mall environment, entertainment and comfortability are the factors influencing consumer purchasing behaviour in shopping malls. Significant difference exits between profile of consumers of shopping malls and factors influencing consumer purchasing behaviour in shopping malls. The promotion, quality, entertainment, mall environment and comfortability are significantly and positively impacting satisfaction of consumers towards shopping malls. Therefore, the shopping malls should give reasonable price discounts, quality differentiation of products and services and support consumers in order to fulfill their needs and wants.

Keywords: Consumer, Purchasing Behaviour, Shopping Malls.

MBA055

SELF-HELP GROUPS A MEDIUM FOR SOCIAL EMPOWERMENT OF WOMEN: A STUDY IN COIMBATORE DISTRICT

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Abstract

Self Help group is a self-governed, peer-controlled small and informal association of the poor, usually from socio-economically homogeneous families who are organised around savings and credit activities. Social empowerment is the degree of autonomy and self -determination in women. SHGS acts as a medium to empower women in various aspects such as economic, social, political and cultural. This paper focuses on social empowerment attained by women through Self Help Groups (SHGs) and the study was conducted in Coimbatore district with the sample size of 500.

Keywords: Social Empowerment, Self Help Groups, Self determination.

MBA056

A STUDY ON CUSTOMERS PREFERANCE ON WEDDING EVENT ANDAPPLICATION OF PROJECT MANAGEMENT INMANAGING WEDDING EVENTS

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Abstract

Wedding is a cultural extravaganza and considered as a social capital based event. Due to change in customer requirements and rise in spending, wedding related events are increasing with requirements of catering services, decorations, garland, videography, bridal shower, apparel and so on. The increase in number of events has become more complex and a challenging task to manage them than never before. Managing events requires lot more planning, costing and timely execution of various events. Event management plays a vital role in managing all the event and event organizers' have to look for suitable manpower and vendors. Any change in customer requirement in terms of time and quality has to be up-dated and communicated to the right person on right time. Successful execution of these events is possible only if the entire event is viewed as a project, with proper resource allocation and when it is managed with suitable project management tools. This paper identifies the preferences of customers on wedding events, highlights the importance of event management by applying project management tools and documentation procedures. Use of project management tools will help the organizers to conduct the events successfully at low cost, as per schedule and with the customer defined quality. This research study also highlights the important factors to be considered in managing wedding events.

Keywords: Project Management, Wedding Events, Service Quality

MBA057

A STUDY ON SUPPLY CHAIN COLLABORATION IN TEXTILE INDUSTRY

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Abstract

The Indian textile industry gives employment for both unskilled and skilled labor across the country by offering direct employment to over 35 million in the country. About 27% of the foreign exchange earnings comes from the export of textiles and clothing alone. By 2021, it is estimated that the Indian domestic textile and apparel industry will reach 141 Billion US $. There are 9 Centre of Excellence established for Technical Textiles all over the nation, which shows us the importance the government gives to the Textile sector in India. Three such centers are located at Mumbai, two in Coimbatore, one each at Ahmadabad, Kolhapur, Kolkata, and Ghaziabad. Supply Chain Collaboration in the textile industry has become a so vital for efficient supply chain management and it helps the textile units to have competitive advantage over their competitors. This study mainly focused on the textile units located in Coimbatore, Tirupur, Erode, and Salem, collectively known as the TEX VALLEY. The main aim of the study is to identify the factors influencing supply chain collaboration and the reasons for the textile units to implement the supply chain collaboration. The research was conducted in 100 textile units, where majority of them were Exporters Garment Suppliers and remaining were domestic Garment Suppliers, merchandisers, traders lot size, stockists. Majority of these Textiles were registered themselves under the Tirupur Exporters Association (TEA). The SPSS (Statistical package for social science – 16.0) was used for analysis. The result shows that supplier and market knowledge has a positive impact on the supply chain collaboration of the textile units.

Keywords: Supply Chain Management, Supply Chain Collaboration, Competitive Advantage.

MBA058

PENETRATION OF RE-ALLOCATION OF BUSINESS AND PLIGHT OF TRANSPORTATION IN THE FRIEGHT FORWARDING INDUSTRY

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Abstract

Logistics is defined as obtaining Producing and distributing materials products in proper places and in proper quantities at proper time, Logistics management is also understood in the modern terminology as the supply chain Management that plans implements and controls, efficient effective forward and reverse flow of storage of materials& information. However, the real time issues & challenges are different to theoretical theories. The fundamental difference, transforming the raw materials into products, carrying to the destination is supply chain whereas the movement of material or goods in the supply chain is defined as Logistics. The movement of House hold goods is Understood as Relocations in the Organizational perspective and Movement of Commercial goods is known & understood as freight forwarding, However, there are many challenges in this trade which differ from case to case, Shipment to shipment.

Keywords: Re-allocation, Plight, Freight Forwarding, Transportation.

MBA059

IS TURNOVER INTENTION A CAUSE OF CONCERN? – RELEVANCE OF JOB SATISFACTION AMONG BPO EMPLOYEES

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Abstract

Employee attrition is a major issue in the business process outsourcing sector. While there are opportunities aplenty in the market, youngsters are more impatient and want to become managers quickly. This study attempts to measure the Job satisfaction variables that affect the employees turnover intention in the sector. Multiple discriminant analysis was administered, the results indicate that ambience, facilities and resources and promotion play a major role in discriminating between employees who intend to leave and intend to stay in an organisation.

Keywords: Turnover Intention, Job Satisfaction, BPO Sector.

BANDWIDTH OPTIMIZATION MODEL IN WEB QUERY BASED NOTIFICATION SYSTEM

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Abstract:

Web based data communication implements hyperlink based and connectionlesstraffic, which is a challenge in ad hoc real time data communication.Stateful web based client server communication is provided by the websocket protocol with minimized web communication overheard using intelligentweb query.To summarize a comparison of transmission speed between web socket and HTTP polling, a web based model is developed to assess the one way traffic elapsed time for transmitting real time sensor data at the speed of 2 to 4 Hz is carried out.

Keywords : Web Query, Latency, Polling, Bandwidth Optimization

MCA002

A STUDY ON THE STUDENT EXPERIENCES IN BLENDED LEARNING ENVIRONMENTS

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Abstract:

In recent times, teaching and learning methods have a direct impact on students' learning experiences. Blended learning is a combination of face-to-face and online delivery methods which influences students' perceptions on the learning environments to a great extent. Learning analytics is a growing trend at all levels of education. The objective of the paper is to examine the student's experiences in blended learning environments. Relevant data has been collected from undergraduate and postgraduate students who are exposed to a blended learning environment while learning programming subjects. Learning analytics has been applied on the collected data. It can be inferred from the results that the blended learning approach is more beneficial for students who are skilled in using certain computer programs and applications. The study results also provide new insights into the student preferences for learning in such knowledge sharing collaborative environments.

Keywords : Blended learning, Learning analytics, Collaboration, Knowledge sharing

MCA003

EMDAI: AN EMERGENCY MESSAGE DIFFUSION FOR ACCIDENT INFORMATION IN VEHICULAR AD HOC NETWORKS

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Abstract:

A Vehicular Ad Hoc Networks (VANETs) brings the breakthrough in an automotive industry. In highways the road safety and travel comfort are accomplished through vehicle-to-vehicle and vehicle-to-roadside unit communications. A major issue in safety application is to diffuse emergency message to all the other vehicles immediately without redundancy. There are number of works have been proposed to disseminate the emergency message, but those works suffer from delay and bandwidth consumption due to redundancy. This paper considers vehicle-to-vehicle communication for emergency message diffusion without the assistance of roadside units. In this paper, an Emergency Message Diffusion for Accident Information (EMDAI) approach is proposed for the efficient communication of emergency message. The EMDAI approach ensures the broadcasting of Short Range Message (SRM) and Long Range Message (LRM) to all the vehicles with minimum delay. A Non-Redundant Acyclic Group (NAG) technique is introduced to form a group to avoid the broadcast storm problem. In addition, the proposed EMDAI approach provides assistance to the ambulance to reach the Point of Incidence (PoI) in a short span of time. The performance analysis is done on reliability, channel occupancy, delay, message transmission per involved vehicle and traffic clearance delay. The results prove that the proposed EMDAI approach outperforms the existing protocol.

Index Terms: Vehicular Ad Hoc Networks, Emergency Message Diffusion, Accident Information, Ambulance Assistance and Broadcast Storm Problem

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MCA004

BIG DATA OPTIMIZATION USING ENHANCED CLUSTERING ALGORITHM

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Abstract:

One of the hottest questions in Information Management now is how to deal with Big Data what we collect. Real world data is not clear that it contains noisy and irrelevant data. Raw data can't be used for analysis. Hence data should be optimized or pre-processed. It's really a tough task to optimize such a huge amount of data. Also we need to spend lot of time in pre-processing by using regular clustering algorithms. Classical optimization algorithms are not designed to scale to instances of this size and hence new approaches are needed. This paper provides an idea about the optimization of Big Data using enhanced k-means clustering algorithm. Such enhanced algorithm saves time and make the optimization better and faster.

MCA005

A NOVEL METHOD FOR DETECTION OF RETINAL LESIONS USING STATISTICAL BASED SEGMENTATION WITH SUPERVISED CLASSIFIER

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Abstract:

Diabetic retinopathy (DR) is one amongst the first causes of new instances of visual deficiency. It influences veins in the light-delicate tissue called the retina. Totally different signs in DR will indicate the presence of lesions. The automated lesion segmentation in retinal pictures is a vital task in computer-aided detection systems. In this manuscript, we present a method based on pre-processing for retina images, segmentation of suspicious region, features extraction and classification. In the first stage, Gabor filter is applied to the retinal imagesto enhance the lesion regions. Segmentation of suspicious region is based on expectation maximization bootstrap subgroup and mathematical morphology. A hybrid feature set is selected from the suspicious region. Finally, we tend to developed differentiation of lesion from traditional tissue as a learning classifier. The projected technique has been evaluated on two public databases: DRIVE and STARE. The experimental result shows the proficiency and viability of the proposed strategy, and it can possibly be utilized to analyze DR clinically.

Key words*: Lesion, Diabetic Retinopathy, lesion, Segmentation, Feature extraction, Classification, Computer aided detection.*

MCA006
LINEAR REGRESSION FOR HARVEST FORECASTING

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Abstract

: Yield prediction edges the farmers in reducing their losses and to urge costs for his or her crops. The target of this work is to analyse the environmental parameters like space below cultivation (AUC), Annual rain (AR) and Food price level(FPI) that influences the yield of crop and to determine a relationship among these parameters. During this analysis, multivariate analysis (RA) is employed to analyse the environmental factors and their infliction on crop yield. RA may be a statistical procedure technique that analyses the factors teams them into informative and response variables and helps to get a choice. A sample of environmental factors like AR, AUC, FPI can be for an amount of ten years from 1990-2000. Regression (LR) is employed to determine relationship between informative variables and crop yield as response variable.

MCA007

DEVELOPMENT OF UNMANNED GUIDED VEHICLE FOR MATERIAL HANDLING AUTOMATION FOR INDUSTRY 4.0

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Abstract:

In the current scenario, the industries are implementing automation in every field works. Industries are trying to reduce the labor cost and processing time which is taken by the human. This proposed work will be helpful for handling the materials efficiently. That is, for picking the raw materials from the storehouse and carrying it on the vehicle and transporting to the workshop where it is being machined. To replace the labor cost and to reduce the processing time, this type of vehicle can be used. The UGV picks the raw materials that had to be machined from the storehouse to the workshop where the machining processes are done. ARDUINO UNO R3 ATMEGA 328P controller is the heart of the system which controls the vehicle movement and arm actuation. The robotic arm consists of 5 servo motors with the gripper at its end. The vehicle with three wheels is helpful for carrying the materials from one place to another place. Three IR sensors are used for detecting the black line on which the vehicle has to move. Sensor 1 and 2 are used for sensing the black line. Whenever it is sensed the vehicle has to move forward or left or right. The third sensor indicates the storehouse or the workshop. When the robot reaches the storehouse, which is indicated by the third IR sensor, the vehicle stops and ARDUINO UNO R3 actuates the arm and simulates it to carry the goods. The vehicle automatically starts and carries it to the workshop without any human interruptions. Hence, the proposed project is useful for carrying and transporting the raw materials and finished goods efficiently with the less consumption of time. This research includes the robotic arm with a gripper, an Autonomous vehicle with three wheels, ARDUINO UNO R3 controller, Motor driver, three InfraRed sensors (IR) and Single-Mode Power Supply (SMPS).

Keywords*:* Unmanned guided vehicle, Robotic arm, ARDUINO UNO R3 ATMEGA 328P, Material Handling

MCA008

THE EFFECT OF FEATURE SELECTION IN HYBRID NETWORK INTRUSION DETECTION SYSTEM

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Abstract:

Enterprise computer networks plays a major role in commercial operations of business and government establishments. Enterprise computer networks pose to network based security threats. Network intrusion detection systems are implemented to thwart network based security attacks. The performance of the intrusion detection system is affected by the dimensionality of the dataset. In this manuscript a hybrid feature selection method named Modified Forward Floating Selection (MFFS) is proposed to enhance the detection rate of network intrusion detection system. The proposed method is validated with the benchmark NSL KDD data-set. The optimal features generated by the proposed method manifested better detection accuracy by classifiers.

Key Terms : Feature Selection, Wrapper, NSL KDD, Intrusion Detection, Modified Forward Floating selection,

MCA009

A STUDY ON TRAFFIC ANALYSES IN SOCIAL MEDIA NETWORK OF TWITTER THROUGH DATA MINING TECHNIQUES

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Abstract:

Social media provide a sharing of information across the world. Sharing the information is an important one in this real world, person on one area want to share their details, opinions, and comments to everyone or their friends. Social Media (SM) is a content sharing one which shares the user interests. Social networking can be used to keep in touch with friends, make new contacts and find people with similar interests and ideas. It also helpful for any disasters occurred. In the time of disasters it will helped the people lot to find them or to help them. While sharing their content in the social media like twitter they may occurred the traffic problem for the social media web user. User of the SM needs the traffic-less mechanism for continuous transfer of data. For this issue this paper provides a study of various techniques to overcome the issues.

Keywords: Social Media Twitter, Data Mining technique, content sharing and traffic analyses**.**

MCA010

AUTOMATED PECTORAL MUSCLE SEGMENTATION ON MLO VIEW MAMMOGRAMS USING MORPHOLOGICAL POLYLINE SMOOTHING ALGORITHM

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Abstract:

Mammography is one of the best methods for early detection of breast abnormalities. The mammogram contains pectoral muscle and breast tissue. When analyzed by computing techniques, the pectoral muscle should be removed from the breast tissue. It also signifies a high density area in most Medio Lateral Oblique (MLO) visions of mamminograms; its inclusion can affect the results of intensity based image processing methods in the detection of breast cancer. In this manuscript, a new algorithm called morphological polyline smoothing is developed to automatically extract the pectoral muscle. The proposed method is applied to different categories of mammograms which are available in Mammographic Image Analysis Society (MIAS) database. The region of pectoral muscle is segmented and the results by are proven effective when compared to existing methods.

Index Terms**:** Pectoral Muscle, Mammogram, Automatic Segmentation, Poly line, Morphology, Iterative Threshold

MCA011

SURVEY OF DATA MINING TECHNIQUES IN AGRICULTURE FOR FORECASTING THE YIELD OF THE CROP

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Abstract:

Agriculture is the field of interest in state-of-the-art generation emerging world. It's far the principle career and resolution of our country. As India's population presently stands at 1.3 billion human beings and is projected to grow eight instances of current population via 2024, its become a essential assignment for the farmers to feed the population. Additionally the diverse environmental changes within the growing world are posing an important hazard to the agricultural financial system. Hence food protection enhancement requires the transition to agricultural manufacturing structures which can be more effective. Crop yield prediction is one of the crucial factors that provide statistics for decision makers to maximize the crop productivity however it's far a problem that desires to be solved based on available records. Statistics mining technology serves to be a higher preference for this motive and has grown to be an thrilling and latest research. This paper offers a quick comparative look of various papers that cope with numerous strategies for the crop yield forecasting. Different information mining techniques which might be in use for the crop yield estimation are K-Means method, K nearest neighbor (KNN).

Keywords: K-Means, Support Vector Machine (SVM), Multiple Linear Regression (MLR), K-Nearest Neighbor (KNN).

MCA012

AN INVESTIGATION OF QUALITY ENHANCEMENT IN ONLINE SHOPPING AND INVENTORY MAINTENANCE.

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Abstract:

Online shopping is the culture of current e-commerce scenario. It provides lot of choices and opportunities. Every day million of transactions are performed and billion dollars are traded. But the major drawback of online shopping system is latency in order fulfillment and inventory management. There is a imperative for a system to address the time efficiency of the above process. To improve the performance of online commerce here with we propose a model called "ShoppyDo". The Bee colony optimization modes performs stock clustering. The Pathrouter, a greedy algorithm is used to optimize the short path to improves the efficiency. The proposed model address the latency issues in order fulfillment

Keywords: E-Commerce, Efficiency, ACO algorithm, Resource allocation

MCA013

HEART DISEASE PREDICTION SYSTEM USING ENHANCED APRIORI

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Abstract:

Heart disease is frightening the people around the world and in some countries it is the number one disease which leads to death. Biomedical research efforts help to prevent and treat heart disease in a better way. Handling large amount of data is often very tedious with traditional methods which lead into problems, particularly in high level of complexity and vagueness factors. Mining frequent patterns from large databases has emerged as an important area in data mining research and knowledge discovery community; this also contributes so much to health care domain. This heart prediction system helps to predict heart related problems at an early stage. The proposed system predicts heart related issues of a person based on questions and the answers given to the prediction system. To have better results in minimum time duration an Enhanced Apriori algorithm was introduced which is an improvement of Apriori algorithm. The experimental results proved that the proposed approach performs faster and memory efficient with more number of patterns. It was also proved that the prediction rate of Enhanced Apriori was also good (94%) than Apriori (87%).

Keywords:Prediction, Heart Disease, Apriori, Data Mining, Association Rule Mining

MCE001

AN EMPIRICAL STUDY OF PEDESTRIAN DETECTION TECHNIQUES WITH DIFFERENT IMAGE RESOLUTIONS

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Abstract

Pedestrians are essential objects in computer vision. In real world images, the art of detecting pedestrians is an essential task for many applications like video surveillance, autonomous driver systems etc., Pedestrian detection is a significant characteristic of the autonomous vehicle driving system because identifying the pedestrians minimizes the accidents between vehicles and pedestrians. In existing techniques, deformable part model was used for identifying the pedestrians in image. However, the detection accuracy of the pedestrians with the existing systems was very low with high time consumption. The objective of our research work is to reduce the pedestrian detection time and space complexity for storing the pedestrian objects. In order to identify the existing pedestrian detection issues, the empirical study is carried out in this paper.

Keywords-Pedestrian, autonomous vehicle, deformable part model, space complexity, automatic driver-assistance systems, video surveillance

MCE002

ROLE OF DIVERSIFIED CONTROL STRATEGIES IN SCARA ROBOT RESEARCH AND DEVELOPMENT: A STATE OF THE ART

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Abstract

The goal of this paper is to document the summary of the research and development of SCARA robot in all these years using various control strategies. The SCARA robot is the ground breaking four axis low-cost robotic manipulator perfectly suited for small parts assembling and light duty applications. Various researchers are working to achieve the state-of-the-art technological developments which is essential to address a much wider range of application areas and requirements of industries. The application of various control strategies to develop a sophisticated SCARA by several researchers are reviewed and listed out in this paper. The outcome of the researches carried using several controllers so far are discussed to mention the appropriateness of the technology based on the task and the configuration of the robot. The input of this paper originates from numerous volumes of published research work in this domain by means of an broad bibliography over an extended period of time.

MCE003

VOCABULARY AUGMENTATION HABITS AMONG THE COLLEGE STUDENTS IN THE SOUTHERN PART OF TAMILNADU IN INDIA

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Abstract

The engineering college students in Tamilnadu must acquire English competency as it decides their employability. It is acknowledged that students who read English books for education and enjoyment perform better in all tests because they develop a broader vocabulary, resulting in enhanced understanding of the text. The veracious readers heed to useful vocabulary, determine the meaning of unaccustomed words from the context and use new words in their speaking and writing also. However, when the habit of reading is not inculcated in the students, they fail to expand their vocabulary. The main objective of this paper is to study the endeavour of the students in enriching vocabulary during reading of English. The questionnaire on the ways of vocabulary accusation focuses on analysis of the time spent apart the academic schedule in acquiring new English words, the usage of dictionary in learning English and the efforts to register the new words in the memory as a part of enriching vocabulary. The student's responses have declared that second language learners don't target at conscious vocabulary acquisition. The proposition is that vocabulary learning must combine with direct teaching of words with accompanying learning, and multiple opportunities to use these words in multiple contexts

Key Words: Vocabulary, Reading English, learning English

MCE004

AUTOMATIC TANK CLEANER

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Abstract

Water is essential for human beings especially for drinking. In some of the rural areas, the water storage tanks are not cleaned properly and regularly. The health of water largely depends on how clean our water tank is. Hence, cleaning the water tank will be an ultimate solution. Therefore, it is our duty to keep water as fresh as possible and also to keep it free from water pollutants. Manual cleaning process of overhead tank is a tedious and time consuming task. In rural and corporation water transmission systems, the storage tanks are mostly designed in cylindrical shape. The paper aims to propose an improved apparatus and method to clean a cylindrical tank automatically. The system almost signifies an articulated type robot with its inverted base mounted at the opening of the Tank. A prototype of the desired apparatus has been developed in real time and inner surface of a small cylindrical container was cleaned with the prototype. The proposed system is portable and best suited for cylindrical tank with opening at its center. An integrated high pressurized fluid supply through the nozzles with automated system design enhances the system to clean the tank automatically. This proposed system can be further integrated with other alternative water suction processes to increase the efficiency and effectiveness of the system.

Keywords – Cylindrical tank, articulated type robot, nozzle, automatic, prototype

DETECTION OF COLOURED LIQUID LEVEL –A COMPARATIVE STUDY

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Abstract

A comparative study of coloured liquid level detection using the different types of method includes image processing in LabView, non-contact type sensor such as ultrasonic sensor using Arduino and contact type sensor such as capacitive type sensor by using the Arduino have been analyzed in this paper. To interface with Vision assistant the IMAQ tools have used to measure the colored liquid level detection. With the help of vision assistant software of National Instruments the image processing is performed. There are various factors affecting the readings are ambient light, camera quality and color of the liquid present in the container. Based on the analyzed data the appropriate method can be selected and it can be adopted in the industry.

Keywords: Liquid Level Detection, Open CV, ultrasonic sensor, capacitive sensor, LabVIEW, Data Acquisition.

MCE006

DIAGNOSTIC SYSTEM TO MEASURE THE BATTERY STATUS OF A VEHICLE

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Abstract

A method and apparatus to monitor the status of the battery mainly for a heavy vehicle or an earth mover to provide complementary insight into battery condition before, during, and after the use of battery. In general testing of the battery is performed using a light resistive load, a heavy resistive load, a conductance tester, and a battery charger. A connecting device such as a clamp or a clamp meter is connected to a battery terminal to display the electrical condition of the battery by measuring the current discharge. The clamp is interfaced with a LabVIEW circuit and it can be programed to collect data such as the voltage readings and the current readings from the battery of the vehicle. The connecting device includes a main body having a clamp at one end for fixing to the battery terminal, and the other end for carrying, a microcontroller and a display unit. The LabVIEW interface has got an output display and makes the connecting device displayable with electrical conditions directly without the need of using other testing devices. NI LabVIEW interface is used to display the current or voltage readings and it uses MS Excel to store the values collected from the clamp. It is known from the observations the status of the battery, the rate of change of battery during load and unloaded conditions. This setup is used to measure all the electrical parameters connected to the battery of the vehicle. The parameters such as horn, headlights, wipers, AC unit, audio player, tail lamps, indicator lights, dashboard lighting and hazard lights are monitored for their correct working.

