

JAIDEV EDUCATION SOCIETY'S JD COLLEGE OF ENGINEERING AND MANAGEMENT KATOL ROAD, NAGPUR Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in Affiliated to DBATU & RTMNU Department of Civil Engineering "Building Better Development" Session 2018-19



MISSION

To be a well-known center for shaping professional leaders of Global Standards in Civil Engineering

VISION

- Provide quality education and excellent learning Environment for overall development of students.
- Making Sustainable efforts for integrating academics with Industry.



Live Project (CE)- 2018-19

Principal Protopor . O. College of Engineering & Mat Khandala, Katol Road Nagpur-441503



HOD, (CE)



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Session 2018-19

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Project Completion Certificate (CE)- 2018-19

Principal 0. College of Engineering & Manager Khandala, Katol Rei Nagpur=441501



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MARSHALL TEST



DUCTILITY TEST



TESTING OF COMPRESSIVE STRENGTH OF CONCRETE

Live Project (CE) - 2018-19

Principal . O. College of Engineering & Man Khandala, Katol Road Nagpur-441501

HOD, (CE)



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Project Completion Certificate (CE) – 2018-19









Principal lene of Engineering 8

CSE Student Live Project Details

Date:17/08/2018

Title: "SMART RETAILERS"

Abstract

The Smart Retailers application main objective to make things easier to get goods in reasonable price. We intent to develop an application which allows all retailers to set their goods price & offer the minimum price to consumer after applying the GST & make it accessible to all the consumer to known about which retailer offer the goods in reasonable price. This allows you to just search for the product available at minimum price at the retailer's store after applying GST rate by just searching the name of the product & it will give the list of product & retailer contact details so the consumer can purchase it in reasonable price as compare to others. SR is a desktop application portal which is existing in our idea because of GST (Goods & Service Tax) it will provide minimum cost of goods and make expansion of retailer's business. This defines as convert your internet user in retailer and consumer. The main vision of this application is to build as environment where user can get goods in minimum price to maintain transparency and trust. Local businesses invest precious time and money into advertising, building an application, gathering social media followers, and collecting addresses.

Summary

This Smart Retailers define as convert your internet user in Retailer and consumer. The main vision of this application is to build aa environment where user can get goods in minimum price to maintain transparency and trust. Local businesses invest precious time and money into advertising, building an application, gathering social media followers, and collecting addresses. We believe you should always understand the true returns on any of these investments between retailers and consumer. Our goal is to autornate the availability of goods in reasonable price in specific area wise distribution of content that drives sales, and then give your insight into the analytics that really matter s customers. Around the clock to simplify the way you market retailer's business and drive customers into retailers' locations.

This application is a great way to reach by the retailers to the customers, gain new ones and expand business profit. It facilitates to display all the details about offers which are created retailers to consumer. Here retailers/consumer can login and new Retailers/consumer can create him/her account. Smart retailers is an android application that dealing with retailers business to improve their business by providing their products and services to the customer with the help of this application.

We believe you should always understand the true returns on any of these investments between retailers and consumer. Our goal is to automate the availability of goods in reasonable price in specific area wise distribution of content that drives sales, and then give your insight into the analytics that really matter s customers.so customer can get their products or an item from his or her nearest shop with minimum price through the retailers' shop.

We can also implement this concept through online portal using PHP & other online web technology &





also implement through the Android Application so the customer & retailer can take the more advantages. Through the online technology this will also help to increase the retailers Business & provide the customer satisfaction to purchase goods & services through the retailers.

Smart retailers is an android application that dealing with retailers business to improve their business by providing their products and services to the customer with the help of this application.

Those who are registered with this application are getting the service provided by retailers and retailers also need to register with this application for providing services to the customer. This application is a great way to reach by the retailers to the customers, gain new ones and expand business profit. It facilitates to display all the details about offers which are created retailers to consumer.

Photograph



CSE-Smart Retailers Application-2018-19

Group Members Name Simran Somkuwar Sonali Helonde Shailesh Raut Sheikh Ramzan Qureshi

Prof. Pranjali Ulhe Guide

Prof. Mathuri Pal Project Coordinator

Principal lege of Engineering Khandala, Katol

Prof. Prasanna Lohe Head of Department

HOD Computer Science & Engineering JDCOEM, Nagpur



PSK Technologies Pvt. Ltd.

Software Development |Digital Marketing & Hosting | Sales & Services Address:- Lower Ground Floor Fortune Mall Sitabuldi Nagpur 440012 Email: - <u>hr@pskitservices.com</u> Phone:-09975288300, 09422123343 www.pskitservices.com

04/04/2019

CERTIFICATE

TO WHOM IT MAY CONCERN

This is to certify that following student of J D College of Engineering and Management; Nagpur has successfully completed Live Project titled "Smart **Retailers**" during Academic Session 2018-19. They worked for mentioned Period i.e. from 16th August 2018 to 15thMarch 2019.

Sr.No.	Name of Student	Branch	
1	Simran Somkuwar Computer Science & Engineeri		
2	Sonali Helonde	Computer Science & Engineering	
3	Shailesh Raut Computer Science & Engineering		
4	Sheikh Ramzan Qureshi Computer Science & Engineering		

We wish them a very best in all their future endeavors.

Thanking you,

Mr.Prashant S.Khadau Director, PSK Technologies Pvt.Ltd Nagpur Email:hr@pskitservices.com www.pskitservices.com

Principala I College of Engineering & Management Khandala, Katol Road Nagpur-441501





Date:17/08/2018

Title: "IDENTIFICATION OF ACCIDENT PRONE (POTHHOLES) AND ITS REPORTING"

Abstract

Road Infrastructure is as important for the society as oxygen to human body. Road safety canbe ensured by monitoring continuously and repaired as necessary. In recent years, use of mobile devices to detect potholes has become more popular. In comprehensive environment this approach can detect potholes with lower cost. Hence, a mobile sensing system should be developed for road irregularity detection. Marg-Sudhar. Pothole reporting system (working title: Identification of accident prone (potholes) and its reporting) could be a system which can help you to be better locals by reporting and tracking potholes over your city in three direct ways Click, Report and Fix, which in this way can enables the respective authority to make a move and fill in the potholes, along these lines making the roads alright for everyone. Marg-Sudhar App will use three basic features effectively accessible in a cell phone-phone camera, GPS and internet connection. Marg-Sudhar will empower street maintainers to get data in regards to street condition effectively with the assistance of locality. Through this it will lessen time of Municipal corporation in gathering data and locality will get better roads in less time.

Summary

India is said to be the quickest developing nations today simply after China. In spite of the fact dia is doing particularly well in fields like training, industrialization and design there are as retain zones where the nation is lingering behind. India's road network is huge and said to be y after the United States of America. Be that as it may, one of the overwhelming situations is condition of the streets. Since streets in a roundabout way add to the financial development of action it is incredibly basic that the streets are well spread out and solid. India is home to a few streets be it the metropolitans, the urban communities or the towns. Terrible street conditions just the same old thing new to India and the issue is being tended to since the most recent 305.

Since India is a creating country there is a consistent interest for good infrastructure, sortation and services. Be that as it may, since India is a tremendous nation with a significant blew populace this issue still hasnot been tended to in totality.

India has an aggregate of around 2 million kilometers of streets out of which 960,000 kilometers are surfaced streets and around 1 million kilometers of streets in India are the inadequately builtones India is additionally home to Fifty-three National interstates which convey around 40 percent of the absolute street traffic. In spite of the fact that the figures look really great however the fundamental actuality is that 25 percent of towns in India still have poor street joins. Alternate issues looked by the Indian streets are terrible riding quality, poor geometrics and inadequate asphalt thickness.

Traffic is one basic issue in the vast majority of the metropolitans today. Urban cities like Mumbai, Delhi, and Kolkata are amazingly blocked amid available time. This is essentially a result of industrialization and the sudden ascent in vehicle responsibility for most recent couple of years. On the off chance that India needs to be pair with the developing traffic, the legislature should build around 15,000 km roads in the following ten years.





One of the significant explanations behind the harm of streets in India is overloading. It is said 1 regarding 70 percent of assets intended to be spent for the upkeep of streets really goes behind in workers. The generosity of the use acquired so as to fix streets is disturbing and henceforth administration is worrying on building substantial scale solid streets rather than the normal mutinous streets. Despite the fact that building solid streets is somewhat costly yet it is useful for nation over the long haul. India's street arrange is broad and records to practically 3.3 million which is just to the United States of America which has a complete street system of 6.3 million

The EU venture IN-SAFETY, (FP6, 506716; 2005-2008) was planned to recognize and assess ever, instinctive and cost-effective mixes of new innovations and customary framework best factice applications. This was proposed to improve the easy-going and self-explanatory character of meets. The undertaking required, among others, surveying the potential and cost-viability of joined ligation of new advances and creative HMI ideas, growing new reenactment models, chance ventilation devices, blending marking and customizing data, and issuing need usage situations.

In the project, we researched what potential outcomes there are for new mixes in infrastructure ad in vehicle system so as to raise road security. The purpose behind this is the expenses as far as aman suffering and financial misfortune because of road accidents are still considerable. Besides, noteworthy reason for accidents is human errors. Concentrates on viability of loss decrease easures in Greece exhibited that the biggest decrease is not out of the ordinary from vehicle crash surance (15%), measures to keep from driving-while-inebriated are second with 11%, while street curity designing measures are relied upon to result in a decrease of 6.5%. These figures are pretty wuch agent for Europe. Alongside their generally restricted adequacy, street wellbeingestimates sult in surprising expenses. In this manner, because of the staggering expense of such measures, Dundation upgrades are not expected to be actualized generally and subsequently contribute ossibly to a noteworthy decrease of street fatalities. In any case, a reasonable blend of new dvances with existing framework, or with restricted enhancements of it, might prompt significantly more practical arrangements. In that capacity, these inventive arrangements may turn into the mpetus towards accomplishing the EU objective of splitting the quantity of street mishaps in 2010 when contrasted with 2000.

Accordingly, it is not out of the ordinary that a situation that is self-clarifying and of a generous cort will upgrade wellbeing, and that this kind of condition especially joins framework and in-

The In-Safety venture was intended to think about the open doors Street condition in these regards to build street wellbeing. The fundamental presa ty was that the blend of foundation and telematics measures can give a more element, abstaining from performing costly framework works by giving a si ugh a telematics or other creative framework. In-Safety concentrated parti cable frameworks: in vehicle frameworks joined with infrastructural frameworks A self-explaining road (SER) is planned and built to bring out right expectati s, evoking appropriate driving conduct, along these lines diminishing the oppor takes and upgrading drivingsolace. An easy-going street (FOR) is characterized lanned and worked so as to meddle with or obstruct the advancement of driving away from or alleviate negative results of driving mistakes.

In the Project, the procedure is exhibited which is produced and applied for need situations for concocting self-clarifying street conditions and forgiving nt for improving street conditions. Firstly, the general methodology is depicted. unique is exhibited including the meaning of a situation, how accident statics ginning stage, the generation





of safety measures, and the strategy for determined erasures. The security examination forevery one of the measures will be accounted se (Wiethoff et al, in prep.).

