3.3.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five year

Sl. No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Calendar Year of publication	ISBN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	**Dr. C. B. Kothare**		GRAIN SIEVING MACHINE REVVIEW	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
2	**Dr. C. B. Kothare**		POWER WEEDER AND CROP CUTTER PROTOTYPE & DEVELOPMENT A REVIEW	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
3	**Dr. C. B. Kothare**		DEVELOPMENT OF NOVEL ARGON INJECTION METHOD TO AVOID TUNDISH NOZZLE CLOGGING A REVIEW	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
4	**Prof. D. B. Dandekar**		Vision AI: A Deep Learning-Based Object Recognition System for Visually Impaired People Using TensorFlow and OpenCV	International Research Journal Of Modernization In Engineering Technology And Science (IRJMETS		**International**	**2022-2023**	**ISSN 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
5	**Prof. D. B. Dandekar**		AN AGRICULTURE WEBSIGHT & FRESH FARMING ORGANIC SPICES PRODUCT	International Research Journal Of Modernization In Engineering Technology And Science *(IRJMETS*		**International**	**2022-2023**	**ISSN 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
6	**Prof. S. R. Nagoshe**		A REVIEW REPORT COMPRESSIVE EARTH BLOCK BY USING GGBS AND ALCCOFINE 1203	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
7	**Prof. S. R. Nagoshe**		EXPERIMENTAL RESEARCH ON THE STRENGTH OF MODIFIED CONCRETE WITH STEEL WASTE FIBER AND PARTIAL REPLACEMENT OF GRANITE REFUSE WITH COARSE AGGREGATE A REVIEW	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
8	**Prof. A. P. Linge**		A REVIEW ON TRAIN TRACK CRACK DETECTION AND ACCIDENT AVOIDANCE SYSTEM USING IOT	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2321-8134**	**SSPACE, Wardha**	**IJFEAT**

9	**Prof. V. V Jikar**		LEARNING MANAGEMENT AND EMPOWERING SYSTEM UNIFIED LEARNING APP	International Research Journal Of Modernization In Engineering Technology And Science (IRJMETS		**International**	**2022-2023**	**ISSN 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
10	**Prof. V. V Jikar**		LEARNING MANAGEMENT AND EMPOWERING SYSTEM UNIFIED LEARNING APP	International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)		**International**	**2022-2023**	**2320-9801**		**IJIRCCE**
11	**Prof. V. V Jikar**		AGRI BUZZ(Change the way farmers trade	International Journal of Innovative Research in Computer and Communication Engineering		**International**	**2022-2023**	**e-ISSN: 2320-9801, p-ISSN: 2320-9798**		**IJIRCCE**
12	**Prof. V. V Jikar**		AGRI BUZZ(Change the way farmers trade	International Research Journal Of Modernization In Engineering Technology And Science *(IRJMETS*		**International**	**2022-2023**	**ISSN 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
13	**Prof. C. D. Sawarkar**		Industrial Internet of Things-IIOT"	International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)		**International**	**2022-2023**	**ISSN 2320-9798**		**IJIRCCE**
14	**Prof. C. D. Sawarkar**		Advanced Automatic Vehicle Accident Detection and Rescue System	International Research Journal Of Modernization In Engineering Technology And Science *(IRJMETS*		**International**	**2022-2023**	**ISSN 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
15	**Prof. C. D. Sawarkar**		Industrial Internet of Things-IIOT"	International Research Journal Of Modernization In Engineering Technology		**International**	**2022-2023**	**ISSN 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
16	**Prof. C. D. Sawarkar**		Advanced Automatic Vehicle Accident Detection and Rescue System	International Journal of Innovative Research in Computer and Communication		**International**	**2022-2023**	**2320-9801**		**IJIRCCE**
17	**Prof. N. B. Vairagade**		Grievance Management System	International Research Journal Of Modernization In Engineering Technology And Science *(IRJMETS*		**International**	**2022-2023**	**ISSN 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
18	**Prof. N. B. Vairagade**		Block Chain Based Identity Verification System	International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE)		**International**	**2022-2023**	**ISSN 2320-9798**		**IJIRCCE**

19	**Prof. N. B. Vairagade**		Block Chain Based Identity Verification System	International Research Journal Of Modernization In Engineering Technology And Science *(IRJMETS*		**International**	**2022-2023**	**e-ISSN: 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
20	**Prof. R. M. Ramteke**		OBJECT DETECTION IN REAL TIME A COMPARATIVE STUDY OF TRADITIONAL AND DEEP LEARNING APPROACHES	International Research Journal Of Modernization In Engineering Technology And Science *(IRJMETS*		**International**	**2022-2023**	**e-ISSN: 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
21	**Prof. R. M. Ramteke**		OBJECT DETECTION IN REAL TIME A COMPARATIVE STUDY OF TRADITIONAL AND DEEP LEARNING APPROACHES	International Journal of Innovative Research in Computer and Communication Engineering		**International**	**2022-2023**	**2320-9801**		**IJIRCCE**
22	**Prof. R. M. Ramteke**		DRIVER DROWSINESS DETECTION SYSTEM	International Research Journal Of Modernization In Engineering Technology And Science *(IRJMETS*		**International**	**2022-2023**	**e-ISSN: 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
23	**Prof. A. R. Ghongade**		TITLE FROM SYMTOMS TO SOLUTIONS A STUDY ONCROP DISEASE DETECTION USING MACHINE LEARNING	International Research Journal Of Modernization In Engineering Technology And Science *(IRJMETS*		**International**	**2022-2023**	**e-ISSN: 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
24	**Prof. A. R. Ghongade**		TRANSPARENT AND GENUINE CHARITY APPLICATION	International Research Journal Of Modernization In Engineering Technology And Science *(IRJMETS*		**International**	**2022-2023**	**e-ISSN: 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
25	**Prof. S. Taiwade**		Smart Helmet For Coal Mine Worker's Safety	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
26	**Prof. W. Raza**		Automatic Toll collection using RFID & vehicle security system			**International**	**2022-2023**	**2321-8134**		**IJFEAT**
27	**Prof. W. Raza**		Quantum Computing an Introduction to the next generation of Computer	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
28	**Prof. W. Raza**		Smart Helmet For Coal Mine Worker's Safety	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**

