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JAIHIND COLLEGE OF ENGINEERING, KURAN AND SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE

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ORGANIZES

JCON 2019

National e-Conference on Emerging Trends in Engineering and Sciences (NCETES)

Sponsored by- Savitribai Phule Pune University, Pune

9th & 10th March 2019

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MESSAGE

I'm happy that Jaihind College of Engineering, Kuran is contributing to the field of research by organizing this National e-Conference on Emerging Trends in Engineering and Sciences (NCETES) JCON-2019 in Jaihind College of Engineering. I hope this conference will bring together students, teachers, researchers, scientists and industrial, professionals to share their findings and discuss them in detail.

I congratulate all the delegates and participants and hope that this event nourishes and fosters the spirit of research, thereby catering to the wholesome development and enrichment of the society.

Wishing the event all success.

Hon. Shri. Mahadev Alias Tatyasaheb Gunjal
Chairman, JCEI, Narayangaon

MESSAGE

It is noteworthy that JCEI's, Jaihind College of Engineering is progressing at a very fast pace. This year we are hosting the JCON-2019 National Conference in series in the Eleventh year of existence of the college. The response is very encouraging. The papers submitted by the students demonstrate the enthusiasm in their creations. Sponsorship of the Conference by the "Savitribai Phule Pune University" is a big blessing for all of us. Conference helps to reflect the work done by the students and the process of developing their minds to becoming an engineer. That is actually the aim and objective of education. The thought of our chairman that quality education to the poorest and needy children without being the burden on parents is being witnessed in the conference. Ultimate goal of the conference being to obtain views from others on the work projected by the students in their papers. These views will help students to improve upon and do a better job infuture. Finally, this conference is a step towards setting up of a good professional, satisfying life by the students and alleviation of poverty for the nation. We would like to express our deepest appreciation to the authors whose technical contributions are presented in these proceedings. It is because of their excellent contributions and hard work that we have been able to prepare these proceedings. Wishing a grand success to the conference.

Prof. S. D. Gunjal
Director
JCEI, Narayangaon

MESSAGE

Warm and Happy greeting to all.

I am immensely happy that our college is organizing an A National Conference on Emerging Trends in Engineering & Sciences (JCON 2019) on 09th and 10th March 2019 is going present a collection of various technical papers in the proceedings.

Under the guidance of our management JCOE continues to march on the way of success with confidence. The sharp, clear sighted vision and precise decision making powers of our management has benefited our college.

The dedicated HOD's and staff members and disciplined students of JCOE are the added features of our college. The role students in building nation cannot be overlooked and students at JCOE are trained in all aspects to become a successful engineers and good citizens. On this occasion I would like to wish all very best to all delegates.

I also congratulate to Convener, Organizing Committee and all Coordinators and students for their contribution and efforts for the success of the conference.

I wish the conference all the success.

Dr. D. J. Garkal,

Principal

Jaihind College of Engineering, Kuran

FOREWORD

It is my great pleasure to present the proceedings of the A National Conference on "Emerging Trends in Engineering and Sciences", NCETES (JCON 2019).

I welcome the participants of JCON 2019. The main goal of organizing this conference is to share and enhance the knowledge of every individual of this world. We have given a good opportunity for those who have a desire in knowing the present technological developments and also share their ideas. Furthermore, this conference will also facilitate the participants to expose and share various novel ideas. The conference aims to bridge the researchers working in academia and other professionals through research presentations and keynote addresses in current technological trends. It reflects the growing importance of intelligent systems as a field of research and practice. You will get ample opportunities to expand your knowledge and network. Outside of the conference, I hope that you would enjoy some of the many attractions found in and around our beautiful campus of Jaihind College of Engineering. I wish that NCETES will keep on growing in coming years with more impact on the International research community. I thank the conference committee for extending their valuable time in organizing the program and all the authors, reviewers, other contributors for their bright efforts and their belief in the excellence of JCON 2019 and Jaihind faculty for Making a conference success.

Dr. V. M. Dhede
Convenor NCETES-2019

FOREWORD

Welcome to the 2019 A National Conference on Emerging Trends in Engineering & Sciences (NCETES-2019)' organized by Jaihind College of Engineering, Kuran (Pune), Maharashtra. This conference is scheduled to be held on 09 th and 10 th March 2019. The main aim of the conference is to provide a high level international forum to bring together industry professionals, academics, and individuals from institutions, industrial and government agencies to exchange information, share achievements, and discuss the advancement in the fields of Computing, Communication, and Information Security etc. This is one of the most prestigious conferences conceptualized in the fields of engineering and sciences. The conference features a rich collection of original research embodied through oral presentation, invited talk and interactive demos.

We received submissions from across the world for all track such as civil engineering, computer engineering, E&Tc engineering, Mechanical engineering, general science fields. Each submission was initially screened for conference scope, technical relevance and possible plagiarism by technical program committee. The papers successfully passed the screening stage were assigned to reviewers based on their area of expertise, Outcome of the reviewer were then examined by technical program committee for their recommendation on the paper to the organizing chair. The organizing chair communicated to corresponding author about status of the paper and changes in manuscript if any required. The conference received manuscripts from different states. The conference would not have been possible without vision and dedicated efforts of a number of people. I am indebted to the management of JCEI, Principal, Program committee members for their exceptional work.

I would like to thanks to all 288 authors who have submitted their research review articles for considering JCON 2019 as a platform to present and publish their work. I also would like to deploy acknowledge all the presenters. Session chairs and attendee who bring JCON 2019 a valid meaningful and potential encouragement.

Dr. R. M. Mulajkar
Convenor NCETES-2019

MESSAGE

JCON 2019 e-Conference has established as reference for the high-quality research in all expects for interaction and exchange of ideas. JCON 2019 fortunate to attract high interest among the community. The conference received papers from different fields the members of technical review committee work efficiently. We are grateful to thanks all authors and all committee members for their hard work and dedication.

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Prof. G. R. Nangare
Prof. C. S. Arya
Prof. S. R. Kokate

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CIVIL ENGINEERING

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JCON19_CIVIL_101

SEISMIC RETROFITTING ANALYSIS BY USING DRIFT DISPLACEMENT 1

Doke S., Dongare V., Hande A., Inamdar S.

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Abstract - Many existing reinforced concrete buildings need to retrofit to overcome the deficiencies to resist seismic load. By us- ing E TAB software as per IS 1893:2016 (part-1). A G+10 storey building is analysis for seismic zone III. Retrofitting is most effective method to reduced risk for building. . In present study aim to evaluate the different types of brac- ing system for 10 storey RCC building .The models were compared for different points within building such as max- imum storey lateral displacement ,Storey shear, storey drift and lateral load resisting capacity of building. Bracings systems are one of the lateral load resisting system which has got structural importance specially in RC concrete build- ings. Different bracing systems are efficient enough for seismic responses. Bracing is very effective strengthening technique..

JCON19_CIVIL_102

MOVABLE WALL SYSTEM SOLUTION FOR MAXIMUM AREA UTILIZATION

Kamthe A., Jadhav K., Komal londhe, Naykodi A., Kuldip J.

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Abstract - in present days, there is great problem of space availability in India as the construction industry is rapidly growing in India. So it is necessary to utilize the available space more effectively. Use of brick wall as internal walls is respon- sible for increasing the dead load of the structure. It also increases the cost of the structure as it require more time for construction. The major disadvantage of brick wall is that it require plastering and for painting for aesthetic point of view. The solution for all this problems is replacing the internal brick walls with Movable Wall System as the func- tion of internal walls is only divide the rooms as and it does not carry any type of structural load. The weight of these walls is thinner and lighter as compare the internal brick walls so dead load of the structure is reduced and speed of construction increases.