Photograph



CSE- Identification Of Accident Prone (Pothholes) and Its Reporting -2018-19

Group Members Name

Riya Agrawal Ankita Bhandarkar Payal Patel Yash Telang Irfan Mushtaq

Jort Dr. S. V. Sonekar

Guide

Prof. Mathuri Pal

Project Coordinator

n & Mana

Prof. Prasanna Lohe Head of Department

HOD **Computer Science & Engineering** JDCOEM, Nagpur

Principal College of Engineering & H Khandala, Katol Re Nagpur-441503



Adwaijra Technologies Private Limited

TO WHOMSOEVER IT MAY CONCERN

Ref No.: ATPL/2022/3578

01/04/2019

CERTIFICATE

TO WHOM IT MAY CONCERN

This is to certify that following student of J D College of Engineering and Management; Nagpur has successfully completed Live Project titled "IDENTIFICATION OF ACCIDENT PRONE(POTHHOLES) AND ITS REPORTING" during Academic Session 2018-19. They worked for mentioned Period i.e. from 16th August 2018 to 15thMarch 2019.

Sr.No.	Name of Student	Branch	
1	Riya Agrawal	Computer Science & Engineering	
2	Ankita Bhandarkar	Computer Science & Engineering	
3	Payal Patel	Computer Science & Engineering	
4	Yash Telang	Computer Science & Engineering	
5	Irfan Mushtaq	Computer Science & Engineering	

We wish them a very best in all their future endeavors. Thanking you,

For Adwailra Technologies Private Limited

Director

Mrs. Vaishnavi Tiwari, Director/ Program Manager, Adwaijra Technology Pvt. Ltd, India.

Adwaijra technologies private limited Gopanpalli, Tellapur Road, Hyderabad - 5600046 www.adwaijra.com, +91-63006 45723

Principala I . u College of Engineering & Management Khandala, Katol Road Nagpur-441501



JAIDEV EDUCATION SOCIETY'S J D COLLEGE OF ENGINEERING AND MANAGEMENT **KATOL ROAD, NAGPUR Department of Electronics and Telecommunication Engineering** "Rectifying Ideas, Amplifying Knowledge" 2018-19





2018-19 ETC LIVE PROJECT COMPLETION CERT

Principal O. College of Engineering & Manageme Khandala, Katol Road Nagpur-441501

REVAT NETWORK



3 Sai Nagar, Jaitala Nagpur - 440036, www.revatnetwork.com, revatnetwork@email.com , Ph. 77774009378

Date: 15/02/2020

PROJECT COMPLETION CERTIFICATE

This is to Certify that Ms.Ketan Kakkad, Ms. Prachi Bhoyar, Ms.Bhagyashree Shirke, Ms.Neha Gonnade & Ms.Ankita Joge of Electronics & Telecommunication Department of JD College of Engineering and Management, Nagpur had successfully completed Live Project Title "ROBOT BASED SYSTEM FOR CLEANING BETWEEN RAILWAY TRACKS" under the supervision of Project Engineer REVAT NETWORK NAGPUR and Prof. Nilesh Mohata, Assistant Professor JDCOEM, Nagpur for Session 2018-19.



Ry1 1/2

REVAT NETWORK NAGPUR

2018-19 ETC LIVE PROJECT COMPLETION CERT

Ingo B

Dr. P. R. Kshirsagar HOD, ETC Dept.

Principal 10 College of Engineering & Management Khandala, Katol Roan Naggur-141501



JAIDEV EDUCATION SOCIETY'S J D COLLEGE OF ENGINEERING & MANAGEMENT KATOL ROAD, NAGPUR Department of IT "A Place to Learn; A Chance to Grow" Session 2018-19



Ref. No. JDCOEM/1201/IT/ LIVE PROJWCT/2018-2019/12

Date: 09/06/2018

To, The Director PSK Technologies Pvt.Ltd., Nagpur

SUBJECT: Permission to undertake Live Project.

Respected Sir/ Mam,

It is my proud privilege to interact with you as Principal of J D College of Engineering and Management Nagpur. Our institute is presently offering Engineering courses in Information Technology, Mechanical, Civil, Electrical, Electronics and Computer Science.

Few Student of IT Department are Keen interested to Undergo Live Project as a part of curriculum of DBATU. Which Will Provide them Industrial Knowledge and fulfillment of Final year Project in Engineering Course.

I request you to kindly permit the students to undertake the Live Project in your esteemed organization and provide them necessary information age guidance. The Live project will greatly enhance their understanding of the subjects and give them the desired Industrial exposure.

The name of the student is enclosed herewith.

Thanking you.

Name of student

1.	Mr. Namit Khobragade	: 03	
2.	Ms Alka Aswar	08	
3.	Ms Doksha Chipane	13	
4.	Ms Dipali Sontakke	14	
5.	Ms Pallavi Onkar	17	



Principal

Principal D College of Engineering & Management Khandala, Katol Road Nagpur-441501





JAIDEV EDUCATION SOCIETY'S J D COLLEGE OF ENGINEERING & MANAGEMENT KATOL ROAD, NAGPUR Department of IT "A Place to Learn; A Chance to Grow" Session 2018-19



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Few Student of IT Department are Keen interested to Undergo Live Project as a part of curriculum of DBATU. Which Will Provide them Industrial Knowledge and fulfillment of Final year Project in Engineering Course.

I request you to kindly permit the students to undertake the Live Project in your esteemed organization and provide them necessary information age guidance. The Live project will greatly enhance their understanding of the subjects and give them the desired Industrial exposure.

The name of the student is enclosed herewith.

Thanking you.

Roll No.	Name of student
36	Rupesh Sharma
46	Roshan Punwatkar
17	Sneha Waked
14	Rupali Patil
52	Chandrashekar Rathod

Principat

Principal College of Engineering & Management Khandala, Katol Road Nagpur-441501



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PSK Technologies Pvt. Ltd.

Software Development |Digital Marketing & Hosting | Sales & Services Address:- Lower Ground Floor Fortune Mall Sitabuldi Nagpur 440012 Email: - hr@pskitservices.com Phone:-09975288300, 09422123343 www.pskitservices.com

Ref. No. PSKT/2018/008

Date: 10/06/2018

To, HOD,IT JD College of Engineering and Management Nagpur

SUBJECT: Acceptance to undertake Live Project.

Respected Sir,

We are very happy to inform you that our organization has plan to accept the external supervisor for 02 groups and become to be a part of academic upliftment for the students.

Prashant S.Khadau

Director

Company Seal



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JAIDEV EDUCATION SOCIETY'S J D COLLEGE OF ENGINEERING AND MANAGEMENT KATOL ROAD, NAGPUR Website: <u>www.jdcoem.ac.in</u> E-mail: <u>info@jdcoem.ac.in</u> Affiliated to RTMNU



Ref. No. JDCOEM/1201/ LIVE PROJECT/2018-2019/403

Date: 24/07/2018

To, Mr. Mohd. Salim, Director, Modern Boilers Pvt. Ltd. Uppalwadi MIDC, Kamptee Road, Nagpur <u>SUBJECT: Permission to undertake Live Project.</u>

Respected Sir/ Mam,

It is my proud privilege to interact with you as Principal of J D College of Engineering & Management, Nagpur. Few Student of Mechanical Engineering Department are keenly interested to undergo live project as a part of their curriculum syllabus. Which will provide them industrial knowledge and fulfillment of Degree in Engineering Course.

I request you to kindly permit the students to undertake the Live Project in your esteemed organization and provide them necessary information and guidance. The Live project will greatly enhance their understanding of the subjects and give them the desired Industrial exposure.

(Mechanical Final Year)

The name of the student is enclosed herewith.

Thank you.

Name of students

- 1. Mr. Nikhil G. Ingole
- 2. Mr. Yogesh V. Kumbhare
- 3. Mr. Paresh A. Nanhe
- 4. Mr. Nainish R. Dhanorkar
- 5. Mr. Pravin T. Dhengale
- 6. Mr. Mangeshwar P. Pustode (Mechanical Final Year)

Guided by :- Prof. A.R. Sayed Regards,

Principal, JDCOEM"

Principal College of Engineering & Managemer-Khandala, Katol Road Nagpur-441501





Received

GST No.: 27AAHCM3276C1ZJ

MODERN BOILERS PVt.Ltd.

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SUPER HEATER COIL, ECONOMISER COIL, STUDDED BED COIL, BANK TUBES, STORAGE TANK, CHIMNEY, DUCTING, PRESSURE VESSELS, STEAMHAEDER, PACKAGE BOILER, PIPELINE INSULATION, BOILER REPAIRER ETC.

PERMISSION LETTER

26/07/2018

To, The Principal, J D College of Engineering & Management, Nagpur.

Respected Sir,

With Reference to your application Ref. No. JDCOEM/1201/ LIVE PROJECT/2018-2019/403 for Live Project of Final Year Mechanical Eng. students of your college for the permission to undertake Live Project at our organization. We are pleased to inform you that, we are permitting these 06 students to start their Live Project from 01/08/2018 till completion of their project work.

Our staff to be available to assist the students to make help them to get familiarize with Industry.

Please contact us if there is anything that we can do more for you

Name of student

- 1. Mr. Nikhil G. Ingole (Mechanical Final Year)
- 2. Mr. Yogesh V. Kumbhare (Mechanical Final Year)
- 3. Mr. Paresh A. Nanhe (Mechanical Final Year)
- 4. Mr. Nainish R. Dhanorkar (Mechanical Final Year)
- 5. Mr. Pravin T. Dhengale (Mechanical Final Year)
- 6. Mr. Mangeshwar P. Pustode (Mechanical Final Year)

Guided by :- Prof. A.R. Sayed

Thanks & Regards,

Mr. Mohd. Salim, Director, Modern Boilers Pvt. Ltd. Uppalwadi MIDC, Kamptee Road, Nagpur



Office / Factory : Kh. No.21/3, Mouza Masada, Behind Uppalwadi Industrial Area, Kamptee Road, NAGPUR - 440 026 Cell : 9373101114, 9307826992, 9325378412, 7796115811 Email : modern.boilers12@gmail.com, www.modernboilers.co.in

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28/03/2019

TO WHOM IT MAY CONCERN

This is to certify that the students mentioned below have successfully completed their project titled "Experimental Investigation on Changes in Mechanical Properties of SS316 and E250 BR IS 2062 Weldmets by TIG, MIG and ARC Welding Processes" at our Organization with reference to the partial fulfillment of the requirement of the bachelor course in Mechanical Engineering.

Name of student

- 1. Mr. Nikhil G. Ingole
- (Mechanical Final Year) 2. Mr. Yogesh V. Kumbhare (Mechanical Final Year)
- 3. Mr. Paresh A. Nanhe (Mechanical Final Year)
- 4. Mr. Nainish R. Dhanorkar (Mechanical Final Year)
- 5. Mr. Pravin T. Dhengale (Mechanical Final Year)
- 6. Mr. Mangeshwar P. Pustode (Mechanical Final Year)

Guided by :- Prof. A.R. Sayed

All necessary details were provided from our side for the execution of this project.

We wish them a very best in all his future endeavors.

Thanking you,

With regards,

Mr. Mohd. Salim, Director. Modern Boilers Pvt. Ltd. Uppalwadi MIDC, Kamptee Road, Nagpur



Office / Factory : Kh. No.21/3, Mouza Masada, Behind Uppalwadi Industrial Area, Kamptee Road, NAGPUR - 440 026 Cell : 9373101114, 9307826992, 9325378412, 7796115811 Email : modern.boilers12@gmail.com, www.modernboilers.co.in



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Ref. No. JDCOEM/1201/ LIVE PROJECT/2018-2019/404

Date: 24/07/2018

To, Mr. Mohd. Salim, Director, Modern Boilers Pvt. Ltd. Uppalwadi MIDC, Kamptee Road, Nagpur <u>SUBJECT: Permission to undertake Live Project.</u>

Respected Sir/ Mam,

It is my proud privilege to interact with you as Principal of J D College of Engineering & Management, Nagpur. Few Student of Mechanical Engineering Department are keenly interested to undergo live project as a part of their curriculum syllabus. Which will provide them industrial knowledge and fulfillment of Degree in Engineering Course.