29	**Prof. W. Raza**		A Review on train track crack detection and accident avoidance system using IOT	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
30	**Prof. V. Kotewar**		A Review on train track crack detection and accident avoidance system using IOT	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
31	**Prof . S. S. Jaware**		"INDUSTRIAL PRODUCTIVITY AND QUALITY IMPROVEMENT TECHNIQUES A REVIEW"	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
32	**Prof. U. M. Galat**		"THERMAL ANALYSIS OF THREE CYLINDER ENGINE HEAD A REVIEW"	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
33	**Prof. D. R. Rangari**		THERMAL ANALYSIS OF THREE CYLINDER ENGINE HEAD A REVIEW	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	2582-5208	**SSPACE, Wardha**	**IRJMETS**
34	**Prof. D. R. Rangari**		A REVIEW ON EXTRACT OF NEEM PRODUCT AND THEIR AGRICULTURAL APPLICATIONS	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	2582-5208	**SSPACE, Wardha**	**IRJMETS**
35	**Prof. D. R. Rangari**		THERMO-STRESS ANALYSIS OF COATED AND NON-COATED ENGINE PISTON TO FIND EFFECTIVE HEAT BARRIER	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	2582-5208	**SSPACE, Wardha**	**IRJMETS**
36	**Prof. D. R. Rangari**		EXPERIMENTAL INVESTIGATION OF PERFORMANCE PARAMETERS OF SOLAR AIR HEATER BY PERFORATED PLATES A REVIEW	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	2582-5208	**SSPACE, Wardha**	**IRJMETS**
37	**Prof. D. R. Rangari**		SOLAR OPERATED MULTIPURPOSE PESTICIDE SPRAY PUMP	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	2582-5208	**SSPACE, Wardha**	**IRJMETS**
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40	**Prof. U. M. Galat**		"THERMO STRESS ANALYSIS OF COATED AND NON- COATED ENGINE PISTON TO FIND EFFECTIVE HEAT BARRIER"	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
41	**Prof. U. M. Galat**		SOLAR OPERATED MULTIPURPOSE SPRAY PUMP	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
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46	**Prof. S. Zambre**		A REVIEW PAPER ON EXPERIMENTAL INVESTIGATION ON CONCRETE USING GGBS WITH PARTIAL REPLACEMENT OF FINE AGGREGATE	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
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48	**Prof. S. Zambre**		Design of Sewerage System by Dynamic Programming an Optimization Technique	High Technology Letters		**International**	**2022-2023**	**1006-6748**		**High Technology Letters**

49	**Prof. S. Zambre**		DIGITAL CONSTRUCTION TECHNIQUES A REVIEW	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
50	**Prof. S. M. Shaikh**		EFFECT OF PARTIAL REPLACEMENT OF CEMENT BY MIXTURE LIME STONE POWDER AND RICE HUSK ASH A REVIEW	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
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52	**Prof. V. B. Shrirame**		A REVIEW ONEXPERIMENTAL INVESTIGATION ON CONCRETE USING CRUSHED FLUORESCENT LAMP POWDER WITH PARTIAL REPLACEMENT OF SAND	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
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55	**Prof. A. A. Hingankar**		DIGITAL CONSTRUCTION TECHNIQUES A REVIEW	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2022-2023**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
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62	**Prof. D. B. Dandekar**		Online Voting System using Cloud Computing	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2021-2022**	**e-ISSN: 2582-5208**	**SSPACE, Wardha**	**IRJMETS**
63	**Prof. A. P. Linge**		An IOT based Smart Water Management System with Quality Monitoring			**International**	**2021-2022**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
64	**Prof. S. R. Nagoshe**		Utilization of Geotextile in Civil Engineering Work's	INTERNATIONAL JOURNAL OF ADVANCED INNOVATIVE TECHNOLOGY IN ENGINEERING		**International**	**2021-2022**	**2455-6491**		**IJAITE**
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66	**Prof. S. R. Nagoshe**		Utilization of Industrial Waste in Pervious Concrete	International Journal of Advanced Innovative Technology in Engineering		**International**	**2021-2022**	**2455-6491**		**IJAITE**
67	**Prof. S. Taiwade**		IOT based Smart Farming System Using NODEMCU8266 and ATMEGA328P	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2021-2022**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
68	**Prof. I. Khan**		IOT BASE SMART FRAMING SYSTEM USING NODEMCU8266 AND ATMEGA328P	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2021-2022**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
69	**Prof. U. M. Galat**		"DESIGN AND FABRICATION OF 360 DEGREE ROTATING WEB CAMERA FOR ONLINE EDUCATION PURPOSE IN COVID-19 PANDEMIC"	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2021-2022**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
70	**Prof. U. M. Galat**		"STUDY OF DRYING KINETICS AND DETERMINATION OF THERMOMECHANICAL PROPERTIES OF DRAGON FRUIT"	International Research Journal Of Modernization in Engineering Technology and Science		**International**	**2021-2022**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**

71	**Prof. P. P. Tagade**		Pedal Operated Air Compressor	Research Journal of Modernization in Engineering Technology and Science		**International**	**2021-2022**	**2582-5208**	**SSPACE, Wardha**	**IJAITE**
72	**Prof. T. W. Parate**		Operation and Maintenance of Sewage Treatment Plant	International Journal of Advanced innovative Technology in Engineering		**International**	**2021-2022**	**2455 6491**		**IJAITE**
73	**Prof. T. W. Parate**		Evolution of Hollow Concrete Block by using Granite Fine	International Journal of Advanced Innovative Technology in Engineering		**International**	**2021-2022**	**2455-6491**		**IJAITE**
74	**Prof. T. W. Parate**		CASE STUDY ON SELF-HEALING CONCRETE BY USING BACTERIA	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2021-2022**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
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76	**Prof. V. V. Jikar**		IOT Based Home And Industrial Automation System Using EsP8266	International Research Journal of Modernization in Engineering Technology and Science		**International**	**2021-2022**	**2582-5208**	**SSPACE, Wardha**	**IRJMETS**
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89	**Prof. D. B. Dandekar**		Smart Village Controller System	International Journal for Engineering Application and Technology		**International**	**2019-2020**	**2321-8134**		**IJFEAT**
90	**Prof. S. Taiwade**		Pothole Detection And Warning System Using Wireless Sensor Network			**International**	**2019-2020**	**2321-8134**		**IJFEAT**
91	**Dr. R. M. Tugnayat**	Detection of Bad Smell Code for Software Refactoring	Book in - Innovation in Computer Science and Engineering				**2018-2019**	**978-981-10-8201-6_16**		**Book in - Innovation in Computer Science and Engineering**
92	**Dr. R. M. Tugnayat**	Object Oriented Programming in C++: with Open Source Approach					**2018-2019**	**978-613-983-203_3**		**LAP LAMBERT Academic Publishing**

93	**Prof. S. S. Jawre**		A Review on Design and Thermal Analysis of Thermoelectric Generator	International Research Journal of enneering and Technology		**International**	**2018-2019**	**2395-0096**		**IJREAM**
94	**Prof. S. S. Jawre**		Design and Thermal Analysis of Thermoelectric Generation for Power Generation from Muncipal waste Garbage	Internation Journals of Cureent and Science Research		**International**	**2018-2019**	**2394-0697**		**IJCESR**
95	**Prof. S.R. Nagoshe**		STUDY ON PROPERTIES OF CONCRETE BY THE PARTIAL REPLACEMENT OF CEMENT BY RICE HUSK ASH (RHA) AND COARSE AGGREGATE BY ASBESTOS SHEET WASTE (ASW) WITH THE ADDITION OF STEEL FIBER	International Journal of Advanced Innovative Technology		**International**	**2018-2019**	**2455-6491**		
96	**Prof. S.R. Nagoshe**		USE OF HUMAN HAIR AS FIBRE REINFORCEMENT IN CONCRETE	International Journal of Advanced Innovative Technology		**International**	**2018-2019**	**2455-6491**		
97	**Prof. S.R. Nagoshe**		PARTIAL REPLACEMENT OF CEMENT BY RICE HUSK ASH (RHA)	International Journal of Advanced Innovative Technology		**International**	**2018-2019**	**2455-6491**		