JCON19_CIVIL_103

ROLE OF CIVIL ENGINEERING IN JUNNAR TOURISM AND DEVELOPMENT

Burhade Ashish., Dongre Anurag, Kachale Meghnath

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Abstract- The present research paper is an attempt to analyse the level of development and potential of tourism in Junnar Tehsil in Pune District Maharashtra. It is the emerging branch in India. It helped for sustainable development in rural area. Tourism gives the opportunity to tourist to get aware with agricultural area, agricultural operations, local food and tradition of local area and to support eco- nomic development of farmers. The Junnar Tehsil in Pune district have many tourist destinations, but yet this Tehsil is not highlighted to large scale tourism practices . It is mainly because of the lack of facilities and low develop- ment of junnar. The present project report focuses on find out the potential area for tourism in Junnar Tehsil. The development status of tourism potential composite index is product of physiographic index. Tourism plays a key role in socio-economic progress through creation of jobs, enterprise, infrastructure development and revenue earn- ings. The Planning Commission has identified tourism as the second largest sector in the

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country in providing em- ployment opportunities for low-skilled workers is the aim of the study.

JCON19_CIVIL_104
RETROFITTING OF REINFORCED CONCRETE STRUCTURE

Bhujbal Onkar, Lunkad Divyank, Thorat Yogesh , Yendhe Omkar
Department of Civil Engineering, Jaihind College of Engineering, Kuran, Pune, India

Abstract— This paper shows the test result on durability of Carbon Fi- bre Reinforced Polymer (CFRP) composite wrapped spec- imens evaluated by using salt iron resistance test and tem- perature resistance test. The main aim of this study is to depict the durability of RCC end bearing piles retrofitted with CFRP. The specimens were wrapped with Carbon uni- directional fabric warp along with the circumference or hoop tension direction. 24 nos. of cube specimens were cast with and without CFRP wrapping to observe the fluc- tuation in compressive strength during salt iron and fire re- sistance tests. The salt iron resistance tests were carried out on specimens by using salt iron solution. The salt iron immersed specimens were tested for determination of com- pressive strength after curing for 7 days and 30 days. Sim- ilarly, the fire resistance tests were carried out by using hot air oven at 200C for 1and 2 hours intervals. The compar- ison of the results between control specimens and CFRP wrapped specimens were made to evaluate the difference in compressivestrength.

JCON19_CIVIL_105
ICE AS CONSTRUCTION MATERIAL USING PYKRETE

Awate Atul , Bhor Abhishek, Gawade Yogesh
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Abstract - It is the application of ice as a construction material and also has some limitation. Ice Is relatively weak material and shows an extreme creep behavior compared to con- ventional construction material. Mechanical properties of ice are strongly temperature- dependent and untimely pro- tection is necessary even in coldest area. It has been found that the properties of ice and sea ice can be improved by reinforcement by forming these ice composites. The clas- sification of the various methods of ice reinforcement is presented. In spite of many papers about ice composites have vary limited applications. An overview of all existing construction methods, which involve ice structure, is pro- vided in the paper. At the present time only two types of ice composites such as pykrete, ice reinforcement, have been applied successfully in engineering of structure in various projects. Brief information about these projects are pre- sented. The description of the projects or the ‘Pykrete Dome’ is expanded. The world largest pykrete dome is constructed in Finland. In 2st world war pykrete proposed it as a candidate material as a supersized aircraft carrier. Pykrete features unusual properties, including a relatively slow melting rate due to its low thermal conductivity, as well as a vastly improved strength and toughness com- pared to ice. These physical properties can make the ma- terial comparable to concrete, as long as the material is kept frozen. Pykrete is slightly more difficult to form than concrete, as it expands during the freezing process. How- ever, it can be repaired and maintained using sea water as a raw material. The mixture can be molded into any shape and frozen, and it will be tough and durable, as long as it is kept at or below freezing temperature. Resistance to gradual creep or sagging is improved by lowering the tem- perature.

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JCON19_CIVIL_106
USE OF GEOGRID AS SEEPAGE BARRIER IN EARTHEN DAM

Amundkar A., Abhang P., Mandlik A., Sukale S.
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Abstract: Dam is a solid barrier constructed to store flowing water at a suitable location across a river valley. Clay, sand and gravel are used to built the earth dam and hence also called as earth fill dam or rock fill dam. To avoid loss of water by percolation Geotextile are used as a membrane in a raw water reservoir. In a 1970,using Geosynthetic material the first large earthen dam was built in a France. There are various failures in a earthen dam like hydraulic, seepage and structural failure. In this paper we mainly focused on seepage failure of earthen dam. Geotextile help to improve the long term performance of dam.

JCON19_CIVIL_107
MANUFACTURE OF PAVER BLOCK USING DEMOLISHED CONSTRUCTION WASTE

Gadekar Akash, Chaskar Bhushan, Hande Shamrao, Pawar Prashant
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Abstract— In India, with fast growing constructions, the natural re- sources are becoming inadequate to fulfill the needs of construction. Materials like natural sand, coarse aggregate natural available good clay for bricks have become scarce, resulting in increase in masonry work, concrete work, and overall construction cost. Also, prices of cement, the main binding material, is going in increasing day by day. the is- sues of environmental and economic concern are addressed by the use of waste glass as partial replacement of fine ag- gregates in concrete. In the present investigation, concrete paving blocks may be produced with locally available ce- ment, aggregates, fly ash and waste glass powder as the mineral admixture. Different mix proportions are prepared using cement replaced by equal quantity of fly ash and waste glass powder. The study indicated that fly ash and waste glass powder can effectively be used as cement re- placement without substantial change in strength.

JCON19_CIVIL_108
COMPARATIVE STUDY FOR SAMPLES OF DRY LEAN CONCRETE

Durafe Harshal, Modhave Aditya, Tambe Prayag, Thorve Abhimanyu
Department of Civil Engineering, Jaihind College of Engineering, Kuran, Pune, India

Abstract— The cost of construction materials including steel is in- creasing continuously over the years and house be- coming unaffordable for common man. Therefore, in or- der to provide shelter to economically deprived person of the society it is necessary to go either for alternate con- struction technique or to adopt conventional materials with alternate construction technique to reduce the cost of struc- ture. In the present research work the first option i.e. alter- nate construction materials with conventional construction technique had been employed with the objective to utilize bamboo culms as substitute of steel bars in slab long with

G.I. wire mesh to enrich tensile strength.

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JCON19_CIVIL_109
ROAD SAFETY AUDIT-DURING CONSTRUCTION

Ghangale Prashal , Kharat Sumit, Tawhare Suraj, Mengade Tushar
Department of Civil Engineering, Jaihind College of Engineering, Kuran, Pune, India

Abstract— Accident reduction and accident prevention are the two main strategies in road safety work. In accident reduction, we use the knowledge of accidents that have occurred at the time of construction of road, so that similar accidents do not occur again. Accident prevention is the applica- tion of expertise in safe road/ bridge design - road /bridge geometry, as well as the materials used - when we con- struct new streets and roads/ bridge or redesign the existing roads/bridge, regardless of the reasons for which an indi- vidual project is undertaken. This expertise is the result of research and to a significant extent of practical experience gained through working on accident reduction. To reduce the accidents, severity of the crashes and its prevention, we are using the road safety audit.

JCON19_CIVIL_110
EFFICIENT METHODS OF DAIRY WASTE MANAGEMENT AND THEIR BY PRODUCTS AS AGRICULTURE INPUTS

Bandal Saurabh A, Bankhele Vaibhav S, Deshmane Abhijeet B, Joshi Vijay H
Department of Civil Engineering, Jaihind College of Engineering, Kuran, Pune, India

Abstract - Dairy Waste Management is the need of the time. Waste management is all about how to dispose of all the thing you don’t want on the farms. Composting is a sustainable waste management practice that converts a large volume of accu- mulated organic waste into usable product. When organic waste are broken down by microorganisms in heat gener- ating process, waste volume is almost reduced by 50or- ganisms including pathogens and weed seeds are destroyed and useful, potentially marketable product is produced. In a dairy operation, the majority of organic waste will likely be manure combined with spoiled hay and feed, and an- imal beading. Adding compost to soli increases organic matter content. This, in turn, increases the population and diversity of the beneficial of the microorganisms and earth- worms in the soil and therefore improving many soil char- acteristics and allows for the slow release of the nutrients for crop use in subsequent years.