I request you to kindly permit the students to undertake the Live Project in your esteemed organization and provide them necessary information and guidance. The Live project will greatly enhance their understanding of the subjects and give them the desired Industrial exposure. The name of the student is enclosed herewith.

Thank you.

Name of student

- 1. Mr. Mayur Barsagade
- 2. Mr. Rahul Dhawale
- 3. Mr. Sachin Panchbhai
- 4. Mr. Shubham Bundele
- 5. Mr. Sunil Mohabe

(Mechanical Final Year) (Mechanical Final Year) (Mechanical Final Year) (Mechanical Final Year)

(Mechanical Final Year)

Guided by :- Prof. D.A. Agrawal

Regards,

Principal. JDCOEM

Principal D College of Engineering & Managemen Khandala, Katol Road Nagpur-441501







GST No.: 27AAHCM3276C1ZJ

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26/07/2018

PERMISSION LETTER

To, The Principal, J D College of Engineering & Management, Nagpur.

Respected Sir,

With Reference to your application Ref. No. JDCOEM/1201/ LIVE PROJECT/2018-2019/404 for Live Project of Final Year Mechanical Eng. students of your college for the permission to undertake Live Project at our organization. We are pleased to inform you that, we are permitting these 05 students to start their Live Project from 01/08/2018 till completion of their project work.

Our staff to be available to assist the students to make help them to get familiarize with Industry.

(Mechanical Final Year)

(Mechanical Final Year)

Please contact us if there is anything that we can do more for you

Name of student

- 1. Mr. Mayur Barsagade (Mechanical Final Year)
- 2. Mr. Rahul Dhawale
- 3. Mr. Sachin Panchbhai (Mechanical Final Year)
- 4. Mr. Shubham Bundele
- 5. Mr. Sunil Mohabe

e (Mechanical Final Year)

Guided by :- Prof. D.A. Agrawal

Thanks & Regards,

Mr. Mohd. Salim, Director, Modern Boilers Pvt. Ltd. Uppalwadi MIDC, Kamptee Road, Nagpur



Office / Factory : Kh. No.21/3, Mouza Masada, Behind Uppalwadi Industrial Area, Kamptee Road, NAGPUR - 440 026 Cell : 9373101114, 9307826992, 9325378412, 7796115811 Email : modern.boilers12@gmail.com, www.modernboilers.co.in

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28/03/2019

TO WHOM IT MAY CONCERN

This is to certify that the students mentioned below have successfully completed their project titled "Experimental Investigation Forced Convective Heat Transfer Coefficient For Turbulant Flow Using Nano Fluid" at our Organization with reference to the partial fulfillment of the requirement of the bachelor course in Mechanical Engineering.

Name of student

- 1. Mr. Mayur Barsagade
- 2. Mr. Rahul Dhawale
- 3. Mr. Sachin Panchbhai
- 4. Mr. Shubham Bundele
- 5. Mr. Sunil Mohabe

(Mechanical Final Year) (Mechanical Final Year) (Mechanical Final Year) (Mechanical Final Year)

(Mechanical Final Year)

Guided by :- Prof. D.A. Agrawal

All necessary details were provided from our side for the execution of this project.

We wish them a very best in all his future endeavors.

Thanking you,

With regards,

Mr. Mohd. Salim, Director, Modern Boilers Pvt. Ltd. Uppalwadi MIDC, Kamptee Road, Nagpur



Office / Factory : Kh. No.21/3, Mouza Masada, Behind Uppalwadi Industrial Area, Kamptee Road, NAGPUR - 440 026 Cell : 9373101114, 9307826992, 9325378412, 7796115811 Email : modern.boilers12@gmail.com, www.modernboilers.co.in



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Affiliated to RTMNU

Ref. No. JDCOEM/1201/ LIVE PROJECT/2018-2019/402 To.

Date: 24/07/2018

Mr. Mohd. Salim, Director, Modern Boilers Pvt. Ltd. Uppalwadi MIDC, Kamptee Road, Nagpur SUBJECT: Permission to undertake Live Project.

Respected Sir/ Mam,

It is my proud privilege to interact with you as Principal of J D College of Engineering & Management, Nagpur. Few Students of Mechanical Engineering Department are keenly interested to undergo live project as a part of their curriculum syllabus. Which will provide them industrial knowledge and fulfillment of Degree in Engineering Course.

I request you to kindly permit the students to undertake the Live Project in your esteemed organization and provide them necessary information and guidance. The Live project will greatly enhance their understanding of the subjects and give them the desired Industrial exposure.

The name of the student is enclosed herewith.

Thank you.

Name of student

- 1. Mr. Shardul Sahare
- 2. Mr. Kartik Chacharkar
- 3. Mr. Pratik Zilpe
- 4. Mr. Vaibhav Kamdi
- 5. Mr. Piyush Naranje
- Mr. Vrushabh Galande 6.

Guided by :- Prof. A.A.Junankar

Principal, JDCOEM

Principal) D College of Engineering & Managemer Khandala, Katol Road Nagpur-441501



(Mechanical Final Year) (Mechanical Final Year)





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PERMISSION LETTER

To, The Principal, J D College of Engineering & Management, Nagpur.

26/07/2018

Respected Sir,

With Reference to your application Ref. No. JDCOEM/1201/ LIVE PROJECT/2018-2019/402 for Live Project of Final Year Mechanical Eng. students of your college for the permission to undertake Live Project at our organization. We are pleased to inform you that, we are permitting these 06 students to start their Live Project from 01/08/2018 till completion of their project work.

Our staff to be available to assist the students to make help them to get familiarize with Industry.

Please contact us if there is anything that we can do more for you

Name of student

- 1. Mr. Shardul Sahare
- (Mechanical Final Year) 2. Mr. Kartik Chacharkar
- 3. Mr. Pratik Zilpe
- 4. Mr. Vaibhav Kamdi
- 5. Mr. Piyush Naranje
- 6. Mr. Vrushabh Galande

Guided by :- Prof. A.A.Junankar

Thanks & Regards,

Mr. Mohd. Salim, Director, Modern Boilers Pvt. Ltd. Uppalwadi MIDC, Kamptee Road, Nagpur





Office / Factory : Kh. No.21/3, Mouza Masada, Behind Uppalwadi Industrial Area, Kamptee Road, NAGPUR · 440 026 Cell : 9373101114, 9307826992, 9325378412, 7796115811 Email : modern.boilers12@gmail.com, www.modernboilers.co.in

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28/03/2019

TO WHOM IT MAY CONCERN

This is to certify that the students mentioned below have successfully completed their project titled "Development of plastic water container at plastic production unit" at our Organization with reference to the partial fulfillment of the requirement of the bachelor course in Mechanical Engineering.

Name of student

- 1. Mr. Shardul Sahare (Mechanical Final Year)
- 2. Mr. Kartik Chacharkar (Mechanical Final Year)
- 3. Mr. Pratik Zilpe
- 4. Mr. Vaibhav Kamdi (Mechanical Fina
- 5. Mr. Piyush Naranje (Mechanical Final Y
- 6. Mr. Vrushabh Galande
- (Mechanical Final Year) (Mechanical Final Year) (Mechanical Final Year) (Mechanical Final Year)

Guided by :- Prof. A.A.Junankar

All necessary details were provided from our side for the execution of this project.

We wish them a very best in all his future endeavors.

Thanking you,

With regards,

Mr. Mohd. Salim, Director, Modern Boilers Pvt. Ltd. Uppalwadi MIDC, Kamptee Road, Nagpur



Office / Factory : Kh. No.21/3, Mouza Masada, Behind Uppalwadi Industrial Area, Kamptee Road, NAGPUR - 440 026 Cell : 9373101114, 9307826992, 9325378412, 7796115811 Email : modern.boilers12@gmail.com, www.modernboilers.co.in

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Bhushan R.Mahajan Head of Department, DOME JDHODEMDEpartment Mechanical Engineering 2D College of Engineering & Monagement Natappent




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International Journal of Innovative Science and Research Technology ISSN No:-2456-2165

Cellular Light Weight Concrete Brick by using Quarry Dust

organizations.

Yash Chhatani, Shiwangi Dhawankar, Vipin Gajbhiye, Rahul kuhikar, Rohan Potpose, Devesh Rarokar, Nikeeta Dethe

Yash Chhatani, Shiwangi Dhawankar, Vipin Gajbhiye, Abstract:- This undertaking base on the execution of lightweight coment by utilizing quarry dust block. Anyway adequate water bond proportion is indispensable to create sufficient union among concrete and water. Deficient water can utilize absence of union between particles, in this manner laws in quality of cement. Like astute an excessive amount of water can make bond keep running off total to frame laitance layers, hence debilitates in quality. We use quarry dust as a substitution of fly fiery remains and furthermore utilized the materials concrete (OPC 53 grade), fly cinder, quarry dust, frothing operator (FC-LITE). FC-LITE is a frothing specialist which incorporates a growing property and builds the volume of the blend and lessening the dead weight of the block. We are utilizing standard size of block form is (19 x 9 x 9) cm (IS 1077: 1992). This paper is set up to demonstrate the exercises and advancement of the light weight concrete. The execution of light weight cement, for example, compressive quality tests and thickness and beneficial tests and examination made with different kinds of block.

Keywords:- Foaming Agents (FC-LITE), Quarry Dust, Fly Ash.

I. INTRODUCTION

Light weight solid block can be characterize as a sort of block which incorporates a growing specialist in it that expansion the volume of the blend of block while diminishing the dead weight. It is lighter than ordinary block with a thickness of 300 kg/m3 up to 1800kg/m3. The primary strengths of light weight solid block are its low thickness and low warm conductivity. Light weight solid block keeps up its substantial voids and not framing laitance layer or bond film.

A. Fly Ash

A. Fly AshFly ash remains is a side-effect from consuming pummelled coal in electric power creating plants. As the intertwined material ascents, it cools and sets into round shiny particles called fly cinder. Fly ash remains is gathered from the fumes gases by electrostatic precipitators or sack channels. Fly slag is by and large caught by electrostatics precipitators or other molecule filtration gear before vent gases achieve the fireplace of coal-terminated power plant and together with base cinder expel from the base of the heater is for this situation mutually known as coal powder. coal powder.

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Fig 1

B. Quarry Dust

B. Quarry Dust A quarry is a kind of open-pit mine in which estimation stone, shake, advancement complete, riprap, sand, shake, or slate is uncovered beginning from the soonest organize. The word quarry can in like manner join the underground quarrying for stone, for instance, Bath stone, quarry dust is effectively accessible in market. It is utilized in development on the grounds that the residue can be sufficient to hold water.