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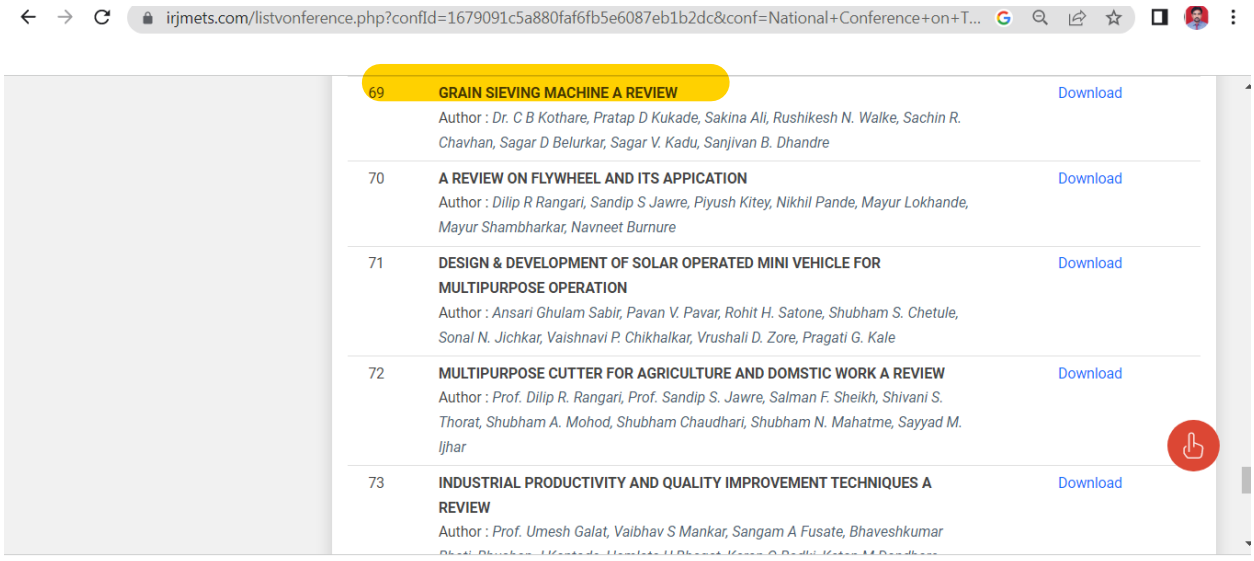

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GRAIN SIEVING MACHINE A REVIEW

Dr. C B Kothare[*1], Pratap D Kukade[*2], Sakina Ali[*3], Rushikesh N. Walke[*4], Sachin R. Chavhan[*5], Sagar D Belurkar[*6], Sagar V. Kadu[*7], Sanjivan B. Dhandre[*8]

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ABSTRACT

This article is an overview of a multipurpose sieving Machine, which is a machine that is typically utilized in the manufacturing industries. Because of the improvements in technology, every task that can be performed over the world can now be done more quickly and with less effort. The goal of every industry today is to increase the production rate. While maintaining high product quality and standard at a lower overall cost. The grain materials sieving Machine has the function to sieve sand and stone mixed to gather. The sand and stone can not process future if they mix these machines will help the operator work which was doing sieve with no machine mechanism with machine mechanism driven by human power will reduce the time to sieve. The objective of this paper is hopefully can make the best concept design in terms of production cost and production capacity. The term mechanical handling material is important for loading and unloading materials. After discovering a will and livers materials move via mechanical convenes. The materials of this device have been selected under the consideration of monetary value design of the device has been completed with the help of solid work software. The manufacturing subject material selection process has also been described as a fabrication sieving machine is the prototype of the actual product.

Keywords- Sieving, Quality, Material, machine, Mechanism, Industries

I. INTRODUCTION

A Multipurpose sieving machine is used for the extrication of the needed elements from unwanted material further it is used for characterizing the element to the required size by the allocation of a sample.[1] Using a pane such as a mesh or net. A sifter is used to separate and break up clumps in the dry ingredient particles like sand and flour. This project titled concentrates on providing descriptions of all the basic operation principles and design of DC motor. In the technical, education of Sieving plays a Major role in operations of various industries. [6-3] Construction of work device under a constrain is achieved by the systematic approach. The prime focus of the study of Sieving Machine integrates various skills and knowledge attainment and gives orientation towards application in practical life. It helps in intensifying the thinking and alternatives for potential applications. Sieving is an uncomplicated practice for sorting out particles of different sizes. [3] Very fine small holes are used in this sieve to sift flour core. [6-2]The fine coarse particle are separated or broken up by grind against one another and screen openings. Different types of sieves are used for the separation of industrial wastages like bolts, nuts washers, and nails of various particle sizes of the holes. Similar types of sieves are used for agricultural equipment.

II. LITRATURE REVIEW

Before starting our work we have undergone through many research papers which indicates that for a production hased industries machine installation is a tricky task as many factor being associated with it such as power consumption (electricity hill per machine). maintenance cost, no of units produced per machine Le. capacity of machine time consumption and any more. Some research papers which have led us to approach to the ideas of a machine which may give solation to all these factors are as follows Ranjit Sharma. For characterizing the particle size distribution of a sample, a sieve is used, it is a device for separating wanted elements from unwanted material that uses a woven screen such as a mesh net. Authors have focused in their design on, fabrication of the mechanical part of machine and the systems of the sieve machine. Nanchima. When the AC supply is switch ON the motoes starts to mate with the required spa. The V-Belt pulley connected on the motor shaft power transmission one shaft to the another shaft. Comecting rod attached with cam plate and sand sieve or mesh Cam provides sand sieve rotary motion is reciprocation motion, then sand put on the sand

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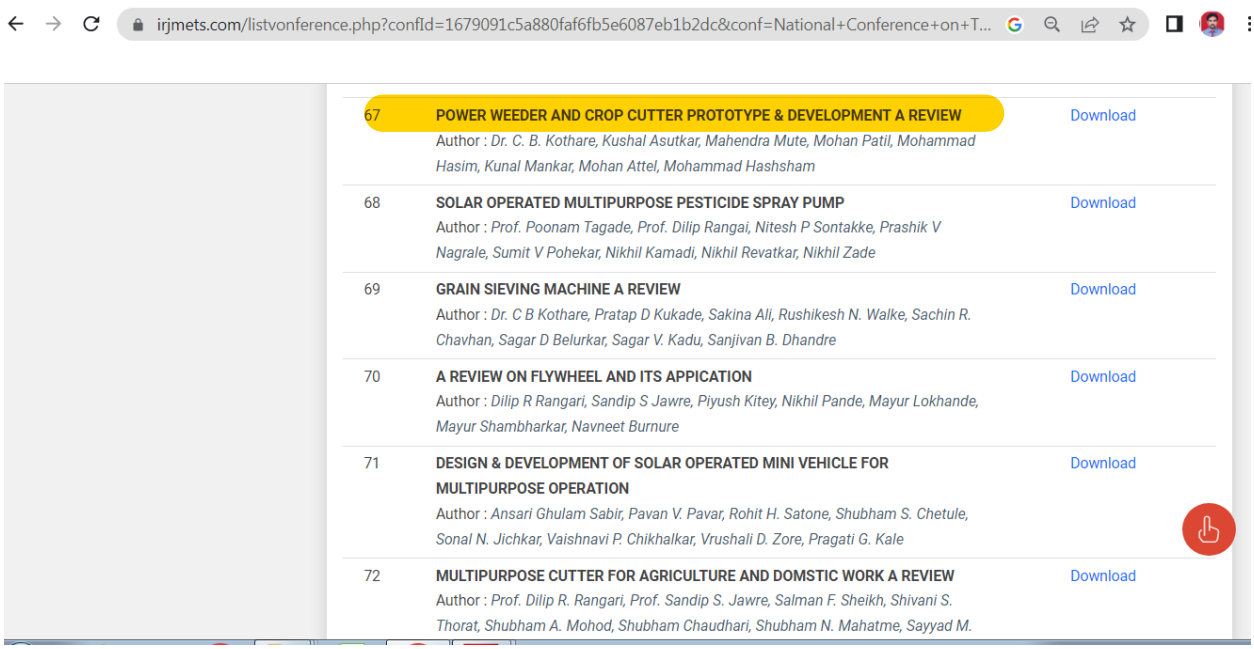