JCON19_CIVIL_111
PARTIAL REPLACEMENT OF CEMENT BY MARBLE DUST POWDER FOR ORDINARY CONCRETE (M20)

Gaikwad A., Mule V., Shermale V., Tawhare P
Department of Civil Engineering, Jaihind College of Engineering, Kuran, Pune, India

Abstract— Leaving the waste materials to the environment directly can cause environmental problem. Hence the reuse of waste material has been emphasized. Waste can be used to pro- duce new products or can be used as admixtures so that natural resources are used more efficiently and the envi- ronment is protected from waste deposits. Marble stone industry generates both solid wastes and stone slurry. This paper focus on the utilization of waste of Marble dust pow- der in concrete and enhancement of strength of concrete more economically. The Marble dust powder was added in M20 grade of concrete at (05cement. Water/Cement ratio (0.50) was kept constant, in all the concrete mixes. The concrete samples (cube amp; cylinder) were tested for compressive strength amp; split tensile strength after 7 amp; 28 days of proper curing. Concrete mixtures were developed, tested and compared in terms of compressive strength and split tensile strength to

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the conventional con- crete. The purpose of the investigation is to analyze the be- havior of concrete while replacing the Marble Dust Powder with different proportions in concrete.

JCON19_CIVIL_112

CASE STUDY OF SMART VILLAGE AND LOCAL VILLAGE

Takalkar O . Ghanwat D., Waghule A., Hinge R.
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Abstract – In India villages are the cultural and economic foundation of our country. Villages contribute the major patron of na- tional income. They are the foundation of industrial growth of country. This research paper study explores the first- hand lessons learned in the RVWRMP in Nepal since 2006. This project is embedded within the local government. The key project entry points are decentralisation, participation and empowerment. This research paper reflects how the community- managed systems are used for multiple uses whether they were designed for it or not. It the focuses on household- and community-level changes and related in- stitution building and participatory planning through Wa- ter Use Master Plans and a Step-by Step approach. The recommendations are made for scaling up multiple use ser- vices.

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COMPUTER ENGINEERING

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JCON19_COMP_301
INFLUENCE TRACKER OF SOCIAL MEDIA

Dhobale Madhuri Pandurang, Lande Bhakti Dadabhau, Nighot Rutuja Dattatray
Wavhal Dnyaneshwar N.
Department of Computer Engineering, Jaihind College of Engineering, Kuran, Pune, India

Abstract - The problem of increasing influence spread has been widely studied in social networks, because of its extreme num- ber of applications in determining critical topics in a so- cial network for information dissemination. In survey,all the method are static in nature, which are designed for so- cial networks with a constant set of links. However, no of forms of social interactions are flexible in nature, with rel- atively short periods of interaction. Any influence spread may happen only during the period of interaction, and the probability of spread is a function of the corresponding in- teraction time. In such cases, it may be useful to consider the influential nodes based on the run time interaction pat- terns. Alternatively, one may wish to find the most likely starting points for a given infection pattern. We will pro- pose methods which can be used both for reduction of in- formation spread, as well as the backward tracing of the source of influence spread. The LDA (Latent Dirichlet Al- location), Sentiment Analysis and greedy algorithms are used. We will present practical results implement the effectiveness of our approach on a number of real data sets.

JCON19_COMP_302
AUTOMATED SYSTEM FOR INSTRUMENTS CALIBRATION

Jore Priyanka Ankush Wavhale Kanchan Chintaman , Talekar Komal Madhukar
Prof. Kharti Anand Ashok
Department of Computer Engineering, Jaihind College of Engineering, Kuran, Pune, India

Abstract- The system for checking and calibrating measuring instru- ments. The system is based on calibrating instruments and generates certificates. The system actually provides the required sensitivity, tractability and accuracy of the in- strument of the operating platform. This system is use for improve the accuracy of the existing manual system. Calibration of measuring instruments has two factors. It checks the accuracy of the instrument and it determines the traceability of the measurement instruments and also gen- erate the report which is provided by the calibration expert, which captured error and calibrate the instrument on the basis of error. The qualities of the system were confirmed by the results obtained from the experiments done.

JCON19_COMP_303
SMART TOLL AND PENALTY COLLECTION SYSTEM

Shingare Puja, Sonawane Madhuri, Prof. C. S. Arya
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Abstract— Developing countries like India need a significant improve- ment in infrastructure such as Roads or Highways. Con- struction of these highways is a costly affair, which can't be invested by the government alone. Normally Public pri- vate partnerships are made to construct such a huge projects. The money spent on these projects can be regained by col- lecting toll from the passengers who use the roads. The toll

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collection system, especially in India faces some prob- lems such as long queue lines, escaping from toll plazas etc. These systems can service only 300 vehicles per hour, and if more than that number of vehicles arrives at that plaza, server traffic jams may occur[7]. With the increase in the number of vehicles on road, there has been a marked increase in the number of crimes involving vehicle theft. In spite of several stringent laws being in place and secu- rity measures taken by car manufacturers, thieves still find a way to remain one step ahead and vehicle theft is still among one of the most reported crimes worldwide. Due to the expensive nature of motor vehicles, there is ample incentive for petty thieves to attempt thefts. To solve both problems we propose QR Code base toll collection sys- tem. QR Code is generated at the time of registration of vehicle in our proposed system. On toll collection booth we collect toll as well as identify vehicle is stolen or not. Second module is to give easy work to traffic police to col- lect penalty through smart application.

JCON19_COMP_304
PISA MONUMENT INFORMATICA

Tanpure Supriya, Bora Tejashri, Thube Bhavana, Prof. Bhosale Sachin
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Abstract— Tourism has become an important sector having an im- pact on development of country's economy. For many lo- cales, it is the most important source of welfare. So, in or- der to guide tourists, there exist many types of tour guide schemes. Among them, traditional guides, paper and mo- bile based systems are most commonly used for provid- ing tour routes and heritage information for tourists. In the above system tourist needs to visualize what the guide wants to convey about the ancient period or to read the in- formation of the monument. By considering the limitations of above methods, we are proposing an Augmented Reality based Application, which will give tourists an interactive experience by superimposing an informative video, text, images onto the captured view of the monument. This app provides the location of nearby monuments and have abil- ity to identify the monuments positioned close to the user position. The proposed system will be applicable to edu- cational and entertainment industries also.

JCON19_COMP_305
IDE DEVELOPMENT FOR JAVA

Dunke Aarti, Jagtap Pooja, Said Gauri, Gore S.S.
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Abstract- Installing compiler in every system in lab is difficult job. It is also very difficult to conduct lab session by faculty members. In the existing system IDE is implemented but there is need of Installing compilers in every system in labs is very hectic job. It is very time consuming process. It has the problem of storage space. In proposed system we use Saas Technology removes the overhead of installing and running applications on individual computer. Programs are compiled at server side and results are passed at client side. Administrator can view the client task, Authentication and authorization is handled by an administrator. Every client is assigned a unique Id and password. The administra- tor may create, edit and delete client profiles any time. A database of all the codes written by the clients will be maintained. User authentication and personalized task dis- tribution administrator will be able to assign user-id, pass- word personalized tasks to all the clients. The administra- tor may create, edit and delete client profiles anytime. In that we are providing feature of package installation. we are also providing facility of updating IDE whenever new feature will get added.