Sr.No.	Properties	Quarry Dust
1	Specific gravity	2.54-2.60
2	Bulk relative density(kg/m ³)	1720-1810
3	Absorption(%)	1.20-1.70
4	Moisture content(%)	Nil
	Table 1	

C. Cemen

In the most broad feeling of the world, bond is a folio, In the most broad feeling of the world, bond is a folio, a substance that set and solidifies freely, and can tie other material together. "Cement" follows to Romans who utilized the term creation caementicium to portray brick work taking after present day solid that was produced using pounded shake with copied lime as folio. The volcanic slag and pummel block added substance that were added the consumed lime to acquire a water powerd folio were later alluded to as cementum, cimentum ,and bond. Concretes

The Literature Survey on Behaviour of Asphalt Concrete Pavement using Steel Wool Fiber

Prof. Shah Rukh Kureshi¹ Neha Duryodhan² Ashwini Jiwane³ Rishi Dubey⁴ ¹Assistant Professor ^{2,3,4}UG Student ^{1,2,3,4}Department of Civil Engineering

1,2,3,4 RTMNU University Nagpur, India

^{1.2.3,4}RTMNU Unix Abstract— The main purpose of this study is to provide waterproof and self heating concrete in pavement design. Asphalt concrete is a self heating concrete. In asphalt concrete, the steel fiber is assembled to make it electrically conductive and applicable for induction heating. The purpose of steel wool fiber added in asphalt concrete for improve its strength and fatigue characteristics during ductility. Cracking is one of the major problem occur on the pavement and it is directly affected to serviceability, strength, life span, quality of flexible pavement. When small amount of cracks occurs in the asphalt concrete pavement that time induction generator is used to heat the material to recover the cracks through the high temperature. During the summer season if the temperature is high, then there will be cracks start closing by themselves. It may be also promoted artificially through induction heating or by microwave heating. Performance of asphalt pavement must constantly be repaired to meet the demand of today's transportation.

Induction Heating I. INTRODUCTION According to recent researchers, designer and manufacturer are always looking for recent improved and developed way to protect the atmosphere in the most effective ways possible. Due to high population the continuously rapid growth in traffic demand with high strength allowable in the pavement. Three main factor affecting to durability of asphalt concrete mixtures are, (1) water damage (2) Thermal cracking (3) Ageing. The department of Transportation and Highway authorities is to provide economical, durable free from cracks, safe, smooth pavement to the public. Due to the heavy load, cracking occurs on pavement. If the water infiltrate through the cracks may subsequently cause weakening and deterioration of the base and subgrade. Cracking appears at the pavement there is resettlement of pavement damage caused by cracking postruction of asphalt concrete. Therefore there is need to implement emerging technologies which may enhance the cracking obstruction of asphalt concrete. The steel wool fibers added in asphalt concrete to increasing its strength, particle loss resistance, and fatigue resistance (stress). A mixture of asphalt concrete consisting coarse aggregate, fine aggregate, filler and binder. Healing of reported in the late 1960s and was notice to occur at high temperature and with long rest periods between loads. Application of steel wool fiber is improve the strength of the pavement, life period as well as reduce the overall cost of the road construction. road construction.

II. OBJECTIVES

- To study introduction and advantages of asphalt concrete using steel wool fiber. To study the design mix procedure
- To study the relevant IS codes related to asphalt concrete
- To study the relevant IS codes related to asphalt concrete mix design. To study the behavior of asphalt concrete with the steel wool fiber. To design the flexible pavement with sufficient workability.

III. METHODOLOGY

Study of IS codes and literature review Selection of materials that are used such as.

1) 2) Coarse Aggregates A.

Coarse aggregates is the portion of concrete which is made up of the concrete will collected from a local source, up to 4.75 mm IS sieve size. Its specific gravity was found as 2.75. Fine Aggregates

Fine aggregates were collected from a local crusher with passing 4.75 mm and retained on 0.075 mm IS sieve. Its specific gravity was found as 2.6.

Filler

Aggregate which are passing through 0.075 mm IS sieve is called as filler. Here cement is used as filler whose specific gravity is 3.0.

D. Binder

Here 60/70 penetration grade bitumen is used as binder for preparation of Mix, whose specific gravity was 1.01.
3) Identify the characteristics of steel fiber suitable which is used in asphalt concrete.

- Perform tests on materials
- 4) 5)
 - Perform tests on maternals Prepare proportion of mix. The mix will prepared according to the Marshall procedure specified in ASTM D1559. Here Optimum Binder Content (OBC) is found by Marshall Test, where binder content is very from 0% to 1504.
 - ^{1350.} The steel wool after being cut in to small pieces is added directly to the aggregate sample in fix proportion. The mineral aggregates with wool and binders are heated separately to the prescribed mixing temperature. The temperature of the mineral aggregates is maintained at a temperature 10°C higher than the temperature of the binder
- binder.
- Required quantity of binder is added to the pre heated aggregate-wool mixture and thorough mixing was done

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CSE Student Research Paper 2018-19



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E-Toll System Using RFID

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¹Department of Computer Science and Engineering, JD College of Engineering and Management, Nagpur,

Maharashtra, India

²Assistant Professor, Department of Computer Science and Engineering, JD College of Engineering and Management, Nagpur, Maharashtra, India

ABSTRACT

ETS (E-Toll System) is an electronic Toll Tax collection system by which we can collect the toll charges using RFID card detection and scanning. These RFID Cards are related to the respective vehicle holders. This project hence, reducing common problems like traffic congestion, Pollution caused due to vehicles, Time dilemma, requirement of labours etc. Makes it effective to collect the required amount of charge from the driver. There will be an RFID tag implemented on every vehicle. Whenever vehicle passes through the toll plaza RFID reader with the help of sensors will detect tag and the required amount will be deducted. Driver don't need to stop to pay the money ,and this RFID card is used to track & bill the vehicle owner through a payment gateway. **Keywords :** Electronic Toll Collection, RFID, XAMPP, Vehicle, Tag.

I. INTRODUCTION

The world is changing furiously, the role of automation in our day to day life is increasing at a very fast rate, hence the consumption of fuel and use of road is increasing proportionally. People charge of using roads as nothing in this universe is free of Cost. This leads to the motive of our project i.e. "The Automation".We have chosen this topic because digitizing current toll plaza will overcome disadvantages like time delay, traffic congestion etc.

The charge form of manual and semi-manual will not meet demand of the charging management system and may lead to many vehicle blocked at entrances and exits causing huge economic losses when it reached a certain threshold enhancing the convenience and safety of the travelers.

The current status of RFID-based ETC system worldwide exampled and described as follows:

Sanral:-E-toll (in South Africa) consists of the electronic toll collection (ETC) processes employed by South Africa's roads agency Sanral on selected toll roads or toll lanes, subject to the Sanral Act of 1998.

FASTag:-**FASTag** is an automatic electronic toll collection system operated by National Highway Authority of India[1] (NHAI). It is also based on Radio Frequency Identification (RFID) technology for making toll payments from savings account linked to it

E-ZPass:-The E-ZPass Group is comprised of toll entities stretching across 17 states that operate the extremely successful E-ZPass *electronic toll collection* program.

Principa

II. THE COMPOSITION

Our Toll Collection system is madeup of following modules:-

- **Hardware part:** This is a hardware-cum-sensor system which manages vehicle detection and is installed at the toll booth. The hardware is based on Arduino boards development platform.
- Server: This is the backend server hosted in XAMPP which is responsible for authenticating, identifying and billing a vehicle based on the unique RFID tag. Thus it manages the complete toll collection process.
- **Database:** Consists of user and administrator data and information regarding the total transaction and input output of the vehicles in and through the toll plaza.
- User website: It is a web site frontend we have created in PHP for users and toll people to register new drivers,Tolls,Vehicles and updating information regarding the vehicles.

III. DESIGN AND IMPLEMENTATION

When a person buys a new vehicle she'll need to register herself and her vehicle at the toll office or RTO office. The RTO officer will allot a unique ID to the RFID card the user along with No. Plate which will contain a unique ID related to the Card only. At this time the officer will also create an account for the user although user can herself make her account using the website by signing up. After it has registered the vehicle a password and user id will be generated and once it is generated the user can recharge his/hers card any time.

Each time the drivers vehicle approaches the toll plaza the IR sensor implemented on the plaza(Hardware)will sense the vehicle approaching and sends a ready signal to the RFID reader and Scanner the scanner will scan the Card and processing will be done. Transaction will begin depending upon the balance in the account of the drivers card the amount will be deducted as the toll tax if the vehicle has to encounter another toll plaza through the journey she can request for deduction of amount wrt the upcoming toll also. All these tolls are connected using the centralized server using LAN. If there is no sufficient amount of money present the user can pay manually or other transactions means. The software updates the data of the transaction after the process successfully terminated.

Following is the algorithm associated with the project:-

Step 1: Start

Step 2: Sensors 0.5 km before the toll plaza detects transport.

Step 3: Scanner and Camera will start processing according to step 2.

Step 4: Vehicle slow down for some seconds at the same time High quality scanner scans QR-Code

Step 5: if Vehicle= Truck or Other transport then return the amount of tax to be deducted.

Vehicle = special Transport then Return(null);

Step 6: At the same time the high quality Camera clicks picture of the vehicle.

If{

Traffic rules are followed then return (null);

else

return(penalty);

Step 7: if the Transaction is completed successfully then the Tax will be delivered on their address.

Step 8:Message will be sent on owners phone Step 9:END



IV. HARDWARE SETUP

At the toll booth, Arduino board hardware are situated which manages the toll total collection processes .We have used Arduino UNO which is a microcontroller board ATmega328P consisting of 14 digital input/output pins ,6 analog input ,a quartz crystal, USB cable connection , a power supply jack, ICSP header and a reset button.

We have simply connected it to the computer using USB cable.



Fig1. Arduino Uno Rev3,Code: A000066

To track the vehicles, *Arduino* UNO is interfaced with the RFID reader and scanner for getting the information regarding the vehicle.

Both the RFID reader and the tags comes with the coil in them power supply is given and the data is fetched We collect the read data.



Fig 2. Interfacing Arduino with RFID

.Power supply requirement of RFID Readers varies for different products. Reader we have used is of 12 Volts. There are 2 outputs from RFID Reader. (a)RS232 compatible output and (b)TTL compatible output. A TTL compatible output pin is connected directly to Arduino.



Fig 3. RFID with Arduino Uno Rev3

V. DATABASE

Database is the Heart of our project. We have used MY-SQL for database query generation and updating the entries. We obtained a database for user, admin and transaction using XAMPP control panel .There are three Data information's stored in the database as follows:-

1.Admin's Database:-Administrator database consists of all the details of central database and all tolls under Construction.I.e. RTO's Database.

2.Central Database:- Central database consist records of all toll plaza in work. This is managed by the RTO administrator.The Customer registers themselves into this account system. This account information about the users is stored into The RTO database. When the registered customer passes through the particular toll plazas then, automatically data will be updated.

3.Integrated database:-Integrated database is disconnected to the central database This database will update automatically. This database includes all Registered vehicles and the details of vehicle such as vehicle owner, vehicle number, license number, account ID, account balance, current charges, etc.



VI.CONCLUSION

In this report, the conclusion that came out is that, to implement modern system of toll collection new technique RFID came into light. The RFID safety is key important o this project.

This project is reliable and easy way to pay toll as compared to manual one.

Project is all about automated toll system which will overcome disadvantages of current toll system. Our project helps driver to pass through toll without stopping his vehicle to pay the toll tax. RFID tag on each vehicle will be detected by RFID reader and amount will be deducted. Open Road Tolling System[2] and Automated Toll system[3] these are two previously implemented projects similar to our project. We have studied them and we are trying to overcome disadvantages of these two. The project if implemented by government then toll system will be fully automated and one who is passing through toll don't need to wait for a long time this will also reduce pollution, traffic and accidents.