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POWER WEEDER AND CROP CUTTER PROTOTYPE & DEVELOPMENT A REVIEW

Dr. C. B. Kothare[*1], Kushal Asutkar[*2], Mahendra Mute[*3], Mohan Patil[*4], Mohammad Hasim[*5], Kunal Mankar[*6], Mohan Attel[*7], Mohammad Hashsham[*8]

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ABSTRACT

In the field of agriculture for better yielding, all the unwanted grass in the field should be removed as far as possible otherwise this unwanted grass will absorb all the nutrition in the soil and will lead to less crop production. Weeding is an important agricultural operation. Delay and negligence in weeding operation affect the lower crop yield. Weed control is one of the most difficult tasks in agriculture that accounts for a considerable share of the cost involved in agricultural production. Farmers generally expressed their concern for effective weed control measures to arrest the growth and propagation of weeds. Traditionally weeding is done with the help of pair of Bullocks, two men and a weeder set. At present, economic conditions of a farmers is not good, it is quite very expensive for small farmers to afford this set up of weeding. To overcome this problem the farmers are using chemical herbicides. Chemical control method of weed is more prominent than manual and mechanical methods. However, its adverse effects on the environment and human health are making farmers to consider and probably prefer mechanical method control. The use of mechanical weeder will reduce drudgery and ensures a comfortable posture of the farmer or operator during weeding. Traditional crop cutting, also known as manual crop cutting or hand harvesting, is a method of harvesting crops that involves manually cutting the crops from the plant using a knife or similar tool. This method of harvesting has been used for centuries and is still widely practiced in many parts of the world, particularly in developing countries where mechanized harvesting equipment is not affordable or readily available. Thus, farmers are using grass cutter machines to cut the crops faster, as the grass cutters are intended to cut the grass, they are very unsafe when used to cut the crops;

Keywords: Harvesting crops, Mechanized harvesting, Safety, Nutrition, Chemical herbicides, human health.

I. NTRODUCTION

A weed is essentially any plant which grows where It is unwanted. A weed can be thought of as any plant growing in the worn place at the wrong time and doing more harm than good. It is a plant that competes with crops for water, nutrients, and light. This can reduce crop production. Some weeds have beneficial uses but not usually when they are growing among crops. Weeds decrease the value of land, particularly perennial weeds which tend to accumulate on long fallows; increase cost of cleaning and drying crops. Weeding is the removal of unwanted plants in the field crops. Mechanical weed control is very effective as it helps to reduce efforts involved in manual weeding, it kills the weeds and also keeps the soil surface loose ensuring soil aeration and water intake capacity Weeding is an important but equally labor intensive agricultural unit operation. The goal of good harvesting is to maximize crop yield and minimize any crop losses and quality deterioration. Harvesting can be done manually, using hands or knifes and it can be done mechanically with the use of rippers, combine harvesters or other machines. There are four harvesting systems that use farmers all over the country: A) Manual system; includes the use of traditional tools (hand cutting, hand threshing, animals for trampling)

B) Manual harvesting with machine threshing; combination of manual and machine power

C) Machine harvesting with machine threshing; possible use of manual power

D) Combine harvesting; all harvesting operations are done with combine, no need for manual power. It's the most efficient tool, results in the lowest losses but it's expensive and requires large field areas

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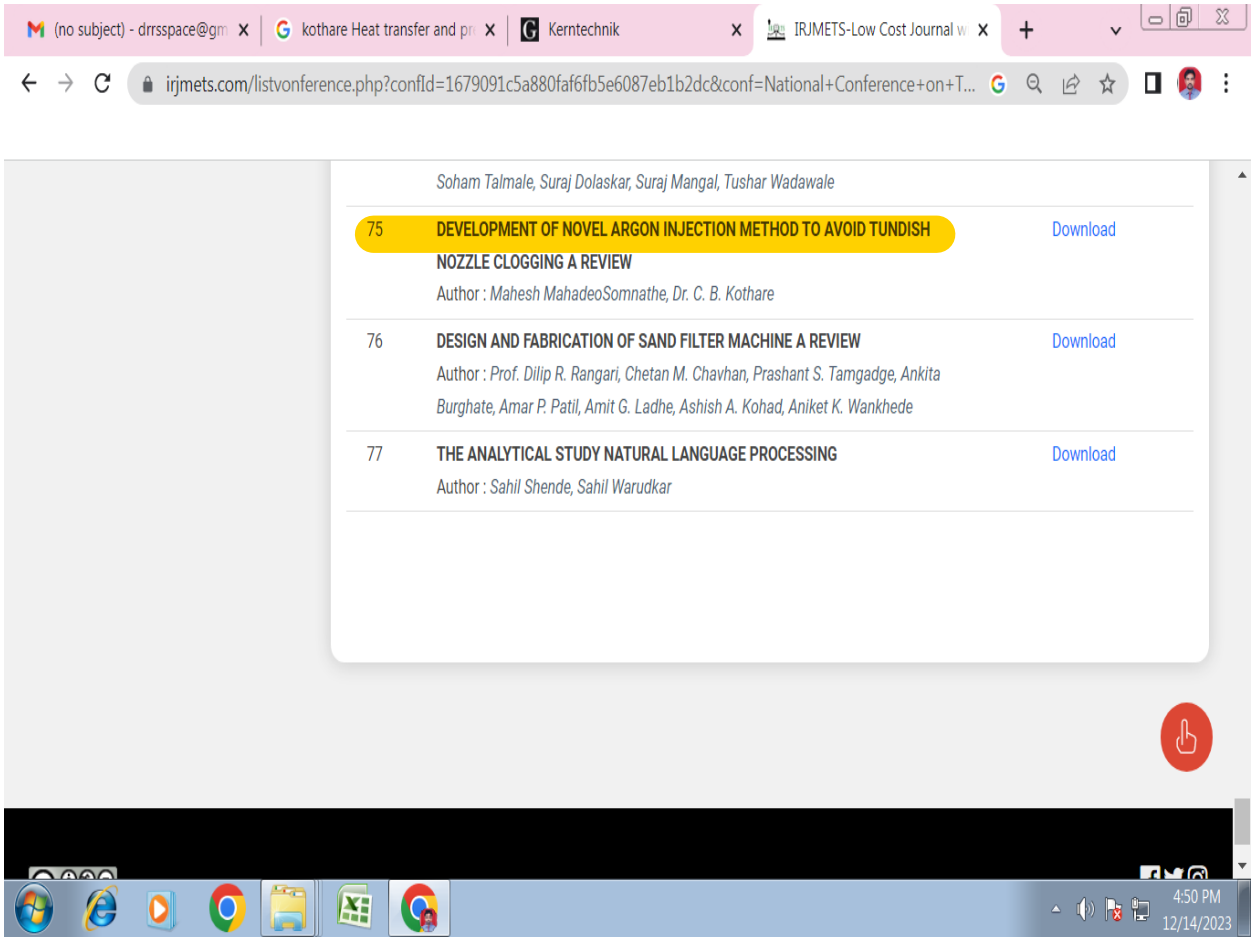
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DEVELOPMENT OF NOVEL ARGON INJECTION METHOD TO AVOID TUNDISH NOZZLE CLOGGING A REVIEW