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JCON19_COMP_306

DISEASE PREDICTION AS PER WEATHER CONDITION AND MARKET ANALYSIS

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Abstract Data mining and Machine Learning is an emerging field of research in Information Technology as well as in agricul- ture. Agrarian sector is facing rigorous problem to maxi- mize the crop productivity. The present study focuses on the applications of data mining techniques in crop disease prediction in the face of climatic change to help the farmer in taking decision for farming and achieving the expected economic return. The Crop disease prediction is a major problem that can be solved based on available data. Data mining techniques are the better choices for this purpose. Different Data Mining techniques are used and evaluated in agriculture for estimating the future year's crop produc- tion. The main purpose of the system is for social use. Farmer has to face many problem's like Lack of knowl- edge, Manures, fertilizers and Agriculture marketing etc. Present technique SAR Tomography takes the images and provides the different development stages of crop. This system not give the fertilizers and precautions to the farmer

JCON19_COMP_307

OPTIMAL ROUTE SEARCH USING BOUNDED COST INFORMATIVE ROUTES

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Abstract— As travel is taking more significant part in our life, route recommendation service becomes user interested to visit new spots and the new short rout as well as long route with the interesting new places, a big business and attracts many major players in IT industry. Given a user specified origin and destination, a route recommendation service aims to provide users the routes with the best travelling experience according to criteria such as travelling distance, travelling time, etc. However, previous research shows that even the routes recommended by the big-thumb service providers can deviate significantly from the routes travelled by expe- rienced drivers. It means travelers preferences on route se- lection are influenced by many latent and dynamic factors that are hard to be modeled exactly with pre-defined for- mulas. In this work the approach to this challenging prob- lem is with a completely different perspective leveraging crowds knowledge to improve the recommendation qual- ity. The widespread location-aware applications produce a vast amount of spatio- textual data that contains both spa- tial and textual attributes. To make use of this enriched in- formation for users to describe their preferences for travel routes, a Bounded-Cost Informative Route (BCIR) query is proposed to retrieve the routes that are the most textu- ally relevant to the user-specified query keywords subject to a travel cost constraint. BCIR query is particularly help- ful for tourists and city explorers to plan their travel routes. The proposed system will show that BCIR query is an NP- hard problem. To answer BCIR query efficiently, the exact solution is explained with effective pruning techniques and two approximate solutions with performance guarantees. Extensive experiments over real data sets demonstrate that the proposed solutions achieve the expected performance.

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JCON19_COMP_308
BOOSTER RIDE SHARING WITH NEIGHBOURS

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Abstract- Car sharing is expected to significantly help in reducing traffic congestion and pollution in cities by enabling drivers to share their cars with travelers with similar itineraries and time schedules. A number of car sharing matching services have been designed in order to efficiently find successful ride matches in a given pool of drivers and potential pas- sengers. Car sharing is a collective transportation model based on shared use of private cars. The objective of car sharing is to reduce the number of cars in use by grouping people. By exploiting car sharing model, it can signifi- cantly reduce congestion, fuel consumption, air pollution, parking demands and commuting costs. In system if driver accept that ride and next nearest passenger request for ride but his route is different than current route then that ride also suggest to driver to boost the income. System can re- duce the time to find clients and allow an automated way to pay taxi costs. We, thus propose Haversine and C4.5 al- gorithm to search nearest neighbors' and search alternative path by analyzing the mobility dataset of the passengers. Propose system is not only beneficial to individual partic- ipants but also has significant social benefits. By sharing vehicles, we could reduce congestion, fuel consumption, Pollution, save parking space and also save money.

JCON19_COMP_309
STUDENT FEEDBACK ANALYSIS USING DEEP LEARNING

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Abstract— Feedback plays a key role in improving quality. To en- sure improvement in teaching method and facilities pro- vided by college, opinion of the students should be prop- erly analyzed and used. Text Sentiment analysis method are used to carry out such analysis. It can be performed in two ways - Machine Learning approach and Lexicon based approach. Presently, the teacher evaluation and feedback analysis are based on identifying student's opinion. Meth- ods used for such classification are Naive Bayes, Voting ensemble method. Along with determining polarity, classi- fying feedback as strength, weakness and suggestions can improve to be more beneficial. Success of deep learning inspires us to propose a better and efficient system. The System that will use Word2Vec for text processing, Con- volution Neural Network for automatic feature extraction. Supervised Support vector Machine will be used for final classification. The proposed system will result in classifi- cation of feedback as strength, weakness and suggestions to faculty.

JCON19_COMP_310
TRAVEL GUIDE BASED ON FACEBOOK DATA

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Abstract— The Location recommendation plays an essential role in helping people find interesting places. Although recent re- search has he has studied how to advise places with social and geographical information,

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some of which have dealt with the problem of starting the new cold users. Because mobility records are often shared on social networks, se- mantic information can be used to address this challenge. There the typical method is to place them in collabora- tive content-based filtersbased on explicit comments, but require a negative design samples for a better learning per- formance, since the negative user preference is not observ- able in human mobility. However, previous studies have demonstrated empirically that sampling-based methods do not work well. To this end, we propose a system based on implicit scalable comments Content-based collabora- tive filtering framework (ICCF) to incorporate semantic content and avoid negative sampling. We then develop an efficient optimization algorithm, scaling in a linear fash- ion with the dimensions of the data and the dimensions of the features, and in a quadratic way with the dimension of latent space. We also establish its relationship with the fac- torization of the plate matrix plating. Finally, we evaluated ICCF with a large-scale LBSN data set in which users have text and content profiles. The results show that ICCF sur- passes many competitors' baselines and that user informa- tion is not only effective for improving recommendations, but also for managing cold boot scenarios.

JCON19_COMP_311

FALSE DATA INJECTION ATTACK AND DETECTION ON CONTROL SYSTEM

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Abstract— The control systems like alarm, remote, camera's which using as security purpose in the fields like industry, med- ical ,education ,banking etc. control system are being ex- posed to cyber-attacks due to highly increase in informa- tion Technology and communication network one of the is- sue is FDI attack. FDI attack stands for False data injection attacks on state estimation are those in which an Hacker handles the sensor measurements to generate an change in the estimated value of state value and variables without get detected by the bad measurement detection algorithm of the state estimator. Although many research works have been previously reported on addressing same problem such as effect of nonlinearity, optimal attacking region that re- quires reduced network information, unobservable state- and-topology cyber-physical attacks, bi-level optimization problem, AC state estimation with incomplete network In- formation etc. most of them made very strong assump- tion that some measurement absolutely protected but cost- ing is high and some existing monitoring are weak so we have to implement inside attack in sub-network using cam- era. Whenever the outside person pause camera in specific amount of time. That time server will detect, and inform to admin or server about inside attack. False data injection at- tacks from an opponent's point of view and showed what it takes for an adversary to launch a successful attack, using AES algorithm.

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ELECTRONICS AND TELECOMMUNICATION ENGG.

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JCON19_ETC_301
REAL TIME ECG SIGNAL MONITORING SYSTEM

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Abstract:- Cardiovascular diseases are increasingly day by day hence exact , inexpensive easily carried ECG monitoring device is essential for taking action in proper time. This system is designed to identify various diseases from ECG waveform is not matched with patients ECG waveform then SMS is sent to family doctor and family member by using GSM module interfaced to the Arduino Nano controller for ab- normal condition alert is also given using buzzer. Elec- trocardiograph (ECG)use to measure heart rate by moni- toring the one's pulse . ECG monitoring system normaly consisting of a chest strap with electrodes. ECG is an in- dication of patients heart condition by measuring the elec- trical activity to express important sing from it . Hence heart rate can be calculated from ECG . The real time ECG signal monitoring system is very essential for identifying continuous moving patients condition. In this paper , sim- ple wireless ECG consist of limited lead (3-lead) wireless ECG monitoring system increase the life of cardiac pa- tients. This system can use in home , hospital due to their characteristics of low power consumption , reliable as well as small in size.

JCON19_ETC_302
QR CODE SCAN BASED DRONE FOR DELIVERING MEDICAL KIT

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Abstract- W— In recent years drones have a come into attention for a number of commercial uses. Drone function include deliv- ery of small items that are urgently needed in a locations with difficult access, timely delivery of urgently needed medications, blood and vaccines are critical in healthcare. A drone can fly-over and inaccessible roads, innovative or- ganizations have began to use drones for healthcare deliv- ery. Main part in a drone are consisting of payload. The payload is the weight a drone or UAV can carry. In this project drone will carry the given medical kit and drop it to preassigned destination obtained by scanning QR code. The main aim is that to drop medical kit in disaster affected area in minimum time without crashing. For that we can design a payload which can scan QR code in real time and run image processing algorithm in order to decode number assign to destination for dropping package.

JCON19_ETC_303
HEART ATTACK DETECTION BY USING AURDINO UNO

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Abstract : Now-a-days the world facing a big problem of heart attack. However, occurrence of heart attack is not predictable. cur- rently there are number of health monitoring system avail- able for patient ,but all these system works mainly when there is emergency occurs. also not capable of transmit- ting data continuously. The proposed system continuously monitors the vital parameter, heartbeat, and concerned per- son by implanting chip on to the body. If any abnormalities are present there then SMS will be sent with help of GSM module. The main aim of this paper is to develop a circuit for detecting a heart attack and if, so then alert to doctor and family members. If heart attack is detected this sys- tem can also automatically determine the current position of the user using GPS module .