Keywords: NI LabVIEW, clamp meter, microcontroller, MS Excel

DESIGN AND FABRICATION OF AUTOMATED URINAL FLUSHING SYSTEM USING MECHANICAL ELEMENTS WITH DISINFECTANT

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Abstract

In India, One of the most important problem that we identified is Unclean Public Toilets especially Urinals that no one worried about that Flushing of Urinals Due to urgency they go where ever they wants in public places. However unclean urinals cause diseases to the users by spreading infectious germs, therefore complete cleaning of urinals is essential to preserve hygiene conditions. Our invention rightly tackles this problem by flushing measured quantity of water required for complete cleaning of the urinals thereby conserving the water. Our invention uses only mechanical elements and hence does not require any external energy. We realized that automatic flushing system is one of the essential technologies in India as it will be helpful in maintaining hygienic conditions especially for public urinals. Our invention does not require electric power and its associative maintenance, making it highly useful and reliable in common places like garden and public urinals, also conserving water and electricity. In this We are created a mechanism that Rocker Disc connected with Mechanical Linkages. When a person stand on the platform due to its own weight the platform moves down by compressing spring due to this Rocker Disc rotates and mechanical links actuate the ball valves

MCE008

A STUDY THERMAL COMFORT IN EDUCATION INSTITUTION

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Abstract

This paper describes about the application of humidifier in Indian educational institution, where typical Indian classroom are naturally ventilated and the effect of the room temperature on students and on studies. In this paper the classroom with naturally ventilated and humidifier system were compared in terms of thermal comfort, energy consumption and cost. Generally thermal comfort is traditionally measured and predicted by the Predicted Mean Vote (PMV) which links reported comfort level with various factors. However, PMV is a statistical data and the actual thermal comfort could be different from the predicted value**.** The building and its ventilation had been previously modelled and validated experimentally by the responses of staff and students in the classroom. A humidifier model was then installedd as to improve the thermal environments, and investigated the effects of the installed humidifier on the thermal conditions. The experiment result shows that the humidifier can increase the relative humidity and the air humidity in the classroom thus almost reached the optimum range. These results suggest that introducing humidifiers into classroom is an effective method of improving the environment and relieving the discomfort of staff and students. By using the humidifier in the building, the energy consumption can be reduced. Generally, humidifier use only approximately 0.11% of the total electricity. The simulation model was developed by solid works and the simulation was done by using Ansys 16.0 using the experimental study.

MCE009

DESIGN OF MEMS DEVICE FOR SORTING WHITE BLOOD CELLS FROM HUMAN BLOOD

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Abstract

Human blood contains several cells which can be used for several purposes like fighting bacteria, control parasitic infections, secrete antibodies and so on. The uncontrolled production of blood cell causes blood cancer. In most types of blood cancer, the normal blood cell development is interrupted by uncontrolled growth of blood cells. For these purposes the blood cells have to be separated into individual stream. Here the main objective is to design a microfluidic device to separate the blood cells using physical principles. The device offer several advantages over conventional, macroscale separation systems in terms of sample volumes, low cost, portability, and potential for integration with other analytical techniques. The method used in this device is pinched flow fractionation which separates the cells based on its size. This report depicts the methodologies and design concept of the device and adds up support for the probability of working by simulation and plots performed in ANSYS software.

Keywords*:* Pinched flow fractionation, Separation, ANSYS, Fluid-particle interaction, Microfluidic device

MCE010

INDUCTION BASED COIR PITH DRYING MACHINE

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Abstract

Coir pith is one of the by-products obtained by removing long fibres from coconut husk. Coir waste is cleaned, heat treated and processed into coir pith products. The coir pith is compressed into different size blocks and transported to various countries of the world. The coir pith is used in the agricultural land as soil conditioner for the moisture retention purpose. At the time of coir pith compression process, the moisture content of the material is considered as the important factor. If the moisture content is high, then fungi will grow inside it. In conventional drying method, coir pith is spread over the large surface area in the sunlight. This method requires a lot of workspace to remove the moisture. So to decrease the workspace, coir pith is dried by using the induction heating method. The heat is transferred to a drum by convectional heat transfer. The coir pith is dropped into the drum and by the induction heating process, the coir is dried. The moisture in the coir pith is measured by the moisture sensor and given as the feedback to the microcontroller. The temperature of the drum is determined by a thermocouple and the microcontroller is used to turn on and off the induction coil. The drum is rotated in one direction by using the DC motor. A reeder is connected in the longitudinal axis of the drum for uniform distribution of heat over the coir pith.

Keywords - Coir Pith, Induction based Drying Process, Heat Transfer, Moisture Absorption, Embedded System

MCE011

COMPOSITE SANDWICH T-JOINTS FOR SATELLITE STRUCTURES TYPES, MANUFACTURING AND KEY PARAMETERS – A REVIEW

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Abstract

In recent years the applied engineering community is striving hard to reduce the weights of the structures. Using the Fiber Reinforced Plastics (FRP) is their primary option. FRP Sandwich panels provides good specific strength and specific stiffness hence the weight reduction. However joining of sandwich is still a challenge. This review paper aims to address the beginners, the need for CFRP sandwich structures and the advantages of Sandwich structures by comparing with 'I' beam. Subsequently the need for the T-joint is also discussed. Various types of T-joints are listed which are mostly available in the literature. Manufacturing methods and key parameters affecting the usage of the T-joints are also discussed.

Keywords—FRP, Sandwich structures, T-joints, key parameters

MCE012

THERMAL COMFORT – ACOMPARATIVE STUDY IN THE CLASSROOM ENVIRONMENT

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Abstract:

Comfortness of the occupants in the classroom is not studied extensively around the globe. A good ventilation is necessary in the classroom is necessary to improve the performance as well as to ensure safety to the students. These students are in the classroom nearly for 4 hours in a stretch and a total of 8 hours in a day. Generally, thermal comfort is traditionally measured by means of Predicted Mean Vote (PMV) which links reported comfort level with various factors. However, PMV is a statistical data and the actual could be different from the current value.The purpose of the study is to conduct a field experiment in an Indian educational institution based on ventilation by using computational fluid dynamic analysis for various conditions of the classroom. Generally, the ventilation is provided in the Indian classroom either by natural ventilation or by mechanical ventilation. In natural ventilation the outside air is introduced into the building through openings like windows and doors etc.., whereas in mechanical ventilation the outside air is introduced into the building either by forced air circulation or air conditioning based system. In this paper, the classroom with the naturally ventilated setup is compared with mechanically ventilated system regarding comfort. The building and its ventilation had been previously modeled and analyzed experimentally by the usage CFD software These experiment results suggest that usage of mechanical ventilation in the classroom is an effective method of improving the environment and relieving the discomfort of staff and students.The simulation model was developed by solid works and the simulation was done by using Ansys 16.0 using the experimental study.

Keywords*:* Thermal Comfort, Predicted mean vote, Natural ventilation, Computational fluid dynamics, Mechanical ventilation, Simulation.

WIRELESS GESTURE CONTROLLED METAL DETECTING ROVER

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Abstract

In recent years, with the emergence of new technologies in the field of robotics, most of the systems are becoming autonomous but a few systems require semi-autonomous and human supervision. The main motive of this project is to create a wireless system for metal detection in hazardous environments using motion control. The effective way of motion control is human gestures since it is an expressive way of communication between a human and a computer in real time. By attaching an accelerometer (ADXL335) to the hand glove, axis of the motion is found and hand gestures can be determined. Using this data the controller decides the direction in which the rover has to be moved. This information is transmitted to the Motor Drive (LM298) through RF module, Encoder and decoder. The motor drive then controls the DC motor of 150 rpm and 5kgf/cm torque. A metal detecting circuit is placed in front of the rover which automatically starts beeping alarm when a metal comes in contact with the magnetic flux of the circuit. The rover can be controlled forward, backward, left, right and stop using hand gestures.

Keywords—Accelerometer, Arduino Lily pad, Motor drive, Metal Detector, RF Module, DC Motors

MCE014

CONTROL OF NAO ROBOT ARM USING MYO ARMBAND

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Abstract

Life becomes less complex, resourceful and very educative thanks to the use of smart devices like the Myo armband and Nao robots. This work discusses about the use of Myo Armband which is a wireless device for interacting with other devices such as computer, robots. It uses myographic sensor signals to control the robot. This involves developing a digital control interface to control the robot with the help of Myo Gesture Control Armband System. A PC loaded with Ubuntu OS acts as a control unit. It interfaces the inputs of the Myo band to control the Nao robot, thereby we can control the movement of the Nao robot by using its interactions. In this case we use Nao, an educational robot. PyoConnect is a Linux alternative to MyoConnect a scripting software for programming the Myo band in Windows. The Pyoconnect software is used to connect the Myo with the Ubuntu operating system. NAOqi is a programming framework used to program the NAO. By importing the NAOqi module in the python script we can access the different functions of the Nao robot. Nao robot which supports network communication protocols are Ethernet and WiFi. The interface between Nao and Myo is achieved through IP (Internet Protocol). Based on the hand gestures recorded by Myo armband, the Nao Robot Arm's can be controlled. Keywords -- NAO, MYO, NAOqi, Pyoconnect, Myoconnect, Linux, PythonScript, Ethernet Protocol

AUTONOMOUS ROVER CONTROLLED BY NAO

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Abstract

In this project, a new approach of a Humanoid robot controlled mobile platform is presented. The robot we are using is Nao by Aldebaran Robotics. The main reason for choosing Nao is for its flexibility and versatility. Nao's wide range of movements allows it to perform a steering mechanism in a real world. The Driving behavior for Nao is done by using NAOqi python SDK and through using Raspberry Pi controller interface. We use the HC-SR04 ultrasonic sensor for obstacle range detection in the navigation system to avoid the obstacle in real time. The system architecture and algorithms used in each stage are described in this project. Keywords: Nao humanoid Robot, Navigation, Raspberry Pi, Ultrasonic sensor, NAOqi

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ME001

INDIGENOUS DEVELOPMENT OF DOWNDRAFT GASIFIER FOR COOKING APPLICATIONS

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Abstract

The gasification innovation is presently thought to be in a propelled phase of improvement. Subsequently there is enormous desire from the user industry for its application. The objective of the present work is to design and develop a downdraft 5 kW gasifier that uses Prosopis Juliflora wood (Karuvellam wood) as a feed stock to generate tar free producer gas, which helps for cooking applications. Design of gasifier is carried out partly through computations and partly using empirical relations and using some experimental data. The principal design parameters considered are specific gasification rate (SGR), gas resistance time (GRT) and area of air nozzles. The derived parameters are diameter of grate and throat, total length of combustion chamber and reduction zone, air velocity, diameter of spout and number of spouts etc. Also, experimental analysis is carried to study the effect of properties of Prosopis Juliflora wood behavior like moisture content, size and shape of the fuel on specific gasification rate (SGR), the calorific value of gas and the cold gas efficiency for different equivalence ratio (ER) and sizes of the throats.

Keywords: Downdraft Gasifier, SGR, ER.

ME002

TRANSIENT ANALYSIS OF MULTISTAGE PUMP USING FINITE ELEMENT METHODS

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Abstract

To find the mechanical behavior of the multistage pump with motor assembly during the shock load. The Shock analysis is performed by two methods. One is equivalent static load approach and the next one is transient dynamic analysis approach. The model has a motor and a pump assembly that are mounted on the base frame vertically. The total mass of the assembly is 1460 kg. The displacement & stresses for a shock load of 68 ‘g’ full sinusoidal pulse with time duration of 26 milliseconds is analyzed by using finite element method.

Keywords*:* FEA, Transient analysis

ME003

AN EXPERIMENTAL ANALYSIS OF HYBRID - PYRAMID TYPE SOLAR DESALINATION WITH CONCENTRIC PARABOLIC COLLECTOR (CPC)

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Abstract

Solar energy is a suitable green technique for purifying brackish water and also for rejecting salts from saline water. This paper deals with the experimental studies and performance analysis of Hybrid pyramid type Solar Desalination with Concentric Parabolic Collector (CPC).The data have been collected for the composite climate condition of Coimbatore. In this paper, we made comparisons and the performances of still with the collector and without the collector. To increase the distillate output of the solar still is our ultimate aim and this can be achieved by either increase the water temperature or decrease the condensing cover temperature. Here we are increasing the water temperature by using parabolic collector. The still with the collector gives higher productivity than still without collector and it is the best solution for lack of potable water in remote regions.

Keywords: Solar still; Hybrid desalination system; solar energy; Pyramid solar still; concentric parabolic collector.

ME004

OPERATION ENHANCEMENT FOR BRAKE DRUM PROCESS USING VALUE STREAM MAPPING

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Abstract

Value stream mapping (VSM) is a visual representation tool among lean techniques, which often by the Toyota Production System. It is an analyzing method used to determine the stream of materials flow and summarizing them visually. Value stream involves both non-value and value-added activities needed to bring every action in the reformation of production flow from raw materials to the finished products to the customer. It is used to find the hidden wastes and their root causes in the production process. A current state map shows the exiting process followed in foundry. Then, a future state map is developed for the flow process through which the reduction of wastage can be achieved. In this work, for a casting foundry the current state maps are drawn from the results of detailed time study of the process starting from raw materials to the finished product. After rambling the whole process, wastage affecting the cycle time is identified and it is to be reduced by proper arrangement and removing of non-value activities. A future state map is drawn and further improved, and ideas are suggested for improvements are implemented.VSM is found to be a better method to minimize the cycle time for an increase in productivity and improved customer satisfaction.

Keywords: Current State Map, Cycle Time, Future State Map, Productivity

IMPROVED MECHANICAL PROPERTY OF MONTMORILLONITE K10 REINFORCED AA5083 METAL MATRIX COMPOSITE

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Abstract

The interest in nanoclay (montmorillonite – MMT) as reinforcement for Aluminium alloy has been growing considerably which makes the combination for being used in aeronautical, aerospace, automobile and marine applications. The main focus of the work is to study the microstructure and mechanical properties of developed aluminium alloy composite materials reinforced with nanoclay for different compositions like 3, 5, 7 and 9 weight %, representing that the nanoclay are effective reinforcement. The interface between AA5083 (Aluminium alloy) matrix material and nanoclay were examined using Scanning Electron Microscope (SEM). The investigational results show that, by adding nanoclay the Hardness, Density and Ultimate Tensile Strength (UTS) value is increasing for the composite compared to the corresponding values of AA5083.

Keywords: AA5083, Scanning Electron Microscope, montmorillonite – MMT, Ultimate tensile strength

ME006

TRIBOLOGICAL STUDIES ON THE HEAT TREATED HYBRID ALUMINUM METAL MATRIX COMPOSITES

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Abstract

Nowadays aluminium composites are used to replace the conventional materials in aerospace, automobile and other industries. In this research paper Al 6061 composites reinforced with different weight percentage of silicon carbide (SiC) and graphite (Gr) particles were fabricated using stir casting route. Heat treatment on the cast Al 6061 alloy and its composites have been conducted in a muffle furnace. Heat treatment cycle consists of solutionising, quenching and ageing. Solutionising treatment was done at a temperature of 530°C for 1hr followed by water quenching. Then the water quenched samples are subjected to artificial ageing with 4, 6, 8 hr at a temperature of 175°C. Pin-on –disc wear test rig was used to study the wear characteristics of the developed composites. Hardness tester was used to measure the hardness of the composites using Rockwell hardness 'B''scale. The results obtained from the hardness and wear tests revealed that heat treatment on the composites had a significant effect on improvement of hardness and wear of aluminum alloy and its composites. When the ageing duration was increased from 4 to 8 hr, it was found that there is a decrease in wear.

***Keywords**:* Aluminum composites, Wear, Stir casting, Heat treatment, Hybrid composites, Hardness testing.

PRODUCTIVITY ENHANCEMENT USING LEAN TOOLS IN LOW VOLUME PRODUCTION

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Abstract

Lead time management plays an important role in a company's success as reduction in lead time augments productivity and profitability. An efficient lead time reduction tool can reduce manufacturing costs, improves customer satisfaction in the longer run. However, ambiguity always lies in selecting a proper tool for lead time reduction based on the product volume and product mix. Amongst the major tools available for lead time reduction, process mapping, SMED, 5S, Kaizen, Value engineering, Seven-waste reduction are quite versatile and compatible. Nevertheless, for evaluating a product lead time and cycle time Value Stream Mapping (VSM) probes to be an appropriate tool. VSM faces inabilities in measuring the product with low volume. In such cases, the paraphernalia such as MSOP, process mapping, spaghetti diagram and layout optimization is used to measure the lead time of the product and also account the Value Added (VA) and Non-Value Added (NVA) process in the system, and thereby improve the quality of the product. This paper focuses on an Un-named company which produces low volume parts of caterpillar heavy truck assembly. The goal was to reduce lead time, enhance productivity and reduce the defects in the process by implementing lean tools. In turn, this improves the sales and market shares of the company, leading to better profitability and improve customer satisfaction.

Keywords: Lean tools, Low volume manufacturing, MSOP, process mapping, Layout optimization, Spaghetti diagram

ME008

A PERCEPTIONAL STUDY ON GROOMING "WORK ENHANCEMENT SKILLS" OF UNDERGRADUATE ENGINEERING STUDENTS

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Abstract

Today's corporate world demands engineering graduates to possess a mix of hard and soft skills to effectively contribute in the working environment. The soft skills namely adaptability, flexibility and the ability to work without supervision / dependability [all three grouped together and called as "Work Enhancement Skills (WES)" in this paper] are required in the working environment. This study assesses the extent to which students and faculty perceive that opportunity is available for the students to develop their work enhancement skills and the perceived extent of its utilization. Separate research instruments with a 05 point Likert scale and 05 items were developed to collect data. The research instruments reliability and content validity were ensured. The data collected was subjected to two tests namely independent sample t-test and paired sample t-test, both item wise and dimension wise using the software "Statistical Package for Social Sciences (SPSS)". Inferences were drawn and conclusions on the perceived availability of opportunities and the perceived utilization of the existing opportunities by UG engineering students to develop their Work Enhancement Skills (WES) were made.

Keywords: Soft skills, SPSS, adaptability, flexibility, supervision

RFID ENABLEDSUPPLY CHAINS FOR COMPETITIVE BUSINESS PERFORMANCE

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Abstract.

One of the major unsettled issues in Supply Chain Management (SCM) is the identification and tracking of goods as they travel from the producer to the end customer. Traditionally, this process was supported by using bar codes or other means of manual identification. With the dawn of Radio Frequency Identification (RFID) however, the efficiency of SCM has improved to a large extent leading to greater customer satisfaction. In this context, this research paper designates key features of SCM and elaborates on the essentials of RFID technology. Applications of RFID and Electronic Product Code (EPC), in the supply chain has big potential in terms of improving efficiencies and effectiveness in solving associated problems in lines with most quoted bull-whip effect. Assuming this foundation, this article emphases on identifying and evaluating possible integration scenarios of RFID in SCM and its impact on the competitive business performance.

Keywords*:* Supply Chain Management, Radio Frequency Identification, Electronic Product Code, Bull whip effect, Business Performance

ME010

STUDY OF STATIC AND FATIGUE ANALYSIS OF FLAX/EPOXY- LEAF SPRING

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Abstract.

The automobile industry has shown increased interest in the replacement of steel leaf springs with composite material leaf springs. Therefore, the aim of this paper is to present the modeling and analysis of bio-composite Leaf spring. Natural fibres are considered as a suitable alternative to glass fibers, due to their advantages like low cost, high strength-to-weight ratio, recyclables etc. From this viewpoint, the suspension spring of a compact rear vehicle leaf spring was selected as a prototype. The static analysis and fatigue analysis of steel and composite multi leaf spring made up of Flax fibre reinforced polymer. Weight reduction of 65.15% was achieved by using composite leaf spring, Fatigue life of composite leaf spring was more than that of steel leaf spring. The modeling is done in PRO-E (5.0) and analysis is done in ANSYS (13.0).

Keywords*:*, Electronic Product Code, Business Performance, Natural fibres

AN EXPERIMENTAL INVESTIGATION ON PERFORMANCE CHARACTERISTICS IN SINGLE CYLINDER DIESEL ENGINE USING CARDANOL OIL IN DIFFERENT BLENDING RATIOS

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Abstract

While compared to conventional petroleum fuel Vegetable oil is better in some parameters, because it has many parameters much closer to conventional petroleum fuel. In this study oil which is extracted from cashew nut shell called Cardanol has been selected as the source of biofuel. Cashew nut shell, which is the waste product of the cashew processing industries. Cashew nut shell liquid oil will be extracted by using pyrolysis process. Cardanol oil can be used as an alternative source for the conventional diesel fuel, because of its properties are fulfilling the requirements. Except viscosity all the factors were matched with the biofuel requirements. B100 (100% cardanol) will have higher viscosity such as 31.9cSt at 30oC. So 100% cardanol oil cannot be used as a biofuel, it has to be blended with diesel to change its viscosity. For that, the cardanol will be blended with diesel in different ratios such as D80-C20, D60-C40, and D40-C60. In all the ratios, viscosity was measured and finally D60-C40 blend has given the optimized results.B40 is the optimized blend which is utilized to carry out the performance characteristics and this blend has better ability to replace the diesel.

***Keywords**:* Cardanol, blending ratio, Viscosity, pyrolysis

ME012

DESIGN OF WORKPLACE IN ASSEMBLY UNIT USING ERGONOMIC PRINCIPLES

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Abstract

Now-a-days most of the modern companies focuses on achieving high productivity through their normal routine work. Necessity to provide large quantity of products within a short period of time makes the workers to redeem their more effort. This situation adapts the workers to improperly designed workstation and makes the workers to suffer from high level of fatigue and musculoskeletal disorders [MSD's]. Ergonomic principles play a vital role in workers' productivity. So, it is necessary to take into account of ergonomic principles at the time of designing industrial workstation. The objective of this study is to improve workers efficiency with the reduction of cycle time thereby achieving high productivity. The study was conducted on assembly and collection workstation of fasteners, involved in actuators. Ergonomic study of these workstations was done by measuring the reach zone between the worker and working area, workbench height and time study during collection of fasteners. Findings from the study reveal that fixed existing workstation at the company was not designed by considering ergonomic principles. Moreover, collection of fasteners is about 75 seconds and it is reduced to 50 seconds by modifying the workstation.

Keywords - Ergonomics, Fatigue, Workstation design, Time, Productivity

ME013

ANALYSIS AND REDESIGN OF AIR RECEIVERS USING TRIZ AND DFM PRINCIPLES FOR ENHANCING THE PRODUCTIVITY

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Abstract

The overall production cost, overheads and all other parameters are becoming a vital part of an industry for its survival. The raw material and processing cost is varying depending on the product. The study had been taken on the production of air receivers which is an important mechanical component. TRIZ, a Russian concept is applied for finding the solutions for inventive problem and the conformity had been done with the help of the principles and rules stated by Design for manufacturing concept. For case study the component dished end is taken in to account. The existing elliptical type dished end is analyzed on its design and its manufacturing feasibility and cost calculation is done. Then the air receiver is designed with another type and the design and its functional capability was checked through manual, at the project place and also checked by modeling and analysis. Both the design are working good, but the lateral one gives out a better cost saving the same reliability and safety. Hence it is concluded that TRIZ and DFM had given a good result for finding and proving the design and analysis problems.

Key words: TRIZ, DFM, Optimization, Air receiver

ME014

DMAIC APPROACH IN CRUSHER PLATE MANUFACTURING IN FOUNDRY TO IMPROVE PRODUCTIVITY

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Abstract

Casting is one of the most important processes to produce metal components in which the liquid metal is directly poured in to the mould cavity of desired size and structure. Formation of casting defects such as cracks, pinholes, inclusions, porosity are reduces the quality of the castings. This paper deals with the application of six sigma DMAIC (Define, Measure, Analysis, Improve, Control) process to the crusher plate casting in the foundry to reduce the defects in Carbon dioxide moulding process. The effort has been made to apply DMAIC approach to identify the root cause of the casting defects and various measures are suggested to reduce the rate of defect and to improve the quality of casting. In define phase the project goal prove by using project charter and process flowchart of the casting industry, In measure phase the process quantify by data collection and pareto chart and analyze of major defects by cause and effect diagram, *why whyanalysis* .In improve the process by eliminating the defects by brainstorming and other various plans, finally control the future process performance by process monitoring and corrective action. This approach tends to increase the overall production rate in the foundry and used to improve the profitability of the organization.

Keywords – Six Sigma, DMAIC Approach, Cause and Effect, Pareto chart

INFORMATION TECHNOLOGY IN SUPPLY CHAIN AGILITY THROUGH DIGITAL PRODUCT CATALOGUES

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Abstract

A firm's ability to respond quickly to unpredictable changes and to sustain in competitive market is a key element of success in today's global marketplace. Organizations require Supply Chain Agility (SCA) to provide superior value as well as to manage disruption risks and ensure uninterrupted service to customers. Agility is becoming an important element for any organization to compete with unforeseen changes in the market. Agility can be defined as the ability to respond to unpredictable changes that occurs in the market scenario. While Agile Manufacturing (AM) is accepted as a new concept in manufacturing intended to improve agility, manufacturing processes based on AM are characterized by customer supplier integrated process for product design, product development, shop floor production, marketing, and support services. AM enables enrichment of the customers and co-operation with competitors and is catalyzed by enablers which are responsible to deliver any strategy effectively and efficiently to overcome major barriers. Some of the recognized enablers are computer-aided design and manufacturing, human resources, training and development, time management, product technology, Information Technology (IT) and reverse engineering. Amongst them, IT integration has constantly resulted in achieving higher levels of SCA of a firm and subsequently this article focuses on developing Digital Product Catalogues(DPC) in corroborating IT enabler's predominant role in AM.

Keywords: Agile Manufacturing, Digital Product Catalogues, Supply Chain Agility, Information Technology.