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ABSTRACT

Tundish nozzle clogging is a long standing issue ever since the continuous casting process has been introduced. Tundish nozzle is also called as Submerged Entry Nozzle (SEN).Tundish nozzle clogging is the disorder of casting process. It is the built-up of solid or semi solid material on a refractory surface which can become problematic during steel pouring, as it can affect the stream dynamics, reduce the pouring rate, and causes large agglomerated particles to be intermittently released into the liquid steel stream in severe cases. Because of the nozzle clogging , the casting speed is frequently decreased and even an entire cast is to be abandoned. Further nozzle clogging can give rise to both quality and productivity problems.In continuous casting , the argon injection method is used to prevent nozzle clogging whose effect is closely related to the migration of argon bubbles and the flow behaviour of the liquid steel in the nozzle. This review provides the summary of formation of clogging mechanisms, clogging detection methods, prevention of tundish nozzle clogging in quantifying the non composition related aspects by argon injection method and optimization of argon injection.

Keywords: Clogging mechanism, clogging detection methods, air aspiration, argon injection, argon optimization, submerged entry nozzle clogging, computational model.

I. INTRODUCTION

During the continuous casting of liquid steel, steel flows from the tundish to the mould through a submerged entry nozzle. This protects the liquid steel from reoxidizing in contact with the atmosphere. The flow rate is controlled with a gate or stopper rod to maintain optimum casting conditions. If the nozzle clogs and the flow control cannot make up for the reduced flux, the nozzle has to be replaced which means the production is interrupted. The clog build-up can also result in decreased steel quality as oxide particles can loosen from it, giving rise to rather large inclusions.Since the steelmaking processes occur at temperatures as high as 1,600 deg C, the interaction between the refractory materials of the SEN and the liquid steel is unavoidable. Hence, the SEN is required to have proper inertness, besides its moderate mechanical properties such as high temperature mechanical strength and thermal resistance. In general, the interaction between the SEN and the liquid steel can be categorized into three different mechanisms namely (i) the chemical reactions between refractory base materials and impurities in the nozzle and the liquid steel, (ii) the attachment of immersed non-metallic inclusions in the liquid steel, to the surface of the nozzle, and (iii) the erosion of the nozzle refractory materials. The first two mechanisms can cause clogging during casting process, which can limit the productivity by interruption of the casting process, restricting the number of charges per tundish, affecting the quality of the produced steels, and consequently increasing the cast product customer rejections.

II. LITERATURE REVIEWS

Clogging is a complex problem which has received a great deal of past study. Two comprehensive reviews of current understanding are given by Rackers [1] and by Kemeny [2] who recently summarized the many different causes and remedies with practical operation guidelines. Rackers calculates that a typical clogged nozzle contains 16% of the oxide inclusions that pass through the nozzle. Thus, it is beneficial both to reduce the number of inclusions, as well as to limit their transport and attachment to the nozzle walls. The transport of inclusions to the nozzle walls can be lessened by streamlining the flow pattern within the nozzle to minimize the frequency of contact of inclusions with the walls. In particular, slight misalignment , separation points in the flow pattern, turbulence, and fluctuations in casting speed are all very detrimental and should be avoided. In steel continuous casting, the tundish nozzle can control the quantity of liquid steel injected from the tundish to the mold as well as the melt flow behavior in the mold. When used in conjunction with mold flux, the tundish

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VISION AI: A DEEP LEARNING-BASED OBJECT RECOGNITION SYSTEM FOR VISUALLY IMPAIRED PEOPLE USING TENSOR FLOW AND OPENCV

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ABSTRACT

Object detection is a challenging task in computer vision that can provide valuable information for visually impaired people. In this paper, we propose a deep learning-based model that detects objects for blind people using frameworks such as TensorFlow and OpenCV. Our system uses a pre-trained model built on YOLO v7 to detect and recognize objects in real time from images or videos captured by a camera. Other versions of YOLO have also been taken into consideration. However, based on some recent comparisons, YOLOv7 is the fastest and most accurate official YOLO version. It achieves 2% higher accuracy than Cascade-Mask R-CNN models at dramatically increased inference speed (509% faster). The results are then converted to speech using text-to-speech technology and delivered to the user through headphones or a speaker. Our system is intended to be an IoT-based project that can recognize common objects and people. We evaluated our system on several datasets such as Common Object in Context (COCO)- a large-scale labeled dataset containing 1.5 million object images, to demonstrate its accuracy and efficiency. We believe that our system can offer a practical and affordable way for visually impaired people to access visual information and enhance their quality of life.

Keywords: Object detection, Deep learning, TensorFlow, OpenCV, Blind people, YOLO v7, Text-to-speech.

I. INTRODUCTION

Visually impaired people face numerous challenges in their daily life, as they are unable to gather visual information about their surroundings. Object detection systems can play a significant role in addressing these challenges by providing essential information about the physical environment. With the recent advancements in deep learning and computer vision, researchers have developed advanced object detection models that can accurately identify and locate objects in an image or video. In this paper, we present a deep learning-based system that detects objects for visually impaired people using frameworks such as TensorFlow and OpenCV. The system uses a pre-trained model built on YOLO v7 to detect and recognize various objects in real-time from images or videos captured by a camera. The detected objects are then converted to speech using text-to-speech technology and delivered to the user through headphones or a speaker.

1.1BACKGROUND AND SIGNIFICANCE

The development of assistive technology for visually impaired individuals has been an active area of research in recent years. However, there is still a need for more advanced systems that can provide real-time object recognition capabilities. A deep learning-based object recognition system that utilizes YOLOv7 and the COCO dataset has the potential to greatly improve the quality of life for visually impaired individuals by providing them with real-time information about their surroundings. This technology can help reduce feelings of isolation and increase social interaction by allowing visually impaired individuals to more easily navigate their environment.