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JCON19_ETC_304
SMART STREET LIGHT SYSTEM USING IOT

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Abstract- We propose a smart street light system using IOT. This pa- per represent that the street lights ON detecting movement of obstacle and turn OFF for a specific time period and be- come turn ON when obstacle is detected. It automatically controls the street light i.e., off during day time. It controls the intensity of street light by dimming and brightening the intensity on detection of any object with the help of LDR sensor. At the night time lights on highway always remain ON, So there is large amount of energy get wasted and there is no movement of obstacle. When some object is detected, street light is ON at their brightness mode, ei- ther they stay in dim mode at the night time. The control of street light is most important in developing country like India which decreasing the power. A method for changing street light illumination by using sensor at less electrical energy consumption.

JCON19_ETC_305
UAV FOR DROPPING MEDICAL KIT

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Abstract— We designed unmanned aerial vehicle which will hover and will be used for different applications. UAV can be used for package dropping or medical kit at the areas where human cannot reach or risky areas. UAV consist of dif- ferent hardware parts like frame, motors, autopilot system, ESC,Propeller,battery,etc. Previously helicopters were used to drop the packages but helicopter is operated by humans by using UAV it can be piloted manually or automatically. We can use UAV's for search and rescue, disaster relief, sports, arm attacks , etc. We will design the UAV that will drop the medical kit at the location that is detected by the GPS.

JCON19_ETC_306
IOT BASED SMART VILLAGE

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Abstract— Essentially, the framework comprises of Ardiuino inter- faced with numerous sensors for making the town cleaner and more intelligent. The paper plans to get shrewdness any town, for example, brilliant junk the board framework, power based road light checking and computerized wa- ter supply framework. The Internet of Things (IOT) will be capable to incorporate straightforwardly and flawlessly an expansive number of various and heterogeneous end frameworks, while giving open access to chosen subsets of information. In this paper, we concentrate explicitly to urban IOTsystems that, are portrayed by their particular application space. In Urban area ,Really IOT intended to help the Smart town vision, which goes for misusing the most progressive correspondence advancements.

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JCON19_ETC_307
IOT BASED LICENSE PLATE DETECTION USING OPEN CV

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Abstract- The primary point of this paper is to plan remote corre- spondence framework to deal with the vehicle passage leave toll gathering consequently utilizing Raspberry Pi. The proposed framework dispenses with the requirement for drivers and toll experts to physically perform ticket install- ments and toll charge accumulations. Our task is planned with Camera interfaced with Raspberry Pi, PC server and host PC. The working similarity can be clarified as pur- sues: the vehicle proprietors need to keep up a specific parity in their record which when their vehicles cross a toll entryway, camera would catch the vehicle number from the number plate. The caught picture is along these lines han- dled and is checked with the database and produces the accessible equalization. The server PC presently produces the toll door bill by cutting its charges from the accessible parity. IOT based tag acknowledgment is a Computer Vi- sion system which can perceive a tag number. This frame- work is valuable in many field likes parking areas, private and open passages, burglary control. The real favorable circumstances are: the vehicle require not hold up till the manual procedure of taking note of down the number and afterward a message will be send to them; activity would be less in the proposed task.

JCON19_ETC_308
HOME AUTOMATION USING ARDUINO

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Abstract- Fundamentally the home robotization is utilized to build up the framework utilizing android application and Wi-Fi module.Now a days,All people expect that the to have a control of the home applications through remotely.To sat- isfy this prerequisite we utilize trend setting innovation uti- lizing Wi-Fi module and Arduino.Now a days desire for in- dividuals get expands People need to have a concentrated power over an apparatuses Instead of customary frame- work. The Wi-Fi module has two primary area that can be the transmitter and recipient. In the advanced mobile phone android application with Wi-Fi go about as a trans- mitter send order to the collector Wi-Fi module.In this ven- ture we are controlling the essential machines like Room Light ON/OFF, Curtains Open/Close, Door locking Sys- tem, Fan ON/OFF ,and so on. In the home computeriza- tion we can make the our home savvy and present day. In this venture we generally center around the computeriza- tion which will decreased the manual work and framework robotized.

JCON19_ETC_309
IOT BASED VEHICLE ACCIDENT DETECTION RESCUE INFORMATION SYSTEM

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Abstract— The primary object of this paper is Associate in Nursin- gIoTbased mostly vehicle collision findion and rescue sys- tem is developed to detect vehicle collision and send the placementknowledge of the accident place to vehicle owner, nearest hospital and station house via IoTbased mostly sys- tem. The

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communication between the net server and hard- ware device is established via GSM/GPRS module, and also the location is copied by victimisation the GPS mod- ule. The accident is detected through vibration sensors and measuring device. The project is developed for real time knowledgeattractive from the hardware device victimisa- tion sensors and store within thenet server and sends no- tification to completely different users either through net application or SMS. This project roughly provides the cor- rect detection of the placement of accident occurred and send notification to the closeststation house and hospital.

JCON19_ETC_310
DESIGN AND FABRICATION OF ELECTRIC SCOOTER USING IOT DEVICES

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Abstract- Our main objective of this project is to overcome the prob- lems associated with safety, fuel consumptions and zero- emissions vehicles.Even with these issues considered, e- bikes are claimed to have a considerably lower environ- mental impact than conventional automobiles, and are gen- erally seen as environmentally desirable. A conventional scooter is a two-wheel vehicle that is propelled by the rider where the source is of renewable or non-renewable sources but our aim is to focus on light weight multi-specialty ve- hicle which would help in safe riding for the persons. An electric scooter has a conventional scooter frame, pedals, cranks, chain, and freewheel assembly which is mandatory but we do also consider such electronics high end equip- ment which make ride safe and trustworthy. We can track our e-bike with help of android app or personal phone mes- saging. It is economical and easy to maintain.

JCON19_ETC_311
DRIVER OSCITANCE CAUTION SYSTEM

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Abstract- There are many reasons for accidents on roads. Amongst them, one of the reason is driver's oscitance. Many times, driver drinks and drive. Due to this, they were falling asleep and this will leads to accidents. It will cause loss of human lives and hazards to vehicles also. So, our pro- posed system will detects when driver is in such a situation and also alert to the users. The two input sensors i.e. eye blink sensor and alcohol sensor are used as input to rasp- berry pi. Eye blink sensor continuously detects movement of eye and gives high output when eyes were closed for time greater than threshold value. Thus the system gives alertness and wakes up driver quickly.

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AUTOMOBILE ENGINEERING

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JCON19_AUTO_401

TWO WHEELER GUIDANCE SYSTEM UTILIZING ULTRASONIC SENSOR, REAR VIEW CAMERA AND ACCIDENT ALERT SYSTEM

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Abstract— A camera unit is mountable on rear of motorcycle. The camera unit includes a single-chip image sensor, such as a colour complementary metal oxide semiconductor image sensor and includes an attaching unit that is structured to allow the camera unit to be attached to an existing structure of the motorcycle. The camera unit further includes a transmit unit to allow transmission of a signal representative of captured images and a receive unit to receive control signals to control parameters associated with the camera unit, thereby allowing the remote unit to control parameters of the camera unit, such as exposure, gain, white balance, colour saturation, brightness. The camera unit can be of a small size and weight and can be completely integrated on a single chip, thereby minimizing intrusiveness to the helmet wearer. The vehicle alert system project focuses on cooperative alert services based on timely and reliable communication under the challenging circumstances pertaining to a highly mobile vehicular network.

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MECHANICAL ENGINEERING

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JCON19_MECH_501
SALT SPRAY CORROSION TEST CHAMBER

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Abstract- The main aim of this project is to design and fabricate low cost salt spray testing machine which is able to identify the corrosion formation in any type of metals; from this test- ing process we can improvise the life span of the particular metal. A motorbike has a paint coated footrest made of stainless steel, so this part when comes in contact with at- mosphere nearly after a year it is corroded so if salt spray testing machine is used at this point can found out that for additional coating of paint, whether it will withstand up to longer duration likewise, this process can be analyzed. This salt spray testing machine is fabricated for low cost and the stainless steel grade 316L is tested and analyzed.