ME016

PREDICTION OF SURFACE ROUGHNESS FOR END MILLING PROCESS USING RESPONSE SURFACE METHODOLOGY

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Abstract

The major problems in industries are to obtain the predefined product quality. In this work Response surface methodology (RSM) is used to develop a mathematical relationship that deals in the prediction of the surface roughness (SR) in end milling process of LM24. The process parameters such as spindle speed, feed rate and depth of cut are chosen. The significance for all linear, square and interaction terms are evaluated based on the p-value. Mitutoyo roughness tester is used to measure the SR of the machined specimens with a sampling length of 100mm. The above experiments are done on a vertical milling machine based on the principles of Design of experiments (DoE) using MINITAB-16. In this, three factors, three levels and one response with central composite design have been conducted for execution of the mathematical models. The experimental results have been analysed and studied the influence of process parameters on SR. The surface plots and S/N ratio plots were generated to study the effect of the selected process parameters and their interactions on SR.

Keywords— Surface roughness, End milling, Response Surface Methodology

NUMERICAL STUDY OF WALL FUNCTION AND NEAR WALL APPROACH TREATMENTS ON AIR FOIL BLADE (NACA0012)

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Abstract:

NACA0012 Air foil Blade simulation analysis results depends on a good predictions of near wall turbulence.in this paper comparative study between wall function and near wall approach using turbulence model treatment for study the CFD simulation of NACA0012 air foil blade at an 00 angle of attack is presented Then predict the coefficient of drag (Cd) of the air foil and compare with experimental result by McCroskey. It is applied to two test cases (i) near wall approach Y + = 0:8 Re = 2e6, First layer thickness(Y) is in the range of 1:3X10 5. First layer thickness in the viscous sub layer.(ii)Using wall function Y + = 40 Re = 2e6, First layer thickness(Y) is in the range of 10 3. First layer thickness in the log region. Simulations were performed with aid of the Hexpress and fine Marine Software results of turbulent kinetic energy, Near wall stream wise velocity U + (Velocity in boundary layer), Turbulence frequency at the walls, Drag co-efficient of air foil are predicted and validated with the experimental results

Keywords*:* CFD, Airfoil,NACA0012

ME018

DESIGN AND INFLUENCE STUDY OF LIFT TO DRAG RATIO (L/D) ON OPTIMAL AERODYNAMIC PERFORMANCE STUDY OF VERTICAL AXIS WIND TURBINES (VAWT)

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Abstract:

This paper defines an effective lift to drag for a vertical axis wind turbine design based on averaged torque per cycle. This metric is used to characterize the relationship between overall optimum aerodynamic performance and design parameters. In this case the chord length of blade is decided as 260(mm).Fluid is air and velocity considered is 6 (m/s).Reynolds number of the setup is (Re)-106794.It is the lower side value because turbine may run at higher velocities. Lift and drag forces are observed at above specified Reynolds number only. In blade profile selection considered number of profiles, by varying blade parameters like-NACA-7315.From the analysis study we observed that the NACA 7315 and NACA 5315 are the better airfoil shapes for VAWT with efficient L/D ratio.

Keywords*:* NACA, L/D ratio, airfoil, Wind turbine,

ME019

EXPERIMENTAL INVESTIGATION ON ACCELERATED BIODIESEL OXIDATION FOR KARANJA OIL METHYL ESTER

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Abstract

In the present paper, the variation in the chemical properties of Karanja fatty oil methyl ester (K-FAME) during accelerated oxidation conditions were studied to identify the induction period. The accelerated biodiesel oxidation was done by bubbling oxygen at 40 ml/min in a 1 liter conical flaskat 40°C for 40 hours. The FAME composition, physical and chemical properties namely acid value, iodine value, peroxide value,kinematic viscosity and higher calorific values were measured every 8 hours. Kinematic viscosity and acid value increased during oxidation but peroxide value increased until induction period and then decreased further. Induction period for Karanja FAME was observed at 24 hours for the above test conditions. Iodine value and higher calorific value decreased during the accelerated oxidation process for all the samples. Variation in FAME composition of biodiesel was studied using gas chromatography.

Keywords—Iodine value (IV), peroxide value (PV), acid value (AV), kinematic viscosity (KV), fatty acid methyl ester (FAME).

ME020

HEAT TRANSFER ANALYSIS OF FORCED CONVECTION COOLING SYSTEM FOR AIR COOLED ENGINE

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Abstract

The cooling system of air-cooled engine makes use of the convection of the air currents to cool itself. This is done efficiently only if the speed and the amount of the air current is high. This condition occurs only while the vehicle is in motion. It is a known fact that most of the heating occurs when the vehicle is at rest or in heavy traffic jams where the speed of the air current is either zero or very low. This causes the efficiency of cooling and results in engine over heating which may lead to drop in performance of the engine. To overcome this issue, an idea of forced-convection cooling system has been carried out. This system functions by forcing the air from fans over the cooling fins during idling of the vehicles in signals or heavy traffic situations. The enhanced cooling of the engine reduces the thermal expansion and thereby increases the engine life and its efficiency. The optimum temperature of the engine outer body will be around 120^0 C which is obtained from 220^0 C by using two fans which circulate air around the fins in this work.

Keywords*:* Air cooled engines, Cooling Fins, Forced convections, Fans

MATHEMATICAL MODELING OF EVACUATED TUBE SOLAR COLLECTOR (ETSC) WITH HEAT PIPE

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Abstract:

Sun is one of the source of renewable energy, known as solar energy. It is abundant in nature and ecofriendly and non-polluting and in-exhaustible. An evacuated tube solar collector is theoretically modelled and fabricated with evacuated tube and heat pipe. The performance of the evacuated tube solar collector is evaluated numerically and experimentally by doing outdoor testing at Coimbatore district Tamilnadu. The time required by this collector to gain the heat is less compared to other collectors. The outlet temperature varies from 50°C to 75°C while the ambient temperature ranges from 24°C to 33°C . The regression analysis is performed to find the best model. Five different models were used to fit the experimental data. The best curve fitting with highest correlation coefficient and lowest value of RMSE(Root Mean Square Error) is obtained using models available in MATLAB

***Keywords*:** Evacuated Tubes, Mathematical Modeling, Solar Thermal**,**

ME022

WEAR BEHAVIOUR OF AL6061 HYBRID METAL MATRIX COMPOSITE IN BRAKING APPLICATIONS

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Abstract:

The main objective of this work to investigate the sliding wear behaviour of Al6061 composites reinforce MoS2 particles and to optimize the process parameters in braking applications. The composite was prepared by using stir casting technique.. Taguchi, an optimization technique is been used to obtain the optimal combinations input parameters which will positively influence the wear rate and coefficient of friction. Dry sliding wear test method was used to conduct the experiments by using Ducom made pin-on-disc wear testing machine. Design of Experiment was selected for analysis of the data. Investigation about applied load, sliding speed, sliding distance on wear rate and coefficient of friction during wearing process was carried out using ANOVA. Results show that applied load has the highest influence followed by sliding distance and sliding velocity.

Keyword :Aluminium Hybrid Metal Matrix Composite(AlMMC), Wear, Stir casting , pin on disc ,Design of experiments(DOE) ,brake **.**

CHARACTERIZATION OF TI6AL4V ALLOY UNDER LIQUID AND GAS NITRIDING

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Abstract*:*

Titanium alloys and Stainless steel are the commonly used metallic orthopaedic materials for biomedical applications. Titanium alloys are the best choice for cementless and dental orthopaedic implants because of their high strength to weight ratio, superior biocompatibility and low modulus when compared to stainless steel. However, titanium alloy can be subjected to wear due to relative motion, also some of its properties has to be improved to meet all the clinical requirements. Hence, to improve the mechanical, and chemical properties, work on modification of its surface were performed. In this work, the surface of the Ti6Al4V alloy is treated under gas nitriding and liquid nitriding. Wear test on the treated and untreated samples were carried out using pin on disc apparatus at room temperature under dry sliding conditions. The specimens were also subjected to Vickers hardness test to ensure increase or decrease in hardness. The results showed that the nitride samples have increase in wear resistance and surface hardness when compared to that of the virgin samples. Among the process of liquid nitriding and gas nitriding, liquid nitriding has considerable increase in wear resistance than that of gas nitriding.

Keywords— Bio material, Ti6Al4V alloy, Nitriding, Wear study, Hardness

ME024

EFFECT OF POST OXIDIZING OF SALT BATH NITROCARBURIZED GRADE 5 TI-6AL-4V AND AISI 316L SS ON SURFACE HARDNESS

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Abstract

Ti-6Al-4V and AISI 316L Stainless steel are the optimum choices of bioimplants which have a high strength to weight ratio, corrosion resistance and good biocompatibility. The major drawbacks of these materials are poor tribological properties because of its low wear resistance. Wear resistance and corrosion resistance are the most important properties required for bioimplants. This work attempts to improve the wear resistance by increasing the surface hardness of these materials by salt bath nitrocarburizing treatment at the temperature of 560 ^{o}C for the duration of 1-3 hours. The comparisons of microhardness value of Ti-6Al-4V and AISI 316L SS have also done. The post oxidizing after salt bath nitrocarburizing greatly enhances the corrosion resistance. But, the effect of post oxidizing on surface hardness of both Ti-6Al-4V and AISI 316L SS after salt bath nitrocarburizing is not well demonstrated in previous studies, the main aim of this study is to find the effect of post oxidation on surface hardness of nitrocarburized samples of Ti-6Al-4V and AISI 316L SS. From observation, it was found that Nitrocarburizing increases the hardness of Ti-6Al-4V and AISI 316L SS where as post oxidation increases the hardness of AISI 316L SS but reduces the hardness of Ti-6Al-4V. Hence, this study will give light to locate suitability of this process on these materials and its applications.

Keywords- TI-6Al-4V, AISI 316L SS, Nitrocarburizing, Oxidation, Hardness.

A REVIEW ON PHASE CHANGE MATERIALS (PCM) FOR FOOD PRODUCTS PRESERVATION

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Abstract

Food products are preserved at lower temperature because of their highly perishable nature. There are many methods to preserve it. Preserving these types of foods in their fresh form demands chemical, bio-chemical and physiological changes to a minimum by close control of temperature and space humidity. The high cost involved in developing cold storage or controlled atmosphere storage is a pressing problem. The conventional methods for storing the agro products include refrigerators, containers filled with ice and evaporative cooling system. But adopting such methods demands high energy consumption. Nowadays, Phase Change Material (PCM) is one of the important and effective cooling systems for preserving food products. In addition they have high latent heat of fusion and are chemically stable. PCM is a material which can absorb and release large amount of energy during phase change and they act as a thermal reservoir. PCM can be used in various applications like refrigeration, cold energy battery, transport of medical appliances and one of the most important applications is agro products preservation. There are several PCMs used for wide range of applications like$cacl_2 . 6H_2O$ used for cooling, Sodium acetate used to super cool and keep in its liquid form well below its freezing temperature, Paraffin based PCMs are well suited for electronic cooling applications, Eutectic PCMs which remains unaffected by cyclic heating and cooling which has phase change temperature below 0°C (32°F). Some of the problems in storing agro products are its high cost, continuous energy demand and shorter preserving period. PCM eliminates almost all these drawbacks, thus increasing its suitability in agro products preservation. The efficiency and reliability of PCM is independent of environment temperature and thus ensure smooth functioning of critical components even in extreme hot and cold conditions. These features make PCM the best method for thermal storage applications.This paper gives a detailed review of various phase change materials and its applications in preserving food products.

Keywords - Phase Change Materials, agro products, eutectic, cold storage battery, preserve

ME026

A REVIEW OF COLD CRACK SUSCEPTIBILITY STUDIES ON HIGH STRENGTH LOW ALLOY STEELS

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Abstract

High strength low alloy (HSLA) steels find applications in construction industries for its extra ordinary strength characteristics. During welding of HSLA steels cold cracking is a common problem.The objective of this review paper is to review the cold crack susceptibility studies and identify new avenues for future research.The interrelation between the mechanical properties and the cold cracking resistance also established in literatures. One of the method to minimize the cold crack susceptibility is to use an appropriate filler metal to enhance the cold cracking resistance. To improve the mechanical properties of the welded joint, nano particles of the flux materials are added in the weld metal. Addition of nano particles in the form of flux increases the acicular ferrite microstructure which will improve the cold cracking resistance of HSLA welds. Effect of preheating temperatures on cold cracking resistance, microstructure and properties of HSLA steels has also been researched. Correlation between diffusible hydrogen content and preheating temperatures has yet to address. The literature survey reveals that application of artificial intelligence(AI) in determining the cold crack susceptibility of HSLA steels. In future, application of AI AND NeuraI Network will be used for the determination and propagation of cold cracks.

Keywords: HSLA steels, Preheating, Mechanical properties, cold cracking, Diffusible hydrogen

APPLICATION OF TOTAL PRODUCTIVE MAINTENANCE TOENHANCE OVERALLEQUIPMENT EFFECTIVENESS IN YARN MANUFACTURING

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Abstract

In an emergent and highly populated country like India, the Cotton Textile Industry is exceptionally important, to meet the demand for clothes and exports to other countries for the improvement of GDP. The Cotton Textile Industry accounts nearly 30% of the total value of exports and employs more than 55 million labors. In order to withstand the global competition, it is necessary to improve the productivity. Productivity can be ensured by availability of machines without any break downs. In the case, higher down time and break down due to lack of maintenance policies in the Carding process is observed in the Textile Industry where the work is carried out. Total Productive Maintenance is a tool which has been used here to improve the maintenance activities and to reduce the downtime. The main goal of the Total Productive Maintenance (TPM) is to improve the Overall Equipment Effectiveness (OEE). Prior to the implementation of TPM the company's present status has been checked. By using the Root cause analysis (cause and effect diagram) various major causes for low OEE has been identified, analyzed and solutions to overcome those drawbacks have been discussed. Solutions are implemented and OEE has been calculated, improvements are recorded and discussed.

Keywords—Diffuser Housing, Performance analysis, Productivity, lead time

ME028

AUTOMATIC SPEED CONTROL DESIGN FOR AUTOMOBILES BASED ON GPS USING EMBEDDED SYSTEM

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Abstract

The development of science and technology has greatly influenced the livelihood of human beings. Automobile sector is one of the fields that has shown a rapid and gigantic changes over the years. With the technological improvement, the speed of the vehicles has also grown to a considerable extent. And this is where, the research and inventions for improving the safety of vehicles was given a great importance. And one of the inventions was the speed control system, which was used to curb the speed of the vehicle and restrict it to a limit. Apart from all its advantages, it suffers from the fact that, a speed limit once fixed cannot be altered and the vehicle is supposed to travel in that constant speed irrespective of the location. This paper is about overcoming the disadvantage of the conventional speed control system by varying the speed limits according to the location, the vehicle is travelling. This not helps in reducing accidents but also enforces all the vehicles to follow traffic rules and regulations. The setup senses the vehicle's location using a GPS transmitter and receiver and lets the vehicle travel at a maximum speed that is laid down by the government for that particular road. Therefore, the proposed idea will bring in a change by presenting the driver a further freedom without sacrificing the safety involved.

Keywords— Speed control system, Global Positioning System, Safety, Speed limits

DESIGN AND IMPLEMENTATION OF LEAN MANUFACTURING SYSTEM IN DIFFUSER HOUSING

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Abstract

Every organisation aims to produce high quality goods and services to satisfy customer needs. In a production process, man machines, material, plant, services and methods are the input feeds, and the outputs are goods and services. At present almost, all organizations are reducing prices to gain more profit by reducing quality, but this practice will not hold for a long run, so in order to study on productivity improvements the output will increase marginally with no increase in the input. The aim of this analysis is to systematically find out the ability of an employee or any other resources in performing this task. The actual performance can be compared to pre-determined goals and standards for getting the results. Hence the main aim of the work is to reduce lead-time and work in process inventory, to increase the production in the manufacturing of the riveted diffuser by implementing suitable Lean approaches.

Keywords—Diffuser Housing, Performance analysis, Productivity, lead time

ME030

EXPERIMENTAL ANALYSIS FOR POROSITY DEFECT IN AA6351 USING GMAW PROCESS AND DEVELOPMENT OF ANN TO PREDICT DEFECT AREA

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Abstract

It is becoming very significant and crucial now-adays to weld Aluminium and its alloys. Many researchers around the world are pursuing their researches on various welding processes to identify the efficient process for welding aluminium materials. Aluminium alloy AA6351 is now being widely used in aeronautical, automobile, and other industries due to its properties such as good corrosion resistance, medium strength, good processibility and weldability. Only less number of research findings are available in welding AA6351 Aluminium alloy using GMAW welding process. In this work an attempt is made through experimental analysis to analyze the porosity defect in the weld bead of AA6351 Aluminium alloy using GMAW with respect to various input process parameters. Taguchi's method is used to formulate the experimental layout. For the same, the analysis for weld bead geometry was done individually for the porosity defect. The result shows the selected process parameters influence the weld bead geometry with minimized defects. Further, an Artificial Neural Network model is also developed to predict the defect area percentage.

Keywords – AA6351, GMAW, Taguchi, Porosity, ANN

INVESTIGATION OF EFFECT OF WELDING TORCH OSCILLATION ON BEAD GEOMETRY

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Abstract

Weld surfacing process plays a vital role in the protection of low cost and low corrosion resistant substrate. It can be successfully implemented in the recondition process. In this context this paper explores the effect of lateral oscillation of welding torch on bead geometry. The regulation of welding variables to control bead geometry affects the electrode deposition rate, process stability and weld bead integrity. If lateral torch oscillation is implemented electrode can be deposited at higher rate than traditional methods. The results show that the bead geometry is influenced by the torch oscillation width, welding speed and wire feed rate. The hardness survey across the weld bead with average preheat temperature also offers comparison between weld bead with and without oscillation. The welding torch oscillation enables to reduce the bead geometry there by reducing the need for multi pass deposition and machining requirements for recondition and cladding applications.

Keywords — torch oscillation, bead geometry, manipulator, welding speed, wire feed rate

ME032

INTRODUCTION OF DMAIC METHODOLOGY WITH TRIZ TO IMPROVE THE OUTPUT IN YARN MANUFACTURING PLANT

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Abstract

The quality and cost minimization is important to mobilize the business and there is variety of Industrial Engineering principles and procedure are being adopted. To identify the real-time results, case study have been conducted in a ring spinning process of a Textile mill. During the study it was found some problems and out of which the concentration given in the area of avoiding frequent breakage of yarn and excess time in doffing process. Hence it has proposed to apply Six sigma and DMAIC and TRIZ methodology to investigate the causes to get the solution to overcome it. The various techniques such as project charter, data collection, time study, Prioritization matrix have been applied under DMAIC phases. The reasons are arrived through root cause analysis, the problems are ranked and solutions are suggested. The synergic approach of six sigma, DMAIC with TRIZ have results a good solution

Key words: Six Sigma, DMAIC, TRIZ, root cause analysis, productivity

FABRICATION OF AIR FILTERS FROM NONWOVEN FABRICS

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Abstract

Pollution and related effects critically influences the performance of machines, equipments and even the health of the persons working in an closed environment. Industrial filters are costlier and in turn needs replacement over time. Natural fibers possess filtering property and can be effectively used as filters claiming the industrial standards. Nonwoven technology, the oldest and simplest technology offering multi-layer filtering, long-term stability which makes the fabric suitable for the application of industrial air filters. Thus Natural fibres are proven to possess antimicrobial activity by nature. Fibres such as coir, flax, and cotton are taken in different ratios (50:25:25 and 25:50:25) and were made into a filtering material through the various process such as softening, carding and needle punching (number of punches is 25/minute and feed rate is 10mm/stroke). The tensile strength of the fibres are tested following the ASTMD3822 standard, the strength of the natural coir, flax fibres are 385.76 N/mm^2 , 13850 N/mm^2 and the treated coir, flax fibres are 1441.56 N/mm^2 , 15754.37 N/mm^2 respectively and this shows that treated fibres having greater tensile strength, hence will have higher flexibility making it suitable as filters. The properties of the individual fibres and fabricated material are studied using Scanning Electron Microscope, Fourier Transform Infrared Spectroscopy. SEM images shows the crossing and random organization of the fibres. FTIR results helps us to understand the presence of O-H, C-N stretching marking the presence of these functional groups contributing to the composition of the fibres used for nonwoven fabrics.

Keywords: Industrial filters, Nonwoven technology, Coir, Flax, needle punching, SEM, FTIR

ME034

STRUCTURAL OPTIMIZATION OF SUSPENSION UPPER CONTROL ARM OF A PASSENGER CAR

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Abstract:

Control arms are used in all automobiles for the need of suspension and easy manoeuvring. Weight reduction in automobile parts is all the time important for the manufacturers to improve the efficiency in performance of the vehicle. The optimization of lower control arm is difficult due to the complexity in distribution of load. The present work is carried out to reduce the weight of the suspension upper control arm with the actual displacement constrains by performing topology optimization using HyperWorks. Three main forces act over the control arm i.e. the forces generated due to the brake, non-uniform surface of the road and the corners are considered for the optimization of the upper control arm. The existing control arm weighs 1.36 kg and through topology optimization the weight of the upper control arm is reduced to 1.22kg.

Keywords: Suspension upper control arm, topology optimization, Finite element analysis, Aluminium alloy, Weight reduction.

MULTI RESPONSE PROCESS PARAMETERS OPTIMIZATION OF CNC-WIRE-CUT EDM ON INCONEL625 USING TAGUCHI METHOD

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Abstract

The demand for nickel (Ni) based super alloy are increasing in the applications includes automotive, aerospace, tool and die making industries due to good mechanical properties like high hardness, toughness, and impact resistance. During machining of this material in Wire-cut electrical discharge machining (WEDM).The optimal setting of input process parameters are very difficult for operators, it's leads to reduce the machining performances like Material Removal Rate (MRR), Surface Roughness (Ra) and Kerf- Width (KW). The present work is focused to investigate the machining performances of inconel625 using as CNC WEDM. The machining parameters are Pulse on Time (Ton), Pulse of Time (Toff), Wire Feed Rate (WFR) and Gap Voltage (GV) were considered for the study. A brass wire of 0.25mm diameter is used as wire electrode for this experimentation. Each factors investigated at three levels to determine the optimum settings for the WEDM process. Taguchi Design of Experiments, L9 Orthogonal Array is used to conduct the experiments. The process parameters were optimized using Signal to Noise (S/N) ratios used in Minitab17 Software. The optimal combination based on S/N ratio for MRR and Ra is found to be A1B1C1D1 (i.e., A1=T_{on}=3µs, B1=T_{off}=3µs, C1=WFR=6mm/sec, D1=GV=48v) whereas the optimal combination of process parameters for minimum kerf width is found to be A1B1C2D1 (i.e., A1=T_{on}=3µs, B1=T_{off}=3µs, C2=WFR=8mm/sec, D1=GV=48v).Analysis of variances (ANOVA) is used to find the contributions of each input for measuring different output performances while machining Inconel625 material on WEDM machine.

Key words: Inconel625, MRR, Surface Roughness, Kerf Width, S/N Ratio, ANOVA

ME036

ENHANCING THE HEAT TRANSFER RATE BY COATING OF NANO PARTICLES ON A SOLAR COLLECTOR FOR DRYING APPLICATIONS

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Abstract

A mixed mode forced convection solar dryer, integrated with Nano coated flat plate solar collector has been developed and tested its performance for drying maize under the meteorological conditions of Coimbatore, India. The system consists of a flat plate solar air heater with a drying chamber and a centrifugal blower. Solar absorber plate was made up of aluminium plate, which was coated with cupric oxide(CuO) nano particles sizing of 50 nm, so that the heat transfer rate of the plate can be increased, the performance test of the dryer was conducted for different volume % concentration of CuO(0.02 %,0.04%)at constant air flowrateand the results were compared with the conventional type .The collector efficiency was improved by 4% using CuO Nano coated absorber and the drying time of 0.04% CuO Nano coating was reduced by 6%, when compared to conventional type dryer.

Keywords: solardryer,mixedmode,CuONanocoating,forcedconvection,maize

ME037

DEVELOPMENT OF MATHEMATICAL MODELING AND ITS EXPLORATION BASED ON GENETIC ALGORITHM FOR BLANKING DIE DESIGN PARAMETERS OPTIMIZATION OF AISI 304 SHEET MATERIAL

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Abstract

The blanking operation have several die design parameters which affect the quality of the blank and its productivity. The main input parameters are sheet thickness and the punch and die clearance and the dependent output parameters are tool life and the burr height. The selected values should be in optimal value. The optimum value is achieved by using the genetic algorithm. The genetic algorithm is an optimization process to find the better results as an output. Then the development of mathematical modeling by using the equations derived from the multiple regression analysis is performed. It is achieved by converting the linear equations into the matrix form and then solving it using mathematical relations. This output is compared with the genetic algorithm results, to get the better results.

Keywords: Blanking, Optimization, Genetic algorithm, Multiple Regression Analysis, Mathematical modeling

ME038

DESIGN AND ANALYSIS OF HONEYCOMB REINFORCED EPOXY GLASS FIBRE BUMPER

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Abstract

Bumpers are vital auxiliary parts of vehicles as far as wellbeing, static quality, and styling. In this paper, the analysis is done on the automotive bumper to check the crashworthiness for the passenger safety. The bumper beam analyzed for the ABS plastic with the basic bumper design in the first phase, and then front part is modeled with the honeycomb structure of glass epoxy fibre in the second phase to compare the deformation and energy absorbed during the impact. Based on the performance analysis, we can conclude that the Epoxy glass fibre is superior bumper material among comparison and modified bumper design is best as compare to existing bumper design. This research aims towards improvement in the design of front bumper of passenger car and gives the economical solution for the front bumper material and design by emphasizing the safety increasing aspects.