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- [3]. AUTOMATIC TOLL COLLECTION ITERNATIONAL JOURNAL OF COMPUTER SCIENCE AND MOBILE COMPUTING, VOL.5 ISSUE.8, AUGUST-2016

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Am

Prof. P.A.Lohe Head CSE/IT HOD Computer Science & Engineering JDCOEM, Nagpur



Principal ege of Engineering & Man da, Katol Ro



Wireless System for Precision Agriculture

Utkarsha Bhaisare¹, Rupali Patil², Aishwarya Somkuwar³, Gopal R. Jadhao⁴ ^{1,2,3}Student, Department of CSE, R.T.M.N.U, Nagpur, India ⁴Professor, Department of CSE, R.T.M.N.U, Nagpur, India

Abstract: An Huge amount of data is collected by the sensors from the end Subsequently, this considerably big amount of data must be processed, analyzed and stored in a cost effective ways. In this manner, an enormous pool of computing resources and storage must be provided to compute this vast amount of data. We focused on introducing the latest technologies such as sensors, WSN to radically revise approaches to agriculture by collecting the data about the various parameters of soil, analyzes the data and performed the computations, giving the best optimal solutions for the farming. The application of computing in agricultural economy will open up a vast range of prospects, such as the vast storage of agriculture information, the cloud management of agricultural production process, the storage of agricultural economy information, early-warning and policy-making based on the agricultural products market, the tracing management of agricultural products quality.

Keywords: Sensors Computing, Resources, WSN, Tracing, Management.

1. Introduction

The main contextual data elements of sensor based feedback advisory system include many different types of sensors, such as temperature, humidity, soil moisture, canopy temperature, canopy humidity and wind velocity, placed on the field with data loggers to communicate the observations to the server. Apart from sensor information the farmer uploads information about climatic conditions, soil conditions, rain and fertilization history, and the pesticide and insecticide history. By presenting all this information in the context of the farmer query, the expert can diagnose the problem and promptly provide advice to the farmer in his native language and maybe even using feedback suggestions. The classification and modeling of agricultural events, modeling of the agricultural experiences, and a method to browse through the history of agriculture experiences soil type, crop, crop variety, season, target, and if available fertility status. In the challenges involved in the Developments of decision support system to be used by farmers as end user are presented, however aims to bridge the gap between farmers, agricultural experts, financial institutions, soil testing labs, agriculture market and other agriculture related institutions. We propose a novel experiential computing approach which aims to provide more insights to an expert by capturing, detecting, storing and analyzing the history of various events in agriculture. Each weather station possesses atmospheric, soil and plant parameters monitoring sensors; data logger and modem for data storage and transmission; battery to energize all blocks of the weather station and a solar panel based battery charging unit. The sensors that are available with weather station includes temperature, relative humidity, soil moisture, soil temperature, grass temperature, wind direction, wind speed, solar radiation, rain gauge, leaf temperature and leaf wetness, and virtual dew point sensor. The data logger on weather station collects the data from sensors and transmits. Each farmer, seeking the service, is initially required to perform registration by providing the details of the field location, crop, crop type, soil type, petiole analysis reports, and history of irrigation, fertilizer and pesticide application.

2. Literature survey

Agro-Advisory System for Rural Farmers present late blight disease forecasting protocol, by integrating sensor based mathematical disease forecasting models, with human participatory diagnosis using mobile phone application overlay mKRISHI system [1]. In Smart grid there are four categories of technologies to mention them; sensors and actuators, communication, owner low control and Supervisory Control and Data Acquisition systems SCADA [2]. Analysis of suitability and prospect of the application of computing in Agricultural Economy. The prediction and analysis of agricultural products market involves vast data, factors and complex computing. State machine replication behavior, virtual synchrony, or other strong, formally specified consistency models, up to some limited number of server failures [3]. At the extreme of this spectrum one finds Byzantine Fault Tolerance services, which can even tolerate compromise. Monitoring agricultural environment for various factors such as temperature and carbon monoxide along with other factors can be of significance [3]. So, there is a need to design of performance monitoring unit for reconfigurable embedded processor.

3. Existing system

In the current scenario, farmers have very less knowledge about the soil and its parameters level, percentage of carbon, nitrogen, water absorbing capacity etc. which plays a very big role in the crop production farming based on traditional knowledge so it is difficult for the them to predict that which type of soil is suitable for which type of crop and because of insufficient knowledge farmers are facing loss in the crop production degrading the economical structure of the farmers.

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As the scientific consensus grows that significant climate change, in particular increased temperatures and precipitation, is very likely to occur over the 21st century economic research has attempted to quantify the possible impacts of climate change on soil. So, there is a need to design of performance monitoring unit for reconfigurable embedded processor.

4. Research methodology

In software design, communication protocol layers have the energy conservation for the center. Take the communication between the sensor nodes and the network coordinator as an example to introduce the flow of communication between the ZigBee modules. Before making communication, ZigBee module need effective initialization, When the server receives weather data from sensor nodes, the server will check the weather data with notification value by using decision Tree techniques. If it matches with the pre-conditions, it will notify the system administrator and record of the notification and automatically store weather data to the database.



The communication between sensor nodes and sink nodes, and exchange between sink nodes and Networks coordination are similar. Software design mainly programmed with C# language combining for the collected data display, analysis and storage etc. When the server receives weather data from sensor nodes, the server will check the weather data with notification value by using decision Tree techniques. If it matches with the pre-conditions, it will notify the stem administrator and record of the notification and automatically store weather data to the database.

5. Conclusion

This research focuses on developing devices and tools to manage, display and alert the weather/disaster warnings using the advantages of a wireless sensor network system in mesh topology. The system can work over far distances. The system uses microcontroller and Xbee Wireless module base on the Zigbee/IEEE 802.15.4 standard. The developed system is very flexible and accurate. The developed system has core competency including display weather information, alert when weather conditions match using decision tree technique and keep weather information statistics.

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REVIEW ON HOME ENERGY MANAGEMENT SYSTEM WITH HYBRID

ELECTRIC SOURCES

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ABSTRACT

Nowadays, energy consumption is rapidly increasing due to an increase in population and lifestyle. This causes greater problems with the delivery of electricity. To prevent such problems, a home energy management system (HEMS) has been developed. HEMS provides a visual representation of energy waste points. a better approach to using energy inside of homes. A HEMS takes into account energy production and communications between the distribution center and customers in both directions. This review paper provides a written analysis of the home energy management system (HEMS).

This review article reviews research papers on the HEMS for various circumstances based on varying climatic circumstances, various devices, and various controllers with algorithms, various residents, and their way of life. Keywords: HEMS, Solar energy, Battery, Hybrid Energy Sources.

I. INTRODUCTION

Over the past few decades, the demand for electrical energy has grown significantly throughout the world. To address this enormous energy demand, both conventional energy sources that mostly rely on fossil fuels and renewable energy sources (RES) including wind, solar, and fuel cells need be used. Redesigning the conventional power system architecture and infrastructure may be the solution to problems brought on by the integration of RES into the grid and rising energy demand. In comparison to current systems, this power system's features ought to be more reliable, intelligent, and environmentally beneficial.

Hybrid energy sources are increasingly being used for home energy management systems. Solar energy and PV cells have intermittent issues, just as all other renewable energy sources. It means that it isn't always available to be converted into power, such as at night or in cloudy or wet weather. Therefore, it is likely that PV cells won't be able to satisfy the demands of an electric power system. Because of this, hybrid systems aid in supplying home loads continuously. Numerous studies on HEMS have been published over the years. We are

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Realisation of UPFC device using matlab simulation

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Abstract: The possibility of controlling power flow in electric system without any rescheduling and topological changes can improve the power system performances. It has been proved that, instead of building new transmission lines, an efficient usage of the existing line to their thermal limit is possible. Flexible AC Transmission Systems (FACTS), which are power electronic based devices, can change parameters like impedance, voltage and phase angle. Therefore they have the ability to control power flow pattern and enhance the usable capacity of the existing lines. The important feature of FACTS Technology is that they can vary the parameters rapidly an continuously, which will allow a desirable control of the system operation. The Unified Power Flow Controller (UPFC) is a Flexible AC Transmission Systems device used for improving the power quality in power systems. The UPFC consists of a combination of series device and shunt device, the DC terminals of which are connected to a common DC link capacitor. The series device acts as a controllable voltage source VC, whereas the shunt device acts as a controllable current source IC. The main purpose of the shunt device is to regulate the DC link voltage by adjusting the amount of active power drawn from the transmission line. In addition, the shunt device has the capability of controlling reactive power.

Keywords-SSSC, Statcom, UPFC

I. INTRODUCTION

The flexible AC transmission systems (FACTS) concept based on applying leading edge Power Electronics Technology to existing AC transmission systems, improves stability to increase usable power transmission capacity to its thermal limit. A UPFC can simultaneously provide control of the transmission line impedance, phase angle and voltage. The UPFC is constructed from two power electronic inverters which are connected together by a common DC link. Two transformers are used to isolate the UPFC and to match the voltage levels between the power system and the power electronic inverters. One of the inverter is connected to the transmission line. The series connected inverter can generate a voltage which can have adjustable magnitude and phase angle. This inverter therefore can provide both real and reactive power to the transmission line. The second inverter primarily provides the real power required by the series inverter but it can also operate as an independent VAR compensator. Therefore the UPFC can control the flow of real and reactive power in the transmission line. The two VSI's can work

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ADIABATIC TECHNIQUE FOR POWER EFFICIENT CIRCUIT DESIGN

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Abstract: The demand for low power consuming devices is increasing very rapidly and the adiabatic logic style is and to be an attractive solution. Power consumption plays a major role in present day VLSI design technology This paper Studies different methods for designing adiabatic logics such as CMOS adiabatic circuit. By Adiabatic Technique Power dissipation in PMOS network can be minimized and some of energy stored at load capacitance can be recycled Alternative of dissipated as heat in Analysis, PFAL/Positive Feedback Adiabatic Logic and ECRL (Efficient Charge Recovery Logic) are Two Logic Families are Compared With Conventional CMOS Logic for Inverter. It is finding that adiabatic technique is good choice for low power application in Predefine frequency range. range.

Reyword: Adiabatic Technique, Power Consumption in CMOS, Equivalent Circuits, Four Phased Power Clock.

Introduction

In thermodynamics, an Adiabatic Process is one that occurs without transfer of heat or Matter between a The System and its surroundings. In an adiabatic process, energy is transferred to its surroundings only as Work. Fully adiabatic operation of a circuit is an ideal condition. But in VLSI, the electric charge transfer between nodes of a circuit is considered as the process and various techniques can be applied to minimize the energy loss during charge transfer event. In practical cases, energy dissipation with a charge transfer event is composed of an adiabatic component and a non-adiabatic component. Adiabatic circuits are low power circuits which use "reversible logic" to conserve energy In conventional CMOS logic circuits, from 0 to VDD transition of the output node, the total output energy drawn from power supply and stored in capacitive network. For recycling, the adiabatic circuits use the constant current source power supply and for reduce dissipation it uses the trapezoidal or sinusoidal power supply voltage.

In the recent years, several adiabatic or energy recovery logic architectures have been proposed. They have achieved significant power savings compared to conventional CMOS circuits. In conventional CMOS level-restoring logic, the switching event of circuits with rail-to-rail output voltage swing causes an energy transfer from the power supply to the output node. While this is an area of active research, current techniques rely heavily on transmission gates and fourphased trapezoidal clocks to achieve this goal.

CMOS Logical Families

ISSN Number-2277-4491

The Logic Families are as Follows · CMOS NAND CMOS NOR · CMOS INVERTER

1 CMOS Inverter

CMOS inverters (Complementary NOSFET Inverters) are some of the most widely adaptable and used MOSFET inverters Which is used in chip design.