1.2OBJECTIVES AND RESEARCH QUESTIONS

The main objective of this study is to investigate the feasibility and effectiveness of a deep learning-based object recognition system for visually impaired individuals using TensorFlow and OpenCV. The specific research questions that will be addressed include:

1. How can YOLOv7 be implemented using TensorFlow and OpenCV?
2. How effective is this system in detecting objects in real-time?
3. What impact does this technology have on the quality of life for visually impaired individuals?

1.3SCOPE OF THE STUDY

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The scope of this study focuses on developing a deep learning-based object recognition system using TensorFlow and OpenCV for visually impaired people. The study aims to investigate the potential of vision AI to improve the daily lives of visually impaired individuals by enabling them to recognize and identify objects in real-time.

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AN AGRICULTURE WEBSITE &FRESH FARMING ORGANIC SPICES PRODUCT

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ABSTRACT

The aim of Live Project on AGRICULTURE WEBSITE is to design a website for the agriculture filed for Vendors (Farmers) this website providing digital (WEBSITE) platform to a company these website provide a product like... Turmeric powder, Chilli powder and the other masala product. We are developing a website for a farmers to connect with customer digitally. Our team develop and dynamic web where company post their basic details. This website is useful to the company can increases the sell through these websites, where customer can visit from their location. Firstly, the user register and then login so go to the website then user can see product and add to cart then click to the checkout and proceeded to the next step can payment done.

KEYWORDS: Front End Development; Database Back End Technology; XamppServer;sql,html.

I. INTRODUCTION

The 'Online E-commerce Web application' Services department strives to provide solutions to develop and transfer easy and efficient way in the digital age and to help reduce the human pressure and time. To help support shop collections, the digital initiatives, and external partner institution digital projects, it provides services that include the digitization of analog objects, metadata management, digital preservation, and discovery and access of digital collections. "Eshop Management System" is a web application written for all operating systems, designed to help users maintain and organize shop virtually. This software is easy to use for both beginners and advanced users. It features a familiar and well thought- out, an attractive user interface, combined with strong searching Insertion and reporting capabilities. The report generation facility of shop system helps to get a good idea of which are the various items brought by the members, makes users possible to get the product easily. It features a familiar and well thought- out, an attractive user interface, combined with strong searching Insertion and reporting capabilities. The report generation facility of shop system helps to get a good idea of which are the various items brought by the members, makes users possible to get the product easily.

II. BACKGROUND

E-commerce is fast gaining ground as an accepted and used business paradigm. More and more business houses are implementing web sites providing functionality for performing commercial transactions over the web. It is reasonable to say that the process of shopping on the web is becoming commonplace.The objective of this project is to develop a general-purpose e-commerce store where any product (such as books, CDs, computers, mobile phones, electronic items, and home appliances) can be bought from the comfort of home through the Internet. However, for implementation purposes, this paper will deal with an online ecommerce store.

III. LITERATURE SURVEY

[1] Author Gupta (2014) in her paper "E-Commerce: Role of e-commerce in today's business", presents a comprehensive definition of e-commerce while isolating it from e-business. The paper enlists the different ecommerce models i.e., B2B, B2C, B2G and C2C, narratively analyzing the nitty gritties of each. [2] Author Gunasekaran, Marri, McGaughey, &Nebhwani (2002) give a broad outlook of electronic commerce within organizational systems in "E-commerce and its impact on operations management", defining it with reference

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to e-trading and elaborating- how it has permeated every field of business. The paper identifies the revolutionary role played by earlier internet applications like e-mail and electronic data interchange and

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A REVIEW REPORT COMPRESSIVE EARTH BLOCK BY USING GGBS AND ALCCOFINE 1203

Prof. Shrikant R. Nagoshe[*1], Ajay Pawar[*2], Prajwal Sadanshiv[*3], Ashwini Giri[*4], Pranjali Kumare[*5], Mukund Sahare[*6], Amol Gulhane[*7], Nagesh Gimekar[*8]

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ABSTRACT

The indiscriminate infrastructural growth is leading to rapid environmental degradation. Sand, cement, coarse aggregate for manufacturing of bricks and used for large construction activities are energy intensive as well as causing environmental pollution during their entire life cycle. To quantify the energy and savings potential by applying best available technologies like Stabilized mud blocks for engineering applications. Even though the strength of SMB is less compared to cement blocks, we can use the SMB by stabilizing it by using cement, lime. But in this project, we are trying to stabilize the blocks by using waste materials like GGBS and Alccofines. In this study we are utilizing the behaviour of Stabilized Mud Block with alccofines and GGBS by conducting various tests like the compressive, water absorption and weathering test. We can use the stabilized mud blocks for non-structural elements as it meets the strength requirements as per IS codes. And these blocks are purely eco-friendly as it is made up of waste materials.

Key Words: Stabilized mud blocks, compression strength, GGBS, Alccofines, Eco Friendly Materials.

I. INTRODUCTION

Earth as mud bricks has been used in the construction of shelters for thousands of years. Approximately 30% of the world's population still lives in earthen structures. Compressed soil masonry blocks formed using moist soil compacted mechanically to improve physical characteristics have aimed popularity recently. Benefits of earth in this manner include improved strength and durability as compared to adobe while maintaining significantly low embodied energy levels than alternative materials. However, problems arise from the material's low tensile strength, brittle behaviour and deterioration in the presence of water. Stabilization by a hydraulic binder such as cement or lime or a combination of the two can significantly improve water resistance and strength to some extent. Also waste materials can be used as a stabilizer in the stabilized mud blocks. We have used materials like GGBS and alccofines as a stabilizer in this project. Theoretical models were also developed on composite soil blocks with these stabilizers subjected to shear. GGBS is a waste produced in blast furnace by quenching molten iron blast furnace slag immediately in water or stream to produce a glassy product that is then dried and grounded into product. It is a waste that is produced in blast furnace and its disposal is a very big problem in recent days because in these days lot of land is getting waste due to disposal. When we use this as a binder in concrete construction, we can produce high performance concrete and cement. So, we are trying to use this waste in production of stabilized mud blocks and so we can reduce the pollution causing by it into atmosphere. Alccofine 1203 is a slag based supplementary cementitious materials having

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EXPERIMENTAL RESEARCH ON THE STRENGTH OF MODIFIED CONCRETE WITH STEEL WASTE FIBER AND PARTIAL REPLACEMENT OF GRANITE REFUSE WITH COARSE AGGREGATE A REVIEW

Prof. Shrikant R. Nagoshe[*1], Suchita Ghatale[*2], Shubham Muneshwar[*3], Chetan Chavhan[*4], Tejal Thote[*5], Pooja Niswade[*6], Shubham Askar[*7], Pratiksha Nagrale[*8]

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ABSTRACT

A novel structural substance that is acquiring significance is fiber-reinforced concrete (FRC). Numerous technical characteristics of concrete are enhanced by the discrete addition of fibers reinforcement. A very little study using this novel material is currently being done in the Kingdom. This article discusses the various fiber varieties and the applications of FRC in various fields. Additionally, it displays the outcomes of studies on the mechanical characteristics of FRC using locally accessible straight and hooked steel strands. There have been numerous efforts to incorporate industrial waste materials like fly ash, silica fume, GGBS, metakaolin, and copper slag into concrete, which have had a significant impact on the material's mechanical and durability characteristics. Numerous reliable studies have documented the value of steel strands in enhancing the flexural strength of concrete. In this study, waste glass powder (WGP), which has been used as a fine aggregate replacement in concrete at various percentages of 0%, 3%, 6%, 9%, 12%, and 15%, is combined with recycled steel fibers (RSF).