Keywords*:* Honeycomb, Deformation, Crashworthiness

ME039

DEVELOPMENT OF MATHEMATICAL MODELING AND ITS EXPLORATION BASED ON GENETIC ALGORITHM FOR BLANKING DIE DESIGN PARAMETERS OPTIMIZATION OF AISI 304 SHEET MATERIAL

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Abstract

The blanking operation have several die design parameters which affect the quality of the blank and its productivity. The main input parameters are sheet thickness and the punch and die clearance and the dependent output parameters are tool life and the burr height. The selected values should be in optimal value. The optimum value is achieved by using the genetic algorithm. The genetic algorithm is an optimization process to find the better results as an output. Then the development of mathematical modeling by using the equations derived from the multiple regression analysis is performed. It is achieved by converting the linear equations into the matrix form and then solving it using mathematical relations. This output is compared with the genetic algorithm results, to get the better results.

Keywords: Blanking, Optimization, Genetic algorithm, Multiple Regression Analysis, Mathematical modeling.

ME040

AN EXPERIMENTAL PERFORMANCE INVESTIGATION OF HYBRID SOLAR DESALINATION AND SOLAR WATER HEATING SYSTEM

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Abstract

The hybrid quality of a solar desalination system consisting of an "Orangery"- sort conventional solar still joined with a solar collector field and hot water storage tank was reviewed. The solar desalination systems square measure energy intensive, that consume high grade energy like gas, electricity, oil and fossil fuels. A review of those processes lead to carbon footprints that causes depletion of ozonosphere additionally as health hazards on humans. It additionally result in heating that is that the burning topic and becomes threat to life property. The potential of harnessing alternative energy is most efficient and effective warmth to heat conversion. This hybrid system shows considerably higher water output compared therewith of an unconnected still, and what is more it's the advantage of supplying hot water from its storage tank. Effectual hybrid system is performed in relation to reduction of produced distilled water caused by storage tank hot water drain off of different volumes at the end of the day. The recreation of hybrid systems is an important research topic as it allows for additional development of solar desalination technologies whilst providing an abrupt explanation that increase employ of solar muscle.

Keywords: Solar still; Hybrid desalination system; Harnessing, solar muscle; Hot water

EVALUATON OF PRESSURE DROP IN A CYCLONE SEPRATOR BY USING CFD ANALYSIS

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Abstract

Particulate pollution has been increasing over the past few years. Industries has been trying to develop new methods and devices to remove particles from exhaust gas. Cyclone separator is a device with no moving parts is used to separate dust particles from exhaust gas. But, the main drawback is the increasing pressure drop. From the literature review, it is found that pressure drop is caused due to geometrical parameters, surface texture and nature of the particle flow. In order to reduce the pressure drop the above parameters needs to be modified. The modified design is modelled and analysed with the help of CFD and the difference is noted.

Keywords: Particulate pollution, cyclone seperator, pressure drop, CFD

ME042

AN EXPERIMENTAL INVESTIGATION ON WATER COOLED COMPRESSION IGNITION ENGINE BY VARYING FUEL INJECTION PRESSURE

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Abstract

Clean air in atmosphere get polluted by industrialization around the world. Scientists all over the world are working on reducing the air pollution from the various sources causing air pollution. One of the major contributor to the air pollution is emissions transportation sector. The major pollutants from this sector are from diesel engines. Though there are many techniques available to reduce the diesel engine emissions using electronic fuel injection systems in diesel engines are found to be effective. In the current study, a water cooled diesel engine was used with common rail direct injection system to study the emissions from diesel engine. Experiments were conducted by varying the injection pressure. It is found from the results that increasing the injection pressure from 300 bar to 600 bar reduces engine out emissions and improves brake thermal efficiency.

Keywords—Diesel Engine, Emissions, Heat release rate, Injection pressure, Thermal efficiency

HIGH TEMPERATURE AIR GASIFICATION IN UPDRAFT BIOMASS GASIFIER

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Abstract

Biomass gasifier using high temperature air gasification technology was designed and developed to demonstrate a new energy system based on biomass fuels, in which the heat brought into the process by the high temperature through the HTAG refractories increases the calorific value of the produced synthetic gas and reduces the amount of feedstock to be combusted. By this High Temperature Air Gasification process the pollutants emission is reduced and the formation of tar and soot particles are very much reduced. In the High Temperature Air Gasification (HTAG) technology the preheated oxidizer provides additional energy for the gasification process and enhances the thermal decomposition of the coconut shell used as feedstock which results in improved performance of the gasification process. In this research the oxidizer temperature was elevated using the HTAG refractories and the performance parameters were studied.

Keywords – High Temperature Air Gasification, Oxidiser,Pyrolysis

ME044

LINEAR GASKET CUTTING MACHINE

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Abstract

Neoprene foam gaskets are commonly used for electrical insulation because of their good thermal resistance and electrical insulation properties. Industries employ workers to measure and cut gaskets for their insulation needs. This can be a highly monotonous task for labourers and hence can be automated. It would also be an added advantage if such a machine is portable.In this project we have designed a Linear Gasket Cutting Machine in such a way that the materials used are of low density so that the machine can be portable. We have also taken into consideration the automation needs while making this design. Various analyses have been carried out to estimate the various stresses and their possible effects on the elements of the machine.The machine used in this project is to cut the gasket (neoprene) linearly using linear cutting blades. The feed of raw material is given in two way rollers and cutting operation is done simultaneously. The length to be cut can been controlled by stepper motors whose steps are controlled by Arduino programs. Thus the length can be given as inputs in the keyboard and neoprene foam of required dimensions is cut with an accuracy of +-0.25 mm. Thus this machine reduces man power and time for cutting the gaskets for different length and dimensions.

Keywords— Neoprene foam, Gasket, Linear Gasket Cutting Machine, Automation of gasket cutting.

EFFECT OF INJECTION TIMING ON A COMPRESSION IGNITION ENGINE- AN EXPERIMENTAL STUDY

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Abstract

Clean air in the atmosphere are polluted by industrialization of the world. The major cause of atmospheric air pollution are emissions from industries and automotive engines. Scientists all over the world are working on reducing the air pollution from these sources. One of the major contributor to the atmospheric pollution is emissions from diesel engines. There are many techniques available to reduce the diesel engine emissions continuously and one of the techniques is using electronic fuel injection systems in diesel engines. In the current study, a water cooled diesel engine was modified into common rail direct injection system to explore the emissions. Experiments were conducted by varying the injection parameter fuel injection timing . The injection timing was varied from 23 degree bTDC to 15 degree bTDC. It is found from the results that varying the injection timing at 300 bar injection pressure reduces the peak cylinder pressure and NOx emissions. Finally, the better condition in which the water cooled engine runs with better efficiency and emissions was identified and is 19 degree bTDC..

Keywords— Compression ignition engine, Emissions, Heat release rate, Injection timing, Thermal efficiency

ME046

REVIEW ON DIFFUSER BASED VERTICAL AXIS WIND TURBINE

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Abstract

This article presents the outcomes of a respected work carried out among the flow analysis of vertical axis wind turbine (VAWT) using experimental, numerical and simulation methods. These are the methods which are used as to find the power produced by wind turbine. Normally power which was produced by Horizontal axis wind turbine (HAWT) is comparatively more than VAWT. Whereas, VAWT is having advantages of it can be operated at low wind speed conditions and it is a Omni directional wind turbine so it can collect more wind from any directions. So it does not require yaw control mechanism for adjusting the blade of the wind turbine according to the wind directions. These are the drawbacks can be eliminated by using diffuser arrangement with bared VAWT. Among this comparitively diffuser bared VAWT produce more power than bared VAWT.

Keywords: Bared vertical axis wind turbine; diffuser based vertical axis wind turbine; output velocity; wind velocity

HEAT TREATED ALUMINIUM COMPOSITES

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Abstract

The paper work undergone is based on the study of wear properties of heat treated Al 6061 reinforced with Silicon carbide and Graphite particles subjected to constant aging duration of 4 hr. The specimens were prepared in stir casting route. The heat treatment of aluminium composites was carried out at a temperature of around 803K for duration of 1hr followed by quenching. During artificial aging, the samples were heated at a temperature of nearly 448K in constant duration of 4 hrs. From the results of hardness measurement, it reveals that decrease in weight percent of graphite can improve the hardness property. Also, increase in aging duration can enhance the wear resistance as well. The results obtained from this research article are been utilized especially in automobile industries for making brake drums.

Keywords – Aluminium composites, Wear, composites, Heat treatment, Hybrid composites, Hardness, Surface roughness.

ME048

TO ENHANCE THE PERFORMANCE OF MILLING UNDER SUSTAINABLE MANUFACTURING

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Abstract

Sustainable Manufacturing is the process of creating manufactured product that reduce harmful environmental impact, conserve energy and resources. It brings eco-friendly environment and are safe for employee, communities and consumers. Awareness of Sustainable manufacturing is increasing in competitive world. Many industries have taken steps for green growth ensuring that process is environmentally and economically sustainable. Importance of this study is to attain sustainable in milling. Cutting fluid is used in CNC machine to reduce heat generation in metal cutting process but usage of cutting fluid causes hazardness to environment and employee. To minimise the hazardness caused by cutting fluid cooling air technique is used. Cooling air technique is achieved using vortex tube. Taguchi optimization technique was used to find optimal cutting parameters. Analysis of variance (ANOVA) is also applied to analysis the data obtained. The process was optimized for minimal flank wear and Surface Roughness considering environmental concern as a prime importance.

Keywords: Sustainable Manufacturing, Milling, Vortex tube, taguchi, ANOVA, flank wear, Surface Roughness.

PROCESSING AND CHARACTERIZATION OF COIR AND SISAL FIBRE BASED HYBRID PMC

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Abstract

Natural fibres will be one of the key materials to address the problems on global warming and impoverish non-renewable resource reserves.Natural fibre based composites gained good attention due to easy availability, low density, specific properties, strengthened energy recovery, ease of separation, biodegradability, carbon dioxide neutrality, and recyclable in nature. In this work a review has been carried out to make composite made of coir and sisal fibres and then processed for characterization. For this coir fibre and sisal fibres are taken in the mat form to improve the mechanical property, and the composites are made up by the combinations of epoxy in various weight ratios and taken then it is made by Compression moulding to form the composite. Investigations on mechanical properties were conducted experimentally. The sisal fibre addition increases the mechanical properties of the fabricated hybrid composites.(Coir fibre 10%, sisal fibre 30%, Epoxy 60%) have good mechanical properties compare to other combination of other composite material.

Key words: Composite, Natural fibre, Epoxy, Coir fibre, Sisal fibre.

ME050

DETERMINATION OF NATURAL FREQUENCIES OF SPUR GEAR IN PORTAL AXLE GEARBOX

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Abstract

Portal axle is introduced to avoid damage of the vehicle bottom portion while it is running on off-road condition by providing additional ground clearance to the vehicle. Since the ground clearance is achieved through gear train arrangement, the operating frequency of the gear shouldn't match with its natural frequency. This work aims to predict the natural frequencies and modes shapes of the gear train with three types of gear arrangements. The effect of natural frequency also studied with three different gear materials such as steel, CI and Al alloy. Gear trains are modeled in Solidworks 2017 and analyzed in well-known FEM software ANSYS workbench 16.0. First six natural frequencies and corresponding mode shapes are also obtained. FEM results are compared with operating frequency of the gear.

Key words*:* ANSYS Workbench, FEM, Portal axle, Spur Gear

STUDY ON REDUCTION OF ENVIRONMENTAL IMPACTS IN PRODUCTION OF DRIVE SHAFT

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Abstract

Manufacturing industries started recognising the value of sustainability concepts. This is due to rising government policies and the awareness of the sustainable products among the consumers. In common, the sustainability concepts are categorized into financial, social and environmental aspects. The classification of sustainable concept regarding to manufacturing organizations can be manufacturing process oriented, material oriented and product design oriented. Present manufacturing process and the present material of drive shaft has some environmental effects throughout its lifecycle This paper tries to investigate the perspectives of minimization of environmental effects in drive shaft production using alternative manufacturing process and alternative materials.

Keywords: Sustainability, LCA, Material Identification, Sustainability Analysis.

ME052

STUDY OF ENGINE MOUNTS AND VIBRATION OF THREE WHEELED VEHICLES

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Abstract

Consumers demand better ride-comfort in their cars, but use of passive solutions would increase the weight. At the same time, higher safety demands, greener cars and lower fuel consumption demands lower weight of the car. Achieving better NVH (noise, vibration, and harshness) comfort necessitates the use of active technologies when product targets are beyond the scope of traditional passive insulators, absorbers, and dampers. Therefore, a lot of effort is now being put in order to develop various active solutions for vibration control. This paper details the elastomers that are been used in the three wheeled vehicle and its behavior during the vehicle operation.

Keywords: Vibration, Frequency, RPM, Engine mounts.

UNMANNED GROUND VEHICLE FOR MATERIAL HANDLING

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Abstract

In the modern day manufacturing scenario the manufacturers expect their production lines to be Flexible. This has increased the demand for Flexible Manufacturing Systems (FMS). Material Handling Systems (MHS) play a vital role in improving the flexibility of a manufacturing system. Unmanned Ground Vehicle (UGV) is an autonomous vehicle that can deliver the materials from the supply area to the technician and between workstations. This is faster and more efficient. Unlike MHS like Conveyors and Overhead cranes; UGVs can improve the flexibility of MHS because path along which the vehicle has to move in the workplace can be programmed and re-programmed any number of times. The pickup point, drop off point and the position of every workstation that it has to pass through can also be programmed. To avoid collision with human workers or other materials along the way, an Infrared sensor has been added which causes the robot to stop as long as there is an obstacle in its way, thus avoiding accidents. Arduino Uno has been used in this UGV. It is used to receive input from IR sensor, to store the program and also to control the actuators for moving the vehicle according to the program.

Keywords— Unmanned Ground Vehicle, Material Handling, Flexible Manufacturing, Design of Frame, Arduino Uno

ME054

OPTIMIZATION OF MACHINING PARAMETERS OF AL-6063 ALLOY BY USING A GREY-FUZZY APPROACH

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Abstract

This research paper deals with the study which is carried out experimentally for the surface roughness (SA) and material removal rate (MRR) in milling process of Al-6063 alloy with high speed steel. The parameters identified for the experiment are speed, feed and depth of cut. Grey relational coefficient is calculated by using normalized formula for the experimental data. This grey relational coefficient of SA and MRR value are given as an input of fuzzy logics system and output is received as multi response performance index (MRPI). By using the analysis of variance ANOVA, the most significant input factor is identified. By comparing the both value of GRG and MRPI value, Fuzzy logics is the best one than grey relational analysis. Hence, the optimized machining parameters are S1F1D3 Speed 1200 rpm, Feed 75 mm/min and Depth of cut 1.0 mm.

Keywords: ANOVA, End Milling, Fuzzy logics, Grey relation analysis, Material removal rate, Surface

PREDICTION OF WEAR IN A HYBRID ALUMINIUM ALLOY COMPOSITE – POLYNOMIAL REGRESSION MODELLING THE EFFECT OF REINFORCEMENTS

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Abstract

The property of composites depends upon the size and weight fraction of reinforcements. LM6 aluminium alloy was reinforced with SiC_p and flyash through stir casting technique. The reinforcements were added in weight % of 2, 4, 6, 8 and 10. The size of the reinforcement particles were varied. The central composite rotatable design method was applied in arriving at the combination of reinforcements. The hybrid composites were tested for wear on a pin-on-disc apparatus. A polynomial regression model predicting the wear as a function of the size and content of each of the reinforcements has been developed. The predicted values have been found to be very close to actual values. Conformity tests have revealed maximum error of 3.52%. The material loss has been found to be minimal at 4% for each of the reinforcements.

Keywords: LM6 aluminium alloy, SiCp, flyash, Wear, Central Composite rotatable design, regression model

ME056

SETUP TIME REDUCTION IN MOULD BASE PRODUCTION USING SINGLE MINUTE EXCHANGE OF DIES (SMED) FOR PRODUCTIVITY

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Abstract

The current scenario in our domestic market is that the manufacturers are in need of producing different varieties of products. This is so because of customer needs and economyand also people likes to use moulded parts rather than using assembled component. So the manufacturers requires varieties of mould bases for production and to satisfy the market needs. But the mould base manufacturing is not easier as we think like mass production. It should be well precised and consumes more time to manufacture. Also the manufacturers requires moulds to be agile. This needs special planning to manufacture different moulds.In this case study, the enterprise which manufactures different mould bases has to reduce the lead time is the main concern of the work. The main objective of this work is to reduce the setup time from 30 minutes to less than 10 minutes. And this can't be achieved without huge investment and to be versatile for manufacturing different mould parts.And the result obtained was rapid reduction in setup time of component into CNC-Vertical milling centre from 30 minutes to less than 22 minutes. This results in reduction of lead time in producing mould bases about 20-30 minutes.

Keywords: Mould Bases, Agile, Enterprise, Lead Time, Setup Time.

REDUCTION OF TEMPERATURE RISE IN BUS BAR USING FORCED CONVECTION METHOD IN HIGH LOAD APPLICATION

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Abstract

Electrical bus bar system gains least priority after the installation, and the thermal and electrical loading effect on this bar is not been studied widely within the research community. The thermal analysis of these buses is studied in this work. Factors affecting the thermal analysis of the bus bar are current carrying capacity of the bus bar, step changes of the electric load and cross selection area of the bus bar. The physical and geometrical properties of the bus bar and temperature variation are employed to predict the thermal time constant for common bus bar cross-sections. Presently heat dissipation from bus duct system has been predicted in forced convection mode of both parallel and perpendicular air flow. Based on these studies the following important conclusions have been arrived andit has been found that the forced convection with perpendicular air flow the temperature rise is reduced about 45 %. Hence, power loss due to heat generation is also reduced in the bus bar conductor.

Keywords: Bus bar, electrical loading,thermal analysis, forced convection.

ME058

TEMPERATURE VARIATIONSTUDY ONINDUSTRIAL BUS DUCT SYSTEM BY MATLAB AND FEA

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Abstract

This paper presents an experimental, mathematical and FEA thermal model of the heat transfer processes in an industrial bus duct system. The study includes a mechanical properties of different bus bar materials and bus bar configurations. The fundamental thermal problems includes radiation and convection in copper and aluminum bus bars, supporting parts and cooling air were coupled with the electromagnetic field to define the power losses. The mathematical models are based on the validated model of the bus duct system. The mathematical model results were compared with the experimental data for bus duct system. Then the algorithm has been developed to predict the temperature rise in the bus bars and also to compare the sizes of bus bar materials like copper and aluminum and changes in air velocities for both the copper and aluminum bus bar materials using MATLAB and FEA steady state thermal analysis in ansys. The results obtained from the MATLAB calculation and FEA analysis has been compared. It has been found that forced convection – perpendicular air flow reduces the power loss due to heat generation is also reduced in the bus bar conductors. Then the studies for basic configuration were considered. In the considered problem, the influence of the bus bar surface emissivity modification, applications of forced convection in bus duct system and temperature reduction within the bus duct system was analyzed. It is concluded that bus bar dimensions are compared for the copper and aluminum materials to predict the suitable equivalent dimensions for the same ampacity level and within the allowable temperature rise to reduce the panel cost.

Keywords: Air insulated bus bar, Heat transfer, Temperature rise, Current carrying capacity, Mathematical model development, Forced convection.

ME059

EXPERIMENTAL INVESTIGATION ON ACTIVE HEALTH MONITORING SYSTEM FOR TWO WHEELER

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Abstract

In this paper we considered to study the Active health monitoring system for two wheeler's driver. India is highly populated country with majority of young working force. Two Wheelers are the predominant mode of transport used by majority of people for day to day business or work due to cost effective, passion towards riding, easy accessibility etc., over period of years. Due to Dynamic and raced life style we are not taking care of our health which leads to stress and obese. Driver fatigue and drowsiness have been also major reason for serious road accident, which need to be considered as major concern and to avoid such incident. In 2017 there were over 500000 accident registered in India with 146377 fatalities, among which two-wheelers accounted for the highest share in total road accidents (28.8%).Active Health monitoring system may be useful sign for driver's health condition monitoring by implementation of Heart beat sensor in two wheeler handle bars.

Keywords— Sand related defects, Design of experiments,ANNOVA, Box-Behnken design, volatile content

ME060

OPTIMIZATION OF GREEN SAND CASTING PROCESS PARAMETER USING RESPONSE SURFACE METHODOLOGY

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Abstract

This study demonstrates the optimization of green sand casting process parameter to generate the optimum quality characteristics of the grey cast iron castings for a sand related defects. Firstly, the planning of experiment is done based on response surface methodology using Box- Behnken design. Analysis of various critical process parameters and the interaction among them is carried out with the help of Design expert software. The process parameters considered are permeability number, volatile content (%) and moisture (%). The response variable is the defect percentage and the analysis is done with the smaller the better-quality characteristics. All the process parameters are considered for three levels with a total of 17 runs and based on the fit analysis 2 Factored Interaction (2FI) analysis was used as it had a better adjusted R squared value in competition with linear and quadratic equation. Analysis of variance (ANNOVA) is used to analyze the significance of each factor. It is found that the volatile content has significant effect on the sand related defects. The results are optimized and to make the analysis more precise contour plots and surface plots are used to study the effect of each parameter on sand related defects. It was found that moisture content of 3.3%, volatile matter content of 2.8% and permeability number of 150 is the optimum solution with a rejection rate of 5.7%. The mathematical model adequacy is verified in the foundry and it was found satisfactory with a maximum error of 7%.

Keywords— Sand related defects, Design of experiments,ANNOVA, Box-Behnken design, volatile content

ME061

DESIGN AND ANALYSIS OF HEAT RECOVERY SHIELD AT HOT ROLLING MILL IN STEEL INDUSTRY

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Abstract

This paper presents the heat transfer analysis of hot rolling bar (HRB), exactly between roughing mill and steckel mill. The bar is heated up to 1250°C in the furnace for three hours. The hot bar stock enters the roughing mill. Here, the bar stocks are fed for seven passes and the thickness is reduced to 25 mm. The elongate hot bar then travels approximately 126m in the open air surrounding over roller before entering the steckel mill. Transfer bar is rolled in steckel mill in 3 to 7 passes to achieve required thickness. It is adopted with the most sophisticated rolling technology of level-2 automation to achieve the target thickness, profile and flatness. There is a considerable loss of heat during this travel due to convection and radiation. This has been identified as the place, where the objective is to minimize heat loss taking place. Catia V5 is used for modeling and Ansys Workbench is used for thermal analysis.

Keywords — Convection, Heat Transfer, Hot Rolling Bar, Radiation, Steckel mill

ME062

GEOMETRICAL OPTIMIZATION OF BUMPER BEAM PROFILE MADE OF ADVANCED HIGH STRENGTH STEEL

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Abstract

Bumper is commonly known as cross beam, attached to the Front and Rear end of the vehicle to absorb more energy during vehicle crash, also to prevent from permanent deformation in the BIW and other sub systems like engine, cooling system, radiators etc. Bumper is also used to improve the crashworthiness during vehicle crash. Bumper system plays a significant role during low speed impact when the vehicle movesslowly in heavy traffic or while parking. Inconsistent structural design of bumper can cause more damage and increase the cost of reparability, since it does not absorb more energy during vehicle crash causing damage in BIW. In this paper we are going to study about shape and material optimization of the bumper beam to improve the efficiency during the low speed impact and also to reduce the mass of the bumper beam using Non-Linear Programming by Quadratic Lagrangian technique. CAE method has been used to validate the performance of bumper beam using low speed impact test regulation proposed by Insurance Institute for Highway Safety

Keywords — Convection, Heat Transfer,

ME063

A STUDY ON ACADEMIC ISSUES IN THE PERCEPTION OF E&T STUDENTS AND THEIR RANKING USING TQM TOOL-PRIORITIZATION MATRIX

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Abstract

The objective of the study is to identify the academic issues faced by under graduate Engineering and Technology (E&T) students in their perception and prioritization of the issues that will enable the academic leaders to use the prioritized list of issues to take corrective measures. The methodology involves using a data gathering techniques that will protect the identity of the student who raises the issue. In the first phase of this study, brain writing technique has been adapted to gather data and list the critical issues in the perception of the students. In the second phase, the identified critical issues have been prioritized using the "TQM Tool – Prioritization Matrix". It has been concluded that identifying critical issues and prioritizing them will be a valuable input for academic leaders to act upon to enhance the quality of learning environments.