VIBGYOR UGC Approved Journal No. 46447 [170]

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Soft

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A Web Based Billing and Payment Release System

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ABSTRACT

The Web based Billing and payment release system is used to overcome the entire problem, which the government The web web web accounting of the bills generated by training partners and releasing the payments. Our approach faces during the completely automated billing and the second seco faces during partners and releasing the payments. Our approach makes the system completely automated billing and invoicing system. We need such system because, currently makes the system been compelled to change the manner in which they lead business to react to the ongoing organizations have been at the worldwide manner in which they lead business to react to the ongoing organization of the worldwide, provincial and at the national dimension. The motivation behind this enances of the angle of the ang examined in the sector of the

I. INTRODUCTION

In Information and Communication Technology, the progressions are quick. The fast changes in payment frameworks are making a wide exhibit of new business openings and difficulties. Organizations have been compelled to change the manner in which they direct business to react to the ongoing changes occurring both at the worldwide, territorial and at the national dimension. This is unavoidable as organizations that rush to receive to change are well on the way to get by in future. As it states, "On the off chance that you don't care for change, you will like superfluity even less" Some of the progressions saw in various establishments program, rebuilding, cost-cutting, expansion and the adjustment of Information and Communication Technologies (ICTs).

In our project, we create a secure and transparent online bill and payment release system. This will be accessible to all authorized training partners. The approach is to provide facility to the training partner after successful completion of ESDM examination, training partner raise bills by online claim format along with hardcopy SC/ST/EWS certificate and ESDM certificates without moving to social welfare office.

By using our system we deal with the method of payment can be made faster and easier. Our system is an internet based computerized approach towards bill payment. Now a days the billing process is done manually which is very time consuming and risky process. The manual process takes more time to complete and there are chances of data loss. All these hardcopy documents provided by training partners are manually checked and verified by consultants and a file is prepared for payment, which is highly time-taking and critical process.

This payment file passes through different touchpoints for verification, which ultimately delays payment process. Need process reengineering, followed by automation of workflow. Our Project provides comprehensive electronic fund transfer and payment solutions that enable thousands of ESDM training partners transferring their funds online. By using our system you can also enhance the convenience of transferring funds online by receiving your bills electronically, checking statuses of pending bills and viewing the statements can possible with this system. You can do this from one secure online location, in just a few minutes.

II. Review of Literature

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An Approach on Design Calculations of Plastic Water Container at Plastic Production Unit

Kartik Chacharkar¹, Shardul Sahare², Piyush Naranje³, Vrushabh Galande⁴ ^{1,2,3,4}UG Students, Dept. of Mechanical Engineering, JDCOEM, Nagpur

sstract: Injection molding is one of the technique and methodology to create mold of various complex shapes with more nailed structure. The techniques involve various parameters to be checked for effective output. This should be done on design uge itself. We have come up some suggestion on how to approach an injection molding process. We have simplified design oblems which may occur in the development phase of the product and solved in the design phase itself. gwords: Injection molding, product design, die design, cooling system.

INTRODUCTION

jection molding is a process for producing parts of injecting material into mold. It is commonly used for making plastic materials ich as thermosetting polymers, thermoplastic polymers glasses and elastomers. The problems to be solved in design phase which ay occur in the development of the 3D model. Due to that we can avoid the rework in the design and modification in the design in be avoided. The design optimization gives the required level of dimensional accuracy, strength and reduces the time to design.

II.

PHASE ONE: PRODUCT DESIGN

Selection Of Shape Of Water Container

ie select shape of container is cylindrical because these shapes react to the stresses caused by internal pressures wourably. Because fluid pressure is same in all direction, a round wall shape will see even distribution of pressure, whereas any ape with corner will see concentrations of load due to pressure acting on either side of the corner pushing the two sides apart. So

Dimensions Of Cylindrical Water Container

cometrically cylindrical structure has largest volume capacity than any other shape used by the same material.

herefore volume of cylinder is given by, $V = \pi r^2 h$ where, V = Volume of cylinderRadius of cylinder = standard height of water ow assume height, = 184mm (constraint by machine or die). ^{apacity} of container 2.2 litres converting in mm³ $^{2} \times 1000 = 2200 \text{ mm}^{3}$ ^{olume} of cylinder (V) = $\pi r^2 h$ $200 = \pi r^2 184$ [≈]63.14 mm



Figure 1

Material Selection

^{elected} material for water container PVC P20 (C_2H_3Cl)_n (polyvinyl chloride) is the world's third-most widely produced synthetic ^{lastic} polymer, after polyethylene and polypropylene.

ome of the most significant properties of PVC are:

- Density: PVC is very dense compact to most plastics (specific gravity 1.35-1.4)
- Economics: PVC is readily available and cheap.
- Hardness: Rigid PVC is very hard.



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Strength: Rigid PVC has extremely good tensile strength. Melting Point: melting point of PVC is range very low 100°c d higher value is 260°c.

Tensile strength: Rigid PVC is 34-62MPa (4930-9000 PSI).

w material use for product is PVC P20 has data found by pressure test. ensity is 1.32 g/cm³

visson's ration is 0.42

oung's modulus is 2400 Mpa

ensile yield strength is 28 Mpa

ensile ultimate strength is 52 Mpa

from above data we calculate wall thickness of cylinder

all thickness T_b, $T_b = \frac{pD}{2S_c}$

here, p = Applied load

= Diameter

 $= 0.8 S_{vt}$

ow put all required data in given equation

 $T_b = \frac{0.2925 \times 2 \times 63.14}{2 \times 0.2 \times 0.352}$

$$T_b = 0.26mm$$

hape of container is slightly tapered because of exterior appearance.

y figure 2, $\triangle ABC$ and $\triangle CDE$ are similar by the AAA method and also because of side BC and side CD are same and side AC and de CE are same and angle of B and D are 90°.

uea covered by both the triangle is same so by this we conclude that there is no effect on capacity of container. So we are free to ke a tapered shape of container.

Water Passage and Handle

r the removal of water from container with uniform direction or to specify the stream of water V shape passage is provided which as height up to 25mm to 29mm standard given by industry so assume 28mm and length is 21mm as per trigonometric calculation. ow looking towards the holding of water container handle is necessary so it design on the basis of balancing the weight of Intainer. Total height of product is 210 mm so, 1st end of handle is from top 21mm and 2nd end is from top is 189 mm and height handle is 168.32mm for handle shape consider I section of height of 12.12mm and thickness of 2.02mm.

PHASE TWO: DIE DESIGN III.

^{Sper} the product dimension die is same. Molten metal is liquid so it shrinkages thus shrinkage allowance is necessary to provide.

herefore, value without shrinkage: v_{0} lume = 2.624 x 10⁶ mm³

Urface area = $1.08 \times 10^5 \text{ mm}^2$

 $^{\rm lensity} = 1320 \text{ g/mm}^3$

 $v_{\rm usity} = 1520$ g/mm ⁰ avoid the shrinkage we provide forceful injection of molten metal in to the cavity and maintain a constant pressure flow of the ^{olten} metal so that the hot molten metal gets poured easily.

Shot Capacity: The maximum weight of molten resin that the injection molding machine can push out with one forward stroke is called shot capacity. The screw type machine is rated in term of volume of the injection cylinder (cm³).

hot capacity (w) = swept volume $\times g \times C$

^{v_h}ere, g = Density of plastic at normal temperature

0.95 for amorphous plastics

 $() = 100 \times 1.32 \times 0.95$

[₩]) = 125.4 gm

)



Figure 2

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Number of Cavities: The number of cavities in injection moulds id determined in most cases by the machine performance, but Number of out the mold shape or the mold locking pressure. So, the shape of product is large thus it is not possible to create sometime of products at same die. It only allows making one product at one die. some of products at same die. It only allows making one product at one die.

number of particizing Capacity: The rate by which polymer gets plastic/solid. The plasticizing capacity is expressed in kg/h of plasticized plasticized

polystyrene. Number of cavity is one

 $p_{asticizing rate of material B} (kg/h) x (p) = plasticizing rate of material A (kg/h) × <math>\frac{QA}{QB}$ Where, Q = total heat contain of

plastic (j/kg)

A = polystyrene

B = material actually to be use (pvc) $p = 40 \times \frac{239.4}{159.6}$

p = 60 kg/h

Clamping Force: The clamping force required to keep the mold during injection must exceed the force given by the product of injection pressure and of all impression, runners and gate. Lower clamping values can be used with these machines. Thinner sections need high injection pressure to fill and therefore require more clamping force. In case of screw injection machine 33 to 55% of injection pressure need only be considered maximum pressure can be obtained from machine manufacturing data sheet. termine clamping force with the help of number of cavities:

omula:-

$$Nc = \frac{c}{Pc \times Am}$$

There, Nc = number of cavity = 1

=rated clamping capacity (KN) = cavity pressure = 5012 psi = projected area of molding including runner and spur rojected area of cavity (2718.24) + projected area of runner (6.03)] c = Nc x Pc x Amherefore. c = 1 x 5012 x 2724.27

$$c = 13.65 \times 10^3 \text{ KN}$$

COOLING SYSTEM

hen it comes to injection molds, the importance of an efficient cooling system cannot be overemphasized. A reduction of just one two second in cooling time can lead to as much as a 10-20% increase in the production rate. Saving time is not the only benefit of ¹⁰ gystem. Controlled cooling of the entire plastic part is vital to the preservation of its dimensional stability and mechanical operties. Properly cooled parts are less likely to warp, get stressed or be brittle. The cavity block and slides are the only upponents in the tool that require cooling lines. While the surrounding plates will get hot, adding cooling into them will not attibute much towards the ultimate goal of removing heat from the plastic part. In molds with individual cavity blocks, the Wing design to the second ^{wing} design typically can be viewed as a circuit. It will have an inlet and outlet, and will trace a path through the block. The ^{wing} design typically can be viewed as a circuit. It will have an inlet and outlet, and will trace as to risk drilling holes into any of the wit should be closer enough to the part to effectively remove the heat, but not so close as to risk drilling holes into any of the





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tem like core pins and lifters are often too small to get any effective cooling inside them. Concerned about removing heat from mail inserts, use material with a high rate of thermal conductivity for these component. Creating a water circuit with a thorough and the part is the most important consideration for cooling effectiveness. Bending the circuit around the part contributes to turbulent water flow, which helps to pull most of the heat from steel.

V. **CONCLUSION**

From the studying the above parameters and calculation we conclude it is possible to design a water container and die of this roduct on CAD software. Injection mold is properly designed and all possible solutions are considered which can solve the moblem, are generated during the design and production time. We study the cooling condition and geometrical design of the product.

VI. RESULT

By calculating the geometry of product and important parameters of die we can successfully design the product and die of product n CAD designing software.

We also found that all the assumed as well as theoretical values calculated match the actual values calculated on product imensions. Thus we can say that our calculations are under safe limits.