I. INTRODUCTION

The construction industry has become one of the wide areas of research, particularly in the field of concrete technology. Nowadays, the need for basic infrastructure in urban areas led to an increase in developmental activities throughout the globe for which there is a huge demand for concrete, posing a major threat to the environment due to the emission of higher levels of greenhouse gases such as carbon dioxide. The practice of incorporating industrial waste materials has gained tremendous attention in the field of research to develop greener and more sustainable building materials. In India, more than 300 tons of waste glass is disposed of daily in the form of glass bottles from beverage factories and the form of glass sheets from ceramics industries. The disposal of huge quantities of glass as waste is a serious threat to the environment. To bring out a solution to this, inthe past ten years many recycling methods were adopted to reuse the waste glass again. About 75% of the volume of concrete is usually made up of aggregates, which are important for the concrete's workability, strength, dimensional stability, and longevity sand andserve as the fine aggregate in conventional concrete, while large aggregate is made up of gravel, limestone, or granite in a variety of sizes and forms. A lot of studies are being done on the use of numerous materials, including coal ash, steel slag, and blast furnace slag, as aggregate replacements. There is increasing interest in using waste materials as alternative aggregate materials. This kind of refuse material can be building locations that lack gravel and can lessen environmental issues associated with waste dumping and digging for aggregate. As a by-product of the production of iron and steel, steel slag is created. The primary by-product of the fundamental steel-making operations, which convert iron to steel, is significant amounts of steel slag (Cement Australia Group). In beds, the steel slag produced during the conversion of iron to steel is spilled and gradually cooled by atmospheric temperatures. Slag consumption in concrete contributes to creating an environmentally favorable substance as well as lowering greenhouse gas emissions. The use of steel slag can lessen the need for native rock building sing.In India, where it has been claimed that nearly 760 million tires are routinely discarded as waste from vehicle mechanic repair sheds and the automobile industries each year, waste tires also make up a significant portion of the country's solid waste. Today, recycled waste tires are used to create a few raw materials, such as steel filaments, rubber

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A REVIEW ON TRAIN TRACK CRACK DETECTION AND ACCIDENT AVOIDANCE SYSTEM USING IOT

Prof. Anuprita Linge*1, Prof. Virendra Kotewar*2, Pooja H. Kongare*3, Ashwini L. Ahake*4, Archana Kumari*5, Kundan Kudmathe*6

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ABSTRACT

The Indian Railways has one in all the most important railway networks in the international, criss- crossing over 1,15,000 km in distance, throughout India. In india so many transport facilities are available. In which railway played vital role to transport of Indian population. The Indian population is on second position in world. So, transportation problem is reduced because of Indian railways. The Railway Safety Management Centre analyses the defect information and provides an alert to the next approaching train. The train derailment can be avoided and chance of loss of human life and economy can be minimized. Rail transport in India is at the forefront of providing the transport infrastructure wanted to meet the desires a quickly expanding economy. Manual detection of tracks is bulky and now not fully powerful because of a whole lot time consumption and requirement of skilled technicians. This mission work is aimed toward addressing the difficulty by means of growing an automated railway song crack detection gadget. With the proliferation of net of factors (IoT).

Keywords- criss -crossing, vital, forefront, ,infrastructure, proliferation, IOT.

I. INTRODUCTION

India is big country in which millions of people live. Transport has played very good role in growing the economics condition of country. The Indian railway network today has a track length of 113,617 KM over a route of 63,974 KM and 7,083 stations For millions of people across the world railways are the prime mode of transportation. Safety is one of the key issues for railway transportation. Due to the heavy duty of the train transportations, train accidents happen every year in the world, and results in serious destruction of property and injury or death of passengers and crew members. To avoid this problem in this project. To provide protection from rail damage due to cracks occurring in the track. The IoT module will specify the exact location to which the message will be sent to the authorities. live feeds and data from the IoT module will be updated on the meant use of the wireless device. through using this technology, we will be able to prevent the loss of valuable existence or property.

II. PROBLEM STATEMENT

The foremost hassle has been the lack of cheap and green generation to hit upon problems inside the rail tracks and of path, the lack of proper preservation of rails that have resulted in the formation of cracks in the rails and other similar problems because of delinquent elements which jeopardize the security of operation of rail transport. in the past, this hassle has cause a number of derailments resulting in a heavy lack of lifestyles and assets. Cracks in rails had been identified to be the main purpose of derailments in the beyond, yet there were no reasonably-priced automated answers to be had for checking out functions.

- To offer safety in journeying of trains, a device detects fault in music .
- To design gadget which provide detection according to railway track with the assist of IR sensor.
- For smooth operation consisting of indication of crack side we're using buzzer.
- To update information on website the use of IOT.

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LEARNING MANAGEMENT AND EMPOWERING SYSTEM UNIFIED LEARNING APP

Prof. Vaishali V. Jikar[*1], Vaishnavi A. Avchar[*2], Bhawna U. Paradkar[*3], Komal G. Mude[*4], Sahil V. Bhomle[*5], Gaurav G. Chikte[*6], Prof. C.D. Sawarkar[*7], Prof. A. R. Ghongade[*8]

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ABSTRACT

It is an instructional methodology, a teaching and learning approach that combines facet-face classroom methods with computer mediated activities to deliver instruction. This pedagogical approach means a mixture of face-to-face and online activities and the integration of synchronous and asynchronous learning tools, thus providing an optimal possibility for the arrangement of effective learning processes. Blended learning is the term given to the educational practice of combining digital learning tools with more traditional classroom face to face teaching. In a true blended learning environment, both the student and the teacher should be physically located in the same space. Despite this, the digital tools used should be able to be utilised by the students in order to enforce some control over the speed or topics of their learning. The flipped classroom model is a similar program that aims to utilise technology in order to rearrange the learning experience and maximise the effectiveness of valuable face to face time in the classroom. In a flipped classroom programme, students would be encouraged to access digital learning materials via a cloud-based learning platform during their own time.

Keywords: LMS, Android, Student Management System

I. INTRODUCTION

There can be no doubt that technology has transformed the way education is delivered to people across the globe. We now live in an interconnected world where the traditional concept of formal learning, taking place in a single physical location, is becoming increasingly less relevant. Modern learners are becoming dissatisfied with the stand-and-deliver approach to education that dictates attendance times, learning venues, and modes of participation. The emergence of sophisticated communication technologies and mobile devices has enabled a new generation of information consumers to satisfy their demands for knowledge without the need to meet in a physical location. Software vendors, open-source developers, and educational institutions, cognizant of this development, have embraced systems that can facilitate the management of courses and engagement with students remotely. The technologies that facilitate the provision of courses over long distances are broadly termed"Learning Management Systems" or "LMSs." Learning management systems can be defined as web-based software platforms that provide an interactive online. learning environment and automate the administration, organization, delivery, and reporting of educational content and learner outcomes.

II. METHODOLOGY

Method and analysis which is performed in your research work should be written in this section. A simple strategy to follow is to use keywords from your title in first few sentences. **Registration:** Here student can register on to the application they have to fill up registration form with different field This data collected and send back to database where it remains permanently stored.