Keywords: Academic issues, brain writing techniques, prioritization matrix, TQM, E&T

ME064

EXPERIMENTAL ANALYSIS OF STIR CAST ALUMINIUM HYBRID COMPOSITES AND METAL MATRIX COMPOSITES

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Abstract

Aluminium matrix composites are of great interest due to improvement in mechanical properties by adding different reinforcements. In this present work, Aluminum hybrid composites and metal matrix composites were produced and analyzed experimentallyby combining Aluminium alloy with Boron Carbide and Multi walled carbon nanotubes (MWCNTs) through melt stirring with bottom pouring Method. Mechanical and tribological properties of aluminium alloy and aluminium composites for various proportions of reinforcements were investigated. Microstructure analysis was carried out to identify the in-situ formed particles present and to collaborate the results with the strength of the composites.

Keywords*:* Metal Matrix composites, Boron Carbide, Multiwalled Carbon nano tubes

ME065

DESIGN OF INTERCHANGABLE UPRIGHT FOR AN ALL-TERRAIN VEHICLE

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Abstract

Present day steering knuckles are designed separately either for the left or right wheels. As a result, they cannot be interchanged between the two wheels. This creates a problem of maintaining separate spares for the left and right wheels. Also the difference in design calls for separate manufacturing methods for them. To overcome these hurdles a modular design is proposed. The new design will have two separate parts namely the knuckle and clamp. A 180^0 rotation of the clam with the knuckle fixed in its position will facilitate the interchange. To maintain the suspension geometry the new design maintains resemblances to the original component and also to maintain integrity it is designed for the same loads and fabricated with the same material as the original component. Since the proposed method involves no alteration of suspension geometry, it can be applied to any existing vehicles.

Keywords: All- terrain vehicle, knuckle, Analysis, clamp, vonmiss stresses

ME066

ELECTRODEPOSITION OF TRANSITION METAL COMPOSITES ON MILD STEEL: STRUCTURAL AND WEAR BEHAVIOUR

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Abstract

Wear characteristics of the transition metal composite (TMC) coated mild steel are investigated. TMC coatings were performed using electrodeposition technique on mild steel. Different concentrations of transition metals are subjected to prepare the TMC's and are studied. The structural and the micro structural studies of the composites coatings were studied through X-ray diffraction (XRD) and scanning electron microscopy (SEM), respectively. The elemental compositions of coated composites were evaluated using Energy dispersive X-ray diffraction (EDS) studies. Both the structural and micro structural characterizations confirmed the formation of composite coatings. Further, it is evident from the EDS analyses TMC's are coated with the desired concentrations. In order to understand the wear resistance of coated mild steel, the specimen were subjected to load on pin-on-disc type wear tester. The effects of concentration of composite and thickness of the coating on wear resistance are discussed. The coating results in improving the wear resistance and hardness of the specimen.

Keywords- Composite coating; Electrodeposition; Wear; XRD; EDX

ME067

STUDY TO PREDICT THE PROCESS FOR PRODUCING CAM IN PLASMA CUTTING AND LASER BEAM CUTTING

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Abstract

Cam profiles are tailor made contours which fulfil the required stroke length, motion, and power transmission from circular to reciprocating. Therefore, producing cams with repeated accuracy in cost effective manufacturing methods is the goal of manufacturers. This study using thermal cutting systems for producing the cams. Plasma Arc Cutting and Laser Beam Cutting are considered to analyse the effective method for producing a heart cam made of AISI 1040 commercial steel in the textile ring spinning machine. The specimens of each sample are studied in microscopy. The different parameters, steps, material types and settings are discussed and concluded the suitable process is with Plasma arc machining for manufacturing the cam.

Keywords- Heart cam, AISI 1040 Steel, Thermal cutting, Textile machinery, Surface hardness.

ME068

EXPERIMENTAL INVESTIGATION ON EFFECT OF LPG ADDITION ON OPERATING CHARACTERISTICS OF BIO DIESEL FUELLED ENGINE

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Abstract

Owing to depletion of fossil fuel and stringent emission norms researches were focused towards the usage of alternate fuel in combustion engines. However, because of lower calorific value of bio diesel, the engine thermal efficiency is still lower compared to diesel. In this study we investigated the effect of LPG addition on combustion and performance characteristics of the pungam bio diesel fuelled engine. Three different proportion of LPG were chosen and test was carried out on different engine loading conditions. The experimental data indicates that increase in mass flow rate will results in engine efficiency improvement and combustion characteristics.

Keywords: Diesel Engine; Bio Diesel; LPG; Combustion Characteristics.

ME069

SOLAR TUNNEL AIR DRYER: A COMPUTATIONAL FLUID DYNAMICS INVESTIGATION FOR FLOW PATH DESIGN WITH TEMPERATURE DISTRIBUTION

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Abstract

Solar hybrid tunnel dryer has a huge potential in drying large-scale agricultural products with solar energy and forced hot air inside the tunnel. A Computational Fluid Dynamics (CFD) analysis had been performed to study the even distribution of temperature at the outlets of the pipeline using the ANSYS-Fluent v16.2. A comparative CFD analysis for the conventional and the proposed new pipeline configuration by the application of both convection and radiation heat transfer modeling had been done. Hot air flowing at 12m/s and 323.15 K had been provided at the inlet of the pipeline while the outlet was set to atmospheric pressure condition. For the new pipeline configuration, the temperature drop of less than 1 K had been predicted at the outlets of the pipeline when compared to the temperature drop of 24 K for the conventional pipeline configuration. An even distribution of temperature had been achieved for the proposed new pipeline configuration.

Keywords - tunnel dryer, velocity, temperature, distribution, pipeline configuration.

ME070

EXPERIMENTAL STUDIES ON THE MECHANICAL PROPERTIES OF ALUMINIUM HYBRID COMPOSITES

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Abstract

Composite material is a combination of two or more chemically distinct and insoluble materials such that its properties are superior to those of the individual constituents. Metal matrix composites (MMCs) are increasingly becoming attractive materials for aerospace and automotive applications because their improved properties through the addition of various reinforcements. Additions of hard reinforcements improves hardness, strength and wear resistance of the composites. Aluminium Hybrid Composites (AHC) are a new generation of metal matrix composites contains aluminium as the matrix materials and two or more than two reinforcements. These materials are the potential materials for advanced engineering applications. The performance of AHC depends on the right combination of reinforcements and some of the processing parameters. Hybrid composites offer more reliability and flexibility in the design of engineering components. The main aim of this research work is to fabricate aluminium hybrid metal matrix composite using stir casting route which contains tungsten carbide and graphite particles as the reinforcements. The heat treatment of composite specimens were done using muffle furnace. Wear studies before and after heat treatment was carried out using pin on disc apparatus

Keywords: Hybrid composites, Aluminium Composites, Wear, Heat treatment

ME071

INVESTIGATION OF NATURAL FREQUENCY FOR A STRUCTURAL PLATE USING EXPERIMENTAL MODAL ANALYSIS AND COMPUTATIONAL FEA

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Abstract

Structural plates are used in many applications like Aircraft, machine structures and many other similar applications. Among the dynamic characteristics of the plate, the natural frequency exhibiting the free vibration plays a dominant role in the fatigue failure of any structures. Experimental modal analysis (EMA) and modal analysis using Computational FEA (cFEA) method are used nowadays to predict the functions of the structure. Each method provides different solutions due to theoretical assumptions and varying effects of boundary conditions, where the experimental results are preferred due to its high correspondence with real need. This paper deals with finding the fundamental frequencies of the plate using experimental method and the span of influence of the fundamental frequency. These results are studied for its deviation from computational solutions to find the approximate real value with respect to its specific boundary conditions and stiffness variations. It is seen that the experimental values are predictable using computational methods and the solutions of experimental method are related to others within a range of percentage which is almost same in the fundamental and high natural frequencies.

Keywords - structural plates, Free vibration analysis, experimental modal analysis, computational FEA.

ME072

A REVIEW ON OPTIMIZATION OF WELD BEAD GEOMETRY FOR INDUSTRIAL AUTOMATION

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Abstract

Welding is one domain where automation process has to be rigorous in Industries. While navigating towards accurate and quick yielding results, it would be beneficial for the welding process if welding can be optimized towards efficient results. To achieve automation, it is vital to develop some mathematical models and optimize the process parameters to relate the process variables with the weld bead parameters. The parameters for the weld bead include (i) height of penetration (mm) (ii) height of reinforcement (mm) (iii) Width of the bead (mm) (iv)Penetration size factor (v) reinforcement form factor. Optimization of all these parameters helps in predicting near complete values to obtain an authentic weld bead. This optimization makes the automation more than easy in welding sector. Hard facing is a metal working process where harder or tougher material is applied to the base metal. Hard facing may be applied to a new part during production to increase its wear resistance and corrosion resistance in case of marine grade steels. Hard facing can be deposited by various welding methods. This paper presents a critical analysis and review on the various research works done in the field of Weld bead geometry optimization based on some experiments.

Keywords*:* Hard facing, Weld bead geometry, Process Parameters, Base metal, Penetration, Reinforcement.

SIMULATION AND PERFORMANCE COMPARISON OF PNEUMAFIL CASING BLOWER

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Abstract

In this work, Pneumafil casing blower of the textile mills with a power rating of 5 kW have been numerically analyzed and experimentally validated. The Computational Fluid Dynamics (CFD) analysis of the blower was carried out with simulation settings and boundary conditions based on literature study and experimental data acquired. The CFD flow analysis was simulated using Ansys Workbench with Fluent as a solver. The objective of this work is to reduce the energy consumption of the blower. The experimental and computational analysis indicated that the power consumption is influenced by the deflector plate orientation and deflector plate strip situated at the outlet casing of the blower. The flow analysis is validated with experimental results, which shows good accuracy. The energy losses occurred in the blower is due to the recirculation zones formed around the deflector plate strip. The deflector plate orientation is changed and optimized to reduce the energy consumption. The proposed optimized model is based on the simulation results which had relatively lesser power consumption than the existing model. The energy losses in the Pneumafil casing blower are predicted through CFD analysis.

Key words: Centrifugal Blower Casing, CFD, Deflector Plate, Pneumafil, Recirculation

ME074

STUDIES ON EFFECT OF TURBULENCE AND VORTICES ON THE EFFICIENCY OF CENTRIFUGAL FAN THROUGH CFD, SIMULATION

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Abstract

In order to reduce the power consumption of a centrifugal fan in continuously operating spinning mills, the efficiency study need to be carried out. Initially, the fan is operated for various mass flow conditions corresponding to outlet valve positions. It is found that, the efficiency increases proportionally with increase in mass flow until it reaches duty point and then decreases. The flow pattern inside the casing for the different cases need to be observed to trace the reasons for decreasing efficiency. The CFD-MRF technique is adopted to perform such simulations with the help of Fluent software. Industrial Centrifugal fan model with the similar experimental boundary condition is taken for CFD analysis. For the different mass flow conditions, two models of fans had been analyzed before and after the duty point to observe the flow pattern and it was compared with the maximum efficiency model. The simulations study shows that the vortices formation due to high inertial speed and the turbulence zones determines the required torque and the efficiency.

Keywords—Centrifugal Fan, CFD, Efficiency studies, MRF, Turbulence

DESIGN AND DEVELOPMENT OF LOW COST AUTOMATION FOR PNEUMATIC BLANKING AND PIERCING APPLICATIONS

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Abstract

Sheet metal is widely used across different sectors namely architectural, automobile and aerospace industries. Sheet metal industry uses manual, semi-automatic and automated fabrication methods. Automation improves productivity and reduce the wastages. Automation uses signals from different sensors to make decision or executing set of predefined activities. The use of sensors and processing elements makes automation very expensive for the small-scale industries. In this context it is proposed to develop a hard-wired automation system for pneumatic blanking and piercing applications. Blanking and piercing are the sheet metal shearing operations, dependent on whether sheared component is processed further or scrapped. Electronical control systems were already developed are available in the market are expensive but can be reprogrammed instead here, a concept is designed and developed using pneumatic systems. This paper attempts to develop an automated pneumatic blanking or piercing applications.

Keywords: Pneumatics, Automation, Punching and Feed system.

ME076

FABRICATION OF MICRO/NANO-POLYMERIC STRUCTURES BY LITHOGRAPHY TECHNIQUES FOR MEMS TRIBOLOGY

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Abstract

Microelectromechanical systems (MEMS) are micro-scale devices which have tiny mechanical and electrical components in them. MEMS actuators have components which undergo relative mechanical motion, e.g. microgears, micromotors, microengines etc. When components undergo relative mechanical motion, tribological issues such as adhesion, friction and wear manifest and are of great concern. Traditionally, semiconductor silicon is used to make MEMS devices. However, it has poor tribological properties. In recent times, polymers such as SU-8 have become popular for MEMS/Bio-MEMS applications. As MEMS devices are built at micrometer scale, lubrication of surfaces at that scale poses a great challenge. In this regard, surface engineering by topographical modification has emerged as a prospective solution for solving tribological issues at small scales. In this approach, surfaces of MEMS materials are topographically modified by creating nano/micro-sized structures. Based on fundamental principles of nano/micro-scale tribology, the topographical modifications reduce adhesion and friction forces significantly. In this paper, lithography-based processing techniques such as capillary force lithography and nanoimprint lithography that are used to fabricate nano/micro-scale structures are presented. Examples of fabricated nano/micro-patterned polymeric surfaces and their superior tribological characteristics are also discussed.

Keywords—Microelectromechanical Systems (MEMS); Adhesion; Friction; Lithography Techniques; Polymers; Nano/micro-patterns

PERFORMANCE EVALUATION OF 70CM2 PEMFC STACK WITH COMMON RAIL USING CFD

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Abstract

The PEMFCs performance depends on the operating parameters like temperature, pressure, stoichiometric ratio of reactants, relative humidity, back pressure on anode and cathode flow channels, and the design parameters like rib width to channel width (L:C), channel depth, shape of the flow channel and number of pass on the flow channel. Among different flow field designs, the serpentine flow field can give better performance of PEMFC. This paper numerically investigates the effects of the single-pass serpentine flow field of 70cm 2 active area of the PEMFC 2 cell stack using common rail has been carried out. The three dimensional PEMFC with rib to channel ratio (L:C) of 2:2 for single-pass serpentine flow channel were modelled by solid work 13, meshed by ICEM 14.0 software packages and simulated using CFD Fluent 14.0 under operating pressure and temperatures of 2 bar and 353 K respectively with a constant mass flow rate. The numerical modelling results on performance of PEMFC have been investigated.

Keyword- single - pass Serpentine flow channel, PEMFC, Rib to Channel ratio, CFD Analysis of PEMFC.

ME078

CARBON NANOTUBES AND ITS APPLICATIONS – A REVIEW

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Abstract

This review paper aims to highlight the most important and novel studies of the mechanical behavior and applications of carbon nanotubes reinforced composites[1]. The carbon nanotubes play a vital role due to their better structural and functional properties and it has a broad range of application when it is reinforced with metal and polymer matrix composites[2]. It is used as a potential candidate to be incorporated into marine current turbines and it also aims to act as a starting point to connect the two research areas (marine renewable energy and nanotechnology). Notably, the functionalized derivatives of carbon nanotubes and graphene with high surface area and adsorption sites are proposed to remove heavy metals via adsorption, addressing the pressing pollution of heavy metal. The carbon nanotubes along with the graphene are used in the nano resonator sensors. This paper focus the applications of carbon nanotubes reinforced metal and polymer matrix composites.

Keywords— Carbon nanotubes, reinforcement, application, composites,incorporated.

S&H 001

STRONGLY AND PERFECTLY NANO GENERALIZED-SEMI CONTINUITY IN NANO TOPOLOGICAL SPACE

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ABSTRACT

The purpose of this paper is to introduce and study the concepts of new class of maps, namely strongly nano generalized-semi and perfectly nano generalized-semi continuous maps in nano topological space. Further, their characterizations in terms of nano generalized-semi closed sets, nano generalized-semi closure and nano generalized-semi interior has been derived and some of their interesting properties are obtained. Various forms of continuities associated to nano generalized-semi closed sets have also been established. This paper aims at analysing the relations of these maps with already existing continuous maps.

Keywords: Nano continuity, Nano sg-continuity, Nano sg-irresoluteness, Nano gs-open sets, Nano gs-continuity Strongly Nano gs-continuity, Perfectly Nano gs-continuity.

S&H 002

FAITH AND EMOTIONAL INTELLIGENCE

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ABSTRACT

This paper attempts to bring out the crux of Emotional Intelligence and how every individual can analyse his or her emotions. Self-analysis is the first step as it helps in introspection of one's thoughts, emotions and responses. This leads to awareness and awareness in turns helps to generate the right emotion which ultimately leads to success in all domains of life. Factors which hinder the development of Emotional Intelligence like fear, anger, depression are analysed with biblical examples. Religious teachings may serve as a guiding light as such precepts are found to be time-tested. Faith is inevitable in building up of self-confidence and esteem. Thus research has proved that religiosity helps in developing emotional intelligence.

Key words: Emotional Intelligence, hindrances, development, faith, fear, courage, stress, Anxiety

S&H 003

NANO METAL OXIDE AND NANO METAL OXIDE COATED ACTIVATED CARBON SYNTHESIS, CHARACTERIZATION AND ITSUTILITY IN METHYLENE BLUE DYE REMOVAL

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ABSTRACT

The various mechanisms behind the preparation of nano metal oxides are described. Nanoparticles of Magnesium Oxide and Manganese Oxide are synthesized by chemical methods and coating is carried out on the activated carbon separately. Activated carbon, nano metal oxides and nano metal oxide coated activated carbon are characterized by X Ray Diffraction, Scanning Electron Microscopy, Transmission Electron Microscopy, Energy Dispersive X-Ray Analysis methods. The effect of dye removal of Methylene blue shows that these nano metal oxide coated activated carbon remove methylene blue dye almost completely and comparatively nanomagnesiumoxide coated activated carbon is higher than nano manganese oxide coated activated carbon

Keywords: Metal oxide, Chemical methods, Nanoparticles,Activated carbon,Methylene blue.

S&H 004

INTERVAL NEUTROSOPHIC EXPONENTIAL SIMILARITY MEASURE AND ITS APPLICATIONS IN MEDICAL DIAGNOSIS

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ABSTRACT

Neutrosophic sets (NSs) are very useful to express indeterminate and inconsistent information; many types of incomplete or complete information can be expressed as interval neutrosophic sets (INSs). This paper focuses on introducing Interval Neutrosophic Exponential Similarity Measure (INESM) and the weighted INESM by considering the importance of each element. Further, by numerical examples the proposed similarity measure is compared with the existing similarity measure to demonstrate their effectiveness and can overcome some disadvantages of the existing similarity measure in some cases. Finally, the proposed similarity measure is applied to a medical diagnosis problem.

Keywords: Neutrosophic Set (NS), Interval Neutrosophic Set (INS), Similarity measure (SM), Interval Neutrosophic Exponential Similarity Measure (INESM), Medical Diagnosis

S&H 005

DEVELOPMENT OF FUNCTIONALLY GRADED ALUMINIUM MATRIX NANO COMPOSITE FOR HIGH PERFORMANCE APPLICATIONS

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ABSTRACT

Synthesis of functionally graded novel aluminum based nanocomposites by combining Aluminium powders and multi walled carbon nanotubes (MWCNTs) through mechanical milling and powder metallurgy. Hydraulic press is used to perform compaction and Controlled sintering is done to impart strength and integrity of FGM. Material characterization has been analysed to identify the formation of in-situ particles by using Field emission scanning electron microscope (FESEM). Hardness has been evaluated using Vickers Hardness Tester to prove the concept of functionally graded material.

Keywords: Metal Matrix composites, Multiwalled Carbon nano tubes, Functionally graded materials, Sintering

S&H 007

INHIBITION EFFECT OF MORINGA OLEIFERA GUM EXUDATE ON THE CORROSION OF MILD STEEL IN HYDROCHLORIC ACID

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ABSTRACT

The inhibitive effect of the *Moringa oleifera* (MO) on the corrosion inhibition of mild steel (MS) in1 M hydrochloric acid medium was studied using weight loss and electrochemical methods. The inhibition efficiency increased with increase in concentration of the gum but decreased with rise in temperature. Physical adsorption mechanism is proposed from the trend in inhibition efficiency with the change in temperature and from thermodynamic parameters. It has been found that the adsorption of MO on MS complies with Langmuir adsorption isotherms.

Keywords: Corrosion inhibitor; Mild steel; Physical adsorption; Thermodynamic Parameters

S&H 008

INVESTIGATIONS ON GROWTH, PHYSIOCHEMICAL PROPERTIES AND H^+ ION IMPLANTATION INDUCED MODIFICATIONS ON OPTICAL PROPERTIES OF AN ORGANIC SINGLE CRYSTAL: L-HISTIDINIUM SEMISUCCINATE (LHS)

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ABSTRACT

Single crystals of L-Histidinium semi succinate was synthesized and subsequently grown from solution by slow cooling technique. The stoichiometric form of LHS was confirmed by CHN analysis. The single crystal X-ray diffraction analysis has been done for the title compound and is found to crystallize in orthorhombic space group $P2_12_12_1$. The presence of various functional groups was identified by the vibrations shown in FT-IR spectrum. The molecular structure of the title compound was confirmed by nuclear magnetic resonance spectroscopy. UV-Vis-NIR spectroscopy revealed that the crystal has a wide transmission in the visible region with a lower cut-off wavelength of 230 nm. Optical band gap energy was computed using Tauc's plot. Photoluminescence spectrum showed the violet emission of the grown crystal. Refractive index analysis was carried out using Metricon prism coupler and it is found to be 1.3705. The thermogravimetric and differential thermal analysis traces reveal the thermal stability of the compound. Dielectric constant and dielectric loss were studied as a function of frequencies for different temperatures. The relative second harmonic generation efficiency of the title crystal was found to be 1.2 times larger than that of KDP. Low energy proton implantation was carried out to study the modifications on optical properties of the grown crystal was also discussed.
Key words: Bulk growth, UV-Vis-NIR, Refractive index, Ion implantation

S&H 009

SEPARATION AXIOMS IN IDEAL MINIMAL SPACES

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ABSTRACT

The purpose of this article is to study few separation axioms in ideal minimal spaces. The separation axioms under mI_g-closed sets namely, mI_g-T0 spaces and mI_g-T1 spaces were studied. Comparison of these spaces with some exist- ing spaces were established. Necessary and su_cient conditions of mI_g-T0 and mI_g-T1 spaces are also explained. 2010 Mathematics Subject Classification. 54A05, 54D10,54D25,54C05

Keywords and Phrases: m-T0-spaces, m-T1-spaces, mI_g-T0 spaces, mI_g- T1 spaces.

S&H 010

UNCTION-ε-CHAINBLE SETS IN BITOPOLOGICAL SPACE

*

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ABSTRACT

In this paper we have introduce the concept of function-ε-chain between two sets in bitopological spaces through continuous function which is the extension of function-ε-chain between two points of the bitopological space. Simple characterization of function-ε-chainable sets has been established in terms of function –ε-chains between their points. Also, some results of [1] have been generalized for bitopological spaces.

Subject Classification: AMS (2000):54A99

Keywords: Simple chain, function −□ −chain between two points, function −□ −chain between two sets.

S&H 011

AN EFFECTIVE RESEARCH OF PHOTO-CATALYTIC DEGRADATION EFFICIENCY OF MALACHITE GREEN IN WASTE WATER USING POLY(AZOMETHINE)/ZNO NANOCOMPOSITE

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ABSTRACT

The poly(azomethine)/ZnO nanocomposites was prepared and exemplified by Fourier Transform-Infra red spectroscopy, UV-Visible spectroscopy, Powder X-ray diffraction, EDAX, SEM and TEM techniques. Malachite green was debased from water using poly(azomethine) (PAZ), Zinc oxide and poly(azomethine)/ titanium di oxide (PAZ/ ZnO) nanocomposites as photo-catalyst in presence of natural sunlight. The deprivation efficiency and reaction kinetics was calculated and the outcome of the photo-catalytic experiments proved that the PAZ/ ZnO nanocomposites reveals excellent photo-catalytic activity and efficient for achromatize the dyestuff present in the waste water than PAZ and ZnO in presence of normal sunlight. The maximum degradation efficiency 95% was obtained for PAZ/ ZnO nanocomposite at optimum dosage of catalyst as 500mg and 50ppm of malachite green dye concentration respectively. The maximum deprivation time was 5hrs. After photo-catalytic study the samples were portrayed by FT-IR and UV-Visible spectroscopy. The main aim of this research was to protect our environment from the contamination of water due to the effluence released from dyestuff industries, to resolve this crisis effective nanocomposite were synthesized.

Key words: Poly(azomethine), ZnO Photo-catalyst, Nanocomposites, advanced oxidation process, degradation efficiency.

S&H 012

SURFACE ROUGHNESS MEASUREMENT BY LASER SPECKLE TECHNIQUE

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ABSTRACT: This paper reports the results of an experimental investigation of the surface roughness of aluminum metal sample. A unique, non-contact optical measurement technique has been used to study the roughness of the sample. This happens frequently due to corrosion on the surface of the specimen. The surface roughness profile records are analyzed by a novel pixel bright and dark pixel counting method to obtain the information of surface roughness which is satisfied with the conventional method of stylus profile measurement.