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JAIDEV EDUCATION SOCIETY'S J D COLLEGE OF ENGINEERING & MANAGEMENT, NAGPUR DEPARTMENT OF FIRST YEAR (2018-19) Semester-I

Subject: Engineering Physics (BTBS102/202) Assignment I

Date of Assignment:8.09.2018

Date of Submission: 15.09.2018

Unit I: Oscillation and Ultrasonic's and Dielectric Materials

- **Q.1** Define the term free oscillation, damped oscillation and forced oscillation also give suitable examples.
- **Q.2** Derive the differential wave equation.
- Q.3 Derive the differential wave equation of damped oscillation
- Q.4 Derive the differential wave equation of forced oscillation
- **Q.5** Explain Sharpness of resonance.
- Q.6 What are Ultrasonic waves? State any two properties of Ultra sonic waves.
- **Q.7** What is Magnetostriction effect? Explain the principle of and production of ultrasonic wave using this effect.
- **Q.8** What is Piezo electric effect? Explain the principle of and production of ultrasonic wave using this effect.
- Q.9 Write short notes on Quartz crystals
- Q.10 Explain the concept of flaw detection, and cavitations.
- Q.11 How one can use ultrasound for :
 - (a) Drilling (b) Soldering (c) Welding (d) Cleaning
- Q.12 Explain medical application of Ultrasonic Waves.
- Q.13 Explain various types of polarization mechanism in a dielectric.
- Q.14 Discuss the effect of temperature and frequency on dielectric.
- **Q.15** What do you mean by dielectric? Define Dielectric constant, Polarizibility and Electric Susceptibility

Mr.U.V.Rathod, Subject Teacher

Dr.A.N.Gupta, HOD, BSHD, JDCOEM

Principal) D College of Engineering & Manapeter Khandala, Katol Road Nanpur-441501





JAIDEV EDUCATION SOCIETY'S JD COLLEGE OF ENGINEERING & MANAGEMENT, Nagpur (An Autonomous Institute, with NAAC "A" Grade) Affiliated to DBATU, RTMNU & MSBTE Mumbai



Basic Science & Humanities Department

Semester-I_SESSION: 2018-19

Year/Semester: 1st Semester (First Year) Engineering Mathematics-I

Assignment-I

Date: 05.09.2018

Max Marks: 20

Q.No.	Questions	CO's	Marks
Q1	Reduce the following matrix to its normal form and find its rank. $A = \begin{bmatrix} 4 & 2 & -1 & 2 \\ 1 & -1 & 2 & 1 \\ 2 & 2 & -2 & 0 \end{bmatrix}$	CO2/2	4
Q2	Find non-singular matrices P and Q such that PAQ is in normal form hence find the rank. $A = \begin{bmatrix} 1 & 1 & 1 & 2 \\ 3 & -3 & 1 & 2 \\ 2 & 1 & -3 & -6 \end{bmatrix}$	CO3/3	4
Q3	Using Gauss- Jordan method to find the inverse of the matrix $A = \begin{bmatrix} 8 & 4 & -3 \\ 2 & 1 & 1 \\ 1 & 2 & 1 \end{bmatrix}$	CO4/4	4
Q4	Find $\frac{dy}{dx}$ if $(\cos x)^y = (siny)^x$	CO3/3	4
Q5	Examine for functionally dependent, for $u = e^x \sin y$; $v = e^x \cos y$	CO4/4	4

Last Date of Submission: 12/09/2018

Loaner Ker

Mr.Sagar S. Kathalkar Subject Teacher

Dr.A.N.Gupta, HOD, BSHD,JDCOEM



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JAIDEV EDUCATION SOCIETY'S J D COLLEGE OF ENGINEERING & MANAGEMENT, NAGPUR DEPARTMENT OF FIRST YEAR (2018-19) Semester-II

Subject: Engineering Physics (BTBS102/202) Assignment II

Date of Assignment: 10.02.2019

Date of Submission: 17.02.2019

Unit II: Optics, Fibre Optics and Laser

- **Q.1** Derive the path difference formula for reflected light for thin film and hence give condition of maxima and minima.
- Q.2 Explain the change in conditions in transmitted light for the thin films.
- Q.3 Show that fringe width remains constant in case of wedge shaped thin films.
- Q.4 Derive theory of Newton's Ring.
- Q.5 Why Newton's Ring are circular and wedge shaped films are straight.
- Q.6 Distinguish between plane polarized and unpolarized light.
- **Q.7** Explain polarization by reflection.
- **Q.8** State Brewster's Law and use it to prove that when light is incident on a transparent substance at polarizing angle, the reflected and refracted rays are at right angles to each other.
- **Q.9** What is double refraction and what are double refracting crystals?
- Q.10 Explain Huygens's theory of double reflection.
- Q.11 Explain spontaneous emission, stimulated emission population inversion and metastable state.
- Q.12 Explain the working of Ruby laser.
- Q.13 Explain the working of He-Ne Laser.
- Q.14 What are Optical Fibers?
- Q.15 Derive Numerical aperture and Acceptance angle for SI fiber.

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Mr.U.V.Rathod, Subject Teacher

Dr.A.N.Gupta, HOD, BSHD,JDCOEM



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Semester-II_SESSION: 2018-19

Year/Semester: 1st Semester (First Year) **Engineering Mathematics-II**

Assignment-I

Date:	20.02.2019	Max Marks: 20	
Q.No.	Questions	CO's/Level	Marks
Q1	Solve the equation $x^{10} + 11x^5 + 10$	CO4/4	4
Q2	To separate real and imaginary part of $tan^{-1}(x + iy)$	CO3/3	4
Q3	Solve $(1 + x^2)\frac{dy}{dx} + y = e^{tan^{-1}x}$	CO4/4	4
Q4	Solve $(1 + xy)ydx + (1 - xy)xdy = 0$	CO4/4	4
Q5	Solve $\frac{dy}{dx} = \frac{x^2 + y^2 + 1}{2xy}$	CO4/4	4

Last Date of Submission: 27.02.2019

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Ms.Prerna M.Parkhi, Subject Teacher

Dr.A.N.Gupta, HOD, BSHD, JDCOEM

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Assignment

Semester/ Branch: - V Sem/ CSE

Subject Name: -Database Management System

Subject In-charge: Prof. Swati Raut

List of Assignment Question's:-

Que. No.	Questions
1	Define DBMS with is advantages also explain Types of Databases.
2	Explain Entity-relationship model with an examples.
3	 Explain the following terms. i) Data Independence ii) Relational Integrity Constraints iii) Data Abstraction iv) Data Manipulation Operations v) File processing system Limitations.
4	Differentiate between Open source and Commercial DBMS.
5	Explain the DDL and DML constructs.
6	Explain Tuple and domain relational calculus in detail.
7	Explain Relational algebra with its operation.
8	Explain the Domain and data dependency
9	Explain the Normalization of Database Tables with Normal Forms. Also explain its Need and Significance.
10	Explain Dependency preservation and Lossless design.

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Prof.Swati Raut ; (Subject I/C)

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As/

Prof.Rohan Kokate (DBATU Co-ordinator)

Prof.Swati Raut (Academic I/C)

Prof.P.A.Lohe (HOD CSE/IT)

HOD Computer Science & Engineering JDCOEM, Nagpur

Principal J D College of Engineering & Manapemer Khandata, Katol Road Nanour-441501





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Assignment

Semester/ Branch: - IV Sem/ CSE

Subject Name: -Computer Architecture & Organization

Subject In-charge: Prof. Rohan Kokate

List of Assignment Question's:-

Que. No.	Questions
1	What are the types of instruction set?
2	What is Von Neumann computer architecture?
3	Differentiate RAM and ROM.
4	What is meant by processing unit?
5	What is Half Adder?
6	Explain Micro-programmed Control in detail.
7	Illustrate Addressing Modes with its operation.
8	Discuss the Static & Dynamic RAMs.
9	Describe the Input-Output Devices. Also explain its Need and Significance.
10	Explain Online storage devices.

Prof.Rohan Kokate (Subject I/C)

Prof.Rohan Kokate

(DBATU Co-ordinator)

Prof.Swati Raut (Academic I/C)

Prof.P.A.Lohe (HOD CSE/IT)

HOD Computer Science & Engineering JDCOEM, Nagpur

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Assignment

Subject	Electrical Installation & Design
Subject code	EE5TE02(D)
Semester/Year	7 th sem
Unit No. I	I & II
Date of display	31/07/2018
Date of submission	05/08/2018

Sr. No.	Question	Mapped Co
1	State different types of tariff ?	CO1/ CO2
2	Explain the concept of electrical load ?	CO1/CO3/CO4
3	Write in short note on SF6 Circuit breaker ?	CO3
4	Use of series reactor ?	CO3/CO4

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Subject teacher-EID

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Academic incharge

HOD EE

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Jaidev Education Society's J D College of Engineering & Management, Nagpur (An Autonomous Institute Affiliated to DBATU University) Department of Electronics / Electronics & Telecommunication "Rectifying Ideas, Amplifying Knowledge" 2018-19 (Even Semester)

Assignment

Course: B. Tech in Electronics & Telecommunication

Date : 21/04/2019

Sem: VI

Subject Name: Computer Network & Cloud Computing

Subject Code: BTETC602

Date of Submission: 26/04/2019

- **Q.1** Compare the architecture of wired and wireless LANs. Also discuss the characteristics of wireless LANs
- Q.2 Discuss in detail about IEEE 802.11 project.
- **Q.3** Discuss the different types of networks defined by Bluetooth with the help of its architecture and layers.
- **Q.4** Explain Zigbee in detail.
- **Q.5** Discuss in detail about virtual local area network (VLAN).

Prof. Avinash K. Ikhar

Course Coordinator / Academic Incharge

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Dr. Pravin Kshirsagar

HOD (ETC)

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JAIDEV EDUCATION SOCIETY'S J D COLLEGE OF ENGINEERING AND MANAGEMENT KATOL ROAD, NAGPUR DEPARTMENT OF MECHANICAL ENGINEERING



Assignment no- 02

Due date 03/05/2019

Sr No	Description	Image	Level	C O	P O	Ref
1	Write the expression for shear stress distribution for a circular prismatic shaft subjected to pure torsion		Knowledge			
2	Write the expression for shear strain distribution for a circular prismatic shaft subjected to pure torsion		Knowledge			
3	Write the expression for polar moment of inertia of solid and hollow shaft		Knowledge			
4	Derive torsional formula.		Comprehension			
5	The solid circular shaft is subjected to an internal torque of $T = 5$ kN m. Determine the shear stress developed at points A and B. Represent each state of stress on a volume element.	A 40 mm B T 30 mm	Application			RC 192 F5.1


6	Determine the maximum shear stress developed in the 40-mm diameter shaft.	A TO MM B TO MM 4 kN 2 kN 100 mm D C TO 6 kN	Application		RC 192 F5.4
7	The shaft is hollow from A to B and solid from B to C. Determine the maximum shear stress developed in the shaft. The shaft has an outer diameter of 80 mm, and the thickness of the wall of the hollow segment is 10 mm	A kN·m 2 kN·m	Application		RC 192 F5.3
8	Determine the shear stress developed at point A on the surface of the shaft. Represent the state of stress on a volume element at this point. The shaft has a radius of 40 mm.	800 mm A 5 kN·m/m	Application		RC 192 F5.6





9	The solid 30-mm-diameter shaft is used to transmit the torques applied to the gears. Determine the absolute maximum shear stress on the shaft.	300 N·m 500 N·m A 200 N·m 200 N·m 400 N·m 400 N·m 500 mm	Application	RC 194 P5.8
10	The solid shaft is subjected to the distributed and concentrated torsional loadings shown. Determine the required diameter d of the shaft to the nearest mm if the allowable shear stress for the material is tallow = 50 MPa.	2 kN·m/m 1200 N·m <i>B</i> 0.8 m 0.8 m	Analysis	RC P196 P5.22
11	5–30. The shaft is subjected to a distributed torque along its length of $t = (10x^2) \text{ N} \cdot \text{m/m}$, where x is in meters. If the maximum stress in the shaft is to remain constant at 80 MPa, determine the required variation of the radius c of the shaft for $0 \le x \le 3$ m.	$x = (10x^2) \text{ N} \cdot \text{m/m}$	Analysis	RC 197 P 5.30
12	Write the general expression for angle of twist for a bar subjected to torsion		Comprehension	