JCON19_MECH_502
ETHANOL PRODUCTION FROM SWEET SORGHUM

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Abstract— The aim of this study was to determine the sugar con- tent of different sweet sorghum cultivars at different har- vest times and also determine the cultivar that will pro- duce the highest ethanol yield at optimized fermentation conditions. Four sweet sorghum cultivars, Honey green and Sugar graze were harvested at 3 and 6 months and the juice were extracted from the stems. The juice was used for ethanol production and the effect of pH, yeast concentration dilution factor and the addition of a nitrogen source on the ethanol yield were investigated. The results showed that the cultivar contained the highest sugar con- tent at 3 months. A maximum ethanol yield (0.48g.g-1) was observed at a pH of 4.5, a yeast concentration of 3 wtrate of 1:1 and when ammonium sulphate was added to the fermentation broth as nitrogen source. Glycerol yield formed as a byproduct during fermentation and at a maxi- mum ethanol yield was 0.05 g.g-1.

JCON19_MECH_503
DESIGN AND FABRICATION OF POWER OPERATED TILLER MACHINE

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Abstract- Weed control is one of the most difficult tacks on anagri- cultural farm. Three method of weed control are com- monly known in agricultural. These are mechanical, chem- ical and biological control. Due to chemical control method soil get polluted and it is harmful to our body. Biological method is less effective than other method so these meth- ods are not useful. Mechanical weed control not only up- roots the weeds between the crops rose but also keeps the soil surfers loose, ensuring better soil aeration and water intake capacity weeding by power tiller reduce the cost of labor and also save time. Various type of mechanical weed has been developed. In human operated weed muscular power is required and so it cannot be operated for long time. The Traditional method of hand weeding is time con- suming. In order to assess the possibility of mechanization of weeding operation, the power operated has to be pro- duced the power produced by us is lesser in cost less time consumable easy to operate.

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JCON19_MECH_504
REGENERATIVE SHOCK ABSORBER

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Abstract - With the increasing quantity of the possessed automobile, it has received a great deal of attention from automobile manufactures .To protect the environment and reduce ve- hicle emissions and fuel consumption of vehicles, it is nec- essary to recover the energy wastage by car, such as brak- ing energy engine exhaust emission energy and vibration energy of suspension etc. Usually the vibrational energy caused by road roughness when car runs has not been paid attention to and it is wasted through conversion to ther- mal energy. If the vibrational energy is recovered and it is converted into the other form of energy such as electric or hydraulic power to supply for other devices, then the aim of ecofriendly energy saving is reached.In this project the vibrational energy was converted into electrical energy through the innovative shock absorbers, which rectifies the linear shock absorber motion and converts kinetic energy into electrical energy by using generator.

JCON19_MECH_505
DESIGN AND DEVELOPMENT OF AGRICULTURE REAPER

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Abstract: The main domain of agriculture or farming in India is not only limited to growing of crops but is also associated with the finiansial growth of farmers and labours. Small area farmers frequently face the problem of labour shortage or are unable to afford the costlty equipment. It is therefore, eassy to buy the mechanical methods so that the timeliness in farming operation could be ensured.considering differ- ent factors as power source , cost of object , mode of oper- ation , site condition , time of operation and weather con- ditions. It runs on four stroke petrol engine, this power from engine, is provided through pulley and gear box ar- rangement to the cutter. This compact harvester is manu- factured using locally available spare parts and thus, it has low maintanance. This reapr might be the solution to the problems faced by a small scale farmer regarding cost and labour implementation.

JCON19_MECH_506
DESIGN AND FABRICATION OF PNEUMATIC PUNCHING MACHINE

Nutan Bhalerao, Aishwarya Dhamale, Ashwini Dhamale, Chandrashekhar kolse
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Abstract— Pneumatic is a branch of engineering that deals which study of air/gas characteristic and also their use in engineering appliances either in atmospheric or above atmospheric pres- sure. Now a day number of application increases in pneu- matics system due to high carrying capacity, low mainte- nance cost and most important not dangerous. Either com- pressed air or inert gas are generally used.This importance is due to its accuracy and cost. This convenience in op- erating the pneumatic system has made us to design and fabricate this unit as our project. This unit, as we hope that it can be operated easily with semi-skilled operators. The pneumatic press tool has an advantage of working in low pressure, that is even a pressure of 6 bar is enough for oper- ating the unit. The pressurized airpassing through the tubes to the cylinder, forces the

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piston out whose power through the linkage is transmitted to the punch. This enables us to use different type punch dies resulting in a wide range of products. According to the work material the operating pressure can be varied.

JCON19_MECH_507

OPTIMIZATION AND PASSIVE NOISE CONTROL FOR SIX CYLINDER DIESEL ENGINE

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Abstract--- In automobile design of muffler is a challenging task. Dur- ing the design of muffler it is essential to maintain engine efficiency and damp acoustic sound. IC engine muffler is used to suppress acoustic pulse which is spreading along the exhaust system and reduce back pressure to meet reg- ulation and standard. Back pressure is major aspect which is affect engine efficiency. In recent competitive world, all to improve focus to improve engine efficiency by reducing weight, backpressure. Traditionally reactive and absorp- tive muffler is used reactive and absorptive muffler. In re- active muffler suppress a sound but produce back pressure and in absorptive not produce backpressure but suppress sound. Therefore in this paper we are going to develop a muffler for optimum flow which avoid a that problem.

JCON19_MECH_508

DESIGN OF X-Y- GANTRY MECHANISM

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Abstract – In industries the material handling is carried out workers, but it is more dangerous for chemical handling. So automa- tion is very necessary in industries. We used rack pinion mechanism to move materials in industries. For lifting we used lead screw. It consists of designing of lead screw, shaft, rack pinion, gripper assembly. Different types of X- Y control Positioning System is used in industries for many application. Now-a-days in industry this mechanism is operated by using PLC and Microcontroller. But the cost of PLC is high. So PLC is replaced by arduino controller. Arduino controller operates on IDE programme. The pur- pose of our project is to develop a XY gantry mechanism to translate the motion along the X and Y axes of the gantry and to use this information as the output for a microcon- troller that can modify the commanded position of the step- per motor as the input data provided.

JCON19_MECH_509

DESIGN DEVELOPMENT AND ANALYSIS OF PORTABLE ROLL-FORMING FOR POLYHOUSE GUTTERS

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Abstract - Poly-house construction is a blooming business where in metal structures combined with polyester / polyethylene sheets and covers are used to fabricate enclosures for grow- ing fruits/ flowers/ vegetables etc. under controlled atmo- sphere conditions, especially protection against rain and sun. Many sections used in the fabrication of poly-house are produced cold roll forming process. But as the Poly- house construction takes place as an onsite job, often these sections especially the gutters are found to fall short, and often lead

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to creation of bottle neck in fabrication of poly house thereby wasting time and money on labor and transport.

JCON19_MECH_510

REVIEW ON PHASE CHANGING MATERIAL AS THE ENERGY STORAGE IN SOLAR COOKER

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Abstract - The solar thermal energy is used for various applications. The application of solar thermal energy include cooking, water heating, space heating, power generation and agri- culture drying. This review includes principle and classi- fication, parameters influencing the performance of a solar cooker and energy energy analysis related to solar cooking system. The cooking in the evening or off Sunshine hours in solar devices is possible by operating the cooker on aux- iliary power or by using different phase change materials in solar cookers. This study includes correct choice of phase change material that will be suitable for the cooking pur- pose. This demonstrates the feasibility of using a phase change material as the storage medium in solar cookers

JCON19_MECH_511

PNEUMATIC GEAR SHIFTING USING VEHICLE SUSPENSION

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Abstract - The main objective of this paper is to do gear shifting pneu- matically using vehicle suspension.for pneumatic gear shift- ing compressed air is needed this compressed air can be produced by vehicle suspension system vehicle suspension system consist of shock absorber .non return valve and compressed air tank .The suspension system used in ve- hicle to reduce road shocks vibrations due to irregularity of road surface.The vehicle undergoes in vibration which also cause discomfort to the rider . In order to provide com- fort safety suspension system is used in vehicle .Shock ab- sorbers isolate the wheel of vehicle from the vehicle body so when the vehicle undergoes in vibrations , these vibra- tions get absorbed by shock absorbers .thus during suspen- sion kinetic energy is generate by using this kinetic energy we can produce compressed air further can do gear shift- ing using this compressed air.