Keywords: surface Roughness, laser speckle, pixel counting, stylus profilometer

S&H 013

VICKER'SMICROHARDNESS STUDY OF THE NONLINEAR OPTICAL SINGLE CRYSTAL- PICOLINUM MALEATE (PM)

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ABSTRACT:

Nonlinear optical single crystals of Picolinium Maleate (PM) were grown by slow evaporation method. The presence of functional group in the title compound was identified by FTIR analyses. Good optical transparency crystal were harvested and subjected to microhardness studies. The microhardness test was carried out to verify the mechanical strength of the grown crystal and also to understand the mechanical behaviour of PM crystal. Vickers microhardness study was carried out on the surface of the single crystal with various loads at room temperature with the indentation time as 5 s. Vickers hardness numbers (H_v) were calculated and it is found to increase with the applied load. Hardness parameters such as Fracture toughness (K_c), Brittle index (B_i), yield strength (σ_y)and the elastic stiffness constant (C_{11}) were also calculated.

Keywords: Single Crystal, FT-IR, Vickers Hardness, Fracture Toughness

S&H 014

AN EFFECTIVE RESEARCH OF PHOTO-CATALYTIC DEGRADATION EFFICIENCY OF MALACHITE GREEN IN WASTE WATER USING POLY(AZOMETHINE)/ZNO NANOCOMPOSITE

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ABSTRACT

The poly(azomethine)/ZnO nanocomposites was prepared and exemplified by Fourier Transform-Infra red spectroscopy, UV-Visible spectroscopy, Powder X-ray diffraction, EDAX, SEM and TEM techniques. Malachite green was debased from water using poly(azomethine) (PAZ), Zinc oxide and poly(azomethine)/ titanium di oxide (PAZ/ ZnO) nanocomposites as photo-catalyst in presence of natural sunlight. The deprivation efficiency and reaction kinetics was calculated and the outcome of the photo-catalytic experiments proved that the PAZ/ ZnO nanocomposites reveals excellent photo-catalytic activity and efficient for achromatize the dyestuff present in the waste water than PAZ and ZnO in presence of normal sunlight. The maximum degradation efficiency 95% was obtained for PAZ/ ZnO nanocomposite at optimum dosage of catalyst as 500mg and 50ppm of malachite green dye concentration respectively. The maximum deprivation time was 5hrs. After photo-catalytic study the samples were portrayed by FT-IR and UV-Visible spectroscopy. The main aim of this research was to protect our environment from the contamination of water due to the effluence released from dyestuff industries, to resolve this crisis effective nanocomposite were synthesized.

Key words:
Poly(azomethine), ZnO Photo-catalyst, Nanocomposites, advanced oxidation process, degradation efficiency.

S&H 015

NEWTON'S SUBSPACE HOMOTOPY METHODS SOLVING NON-LINEAR EQUATIONS

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ABSTRACT

In this paper, the concept of Newton subspace homotopy method has been introduced. As Newton – Homotopy method can't be used for all the functions for all the spaces. So, an algorithm has been established by finding a subspace of the given space for which we find the homotopy function.

Keywords: Homotopy, Newton-Raphson, Subspace Homotopy, MATLAB

S&H 016

INHIBITIVE EFFECT OF LEAVES EXTRACT OF MUSSAENDA FRONDOSA ON MILD STEEL CORROSION- THEORETICAL AND STATISTICAL VIEW

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ABSTRACT

The theoretical and statistical view of the extract of Mussaenda frondosa (MF) on the corrosion inhibition of mild steel (MS) in 0.5 M H_2SO_4 medium were investigated by potentiodynamic polarisation and electrochemical impedance spectroscopy. The polarization studies reveal that the MF extract acts as a mixed type inhibitor. In electrochemical impedance measurement, the semicircle curves indicated that the charge transfer process controlled the corrosion of mild steel. The inhibition efficiency, increased with increase in concentration of the extract. The individual compounds present in the MF extract were identified by GC-MS. SEM images confirmed the adsorption of MF on MS surface. Quantum chemical studies confirmed that the MS is protected from corrosion by adsorption of the constituents in MF extract.
Keywords: Mild steel; Adsorption; Corrosion; Potentiodynamic polarization; GC-MS; SEM

S&H 017

A STUDY ON CORROSION INHIBITION EFFICIENCY OF CHLORINE SUBSTITUTED PIPERIDIN – 4 – ONE ON ALUMINIUM SURFACE IN SULPHURIC ACID MEDIUM

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ABSTRACT

The inhibition efficiency of 3, 5-diethyl 2, 6-diphenyl p-chloro Piperidin-4-one (DEPCPN) on the corrosion of aluminum surface in 1N H_2SO_4 solution has been studied at room temperature by mass loss measurement, Potentiodynamic polarization studies and Electrochemical impedance spectroscopy (EIS) techniques. The findings of mass loss measurement disclose that the corrosion inhibition efficiency of DEPCPN increasesand inhibits the rate of corrosion of aluminium in acid medium. The findings of polarization measurements showed that DEPCPN behaves as a mixed type corrosion inhibitor. The corrosion inhibition efficiency is found to increase with the increasing inhibitor concentration at constant acid strength. This is indicated by increase in charge transfer resistance (R_{ct}) and decrease of double layer capacitance (C_{dl}).The adsorption of DEPCPN on mild steel obeys Langmuir's adsorption isotherm.

Key words: Inhibition efficiency, DEPCPN, Mass loss, Polarization, Impedance studies.

S&H 018

SYNTHESIS, CHARACTERIZATION AND ANTIBACTERIAL ACTIVITY OF RUTHENIUM(II) ETHOXYSALAL THIOSEMICARBAZONE COMPLEXES

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ABSTRACT

A ruthenium(II) complexes of the type [RuCl(CO)(B)(EPh_3)L] (where E=P/As; B=PPh_3/$AsPh_3$/py; L = ligand) have been synthesized by solution method. The structure of the ruthenium(II) complexes were determined by micro analytical techniques and various spectral techniques (CHNS, FT-IR, UV-Vis, ^{1}H-NMR, ^{13}C-NMR and ^{31}P-NMR). FT-IR results reveal that the thiosemicarbazone ligand coordinated to ruthenium atom *via* ONS. In addition, the geometry of the complexes was confirmed by Nuclear Magnetic Resonance Spectroscopy. An Octahedral geometry has been tentatively proposed for all the complexes. Further, the synthesized ligand and its complexes were analysed against human pathogens.

Keywords: Ethoxysalicylaldehyde, Thiosemicarbazide, Antibacterial activity, Ruthenium(II).

S&H 019

A REVIEW ON NATURAL PRODUCT AS CORROSION INHIBITORS IN VARIOUS CORROSIVE MEDIA

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Abstract

Metals and alloys are pre-eminent and important materials for the construction and fabrications of material. Corrosion is an inevitable and unavoidable process but it controllable with suitable measures. Since it is impossible to eliminate corrosion, controlling, rather than preventing it, is the only remedy. Application of the corrosion inhibitors is one such corrosion control measures. Uses of many inhibitors are banned because of their toxicity and the environmental hazards they create. Hence there is a strive to make use of environmental friendly, non toxic /less toxic, extracts of naturally occurring plant materials as corrosion inhibitors . This review gives a vivid account on natural products which are used for few decades as corrosion inhibitors in various corrosive media.

Keywords: Corrosion inhibition; Plant extracts; Eco- friendly inhibitor; Aggressive media;

S&H 020

ADSORPTION BEHAVIOUR OF CHEMICALLY MODIFIED CELLULOSE BEARING BENZOTHIAZOLE CHELATING GROUP TOWARDSLEAD IONS FROM WATER BODIES

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ABSTRACT

The selective removal of Pb^{2+}ions by chemically modified cellulose hybrid materials have received great consideration as they exhibit higher adsorption capacities than unmodified forms. Numerous chemicals, which include mineral and organic acids, bases, oxidizing agents, and organic compounds, have been used for modifications. The present work is to synthesize chemically modified cellulose and examine its adsorption capacity towards Pb^{2+}metal ions from the waste water by using the various heavy metal adsorption studies such as solution pH, contact time, adsorbent dosage, initial metal ion concentration, temperature and regeneration of the sorbent material.

S&H 021

SUBSPACE IN INTUITIONISTIC TOPOLOGICAL SPACE

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Abstract—In this paper the existence of subspace in intuitionistic topological space is established by introducing a new operation ‘e’ (intersection2) to define an intuitionistic subspace and empound the characterizations of intuitionistic subspace**.**

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S&H 022

GREEN ROUTE SYNTHESIZED NANO ADSORBENT FOR THE REMOVAL OF BASIC DYES

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ABSTRACT

Water pollution is becoming pathetic when treatment potential declines. Several treatment methods are implemented according to the waste generation by industries and other sources. Adsorption has always proved to be efficient and cost effective in the aspect of removing colour, odour and hazardous chemicals. A new eco-friendly green synthesized Nano adsorbent was developed for the removal of basic dyes from aqueous solution. Silver nano particles doped with slaked lime was synthesized through a green route using pomegranate peel. Its applicability in the removal of BG4 dye from aqueous solution was evaluated in batch mode method. The adsorption behaviour of BG4 onto SDSL were analysed as the function of initial dye concentration, adsorbent dose, pH, agitation time and temperature. The experimental data were modelled using Langmuir, Freundlich and Temkin isotherms. The reaction kinetics was determined by interpreting the examined equilibrium data using pseudo first order, pseudo second order and intraparticle diffusion models. The thermodynamic data were examined for its application in different conditions and feasibility in potential development on industrial scale.

S&H 023

ENVISIONING RADICAL CHANGE IN POST-EMOTIONAL SOCIETY WITH REFERENCE TO DATTANI'S *SEVEN STEPS AROUND THE FIRE*.

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ABSTRACT

Stjepan Gabriel Meštrovićs' *Postemotional society* considers that world has been progressively indifferent to the feelings of others as a result of emotional manipulation experienced from every culture, news, entertainment. The term 'post' in post emotional society does not mean that emotions no longer exist in people, but emotions have been numbed. The post emotional society values superficial emotions over the collective ability and intervene helping others. So, the competence to feel real deep emotions is endlessly simulated and the display of feeling is short lived, unrealistic, useless and becomes disconnected from a sense of justice and from a genuine concern for humanity. Meštrović argues that this problem can be fostered with the development of empathy and compassion within the individual. Transphobia is a tendency to feel hatred, fear and anxiety towards transgender community. The effects of transphobia blind the people to take concrete steps to accept them and intensify the prejudice and stereotypical conventions about them. The present article proposes to accentuate how hijras have endured emotional crisis in post emotional society and in transphobic society. Dattani's *Seven Steps Around the Fire* is taken as a resource to show hijras' self -identification process and change in phobic emotions as a means to seek solidarity and peace. This article also suggests that the society should develop a humane concern for the down-trodden and deserted and it is yet to fully ripen for non-judgemental life. Meštrović (1997) defines, "Post-emotionalism is a system designed to avoid emotional disorder; to prevent loose ends in emotional exchanges; to civilise 'wild' arenas of emotional life; and, in general, to order the emotions so that the social world hums smoothly as a well-maintained machine" (p.150).

Keywords: Hijras, Transphobia, Postemotional Society, Solidarity, harmony, co-existence

S&H 024

FAREWELL TO ORATOR-LISTENER MODE OF TEACHING AND WELCOME TO THE ROLE AS LANGUAGE ENGINEERS

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Abstract

In the present scenario, the inclination towards orator-listener mode of teaching has become obsolete among public, and taken diverse practices among students. The reasons for this may be the development of technology and usage of electronic gadgets. One of the supreme challenge ofthe teaching fraternity as anintact is to put in order the students factionequipped to excel at the next echelon and be self-governing.Since English being the core language that is the principalmeans of communique of any subject, student's coreknowledge in any field is to some extend reliant on their English acquaintance and managing capacity, which directly place a prospectpoint in front of the teachers of English. The significance of liberty is found to be the strength of character of any student's success, both in educational and professional life. Activity based teaching helps the students in dynamic contextual comprehending and meaningful language learning. It augments team effort and decision making skills and increases interest in active team work with the winning outlook of the particular activity that helps the students obtain communication skills by default.From an orator-listener mode of teaching, teachers adopting additional role as a facilitator who acts as language engineers feeds the knowledge through various activity oriented, task oriented and team oriented patterns that helps the students to learn things easily without much pressure and elevate up to the level of different expectations, the market, the parents, the peers and the self.The objective of this paper is to execute activity oriented methodology and exercise to enhance communication skills among the selective informants by interactive learning atmosphere.
Key words: Communication Skills, Activity based teaching, interactive learning atmosphere

S&H 025

ESCAPED DREAMS: MAN'S ECSTASY VERSUS NATURE'S AGONY

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Abstract:

Human beings have generally acted the role of the pioneer species in this planet, focusing only on their survival through the destruction of all their competitors and thereby achieving effective dominance over other life forms. As a result of this anthropocentric arrogance, resource depletion and species extinction have gone beyond bounds and the planet today exists in a sickly state. W. S. Merwin, the former poet laureate of the United States and two times Pulitzer Prize winner, has written a number of poems insisting on man's mutual relationship with nature. Moving beyond that, Merwin, in anger and desperation, reacts vehemently to this self-centered nature of man through his poems. He constantly addresses the various forms of interferences that human beings make into the naturally existing ecological systems—methodical deforestation, hunting for pleasure, hunting for profit, extensive fishing, domesticating animals, inappropriate technological advancement, urbanization and so on. Merwin directly accuses man for being the root cause for the shrinking of natural resources and pushing various plant and animal species to the verge of extinction. Merwin's intimacy with the natural world is also prominent in his poems and he appreciates the quality of life rather than aiming for higher standards of living.
Key Words: W. S. Merwin, ecocriticism, ecopoetry, nature writing, depletion, extinction

S&H 026

EFFECT OF ROTATION ON LINEAR STABILITY OF STRATIFIED SHEAR FLOWS

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Abstract

In this paper, we have investigated the stability of inviscid, rotating stratified parallel shear flows. The fluid is considered to be in a state of parallel flow with the an arbitrary basic velocity profile (U(z),0,0). The fluid is assumed to be rotating about a vertical axis with angular velocity Ω. The stability of the flow is analyzed using normal mode approach and the analysis is restricted to long wave approximation.

Keywords: *Rotation, Linear stability, Shear flow, Brunt Vaisala frequency, Normal mode approach*

S&H 027

PHYSICAL AND CHEMICAL STUDIES OF PLASMA TREATED POLY VINYL ALCOHOL FILM

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Abstract

The Poly (vinyl alcohol) films have been exposed to glow discharge air plasma to improve their surface properties for technical applications. Surface energy values have been estimated using contact angle value for different exposure times for water is a test liquid. Surface composition and morphology of the films were analyzed by FTIR and SEM. Crystallinity of the plasma treated samples was studied by DSC analysis. From the FTIR analysis, polar groups are increasing on the polymer surfaces to be highly hydrophilic, which mainly depend on the increase in oxygen-containing groups. The SEM and DSC observation showed that the surface roughness and crystallinity of the PET film increased due to plasma treatment.

Keywords: Poly Vinyl Alcohol, Plasma treatment, Surface modification, FTIR, DSC

S&H 028

SYNTHESIS AND CHARACTERISATION OF FERROCENETHIOSEMICARBOZONE – RU(III) COMPLEXES

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Abstract- Ferrocenylthiosemicarbazone and ferrocenyl-N-phenyl thiosemicarbazone ligands and that of their ruthenium(III) complexes were synthesized and characterized by using FT-IR spectroscopic studies. The results from FT-IR studies confirms the bonding sites are NS with Ru(III) ion. Elemental analysis is also in good agreement with the proposed structure.

***Keywords*:** Ru(III) complexes, FT IR Studies, Ferrocene, Ru(III)

S&H 029

ACQUISITION OF ENGLISH LANGUAGE THROUGH CREATIVE WRITING AND LITERATURE.

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Abstract

Literature is an creative twist of expression of the paramount that is known of the world .It is a documentation of man's dream and ideals, his hopes and aspirations , his failures and disappointments, his motives and passions ,his knowledge and observations ,his assertions and strives. Indian Writings in English are a product of the historical encounter between the two cultures—Indian and the Western. The study deals with the process of teaching English language through creative writing through Literature. The purpose of the study focuses on how English language could be taught through creative writing through Literature. Language acquisition by itself is a self-involved study activity based on interests of the students. It is evident that students are imbibed with multiple intelligence and language learning becomes easy when it is focused on the minds creativity. In the Indian context the Mother Tongue Influence (MTI) creates a major barrier for English language learning. The methodology used is the Direct Method of teaching, as the native speaker finds it difficult in learning the target language-English. Therefore a study based on use of Literature and creative writing is used for better research prospective.

S&H 030

DE-NOISING OF MEDICAL IMAGES USING ITERATED HYBRID FILTERS

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Abstract
The medical images like ultrasound, CT scan and MRI are captured by different medical devices which contain Gaussian noise. These Gaussian noises reduces the image quality and information. This paper proposes a de-noising algorithm, iterated hybrid filtering techniques, for the removal of speckle noise from medical images. The performance of the proposed algorithm is compared with quantitative measures such as RMSE and PSNR values.

S&H 031

INDIANNESS IN ENGLISH: A COMPARATIVE ANALYSIS OF THE SELECT POEMS OF VAIRAMUTHU IN TAMIL AND ENGLISH, FOCUSING ON THE CULTURAL, SEMANTIC AND SEMIOTIC ASPECTS OF LANGUAGES AND TRANSLATION

Abstract
A literary translation, like all arts of writing can never be a predictable and repeatable exercise. It is more than simply changing words from one language to another; it involves the intricate task of expressing the words of the writer in a way that express the original intention. Translating into English fosters the growth of a holistic view of Indian Literature; it also creates solidarities across the multi-lingual and multi-cultural Indian society. Indian literary works reach a wider audience by translating into English. Translating a Tamil text into English which is linguistically and culturally distant is challenging. Vairamuthu carries the cultural fervour of the soil in his words. His poems are filled with Indian ambience, especially that of Tamil Nadu. Vairamuthu who serves as a regional ambassador through his verse has set a unique path in the field of Tamil Literature and is read widely for the picturesque portrayal of the Tamil culture. Balan Menon has translated his fifty eight poems into English.. This paper delves into the realm of translation by attempting a comparative analysis of the select poems of Vairamuthu in Tamil and English on the basis of culture, semantic and semiotic aspects of both the languages and translation.
Key words: Literary Translation - Strategies-techniques of translation - Indian works into English - Vairamuthu's poems – translator Balan Menon-

S&H 032

STUDY ON FRONTIER, BORDER AND EXTERIOR SETS IN INUITIONISTIC TOPOLOGICAL SPACES

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Abstract: Using the idea of intuitionistic preopen set, the concepts of intuitionistic pre-interior and intuitionistic pre-closure in intuitionistic topology have been studied and several of their properties are proved. Moreover, the attributes of intuitionistic pre border, intuitionistic pre frontier and pre exterior have been presented and studied. Also introduced the properties of intuitionistic alpha frontier, alpha border and alpha exterior have been studied. Many counter examples have been pointed out for the applicable classifications. AMS Subject Classification: 54A 99. Key Words: Intuitionistic prefrontier, Intuitionistic pre exterior, Intuitionistic pre border, Intuitionistic alpha frontier, Intuitionistic alpha exterior and Intuitionistic alpha border.

S&H 033

EXISTENCE OF SOLUTION OF HYPOTHALAMOPITUITARY - ADRENOCORTICAL MATHEMATICAL MODEL

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Abstract
Homotopy analysis method is attempted to evaluate the hypothalamo- pituitary - adrenocortical mathematical model. The effects of hypothalamo- pituitary adrenocortical,corticotrophin releasing hormone, adenocorticotropin, are discussed in this work. AMS Subject Classification: 65L11, 65L99, 92C50

KeyWords and Phrases: hypothalamo- pituitary -adrenocortical, corticotrophin, adenocorticotropin.

S&H 034

EXISTENCE OF SOLUTION OF FOREST CROSS-DIFFUSION MODEL

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Abstract
Homotopy perturbation method is attempted to evalu-ate the cross-di_usion forest boundary dynamics. The effects of exothermic and endothermic parameters are are dis-cussed.AMS Subject Classi_cation: 37N25, 35Q92, 92D40, 92D25,35B20, 37N25.
KeyWords and Phrases:Homotopy perturbation method,forest boundary dynamics .

S&H 035

NON-FRAGILE STATE ESTIMATION FOR DISCRETETIME-DELAYED SWITCHED NEURAL NETWORK WITH PARAMETER UNCERTAINTIES AND SOJOURN PROBABILITIES

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Abstract:
This paper deals in designing a nonfragile state estimator for a class of uncertain discrete time-delayed neural networks with parameter uncertainties and sojourn probabilities. These norm bounded parameter uncertainties are of a general type consisting of both linear and non-linear parts and the possible implementation error of the neuron state estimator is taken into account by the variation of the estimator gain. A new switched system is modeled by employing the information of sojourn probability method for all admissible parameter uncertainties and gain variations which guarantees the asymptotic mean square stability of the resulting error system. By applying Lyapunov function technique, the desired state estimator is designed and the explicit information of the gain matrix is characterized in terms of linear matrix inequalities (LMIs). Finally, a numerical example is given to illustrate the developed state estimation approach.

Keywords: Discrete time-delayed switched neural networks, on-fragile state estimator, sojourn probability method.

S&H 036

STUDY OF AGGREGATION BEHAVIOR AND ELECTRON INJECTION PROCESS OF THIOL SUBSTITUTED ZN-PHTHALOCYANINE DERIVATIVE ON TIO_2 NANOPARTICLE SURFACE

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Abstract:
Tetra carboxyl Zn-phthalocyanine (TCTZnPc) with thiol linker is anchored onto titanium dioxide (TiO_2) nanoparticles surface. The presence of thiol group having lone pair of electrons further increase the electron donating capability of Zn-Phthalocyanine (ZnPc) derivative. TiO_2 thin film is prepared and sensitized with the Zn-Phthalocyanine derivative. The type of aggregation of TCTZnPc in DMF and on TiO_2 surface is studied from the steady state absorption spectral techniques. The fluorescence spectral studies are carried out to analyze the quenching of ZnPc emission on TiO_2 surface. Further, the time resolved fluorescence is carried out to confirm the electron injection from excited ZnPc molecule to the conduction band of TiO_2 nanoparticles surface.

Keywords: ZnPc, Aggregation, TiO_2, Q-band, Electron injection

S&H 037

REVIEW ON RECENT ULTRASONIC INVESTIGATION IN MEDICINAL PLANTS

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Abstract

Traditional medicines are carried out nowadays world-wide. The research in the herbals which are of medicinal purposive are very much fascinating in recent days. Eighty percentage of Asian and African population consumes herbal medicines for health care. Plenty of research and quality of herbal medicines are mainly required to acquire good health. Ultrasonic molecular interaction study in the liquids and liquid mixtures is one of the widely utilized Non-destructive testing technique to diagnose the physico - chemical properties of the constituent molecules. Measurement of ultrasonic velocity, density, viscosity and other acoustical parameters is the significant tool for analysing the chemical behaviour of medicinal herbals. Variety of studies has been made in numerous medicinal herbals. The present paper reviews the ultrasonic investigation on medicinal plants which are of therapeutic properties, invites an excellent scope in human health care sectors.Key Words: Herbal medicines, physico-chemical properties, Ultrasonic velocity

S&H 038

ANALYSIS OF STRESS AMONG THE ENGINEERING COLLEGE IN COIMBATORE, INDIA

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Abstract

The students are generally affected by stress especially in professional courses like medical, engineering are affected by higher stress, this leads to psychological problems such as increased rate of depression, anxiety, cardiovascular disease, and other potentially life-threatening issues to one's mind. Mental health among the students indicates growing concern along with opportunity, because of the large number of people who could be reached during an important period of life. College premises, by their scholarly nature, are also well positioned to develop, evaluate, and disseminate best practices. In short, colleges offer a unique opportunity to address one of the most significant public health problems among late adolescents and young adults. Busy schedules crammed with curricular, co-curricular and extracurricular activities can affect the student's physical and mental health, especially on delayed eating and improper and less sleeping. These stressors can compound over time, leading to even greater levels of stress. College premises, by their scholarly nature, are also well positioned to develop, evaluate, and disseminate best practices. In short, colleges offer a unique opportunity to address one of the most significant public health problems among late adolescents and young adults. This study aims to analyse the stress among the engineering students from sample survey. A quantitative method was used in gathering and analysing the data by distributing questionnaires to the students. The results obtained were analysed for different factors that cause stress among students.

Key words- Reasons for stress, Students, Effects

S&H 039

MOTIVATION TOWARDS LEARNING ENGLISH: A STUDY OF UNDERGRADUATE ENGINEERING STUDENTS ACROSS TAMIL NADU

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Abstract:

This research paper investigates the results of a survey carried out to identify Engineering students' motivation towards learning the English language. This study was made with reference to the three motivational constructs: instrumental motivation, integrative motivation and personal motivation based on Gardner's (1985) and Cooper and Fishman's (1977) works. The study sample consisted of engineering students from 15 Engineering colleges across Tamilnadu. Questionnaire and interviews were used for data collection. The study shows that Instrumental motivation and Personal motivation supersede Integrative motivation. Further the study also reveals that there is a positive influence on the students to hone their English language skills.