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13	The 80-mm-diameter shaft is made of A-36 steel. If it is subjected to the triangular distributed load, determine the angle of twist of end A with respect to C.	400 mm 600 mm 15 kN·m/m A	Analysis		RC 208 F12
14	A shaft is subjected to a torque T. Compare the effectiveness of using the tube shown in the figure with that of a solid section of radius c.To do this, compute the percent increase in torsional stress and angle of twist per unit length for the tube versus the solid section.		Analysis		RC 209 P5.48
15	The tapered shaft has a length L and a radius r at end A and 2r at end B. If it is fixed at end B and is subjected to a torque T, determine the angle of twist of end A. The shear modulus is G	T r A	Analysis		RC 213 5.73



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16	An A-36 steel column has a length of 4 m and is pinned at both ends. If the cross sectional area has the dimensions shown, determine the critical load.	25 mm 25 mm 10 mm -25 mm -25 mm -25 mm -10 mm	Analysis		RC 672 F13.5
17	Write the limitations of euler's formula.		Knowledge		
18	Write down the various critical loads for different end conditions of columns		Knowledge		
19	Define slenderness ratio		Knowledge		
20	Define radius of gyration and effective length		Knowledge		





21	A steel pipe is fixed supported at its ends. If it is 5m long and has an outer diameter of 50 mm and a thickness of 10 mm, determine the maximum axial load P that it can carry without buckling. $E_{st} = 200 \text{ GPa}, \sigma_Y = 250 \text{ MPa}.$	Application		
22	Design a solid circular prismatic bar of length 500mm to transmit 20 kW of power at 1200 rpm.	Synthesis		
23	The column with constant EI has the end constraints shown. Determine the critical load for the column.	Evaluation		RC 677 P13.43

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Dr. M.P. Nimkar Subject Teacher



Prof. Suhas A. Rewatkar HOD

Hechanical Engineering J D College of Engineering & Manages Nagpur

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Principal J D College of Engineering & Manapetaler Khandala, Katol Road Naapur-441501

7 Prof Rohit Sharma, Prof Suhas Rewatkar

| JD College of Engineering and Management



Semester: - MBA I Sem

Subject Name: - Principle Of Management

Assignment: 2018-19

Q1. Discuss the Importance of Management in today's Business. Elaborate the overview of Planning, Controlling & Organizing.

Q2. Write notes on:

- i. Contingency Approach
- ii. Indian Heritage in Production & Consumption.
- iii. Contribution of Taylor
- iv. Contribution of Hawthorne Experiment
- Q3. What types of skill required for Indian Manager?
- Q4. What is management planning? Explain the various stage involve in management planning.
- Q5. Write note on:
 - i. **Committee Decision Making**
 - ii. Method of Decision Making
- Q6. Define the importance of Organization. What are the types of good organization structure?
- Q7. What do you understand by Authority & Responsibility?
- Q.8. Sate the various barriers to effective delegation of authority.
- Q9. Elaborate the Method of Skill Development.
- Q10. State the limitations & measures of Management Planning.

Subject In charge

Dept. Academic Incharge

Dept. Head MBA

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Principal J D College of Engineering & Manageme Khandala, Katol Road Nanpur-441501



Semester: - MBA II Sem

Subject Code:-2T1

Subject Name: - Human Resource Management & Organization Behaviour

Assignment: 2018-19

Q1.A. Explain significance & functions HRM

Or

Q.1.B. Discuss the Process and methods of collecting data for job analysis

Q.2.A. Explain Recruitment Process in details.

Q2.B. Discuss the steps in Training process

Q3.A. Write the key elements and Foundations of OB

OR

Q3.B. Explain the Factors affecting individual behavior (biographical, psychological, organizational and Environmental).

Q4.A. Discuss the Maslow Theories with suitable example.

Or

Q4.B. State the Domino effect with suitable example.

Q5.A. Write short notes on

i. Resistance to change

ii. managing resistance to change.

Subject In charge

Dept. Academic Incharge

Principal J D College of Engineering & Managemer Khandala, Katol Road Nanpur-441501

Dept. Head MBA N antimates





Subject Name: - Human Resource Management & Organization Behaviour Assignment: 2018-19

All Questions are Compulsory:

Q.1. What is your understanding about unsustainable to sustainable development ? Write the role of any four institutions involved in envionment protection with suitable examples.

Q.2. What is your understanding about aesthetic and optional value of diversity ? Write a detailed note on India as a mega diversity nation.

Q.3. What do you mean by Ozone Layer Depletion ? Discuss the role of ministry of environment and forest in control of pollution

Q.4. What are environmental ethics ? Discuss in detail resource consumption patterns and need for equitable utilization with suitable examples.

Q.5. Write short notes on :

- A. Importance of environmental calendar of activities
- B. Ecological pyramids
- C. Global Warming and its effects.
- D. Ethical Issue In Environment

Subject In charge

Principal ge of Engineering & Manaperat Khandata, Katol Road Nannur-441501

Dept. Academic Incharge

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VISION

MISSION

To be a well-known center for shaping professional leaders of Global Standards in Civil Engineering

- Provide quality education and excellent learning Environment for overall development of students.
- Making Sustainable efforts for integrating academics with Industry.



Student Internship Completion Cerificate (CE)- 2018-19



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HOD, (CE)



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VISION MISSION Provide quality education and excellent learning Environment for • To be a well-known center for shaping professional leaders of Global overall development of students. Standards in Civil Engineering Making Sustainable efforts for integrating academics with Industry. • **BABLU MADAVI** (Civil Work Contractor) Dev Nagar, Nagpur. Mob: 08975570013 Ref No. Date: 10/06/18 Civil/2018 TO WHOMSOEVER IT MAY CONCERN This is to inform that Mr. Prashik Dongre Student of and J.D. College of 471-Engineering Management has completed his Internship Training at Nagpur Pardi Residential Building Project From 26th May 2018 to 10th June 2018 During his Internship he, Exposed to various Activities in Residential construction Project . We Found him Extremely inquisitive and Hardworking, He was much Interested to Learn Function of core division and also willing to put his own Effort and get in to the Depth of the subject to understand it better We wish him all the best for future endeavours. Desin ter Bundant TH U MADAU

Student Internship Completion Cerificate (CE)- 2018-19

HOD, (CE)



Principal Principal J D College of Engineering & Management Khandala, Katol Road Nagpur-441501



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CSE Internship Certificate 2018-19





Khandala, Katol Road Nanour-441501



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Ref: HR/2019/0332

Date: January 6, 2019

Internship Certificate

This is to certify that **Mr. Harshal K. Meshram** has successfully completed 15 (Fifteen) days (From 21st Dec, 2018 to 5th January, 2019) internship programmed of Website Design and Web Development at **Walletdreams Digital**. During the period of his internship with us he was found punctual, hardworking and inquisitive.

He worked with our organization as Technical Intern and got exposure to following skills during internship:

- Developed WORDPRESS Website (whatsapp.walletdreams.com)& Introduction to HTML,CSS.
- Developed Magento2 Website (www.smyraa.com)

We wish him every success in life.

Signatory Authority

Kaime

Mr. Abhay Kalmegh Co-Founder and CTO

2018-19 CSE Internship Certificate

Prof. P.A.Lohe Head CSE/IT

HOD Computer Science & Engineering JDCOEM, Nagpur



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Works : Plot No. D-76/1, MIDC Hingna Road, Nagpur-440028 Tel.: 07104 - 236776, 236375, Fax : 07104 - 232045



. Ref.No.IE/Personal/18-19

TO WHOM IT MAY CONCERN

This is to certify that Shri. Hemant D. Nande, BE 3rd year student of J.D.College of Engineering, has taken 15 days training from 15th December18 to 30th December, 18 with us a trainee in electric motor winding & testing.

He is sincere and hardworking student.

FOR ICON ENGINEERS

Authorised Signatory

Internship Certificate 2018-19 EE Department

H.O.D

PRINCIPAL

Principal j D College of Engineering & Management Khandala, Katol Road Nagpur-441501





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Internship Certificate 2018-19 EE Department

H.O.D

PRINCIPAL

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An Autonomous Institute, with NAAC "A" Grade

Department of Electronics Engineering

"Rectifying Ideas, Amplifying Knowledge"

2018-19

VISION	MISSION
"To be a Department providing high quality & globally competent knowledge	 To provide quality teaching learning process through well-
of concurrent technologies in the field of Electronics and	developed educational environment and dedicated faculties. To produce competent technocrats of high standards satisfying the
Telecommunication."	needs of all stakeholders.



HOD, Dept. of EN/ETC JD College of Engineering & Management, Nagpur

Principal , D. College of Engineering & Managemen-Khandala, Katol Road Nagpur-441503



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ME Internship Certificate-2018-19



TO WHOM IT MAY COCERN

We hereby certify that Mr. Amit Patel from <u>J D Collage of Engineering &</u> <u>Management (Branch-Mechanical, 3rd year)</u> has been interned in our Industry from <u>14-DEC-2018 to 20-DEC-2018.</u>

During his industrial internship we found that he is having good theoretical knowledge, good learning power and gain knowledge of lathe machine, grinding, and Plasma CNC machine.

We take this opportunity to thank him and wish him all the best for his future.





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DOME **JDHOENDepartment** Mechanical Engineering D College of Engineering & Honagement REPORT FOR







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Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent

MISSION

2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations.

MBA: 2018-19

INTERNSHIP CERTIFICATES



Registered Office : Plot No. 303, Om Nagar, Near Sakkardara, Nagpur - 440024 Maharashtra, INDIA Mob : + 91 9420007222 | Email : navin.jasathi@gmail.com

Job Training Certificate

Issued On : 20/08/2018

This is to certify that Mr. Shubham Ravindra Mendhe S/o Ravindra Mendhe Successfully Completed On the job Training for Accounts Assistance From Jasathi Associates, For the period 01/04/2018 to 30/06/2018

Yours Sincerely,

Jasathi Assocaite

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2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations.

M. D. Rajput & Co. Chartered Accountants



6. Apurva Palace, Borgaon Chowk. Gorewada Road, Nagpur. Maharashtra - 440013 E-mail: camukeshrajput88@gmail.com_Mo_No_07709931319

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. Govind Singh Rajput son of Mr. Shambhu Singh Rajput worked as an Article Assistant in our company from 18-06-2018 to 31-07-2018. During his working period we found him a sincere, honest, hardworking and dedicated employee with a professional attitude. We have no objection to allow him in any better position and have no liabilities in our company.

We wish him every success in life.

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For M. D. Rajput & Co. PU **Chartered** Accountants 141373

CA Mukesh D. Rajput Partner M. No. 163627.

Place: Nagpur Date: 02th day of August, 2018.



Principal J D College of Engineering & Manapemer Khandala, Katol Road Nanour-441501



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JK PAPER LTD. Alkinson Paloce, No.4, Jothi Venkalacholam Road, Vepery, Chennai - 600 007



July 23, 2018

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Miss. Bhavika Asera**, a student of **JD, college of Engineering and Management, Nagpur** was engaged in training in our organisation under the guidance of Mr. S Seshendra kumar, Manager (sales-sz) for the period of June 13, 2018 to July 24, 2018.

Further certified that she has successfully completed her training tenure and her performance was good.

We wish her good luck in her future endeavours.

Ablistit FR Abhishek kumar × (New Delh Chief Manager (HRD)



Internship In- charge

Academic Coordinator

HOD-MBA

remert Deat it Management Studies (MBA) L.P. College of Engineering & Managemen Notes







JAIDEV EDUCATION SOCIETY'S J D COLLEGE OF ENGINEERING AND MANAGEMENT KATOL ROAD, NAGPUR Department of Computer Science & Engineering *"A Place to Learn, A Chance to Grow"* Session 2018-19



CSE Student Presentation Photo 2018-19



2018-19 CSE Presentation Photo



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2018-19 CSE Presentation Photo

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HOD Computer Science & Engineering JDCOEM, Nagpur