JCON19_MECH_512

COGENERATION OF ELECTRICAL HEAT ENERGY BY USING THE FRESNEL LENSES TEG AS HEAT EXCHANGER

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Abstract— Energy is one of the major inputs for the economic de- velopment of any country. In case of developing coun- tries, energy sector assumes a critical importance in view of the ever- increasing energy needs requiring huge invest- ments to meet them.The per capita energy consumption is too low for India as compared to developed countries. It is just 4world average. The per capita consumption is likely to grow in India with growth in economy thus increasing the energy demand . The demographics of India are in- clusive of the second most populous country in the world, with over 1.21 billion people (2011 census), more than a

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sixth of the world's population. India is projected to be the world's most populous country by 2025; its population growth rate is 1.41scenario on the situation of population growth is nothing but the same.

JCON19_MECH_513
DESIGN AND FABRICATION OF AUTOMATIC HANDBRAKE USING PNEUMATIC SYSTEM

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Abstract– Hand brake is one of the most important components in vehicles. In general the hand brake is operated manually. In our paper we are developing pneumatic operated au- tomatic hand brake when ignition is off for safety pur- pose. The engagement of hand brake using actuator, con- troller,motor,battery.

JCON19_MECH_514
DESIGN AND FABRICATION OF LOOPWHEEL BICYCLE

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Abstract—: in todays world, the bicycles are the most favorite choice when it comes to cause like health, pollution and environ- ment. But if we see in traditional cycle there is not any type of suspension. Due to that rider is not feeling well comfort, because of lack of suspension stresses are system, pedaling efforts also increases. Hence, we need to provide suspen- sion to the cycle. Here we are using loop wheel to provide suspension instead of using traditional wheel. In this, we are replacing spokes with elliptical leaf spring. Elliptical leaf spring works similar to spoke as well as it provide sus- pension. A loop wheel is a wheel with integral suspension, designed for higher shock absorbing performance and bet- ter comfort. Loop wheel offer you a smoother ride. Loop wheel springs are made up of composite material, carefully developed to offer optimum compression and lateral stabil- ity as well as strength and durability.

JCON19_MECH_515
SOLAR TRACKING SYSTEM

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Abstract- Solar tracker is a unique invention for next solar power generation. It is device which is the integration of smaller mechanical components specifically designed to generate higher efficiency in solar energy with respect to other so- lar energy devices such as solar panels, dry cells etc. It approximately tracks 30 to 40than the devices mentioned above. The solar tracker will increase the energy output of PV array 30to the fixed PV array with the same rated out- put power. Currently solar cells are becoming extremely popular for utilizing solar energy to use different ways such as producing electricity, transportation etc. So many solar panels have been installed all over world and most of them are stable. They are installed in the direction of maximums radiation on sun light. But now the problem arises that the sun is moving. So, we cannot use maximum radiation re- ceiving position only comes once in 24 hours. Solar tracker is the best solution for maximum radiation. By moving the solar panel to the movement of sun, we can always re- ceive the maximum radiation. So, we have come up with an innovative idea for tracking, we have used the principle of dynamic balancing of weights (attached on both ends of solar panel) in order to track the sun.

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JCON19_MECH_516
ELECTROMAGNETIC PUNCHING MACHINE

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Abstract- Punching Machine is one of the principle machines in pa- per cutting industry sheet metal industry. It is mainly used as the name indicates to cut strips. So we are going to make a machine for punching industries and make it multipur- pose should be used to cut the card board, asbestos sheets, papers, foam, and thin plastic sheets. The machine is sim- ple to maintain, easy to operate. Hence we tried our hands on Electromagnetic Punching Machine. Electromagnetic Punching Machine is working on the principle of electro- magnetic. This type of punching machine is used to punch basically card board, asbestos, sheets, papers, foam, and thin plastic sheets. Punching is depend on feed rate which done manually.

JCON19_MECH_517
INVESTIGATION OF TRIBOLOGICAL BEHAVIOR OF PEEK COMPOSITE WITH GLASS FIBER

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Abstract- The polymer matrix composites are widely used in var- ious mechanical applications. Aim of this project is to study of the Wear, Coefficient of Friction Frictional Force Polyether-Ether-Keton (PEEK) matrix composites with Glass Fibers (GF). Also, under dry Friction conditions the Wear, Coefficient of Friction Frictional Force of PEEK matrix composites was studied at temperatures 500C, 1000C 1500C. Pure PEEK is having low Friction Coefficient and high Wear rate, so its applications are limited. At room temper- ature the Friction and Wear of PEEK can be improved by adding different fillers such as Glass Fiber, Carbon Fiber and Metallic Fibers etc. It is found that PEEK with 30 per- cent by weight GF at 1500C have good Wear resistance. Also at 80 N load under dry condition Wear performance of PEEK with 30 percent by weight GF was improved.

JCON19_MECH_518
DESIGN AND FABRICATION OF SUGAR CANE SEEDINGMACHINE

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Abstract -In recent time there has been tremendous rise and devel- opment in industrial as well as agricultural sector. To in- crease the production without harm to the soil the farmers have invented various techniques. The traditional method of farming is now replaced by advanced technique. This paper deals with the comparison between traditional sow- ing method and new proposed machine which can per- form simultaneous operation. Though in market advanced cane seeding machine are available but they uses the trac- tor power for the operation. Thus this leads to pollution and it is costly.

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JCON19_MECH_519
GENERATION OF WATER FROM AIR

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Abstract - Theoretical World frantically needs elective "water devel- opment" strategies and delivering water from air .The ab- sence of reasonable, drinkable water for individuals around the world is turning into an intense issue, and later dis- tributed stories address the worries from researchers around the world.This innovation has capacity to meet and fill the developing interest for practical, sheltered, extraordinary tasting savoring water a perfect drinking water is to well being and health.We have planned and built up a model framework for expelling clean (convenient) drinking wa- ter from air.Utilize a customary power matrix to produce power; use power to cool air bringing about buildup of water; catch water vapor from air that gathers into water to get 99unadulterated and safe drinking water from the dampness noticeable all around.

JCON19_MECH_520
SUSPENSION SYSTEM OPERATED AIR CONDITIONING SYSTEM

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Abstract The paper presents Air Cooling effect through Vehicle Sus- pension System are shows the effective use of suspension system of vehicle for air conditioning and other applica- tions. The vehicle suspension generates mechanical en- ergy which having two types potential energy and kinetic energy. From this potential energy is stored by shock ab- sorber and kinetic energy is generally wasted. This kinetic energy is used for various purpose. From that in this pa- per compressed air is produced by using pneumatic cylin- der with swing type check valve arrangement. This out- put compressed air from pneumatic cylinder is used for air cooling effect in the cabinet of the automobile vehicle. Also, increase the mileage of vehicle and reduce the NOx nearly about 80 and CO by 70.

JCON19_MECH_521
AN EXPERIMENTAL ANALYSIS AND OPTIMIZATION OF PROCESS PARAMETER ON FRICTION STIR WELDING OF AA 6061- AA 7075 ALUMINUM ALLOY

Aparna Deore, Prof. G.N. Kadam
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Abstract – In this work dissimilar aluminium (AA6061 AA7075) plates were welded by use of Friction stir welding. In this work a Universal trying out system become used to hold tensile take a look at of welded portions. The optimization of var- ious parameters is completed through the use of Taguchi Approach In this experiment L9 orthogonal array is used with three controllable factors like Rotational Speed, Weld- ing Speed and Tool tilt angle with three levels of each to find out optimum level of parameters for maximization of tensile strength. The ANOVA effects used to discover enormous thing and percentage contribution of individual element. Optimum level of rotational speed (1200 rpm), welding speed (40mm/rev) and Tool tilt angle tensile strength of (130.12 Mpa). In this investigation Tool tilt angle plays a important role and contributes 50.71 to the overall con- tribution.