Key words: motivation, ESL/ EFL learners, Mechanical Engineering students, Language skills

S&H 040

ELECTRODEPOSITION OF TUNGSTEN BASED COMPOSITES ON MILD STEEL: STRUCTURAL AND ITS WEAR BEHAVIOUR

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Abstract-The current research work focuses to coat thin layers of tungsten (W) on mild steel surface in order to enhance the wear resistance. The W thin films were coated on mild steel rod by electroplating method at a constant current density with different bath temperatures like 32 and 70 ° C. Thickness of the coated thin films was determined from laser speckle interferometry. The wear analysis of mild steel was analyzed by using pin on disc method. The surface analysis reveals that the mild steel with coated films exhibits the bright, uniform, crystalline nature and the crystalline size is in the few tens of nanometers. The mechanical characteristics like wear resistance of coated mild steel was analyzed. The variations in the mechanical properties of mild steel with W thin films were also investigated.

Keywords: Current density, Wear test, and Tungsten

S&H 041

A STUDY OF ACHROMATIC AND B-CHROMATIC NUMBER OF MULTI STAR-RELATED GRAPHS

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Abstract
The structural properties, achromatic number and b-chromatic number of central graph of double star graph and triple star graph have been studied in [6]. In this paper, these studies have been carried out, for the central graph of any multi star graph and central graph of shadow graph of star graph and double star graph.
Key Words Double Star graph, Triple Star graph, multi star graph, achromatic number, b-chromatic number, Shadow graph

S&H 042

NANO GENERALIZED-SEMI IRRESOLUTENESS IN NANO TOPOLOGICAL SPACE

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ABSTRACT

In this paper, the notion of nano generalized-semi irresolute maps in nano topological space is investigated . Various characterizations of nano generalized-semi irresolute functions in terms of nano generalized-semi open sets,image and inverse images of nano generalized-semi closed sets are discussed. A relation between the image of nano generalized-semi closure of a set and nano semi-closure of the image of it under nano generalized-semi irresolute function is determined.

Keywords: Nano continuity, Nano sg-continuity, Nano sg-irresoluteness, Nano gs-open sets, Nano gs-closed sets, Nano gs-continuity.

S&H 043

REQUIREMENT ANALYSIS DOCUMENT IN GOOGLE DRIVE FOR GREEN AND SUSTAINABLE SOFTWARE ENGINEERING APPROACH

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Abstract:

This study shows how a requirement analysis can help to organizations become more environmentally sustainable in a structured and efficient manner, for this we have analyzed the Google Drive document as a requirement analysis document with the help of that document we try to cover the software requirement specification from the customer, then we try to observe the if that document located in desktop pc what is the cumulative processor energy, IA energy and GT energy, if that document shared with cloud environment minimum and maximum communication of resource sharing details are analyzed for user base and data center of various regions, finally the load event details are observed for the requirement document shared in the Google drive , This result show that the technologies delivers specific suggestions for improvement both on reducing the environmental foot print of ICT and on using ICT as a green solution for software requirement analysis process.

Key words: Green ICT, IA Energy, GT Energy, Google Drive, Software Requirement Specification

S&H 044

WEAKLY GENERALIZED CONTINUOUS MAPPINGS IN INTUITIONISTIC FUZZY TOPOLOGICAL SPACES

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Abstract
The purpose of this paper is to introduce and study the concepts of intuitionistic fuzzy weakly generalized continuous mappings in intuitionistic fuzzy topological space. We investigate some of their properties.
Keywords: Intuitionistic fuzzy □ weakly generalized closed set, intuitionistic fuzzy □ weakly generalized continuous mappings
AMS Subject Classification (2000): 54A40, 03F55, 03E72

S&H 045

ELECTROCHEMICAL METHOD OF DYEING POLYESTER FABRIC USING SYNTHETIC DYES

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Abstract

The electrochemical method of dyeing seems to be of great interest both from economical and ecological points of view in the present day context of eco-friendliness. An attempt has been made with two-fold aims; (i) to carry out dyeing without external heating, but with electrical potential application (2, 3, 4V) only (ii) to improve the dyeability by embedding the textile substrate on electrode. Cyclic Voltammetric experiments and UV-Vis spectral analysis were carried out for disperse dyes to understand the redox behavior (anodic oxidation / cathodic reduction) andto find the λ_{max} of each dye. The color strength (K/S) was measured by computer color matching.

Keywords: Electrochemical, Dyeing, Potential, Eco-friendly

S&H 046

FRACTAL BOX COUNTING TECHNIQUE FOR SHELF-LIFE STUDY OF GRAPES BY LASER SPECKLE IMAGE PROCESSING

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Abstract: The autocorrelation function of the time history of a speckle pattern has been proposed as a tool to estimate postharvest age of grapes. The bioactivity occurrence in vegetative material is based on the Brownian motion exhibited by sub cellular organs which decay as the tissue senescence goes by. The quantification of the bio speckle phenomena is associated to the Moment of Inertia (MOI) and Time History of Speckle Pattern (THSP) and Grey Level Co-occurrence Matrix (GLCM). In this paper we proposed a new Fractal Box Counting (FBC) technique to assess grapes.

S&H 047

A FUZZY PARADIGMFOR MISSION PLANNING WITHUNMANNED AERIAL VEHICLES

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Abstract
Unmanned Aerial Vehicle task with path scheduling moves across an essential UAV technologies to advanced stage process such as task and path scheduling for solitary and numerous UAV's, as UAV's are positioned to perform a selection of tasks in together martial and non military territories. Scheduling and performing a task in terms of prescribing the path and other objectives are interesting problems that needs more attention.The designof this work is to locate an optimal pathway for each UAV's starting and ending at its respective depot such that each target is observed at most once by some UAV, the vehicle–target constraints are satisfied and the sum of the length of the paths and traveling costs for all the vehicles are depleted. This system was able to dynamically optimize the motion of 4 vehicles towards 21 targets in real time. In this work Fuzzy Multi Objective Linear Programming is designed to solve the multiple unmanned aerial vehicles with single home station with numerical computations.
Keywords*:* multiple unmanned aerial vehicles; trapezoidal fuzzy number; yager's fuzzy ranking method;length of the path;

S&H48

Spiritual Values : A question of existence in William Faulkner's The Sound and the Fury and Absalom, Absalom!

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ABSTRACT

Values are the necessary code for human conduct for harmonious life of integrity. Human beings are rational; they have reason for each and every action. Their actions bring out their beliefs, attitudes and custom. William Faulkner in his novels *The Sound and the Fury* and *Absalom, Absalom!* delivers perfect medium of the values in spirituality and absence in it. This research work focuses on the absence of spiritual values which lead to confusion and disorientation in the lives of many characters. Al the characters discussed in the work gives a perfect medium of trouble not only to self but also to others is all because of the least consideration that is given to the values based on spirituality.

Key Words: values, spirituality, confusion, disorientation

S&H49

STUDY TO SOLE MULTIPLE TRAVELING SALESMAN PROBLEM WITH VARIOUS OPTIMIZATION TECHNIQUES – REVIEW

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ABSTRACT:

The application of traveling salesman problem(TSP) is currently receiving growing interest from researchers withvarious backgrounds. The multiple travelling salesman problem (multiple TSP) is the general form of TSP, in which one or more than one salesmen can be used in the solution set. The constraint in the optimization task is that each salesman returns to starting point at end of trip, travelling to a specific set of cities in between and except for the first one, each and every city is visited by exactly one salesman. The idea is to obtain the optimized multi objective goals,where each salesman have to travel from the starting location to individual cities and back to the location from where he has started. It is a complex NP-Hard problem and has various applications mostly in the field of scheduling and routing. The amount of computation time to solve this problem grows exponentially as number of cities increases so, the meta-heuristic optimization algorithmsfor example,genetic algorithm(GA), tabu search algorithm ,ant colony algorithm available with respective attributes to find the nearest optimal solution for the traveling salesman problem are should have been investigated. This paper presents a survey of the research work done to solve traveling salesman and multiple TSP. This article reviews some of that work as well as recent developments in fuzzy multi objective techniques that were used on the largest traveling salesman problem ever solved

Keywords: multiple TSP, ant colony optimization, genetic algorithm, fuzzy multi objective linear programming.

S&H050

DISCRETE- TIME *ON-OFF* SOURCE QUEUES WITH NEGATIVE AND FEEDBACK OF CUSTOMERS WITH SERVER INTERRUPTION

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Abstract

This paper analysis a discrete time infinite capacity queueing system with correlated arrival, negative and feedback of customers served by two state Markovian server. Positive customers are generated according to the first order Markovian arrival process with geometrically distributed lengths of *On* periods and *Off* periods. Further, the geometrically distributed arrival of negative customer removes the positive customers is any, and has no effect when the system is empty. The server state is a two state Markov chain which alternate between *Good* and *Bad* states with geometrically distributed service times. After being served unsatisfied customers immediately joins the queue again with probability 'p' or satisfied customers will departs permanently with probability 'q'(p + q = 1). In this paper we shall determine the Closed form expressions for mean queue length, PGF of unfinished work and sojourn time. Numerical illustration is also presented.

Key words : *On – Off* source; Discrete time queues; negative customers; two state Markovian server; Feedback customers; Server interruption.

S&H51

AN ORGANIC NONLINEAR OPTICAL CRYSTAL : 4-N, N-DIMETHYLAMINO-4'-N'-METHYL-STILBAZOLIUM TOSYLATE FOR PHOTONIC AND LASERAPPLICATIONS - A REVIEW

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Abstract:

4-N, N-dimethylamino-4'-N'-methyl-stilbazolium tosylate (DAST) has very attractive properties for high-speed active photonic devicesand is the very efficient material for the generation and detection of THz waves; therefore, it is also important to develop a technique suitable for fabricating integrated optic devices as they possess high laser-induced damage tolerance. Furthermore, in very-large-scale integrated photonic structures, the wave guides should have low transmission losses and high refractive index; The recent progress in the development of photonic applications based on DAST single crystals for the generation of high power visible and ultraviolet laser radiations are reviewed.Few important aspects involved in basic principles behind nonlinear optical materials, the structure, physical properties andsome optical applications are also summarized.

S&H50

BIOSYNTHESIS OF SILVER NANOPARTICLES BY OSCILLATORIA ANNAE

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ABSTRACT

The blue-green approaches of silver nanoparticles blend by cyanobacteria strains, generally known as blue green growth that known a shoddy eco-accommodating apparatus for nanometer arrangement. Microalgal water tests were gathered from Pandhuvakkottai , Oorani Lake and were disengaged and refined by microbiological strategies for serial weakening. The cyanobacterium Oscillatoria annae was observed to be viable microorganisms for silver nanoparticles generation. The extracellular amalgamation of AgNPs was at first recognized by visual examination for shading changing of refined. Carafes arrangements frame straightforward to dark colored at that point dark and also nanoparticles was portrayal by UV-Vis and FT-IR. While Fourier Transform Infra Red(FT-IR)affirmed the nearness of a protein shell which is in charge of the nanoparticles biosynthesis. Checking Electron Microscopy (SEM) thinks about demonstrated that arrangement of agglomerated silver nanoparticles because of the topping operator in the scope of 100-200nm.The FT-IR range information affirmed the nearness of particular useful gatherings, for example, proteins that have the fundamental part as topping and balancing out specialist in the biosynthesis of AgNPs. The nanoparticles indicated phenomenal antimicrobial action against different bacterial and parasitic. In addition Escherichia coli, Streptococcus pyogenes, Staphylococcus aureus and Aspergillus conicus, Aspergillus terrus, Penicillium.

Keywords: Terrestrial cyanobacteria, silver nanoparticles, Oscillatoria annae [FT-IR,SEM].

S&H51

NARRATIVE TRENDS IN THE NOVEL OF ARAVIND ADIGA'S THE WHITE TIGER

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Abstract

The purpose of this article is to investigate how Aravind Adiga has used an innovative narrative technique in his award winning novel *The White Tiger* and show how this new and multiple narration has helped in effectively linking its theme and title. Narrative techniques are generally used in telling a story by a writer. It is the method and procedures involved in telling a story. Arvind Adiga took up the epistolary form for the white tiger and gave it necessary twist so as to incorporate elements from the stream-of –consciousness novels of the modern era and also from the postmodernist prose fiction having recognizable socio-cultural scenario without any symbolic intentions.

S&H52

STUDIES ON SYNTHESIS, CHARACTERIZATION, DNA BINDING, DNA CLEAVAGE AND IN VITRO ANTICANCER ACTIVITY OF RUTHENIUM(III) SCHIFF BASE COMPLEXES

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ABSTRACT

Four ruthenium(III) complexes of the type $[RuCl_2(EPh_3)L]$ were synthesized from the reactions of Schiff base ligands with $[RuCl_3(EPh_3)_3]$, (where E = P/As; L= monobasic tridentate Schiff base ligands). Structural features of the ligands and complexes were determined by various physico-chemical and spectroscopic techniques. DNA binding of the ligands and complexes were investigated by absorption spectroscopy which indicated that the compounds bind to DNA *via* electrostatically. A gel electrophoresis pictogram demonstrated the ability of the complexes to cleave the pBR322 DNA through an oxidative process. The efficiency of complexes to arrest the growth of HeLa tumor cell lines has been studied along with cell viability test under *in vitro* conditions.

Key words: Ruthenium(III) complexes • dihydroxybenzaldehyde • DNA binding • DNA cleavage • Cytotoxicity •

S&H53

FEATURE SELECTION WITH ENHANCED BAT ALGORITHM AND MODIFIED RECURSIVE BAYESIAN DEEP NEURAL NETWORK (MRBDNN) FOR TEMPERATURE PREDICTION

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Abstract

Temperature prediction is a challenging problem and a concern in energy, environment, industry and agriculture etc. Climate models and statistical time-series forecasting methods are the ineffective forecasting tools of the long-range temperature prediction. Accurate weather forecasting is one of most challenging tasks that deal with a large amount of observations and features. In this paper, an Enhanced Bat Algorithm (EBA) is proposed for selection of features from the temperature dataset. Due to the high dimensionality of data, feature selection is done in this work. Based on analysis of monthly maximum, mean and minimum temperatures data sets, a novel Recursive Modified Bayesian Linear Regression (RMBLR) algorithm based on Deep Neural Network (DNN) is presented in this study. The algorithm consists of two main components: DNN and a RMBLR algorithm with an adaptive inflation factor that changes the confidence level of the prior data. It is shown that EBA- MRBDNN has a good and competitive accuracy with current state-of-the-art methods for temperature prediction.

Keywords: Feature Selection, BAT Algorithm, Recursive Bayesian, Temperature Prediction, Deep Neural Network.

A SYMMETRIC KEY CRYPTOGRAPHIC ALGORITHM WITH IMPROVING SECURITY IN MULTI AUTHORITY ATTRIBUTE BASED ENCRYPTION

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Abstract

Attribute-based encryption is a type of public-key encryption in which the secret key of a user and the ciphertext are dependent upon attributes. Multi authority concept allows any polynomial number of independent authorities to monitor attributes, distribute secret keys and decrypt the message. A secret key algorithm (sometimes called a symmetric algorithm) is a cryptographic algorithm that uses the same key to encrypt and decrypt data. The main idea of this paper is to improve the security issues in multi authority attribute based encryption of a symmetric key cryptographic algorithm.

S&H55

ATMOSPHERIC PRESSURE PLASMA SURFACE TREATMENT OF RAYON FABRICS

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Abstract

Rayon fabrics are treated in low temperature plasma. The bulk properties of rayon fabrics are not affected by plasma treatment which is confirmed by XRD and FTIR studies. The aim of this study is to investigate the wettability of rayon fabrics. The effect of the experimental parameters of the glow discharge such as gas pressure, the sample treatment time and discharge voltage on the wettability of the samples were studied.

Keywords: XRD, Plasma, Wettability, Rayon

S&H56

SYNTHESIS AND CHARACTERIZATION OF POROUS CALCIUM OXIDE NANOPARTICLES (CaO NPs)

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Abstract

Calcium oxide nanoparticles (CaO NPs) gain great value in the areas of energy storage systems and drug delivery systems. Due its porosity it finds its part in storage systems and its biocompatibility earns it good value in drug delivery and gene transfection. In this present work calcium oxide nanoparticles are prepared by means of simple precipitation method. Thus prepared particles are subjected to morphological, size and structural analyses. The X-ray diffraction studies revealed the polycrystalline nature of CaO nanoparticles. The SAED pattern confirms the polycrystalline nature. Transmission electron microscope shows that the size of the particles varies between 80 nm to 190 nm in good agreement with particle size analysis results.

Key words: CaO NPs, Precipitation, XRD, TEM

S&H57

INTUITIONISTIC FUZZY CONTRA WEAKLY GENERALIZED CLOSED MAPPINGS

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Abstract

The purpose of this paper is to introduce and study the concepts of intuitionistic fuzzy contra weakly generalized closed mappings, intuitionistic fuzzy almost contra weakly generalized closed mappings and intuitionistic fuzzy contra weakly generalized * closed mappings in intuitionistic fuzzy topological space. Some of their properties are explored. Keywords: Intuitionistic fuzzy topology, intuitionistic fuzzy contra weakly generalized closed mappings, intuitionistic fuzzy contra weakly generalized * closed mappings and intuitionistic fuzzy almost contra weakly

S&H 058

PHYSICOCHEMICAL ANALYSIS OF UNDERGROUND WATER SAMPLES OF VELLIANGADU AREA IN COIMBATORE DISTRICT, TAMILNADU, INDIA

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Abstract

The climatic change all over the world has its impacts on water crisis in some areas and Coimbatore is one of the places where the groundwater levels are decreasing every year. In the recent past the number of bore wells drilled in the area is increasing tremendously in search of water since most of the open wells are dried up. Open well water was the primary source of water for the agricultural purpose till the last decade but more and more bore wells are drilled in search of water up to 1000 feet underground. Since the drilled bore wells are of a minimum of 300 feet and a maximum of above 1000 feet it's quite interesting to analyze the physiochemical properties of groundwater and help the farmers to gain the knowledge on water quality parameters. Hence the present study is undertaken to characterize the physicochemical nature of groundwater in Velliangadu village in Coimbatore city by taking water samples from different places. Evaluation of physicochemical parameters have been carried out. To assess the quality of groundwater, each parameter has been compared with the standard desirable limit of that parameter as prescribed by different agencies. The pH, Total hardness, Total Dissolved Solids, Total Alkalinity, Electrical Conductivity Chloride contents of the water samples lies within the range prescribed by World Health Organization, Bureau of Indian Standards and Indian Council of Medical Research.

Keywords— Bore well water, Climate change, Physiochemical analysis, Velliangadu**.**

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EXS&H 001

FUZZY MEASURE – STRUCTURAL CHARACTERISTICS

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ABSTRACT

In this paper, some structural characteristics of fuzzy measure such as null-additivity, autocontinuity, uniform autocontinuity, subadditivity, and superadditivity are defined with examples. Some theorems are given about the characteristics and finite fuzzy measure.
Keywords: Fuzzy measure, null-additivity, autocontinuity, uniform autocontinuity, and exhaustive

EXS&H 002

SLIP EFFECTS ON HYDROMAGNETIC DISSIPATIVE FLOW OVER A POROUS NONLINEAR STRETCHING SURFACE WITH THERMAL RADIATION AND NON-UNIFORM HEAT SOURCE/SINK

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ABSTRACT

Slip effects on steady laminar hydromagnetic flow of a viscous, electrically conducting and radiating fluid over a porous nonlinear stretching surface in the presence of non-uniform heat source/sink, viscous and Ohmic dissipation has been investigated. The governing nonlinear partial differential equations of momentum and energy are reduced to nonlinear ordinary differential equations by suitable similarity transformation. The resulting nonlinear ordinary differential equations are solved numerically utilizing Nachtsheim Swigert shooting iteration technique for satisfaction of asymptotic boundary conditions and Runge Kutta fourth order integration scheme. Effects of various governing physical parameters on velocity and temperature distributions as well as on the skin friction coefficient and Nusselt number are presented through graphs and tables and they are discussed. The individual effect of velocity slip parameter, Magnetic field, power-law index parameter and suction has the same influence over the velocity so as to decelerate it. It is noted that velocity slip, non-uniform heat source/sink parameter and Eckert number enhance the temperature whereas the thermal slip parameter and radiation parameter reduce the temperature distribution. Comparative study with the available published results for particular cases shows an excellent agreement.
Key words: MHD, radiation, slip, suction, non-uniform heat source/sink

EXS&H 003

USE OF GRAPHS TO SOLVE TRAVELING SALESMAN PROBLEM

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ABSTRACT:

Hungarian method is most commonly used for solving assignment models. In this paper, we propose a new method to solve assignment models and traveling salesman problem by using the graph theory concept in the general formula directly. Also we compare the proposed method with existing method.

Keywords: Assignment problem, Hungarian method, and Traveling Salesman Problem

EXS&H 004

PROBIOTIC POTENTIALS AND ANTICANCER ACTIVITY OF SOME NOVEL CLUBBED QUINAZILINONE DERIVATIVES– AN IN VIVO AND IN VITRO APPROACH

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ABSTRACT

Growths begin from cell-intrinsic hereditary mutations, and it need turned rash design to harmful tumor on Advance. The best, Furthermore maybe the only, elective lifestyle for curing growth depends with respect to regular cure. Regular anticancer measures, and in addition numerous structures of growth therapy, rely on upon those movement with remember tumour-specific particles that need anticancer impacts. The commitment about probiotic bacteria, for example, such that lactobacilli through processing about antibacterial protein namely, bacteriocin invigorate and regulate the mucosal safe framework because of the opposition on antincancer action. In the display some clubbed heterocyclic compounds were examination of lactobacillus strains kept oral malignancy eventually perusing expanding physique impostor index, DMBA safety property and more immunomodulatory impacts without side impacts and their synthetic compounds was confirmed by IR, ^{1}HNMR, ^{13}CNMR, Mass Spectras and Elemental Analysis.

Keywords: Oral cancer, DMBA, lactobacillus, bacteriocin, hamster.

EXS&H 005

GREEN SYNTHESIS SILVER NANOPARTICLES USING ANDROGRAPHIS PANICULATA (NEES). AND IT'S ANTIMICROBIAL ACTIVITY AGAINST HUMAN PATHOGENS

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ABSTRACT

In the present examination, an undertaking was made to nanoparticle by using a remedially fundamental plant Andrographis panticulata. The applications plant materials which would help in the neutralizing activity of human pathogens. Silver nitrate ($AgNO_3$) was used to coordinate the silver nanoparticle by using leaves focus of A. paniculata was used as a diminishing and offsetting administrator. The organized silver nanoparticles from 1mM $AgNo_3$ game plan through the leaves expel were depicted using UV-VIS spectrophotometry, Scanning Electron Microscope (SEM) and Fourier Transform Infra-Red (FTIR). The nanoparticles should remarkable antimicrobial activity against multi-sedate safe human pathogenic sorts of the two tiny living beings and Fungi (Bacillus subtilis, Escherichia coli, Klebsiella pneumonia, Proteus mirabilis, Streptococcus fecalis, Aspergillus conicus, Aspergillus flavus, Aspergillus niger, Aspergillus terreus and Rhizopus. sp). The result reveals that the most outrageous antimicrobial activity was seen against the test life frame when stood out from the control.

KEY WORDS: Silver nanoparticles, Andrographis paniculata, SEM, UV-VIS spectroscopy, FT-IR, Antimicrobial activity.

EXS&H 006

SYNTHESIS AND CHARACTERISATION OF MACRO CYCLIC VANADIUM COMPLEXES

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ABSTRACT

The coordination chemistry have wide applications in various fields.The formation of stablecomplexes with good biological applications is more challenging nowadays. The stability of the complexes depend only on Ligands. The cyclam ring have more stability as compared to other polydentate ligands. Vanadium has the ability to combine with macrocyclicligands. The presence study involves synthesis and characterization of three different macro cyclic ligands by using ethylene diamine and perchloric acid. Preparation of vanadium complexes carry out by mixing of $VOSO_4.H_2O$ and synthesized ligands. These complexes were characterized using UV – Visible spectroscopy , Fouriertransform - Infrared analysis. Added with this electrochemical studies of the complexes also done by cyclic voltammetry technique.

Key words:Macro cyclic vanadium complexes, characterization

EXS&H 007

STUDIES ON SYNTHESIS, CHARACTERIZATION, DNA BINDING, DNA CLEAVAGE AND *IN VITRO* ANTICANCER ACTIVITY OF RUTHENIUM (III) SCHIFF BASE COMPLEXES

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Abstract

Four ruthenium(III) complexes of the type $[RuCl_2(EPh_3)L]$ were synthesized from the reactions of Schiff base ligands with $[RuCl_3(EPh_3)_3]$, (where E = P/As; L= monobasic tridentate Schiff base ligands). Structural features of the ligands and complexes were determined by various physico-chemical and spectroscopic techniques. DNA binding of the ligands and complexes were investigated by absorption spectroscopy which indicated that the compounds bind to DNA *via* electrostatically. A gel electrophoresis pictogram demonstrated the ability of the complexes to cleave the pBR322 DNA through an oxidative process. The efficiency of complexes to arrest the growth of HeLa tumor cell lines has been studied along with cell viability test under *in vitro* conditions.

Key words: Ruthenium(III) complexes • dihydroxybenzaldehyde • DNA binding

• DNA cleavage • Cytotoxicity •

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EXHE 001

A STUDY OF THE IMPACT OF MANAVALAKALAI YOGA ON COLLEGE STUDENTS ANALYSED BY USING STUDY SKILL

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Abstract
The purpose of the study is to find out the impact of Manavalakalai yoga on college students. To achieve the purpose of the study 40 college students were selected randomly from Coimbatore has the subjects. The subject's age ranged from17 to 21 years. The selected subjects under went onManavalakalai yoga for an hour per day, five days a week for eight weeks. Pre and post-test were taken before and after the 8 weeks of training programme for analysis and interpreting the data. The results of the study shows that Manavalakalai yogahad an impact in the study skills of the subjects.

***Keywords*:** Manavalakalai yoga, study skills, impact.

EXHE 002

THE STUDY OF THE IMPACT OF MANAVALKALI YOGA ON WORKING MEN SCALED UNDER ANGER

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Abstract
The purpose of the present study is to help the working men to get stress free mentality and anger less on work to face the modern world. To study that there is any change in anger which is selected as the psychological variables after the practicing ofManavalakalai yoga. For purpose of the study 40 working men were selected from corporate and othercompanies at Coimbatore area has the subjects. The subject's aged between 26 to 40 years. The subjects were divided into two groups with equal number of member in the each group. Group 1 the Experimental group underwent on Manavalakalai yoga for six days a week for eight weeks for one hour per day. Group 2 the Control group were not given any kind of training. The Pre-test has taken before the training of Manavalakalai yoga and the post-test were taken after the 8 weeks of training programme. The data's has taken for the analysis purpose and data's has been interpreted. In the study it is seen that there is significant difference in the scale of anger between the groups among working men by the impact of Manavalakalai yoga.

***Keywords*:** Manavalakalai yoga, Anger, psychological variables, workingmen

EXHE 003

IMPACT OF SIMPLIFIED KUNDALINI YOGA ONJOB SATISFACTION AMONG WORKING WOMEN

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Abstract
The purpose of the study is to find out the impact of Simplified Kundalini Yoga on job satisfaction among working women experimented on psychological variable. To achieve the purpose of the study 30working women were selected randomly from Kumbakonam in and around city as the subjects. The subject's age ranged from 25 to 35 years. The selected subjects under went on Simplified Kundalini Yoga for an hour per day, five days a week for eight weeks. Pre and post-test were taken before and after the 8 weeks of training programme for analysis and interpreting the data. The results of the study shows that Simplified Kundalini Yoga had an impact in the job satisfaction of the subjects.

***Keywords*:** Simplified Kundalini Yoga, job satisfaction, impact, Experiment.

EXHE 004

EFFECT OF SIMPLIFED KUNDALINI YOGA AND PRANAYAMA PRACTICES ON SELECTED PSYCHOLOGICAL VARIABLES AND ACADEMIC PERFORMANCE OF SECONDARY SCHOOL BOYS

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Abstract
The study was undertaken to find out the effect of simplified Kundalini yoga and pranayama on academic performance and selected psychological variables among school boys on aggression. To achieve the purpose of the study 45 students studying various Higher Secondary Schools, at Erode District were selected as subjects. The age of the subjects ranged from 14 to 16 years. The subjects were divided into three groups of fifteen each (n=15) randomly. Experimental Group I underwent simplified Kundalini yoga, Experimental Group II underwent Pranayama and Group III is Control group were kept under active rest. The training period is for three days per week for eight weeks in addition to school curriculum. All the subjects were tested on selected criterion variables prior and immediately after the training period. The result of the study that there is a significant difference in the adjusted post-test means of simplified Kundalini yoga group and pranayama practise group and control group it was identified that simplified yoga group is better than pranayama group and control group in improving explosive strength.

Keywords: simplified Kundalini yoga, pranayama, aggression, academic performance

EXHE 005

INFLUENCE OF SIMPLIFIED KUNDALINI YOGA WITH AND WITHOUT SURIYANAMASKAR ON SELF ESTEEM AMONG COLLEGE WOMEN STUDENTS

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Abstract
The purpose of the study was to find out the influence of Simplified Kundalini Yoga on Self-Esteem among college girls experimented on psychology variable. To achieve the purpose of the study 45 Engineering College girls were selected randomly from Coimbatore as the subjects. The subject's age ranged from 18 to 23 years. The selected subjects were divided into 3 groups. Experimental Group I under went on Simplified Kundalini Yoga with Suriyanamaskaram & Experimental Group II Simplified Kundalini Yoga without Suriyanamaskaram for an hour per day, five days a week for 8 weeks. The control group was kept in active rest. The pre-test and post-test were conducted before and after the training for all three groups. The data collected from the groups before and after the training period were statistically analysed by using Analysis of Co-Variance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance. The result of the study showed that the Self-Esteem was significantly increased as result of Simplified Kundalini Yoga with Suriyanamaskaram. The conclusion was that the Simplified Kundalini Yoga with Suriyanamaskaram helped to increase Self-Esteem among college girls.

Keywords: Simplified Kundalini Yoga, Influence, Suriyanamaskaram, Experiment, Self-Esteem.

EXHE 006

A STUDY ON ESSENCE OF TRADITION LOST IN THE NAME OF FASHION AMONG COLLEGE STUDENTS

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Abstract
The purpose of this research is to find the motivation of college-going youngsters between the age groups 17 and 24 for adopting different methods of body beautification such as tattooing, piercing, wearing ornaments and dyeing. Body beautification methods mentioned above have been practiced for many centuries and still remain in vogue, but in a way that is significantly different from its traditional form. The research aims to explore the reasons behind the use of aforementioned practices among the specified age category across various socio-economic groups. The research intends to use Fashion Theory as a basis to guide the study.

Keywords: Body beautification, dyeing, tattooing, piercing, wearing ornaments.

EXHE 007

ESTABLISHING COUNSELLING SERVICES IN ACADEMIC INSTITUTIONS: AN EXPERIENTIAL SKETCH

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Abstract
Counselling is a process of facilitating individuals to help themselves in times of their stressful situations. Enrolling in a professional course and pursuing it is a significant phase in a student's life. During this journey, the student experiences massive changes both in physical self and in emotional self. In addition, the environment and the learning pattern also changes. A counsellor can contact, connect and counsel the clients (here the students) in this phase. Counselling can be offered for Emotional, Behavioural and Academic reasons, and can facilitate the clients to move on from their limitations at their own pace. This paper describes the experiential journey of the author as a counsellor who has established a Counselling Service Centre (CSC) in an academic institution to support and facilitate the present young generation.

Keywords: Emotional, behavioural, academic, anxiety, transactional analysis

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FABRICATION OF SERICIN BASED WOUND DRESSING FOR DIABETIC FOOT WOUND ULCER

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Abstract

Many innovations and researches based on silk sericin are being exhibited in various textile applications especially in medical textiles and bio- active textiles due to its properties. Sericin is a macromolecular protein extracted from the cocoon of silkworm bombyx mori, which is used for the wound healing process with precise conditions and selection of methods. Sericin has properties including cell protecting and antioxidant action, moisture regulating ability, wound healing, antibacterial and antimicrobial, protection against ultraviolet radiation, anti-tumour and anticoagulant properties. In addition, the unique properties like Solubility, molecular weight, and gelling properties, good hydrophilic properties, compatibility, and biodegradation helps in serving sericin as wound healing covering material or wound dressing for chronic wounds. As the diabetic wounds are considered as chronic due to high glucose level, it delays the healing which causes the disruption in the stages of the wound healing process. Due to this problem, the healing process becomes chronic for months and years that may lead to myocardial infarction, fatal stroke and even death. In this study, to avoid the above mentioned complications, the wound dressing is prepared to heal those wounds without any infection using sericin that enhances the primary cultured human skin fibroblasts. Sericin involves in the migration of fibroblasts which is a crucial step in wound healing process because it involves the proliferation, contraction and collagen production.

Keywords: sericin, wound dressing, wound healing, hot water extraction

TT002

DESIGN AND DEVELOPMENT OF HYBRID COMPOSITES FOR ROOFING APPLICATIONS

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Abstract

To develop the Hybrid Composite using Coir & Ceramic as a Reinforcement and Polypropylene as a matrix. To determine the Thermal conductivity of existing roofing materials & developed composite material. To analyze the Mechanical Properties such as Inter Laminar Shear Strength, Tensile Strength, Flexural Rigidity and the Modulus of the developed composite material. Comparison of Thermal and Mechanical Properties of Hybrid composites with Existing Roofing material.

Key word: Coir, Ceramic, Reinforcement, Polypropylene, Composite

DESIGN AND DEVELOPMENT OF NEEDLE PUNCHED NONWOVEN AIR FILTER MEDIA FOR AUTOMOTIVE APPLICATIONS

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Abstract

Needle punched nonwoven fabric were prepared using 2.5 denier polypropylene fibre. The fabrics produced were studied for their properties like tensile strength, thickness ,GSM, bursting strength, air permeability, pore size and pore size distribution and filtration efficiency .It was observed that with the increase in needle punch density, GSM ,thickness increased and air permeability decreased. It was observed that variation in air filtration efficiency and pore size with the increased in punch density. It was reported that air filtration efficiency increases with the increased in needle punch density.The importance of textile filter media in air filtration is to control air pollution. Air Filters made of nonwovens are suitable to effectively collect particles (dust) from intake or exhaust air. Automobile filters are mainly concerned with air filters, oil filters; fuel filters.This designed air filter is used for automobile.

Keywords: Filtration efficiency, Needle-punched nonwoven, Air filter, Automobile, Pore size, Punch density

TT004

EVOLUTION IN TEXTILE TECHNOLOGY FOR MEDICALUSE

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Abstract

The need to repair musculoskeletal tissues is increasing worldwide due to the ageing of the population and the increasing number of sports injuries. Bioabsorbable implants are already used in regenerative medicine, but tissue engineering approaches using porous Bioabsorbable scaffolds, either with preseeded cells or without, are also emerging. The term scaffold refers to highly porous, bioabsorbable implant with interconnected, suitably sized pores. Our paper discusses how woven, braided, and knitted scaffolds have been used in bone, cartilage, tendon, and ligament tissue engineering because of their suitable mechanical properties. They can form highly oriented scaffolds and support the oriented in growth of cells. Textiles provide the greatest benefits for healing tissue when these special features are utilized. If textile scaffolds are used to support healing tissue, then long- term support is most likely needed and slowly degrading fibres are chosen for the scaffolds. First, we describe the different steps for manufacturing filaments, yarns, and Bioabsorbable textiles. Then we discuss issues related to the characterization and modelling of fabrics and scaffolds. We can conclude that knitted fabrics are the most flexible, and woven structures are the most stable, while the braided ones are in between. Overall flexibility can be useful in application such as skin substitutes, and braids have been utilized in tendon replacements because of their suitable uniaxial behaviour. For bone, stronger scaffoldsare needed hence woven are preferable.

Keywords: Textile scaffold, Bioabsorbable fabric, Bone, Cartilage, Tendon, Ligament

TT005

MEASUREMENT OF GARMENT DIMENSION BASED ON SWITCHING MEDIAN FILTER USED IN IMAGE PROCESSING

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Abstract

In view of prevailing state of affairs of manual size of garment dimensions, machine vision has been used broadly in automatic size of garment dimensions. The errors obtained during programming are reduced by using k means clustering which is higher than using fuzzy logic algorithm. The existing technique has a series of error factors which are rectified in this proposed technique. The experiment outcomes show that the proposed technique can correctly dispose the impulsive noise and non-impulsive noise from garment image, and might act upon the edge and corners of garment image exactly. Moreover, the technique is a straightforward, robust, and has high processing speed.

Keywords*:* Edge detection, Image processing, K-means clustering, Fuzzy logic algorithm**.**

TT006

INVESTIGATING OF ELECTROLESS NICKEL PLATING PROCESS FOR POLYPROPYLENE NONWOVEN FABRIC

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Abstract

Metalized textile materialshas huge potential in various scope of applications such as electromagnetic field shielding, infrared radiation protection, obtaining textile materials with antistatic, antibacterial, electrical conductive, radio absorbing, heat reflective and other special properties The aim of our project work is to develop a metallized textile through Electroless Nickel plating Technique and to optimize the process parameters to get high nickel deposition on spun bond polypropylene nonwoven fabric through Box and Behnken method. It was found that the optimum deposition taken place when the process conditions were kept at Temperature (°C) = 60, Time = 30 min and pH= 9. The SEM analysis reveal that uniform coating and presence of nickel on the surface of the sample produced from the above optimum conditions. The performance of nickel-plated spun bond polypropylene nonwoven fabrics was found to be dependent on the amount of nickel particles adhered on the fabric surface. The properties of optimized nickel-plated spun bond polypropylene nonwoven fabrics were enhanced in term of Thermal properties and colour fastness to light and washing. However, there was a decrease in rubbing fastness.

Keywords: Geo Textile, Reinforced composite, Glass fiber, Coir pith, Marble sludge

TT007

DESIGN AND DEVELOPMENT OF BASALT/GLASS/ STEEL FIBRE REINFORCED COMPOSITE MATERIAL FOR AUTOMOBILE APPLICATIONS

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Abstract

This study describes about the fabrication of composite bumper using Hand layup process. Woven basalt fibres, glass fibres and steel fibres were used along with epoxy resin which was used as matrix for fabrication of the composite bumper. Mechanical properties like tensile strength, flexural strength and impact strength of the composite bumper was determined using universal testing machine and Charpy impact testing machine. The result obtained shows that the composite bumper is having high factor of safety than existing steel and glass bumper. The weight reduction is achieved by using composite bumper without sacrificing the strength.

Keywords: hand layup process, charpy impact test

TT008

SODIUM ALGINATE BIOPOLYMER IN BLOOD CLOTTING BANDAGES

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Abstract

Hemorrhage control is vital for clinical outcome after surgical treatment and prehospital trauma injuries. Numerous biomaterials have been investigated to control surgical and traumatic bleeding. Most of the traumatic deaths are due to uncontrollable blood flow. Biopolymers used in medical applications are alginate, chitoson, hyaluronic acid, collagen, polyurethane, polyethylene oxide, cellulose, gelatin. Biological function of alginate fibre gives strength and flexibility, because of this property it is used as superior wound dressing. alginate and chitosan biopolymers are widely used for wound dressing because of its inherent properties like antibacterial, biocompatibility, absorbing capacity of specific blood solutes and wound exudates etc. Wound dressing made out of alginate, chitosan fibre could enhance the positive effect on haemostatic function. Alginate, chitosan biopolymer has good haemostatic property in blood clotting wound dressings.

Keywords: Alginate,Chitosan,Alginate,Biopolymer, Blood clotting, Nanofibr*e*

TT009
DEVELOPMENT OF COMPOSITES USING LUFFA FIBRE NONWOVEN FOR AUTOMOTIVE APPLICATIONS

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Abstract

Most of the natural fibres have excellent physical and mechanical properties and can be utilized more effectively in the development of composite materials for various applications which in turn enhances a new eco- friendly technology for turning agricultural residues into quality value-added composite products. Luffa is a vegetable sponge gourd which is extracted from dried fruit of bottle gourd. Nonwoven and composites are the product development techniques which find use in many applications in various technical fields. There is a lack of research in utilizing luffa as a textile raw material and in producing textile-based product. In order to produce luffa-based textile product, characterization of luffa material is essential to sort out the end use application. Luffa fibres are extracted from luffa gourd and are softened with non-ionic softener such as ceranine PE and dried. These fibres are processed into nonwoven and made into a composite using polyester sheet by compression moulding technique. Similar technique is followed for jute fibres. The mechanical properties (tensile strength, impact strength, flexural strength and compression strength) of the composite board were determined and compared. The aim of our project is to characterize, design and development of Luffa composites.

Keywords: Luffa fibre, Jute fibre, polyester sheet, compression moulding, tensile strength, flexural strength, impact strength, compression strength.

TT010

STUDY ON EFFECT OF DIFFERENT SPINNING SYSTEMS ON SINGLE JERSEY KNITTED FABRIC PROPERTIES

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Abstract

Yarns produced using different spinning systems like ring, rotor, vortex, compact, sirospun, and air-jet were compared for their knittability and fabric properties when used for single jersey knitted fabrics. Each spinning system provides yarn with different structures and properties and each has its own advantages and limitations in terms of technical and economic feasibility. The purpose of this study presented in this article is to analyse and compare the yarns using different spinning systems for the production of knitted fabrics and the effect of change on fabric properties of various spinning systems.

Key words: Air jet, Compact, Knittability, Knitted fabric properties, Ring, Rotor

DEVELOPMENT OF CHITOSAN COATED SILK SUTURE STRUCTURES

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Abstract

The good quality suture yarn depends upon its tensile and bending properties. As sutures pass through the tissues it should possess enough strength to hold the tissues together and should be flexible to be knotted.The aim of the present work was to improve the strength of silk suture without affecting its bending properties. Silk sutures were fabricated using a circular braiding machine. Structural variations were done by varying the diameter and by producing core sheath suture yarn. The resulting suture yarn is coated with chitosan a biopolymer.The mechanicalperformances ofthe suture materials coated with and without chitosan were studied and the same was compared with commercial suture.It was observed that the suture withcore-sheath structure performed well during tensile and knot testing. The coarser yarns exhibited higher bending rigidity and reduced knot strength than the finer suture yarns.

Key words:Silk suture,chitosan,biopolymer,core-sheath

TT012

EFFECTS OF MORDANTS ON COTTON AND JUTE FABRICS DYED WITH FRENCH MARIE GOLD PETAL EXTRACTS

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Abstract :

Natural dyes have better biodegradability and higher compatibility with the environment. These dyes are non-carcinogenic , produce soothing colour to the textiles. Most of the natural dyes require mordantsfor better fixation of the dyes. Dye was extracted from the petals of French marie gold (Tegeteserecta) , flower of sunflower family. Cotton and jute were dyed using the dye extract. For better fixation properties, mordanting was done using alum, copper sulphate, ferrous sulphate and potassium dichromate. Optimization was done for the percentage of dye to be used, pre, post and simultaneous mordanting based on the colour yield on the fabric. Out of the four mordants, pre mordanting of Alum showed a better and brighter shade in yellow and the percentage of dye optimized was 40%. The wash fastness was 3-4 and light fastness was 7 for jute fabrics whereas for cotton fabrics wash fastness was 3. The absorption of jute was found to be more when compared to cotton under identical conditions of dyeing and this may due to the coarse nature of jute.

Keywords :Mordants, Natural dyes, French marie gold, Alum, Ferrous sulphate

PHASE CHANGE MATERIALS FOR THERMAL COMFORT APPLICATIONS

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Abstract:

Phase change material (PCM) in textiles which can produce thermo-regulating characteristics various home textile applications. The various types of Phase changing materials, latent heat which is released or absorbed during the process of phase change and various methods of incorporating Phase Changing Materials in textiles be applied to the fabric. The Phase changing materials are directly incorporated into the polyester fabric by same principles used in mechanism of High Temperature High Pressure (HTHP) dyeing and bounded onto the fibre structure by using Polyacrylic binder. This is done to enhance the thermal comfort properties of polyester fabric. The effectiveness of PCM is tested using Lee's disc tester for thermal conductivity and Differential scanning calorimeter for analysing the phase changes. The PEG treated polyester fabric does not permit the heat from the outside to inside environment. The fabric starts to absorb the heat from 44.6^0C, attains peak at 63.8^0C and blocks the heat up to 81.3^0C.

Keywords: PCM – HTHP – Lee's disc – PEG – Heat – Polyacrylic binder

TT014

EVALUATION OF DUST IN SPINNING MILL DEPARTMENTS USING A NEWLY DEVELOPED DUST EVALUATOR

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Abstract

Textile industry is the second largest industry in the world next to agriculture. This shows the important of a textile industry in a country especially in India, the textile industry contributes substantially to the foreign exchange earned by the country. The textile industry is providing employment to numerous people in the country. The emphasis on awareness about the environmental concern such as air, water and noise pollution during the processing from fibre to fabric is essential in the present circumstances. Pollution is the introduction of contaminants into the natural environment that causes adverse change.

Key words: Textile industry, pollution, noise pollution, fabric, contaminants

ANTIBACTERIAL FINISH FOR FABRIC USED IN HELMET INTERLINING

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Abstract:

Development of bacteria free interlining fabric for helmet interlinings remain mandatory in today's competitive and fast growing technical world since our government is imposing the need of safety through implementation of strict rules that all motor cycle riders wear helmet and it's our duty that we wear a hygienic helmet to protect our health. In this study, presence of bacteria in the used helmet swabs under aerobic bacterial culture method has been analysed and determined that two bacterium namely *staphylococcus aureus* and *klebsiella pneumonia* were present in it. As nano silver is widely know for its antibacterial activity, used it in our study for applying antibacterial finish on polyester fabrics through pad dry cure technique. The treated samples (unwashed) show a very good zone of Bacteriostatics against identified bacteria. The washed sample possesses antibacterial activity upto 20 washing cycle, which depicts clearly that the acrylic binder used for finishing retains the antibacterial activity of the agent.

Keywords: Interlining – Motor cycle – Helmet – Bacterial culture – Finish – Washing cycle

TT016

ANALYSIS OF STRESS LEVEL OF POWERLOOM WORKERS AND ENTREPRENEURS – COIMBATORE CLUSTER

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Abstract :

This study focuses on the issues of work stress of the power loom sector in Coimbatore cluster. The specific objectives of the study are to assess the level of job stress among the power loom workers & entrepreneurs, to explore the consequences of job stress and to suggest some remedial measures to job stress. The research methodology in the present study includes, research design, universe of research, sampling procedure, data collection techniques, method of analysis of data, their interpretation & final summarization. Descriptive research design is used to describe the state of affair as it exists at present that is during the time of survey and the universe of this study is the employees of power loom sector in Coimbatore cluster. The sample size is 200 Power loom workers and 200 entrepreneurs. A structured Questionnaire with multiple choice and dichotomy of answers is used for data collection. The data collected from the questionnaire are analyzed at first using simple percentage method. The data collected is arranged into tables, graphs according in to the simple percentage method and analyzed. The collected data were classified with the help of master sheet. The analysis and interpretation was done through understanding of percentage of different tables, graphs and chi square test. The results showed that age group, gender, experience and total family income of powerloom workers and job involvement are dependent factors. The same factors are responsible for job satisfaction and work stress except educational qualification, which is an independent factor for work stress for powerloom employees. For powerloom entrepreneurs, age group, gender, experience and educational qualification are dependent factors except total family income, which is an independent factor for level of work stress and their level of occupation oriented stress.

Key words: Job involvement, Job satisfaction, Powerloom employees, entrepreneurs, work stress.

EXTRACTION AND APPLICATION OF LACCASE ENZYME ON DELIGNIFICATION OF COCONUT COIR FIBER

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Abstract

Coconut coir fibres were treated with laccase enzymes to improve the softness property of the fibres. Softening of coir fibres is studied by subjecting coir fibres to laccase enzyme which will break down the lignin content present in the coir fibres. Extraction of lacasse enzymes were carried out using oyster mushroom (*Pleurotus ostreatus*) and button mushroom (*Agaricus bisporus*) and the activity of laccase enzyme was relatively higher in oyster mushroom by about 50%. Coir fibres were treated with the extracted laccase enzyme and the process parameters of the delignification process were optimized using Taguchi method as 50% concentration of the laccase enzyme at 5 pH , 200 C and for an exposure time of 48 hours showed notable results in reduction of lignin content by 24% and subsequent enhancement of absorption character, strength and structure and surface modification after the treatment is studied using free swell absorption test, single yarn strength test, SEM and FTIR analysis.

Index Terms-- Coconut Coir; Enzyme: Lignin; Laccase; Mushroom; Retting;

TT018

STUDY ON YARN STRUCTURE AND COMPORT PROPERTIES FOR SPORTSWEAR APPLICATION

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Abstract

Clothing comfort is an essential part while constructing a garment especially for sportswear application. The clothing must satisfy all the aspects of discomfort faced by the wearer.In this article, comfort properties of plain and twill woven fabrics by using various yarns of different structure were analysed. The mentioned yarn structures were ring, compact, airjet with the common count of 30sNe. The study has been made on thermal resistance, thermal conductivity, water vapour permeability of samples and based on the results the relationship between the parameters were analysed. It is shows that yarnstructurehassignificant impact on comport properties of fabric for sportswear applications.

Keywords: *Yarn structure, Fabric comfort; Thermal resistance;Thermal conductivity; Watervapour permeability*

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KNOWLEDGE
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