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JCON19_MECH_522
ANALYSIS OF FARM TRACTOR SEAT VIBRATION USING PASSIVE SUSPENSION SYSTEM ON ANSYS

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Abstract— Operators of agricultural tractor perform various tasks at work that expose them to a variety of risk factors. During their work, agricultural tractor operators are exposed to dif- ferent negative influences, due to which vibrations are es- pecially harmful. Long term exposure of tractor driver to vibrations induced by agricultural tractor operations may lead to various health problems. It is widely recognised that agricultural tractor operators are exposed to high level of whole body vibration (WBV) during specific farm op- erations. WBV may leads to Low back Pain (LBP) and spinal cord related diseases, therefore the objective of the study is to reduce the level of ride vibrations experienced by tractor seats appear to be necessary and some possi- ble methods of achieving significant improvements. In the present study, The vibration transmitted through the seat of a four-wheel drive tractor equipped with front suspension axle and shock absorber for the implement, were measured using OR34-2, 4 Channel FFT analyser and then analysed in terms of root mean square (rms) accelerations according to the ISO standard. Several tests were conducted in differ- ent conditions considering the type of operation (harrow- ing, ploughing and cultivating) at different road conditions (on road, sugarcane field and flat field) with two different running speeds. Then we developed a new suspension sys- tem for tractors seat using spring and dampers to reduce the vibration energy and frequencies up to a suitable range for the operator. The vehicle dynamics model of tractor with tandem suspension is modelled and simulated in analysis software ANSYS and optimize the parameters of the seat to achieve rms acceleration in the range of 'Health guid- ance caution zone' (HGCZ) so that it gives the ride com- fort for the operator.

JCON19_MECH_523
DESIGN AND ANALYSIS OF A ROLLER CONVEYOR SYSTEM

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Abstract- Over the years a lot of work has done and is still contin- uing with great effort to save weight and cost of applica- tions. The current trend is to provide weight/cost effective products which meet the stringent requirements. The aim of this paper is to study existing conveyor system and op- timize the critical parts like roller, shafts, C-channels for chassis and support, to minimize the overall weight of as- sembly.

JCON 2021_MECH_524
DESIGN AND DEVELOPMENT OF MULTIPURPOSE MACHINE

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Abstract – This project deal with design, development and fabrication of "Development of multipurpose machine". This machine is designed for the purpose of multi-operations i.e. drilling, cutting and grinding. This machine perform multipurpose operation at same lime with required speed this machine is automatic which is controlled or operated which is run with the help of current. This machine is based on the mecha- nism of scotch yoke. The project aims at designing and de- veloping a multipurpose machine tool which is capable of performing multiple tasks simultaneously. The machine is operated by giving drive to the main shaft to which worm gear mechanism is directly attached; worm gear mecha- nism is used for sawing

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operation. On the main shaft bevel gear mechanism was used for transmitting power. These bevel gears are used to transmit motion in the radial direc- tion and drives drilling centre. The Grinding wheel is di- rectly connected to the motor shaft. This model facilitates to complete three operations simultaneously with a single power source. This model of the multi operational ma- chine is may be used in industries and domestic operation which can perform mechanical operation like drilling, cut- ting shaping of a thin by motor metallic as well as wooden model or body.

JCON19_MECH_525

DESIGN AND FABRICATION OF SUGAR CANE SEEDING MACHINE

Jape vishal, Prof. Parihar Amol
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Abstract— In recent time there has been tremendous rise and devel- opment in industrial as well as agricultural sector. To in- crease the production without harm to the soil the farmers have invented various techniques. The traditional method of farming is now replaced by advanced technique. This paper deals with the comparison between traditional sow- ing method and new proposed machine which can per- form simultaneous operation. Though in market advanced cane seeding machine are available but they uses the trac- tor power for the operation. Thus this leads to pollution and it is costly.

JCON19_MECH_526

EXPERIMENTAL STRESS ANALYSIS AND TOPOLOGY OPTIMIZATION OF STEERING ARM (PIT-MANS ARM) OF HEAVY-DUTY VEHICLE

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Abstract - Today’s advancement in the industrialization for manufac- turing automotive parts has become much easier and allied. Decrease in vehicle mass is a solution for the optimiza- tion strategy to increase the performance by reducing in its mass constraints in the part. This paper helps in investi- gating the Pit-Man Arm which is also known as steering link, this link impacts large force on it, so it is impor- tant to check its strength under the vehicle mass loading condition, also to optimize the link for its mass reduction using topology optimization in ANSYS workbench. This study also emphases transient mode of structural formation followed by static structural and topology-based optimization.

JCON19_MECH_527

FEA SIMULATION PREDICTION OF CYLINDER BORE DISTORTION IN DIESEL ENGINES

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Abstract : IC engine industries these days is in the direction of a shorter product improvement cycle and quicker time to mar- ketplace with multiplied emphasis on up the front eval- uation to design, expand and optimize a dependable and sturdy product. Today, the calculation of balance of im- portant additives like e. g. , the cylinder head and the cylinder block Cylinder bore distortion in IC engines has been diagnosed as a

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motive for gasoline and oil consump- tion, consequently it impacts performance and emissions. The bore distortion of the cylinder turned into obtained, and its orders calculated via Fourier series.

JCON19_MECH_528

MODAL ANALYSIS OF SPUR GEAR TO DETERMINE THE NATURAL FREQUENCIES AND ITS EFFECT OVER THE CHANGE IN MATERIAL PROPERTIES

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Abstract- Gearing is one of the most critical components in a me- chanical power transmission system and in most industrial rotating machinery. In addition, the rapid shift in the in- dustry from heavy industries such as shipbuilding to indus- tries such as automobile manufacture and office automa- tion tools will necessitate a refined application of gear tech- nology. Using the modal models design improvement can be predicted and the structure optimized. This project is not only to review the test procedure and system identi- fication of modal analysis but discuss the main practical problems with which engineers, performing modal analy- sis on industrial structures are confronted on a daily basis. FEA has been used to predict the dynamical properties of the gear. Experimental modal analysis has been carried out to determine the natural frequencies of spur gear due to change in material properties. The followed approach based on the modal analysis concept. As gears are im- portant elements in a variety of industrial or commercial applications such as machine tool, vehicles and turbines. Objective of this investigation is to reduce weight of gear. Weight reduction has been one the critical aspects of any design. It has substantial impact on vehicle performance, fuel efficiency and in turn reduces the emissions.

JCON19_MECH_529

OPTIMIZATION OF AGRICULTURE TRACTOR SEAT VIBRATION USING PASSIVE SUSPENSION SYSTEM AND MODELLING AND SIMULATING IN ANSYS

Prof. G. N. Kadam, Yashwant A. Deshmukh
Department of Mechanical Engineering, Jaihind College of Engineering, Kuran, Pune,

Abstract— Operators of agricultural tractor perform various tasks at work that expose them to a variety of risk factors. During their work, agricultural tractor operators are exposed to dif- ferent negative influences, due to which vibrations are es- pecially harmful. Long term exposure of tractor driver to vibrations induced by agricultural tractor operations may lead to various health problems. It is widely recognised that agricultural tractor operators are exposed to high level of whole body vibration (WBV) during specific farm op- erations. WBV may leads to Low back Pain (LBP) and spinal cord related diseases, therefore the objective of the study is to reduce the level of ride vibrations experienced by tractor seats appear to be necessary and some possi- ble methods of achieving significant improvements. In the present study, The vibration transmitted through the seat of a four-wheel drive tractor equipped with front suspension axle and shock absorber for the implement, were measured using OR34-2, 4 Channel FFT analyser and then analysed in terms of root mean square (RMS) accelerations accord- ing to the ISO standard. Several tests were conducted in different conditions considering the type of operation (har- rowing, ploughing and cultivating) at different road con- ditions (on road, sugarcane field and flat field) with two different running speeds. Then we developed a new sus- pension system for tractors seat using spring and dampers to reduce the vibration energy and frequencies up to a suit- able range for the operator. The vehicle dynamics model of tractor with tandem suspension is modelled and simu- lated in analysis software ANSYS and optimize the param- eters of the seat to achieve rms acceleration in the range of 'Health guidance caution zone' (HGCZ) so that it gives the ride comfort for the operator.

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