Login: After successful registration student faculty and admin can login to app where they get the there dashboard after login for all feature access.

Admin Dashboard: This dashboard content all features required for accessing admin dashboard.

Video Lecture Links: this module will provide video lecture links of particular topics according to syllabus

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Learning Management and Empowering System (Unified Learning App)

Prof. V.V. Jikar[*1], Vaishnavi A. Avchar[*2], Bhawna U. Paradkar[*3], Komal G. Mude[*4], Sahil V. Bhomle[*5], Gaurav G. Chikte[*6]

Professor, Department of Computer Science and Engineering, SSPACE, Wardha, Maharashtra, India[*1]

Student, Department of Computer Science and Engineering, SSPACE, Wardha, Maharashtra, India[*2,3,4,5,6]

ABSTRACT: It is an instructional methodology, a teaching and learning approach that combines facet-face classroom methods with computer mediated activities to deliver instruction. This pedagogical approach means a mixture of face-to-face and online activities and the integration of synchronous and asynchronous learning tools, thus providing an optimal possibility for the arrangement of effective learning processes. Blended learning is the term given to the educational practice of combining digital learning tools with more traditional classroom face to face teaching. In a true blended learning environment, both the student and the teacher should be physically located in the same space. Despite this, the digital tools used should be able to be utilised by the students in order to enforce some control over the speed or topics of their learning. The flipped classroom model is a similar program that aims to utilise technology in order to rearrange the learning experience and maximise the effectiveness of valuable face to face time in the classroom. In a flipped classroom programme, students would be encouraged to access digital learning materials via a cloud-based learning platform during their own time.

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Login: After successful registration student faculty and admin can login to app where they get the there dashboard after login for all feature access.
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Agri Buzz (Change the Way Farmers Trade)

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Password Based Circuit Breaker Control

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ABSTRACT: "AgriBuzz or KrishiMitra or E Agriculture Market for Farmers" is a website for online agricultural trade. This website helps farmers by providing them a large market online to sell their produce. They can also hire farm labourers and be updated with the recent agricultural developments. The wholesalers and the retailers are also benefited as they can buy from a larger market. They can shop for farming equipment's easily. The consumers can also buy fresh produce directly from the farmers.

To provide technology and services to the farmers, merchants and farm labourers, thus, helping them to expand their business and provide them with a wider market. Hence, improve the present farming processes and to provide knowledge about recent agricultural issues.

To provide a helping hand to the farmers and farm labourers in improving their lives through the medium of technology, thereby, improving the Agricultural Sector in the Indian Economy.

1. INTRODUCTION

The name 'E-Farming or KrishiMitra indicates Intelligent Agriculture. 'E-Farming is a model farmer management website application. This site helps the farmers to sell their agricultural produce online and suggests best - in-practice farming processes. Hence, providing a wider market and helping them to not restrict themselves to the local market. It helps the wholesalers and retailers in buying produce from larger number of farmers. Thereby, enables the wholesalers and retailers in expanding their business. It features online shopping for fertilizers, pesticides, machinery & tools, etc. It helps the farmers to keep track of their agricultural production with features such as virtual calendar, weather forecasting, etc. and enables them to hire labourers, which in turn, will help the farm labourers to find small jobs by having a work profile in the website. As a whole, 'E-Farming provides a concept of virtual agricultural trade to its users.

Modules of the project:

- Customer account module
- Product module
- Category module
- Location module
- Production module
- Purchase request module
- Purchase order module
- Seller module
- Labourer module
- Work request module
- Article and blog module
- Dashboard Module

Existing System:

- Existing system was not user friendly.
- The system not providing solution for new Farm Acts 2020.

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AGRIBUZZ CHANGE THE WAY FARMERS TRADE

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ABSTRACT

Agri Buzz is a website for online agricultural trade. This website helps farmers by providing them a large market online to sell their produce. They can also hire farm labourers and be updated with the recent agriculturalequipmentseasily.Theconsumerscanalsobuyfreshproducedirectlyfromthefarmers.

Keywords: iAgro", (SRS), Context flow diagram, System Design.

I. INTRODUCTION

A**softwarerequirementsspecification**(SRS)isadescriptionofasoftwaresystemtobedeveloped,layingout functional and non-functional requirements, and may include a set of use cases that describe Interactions theuserswillhavewiththesoftware. A basic purpose of the SRS is to bridge this communication gap between client and the developers they have asharedvision of the software being built. An SRS establishes the basis for agreement between the client and the supplier onwhat the software product will do. SRS provides a reference for validation of the final product. A high-quality SRS is aprerequisite tohigh-qualitysoftwareandalsoreducesthedevelopment cost. The introduction of the Software Requirements Specification (SRS) provides an overview of the entire SRS with purpose,scope, definitions, acronyms, abbreviations, references and overview of the SRS. The aim of this document is to gather andanalyze and give an in-depth insight of the complete "iAgro" by defining the problem statement in detail. The detailedrequirementsof"iAgro" are providedin thisdocument.

- **SystemAnalysis:**

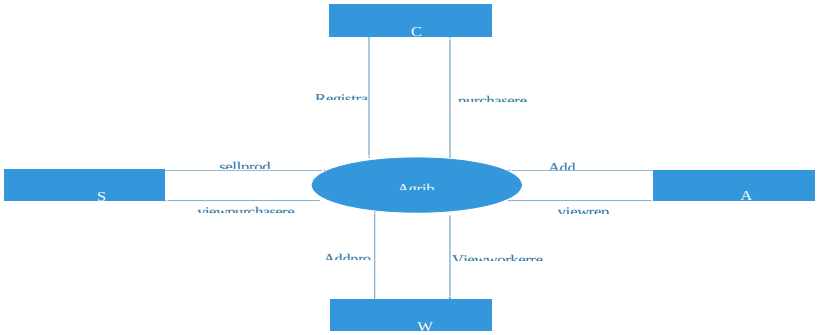
II. METHODOLOGY

The system analysis approachemphasisesa closed look onall parts of the system.The analystmust consider all thesystemelements,theirinputs,outputs,control,feedbackandtheenvironmentwhenthesystem isbeingconstructed.

- **SystemDesign:**Thegoalofsystemdesignphaseistoproduceamodelorrepresentationofthesystem,whichcanbe usedtobuildthesystem.Heretheemphasisisontranslatingtherequirementsofthesystemintodesign specification.

1. **ApplicableDocuments:**ThedocumentusedinsystemdesignisSoftwareRequirementSpecificationDocument.

- **ContextFlowDiagram**: Context flow diagram is a top level data flow diagram. It only contains one process node that generalises the function of the entire system in relationship to external entities. In context diagram the entire system is treated as a single process andallitsinputs,outputs, sinksandsourcesareidentifiedandshown.



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Industrial Internet of Things –IIoT

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Automated Criminal Identification System using Face Detection and Recognition

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Industrial Internet of Things –IIoT

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ABSTRACT: The Industrial Internet of Things (IIoT) is a rapidly growing field that involves connecting industrial machines, equipment, and devices to the internet and other networks. This connectivity allows for the collection and analysis of large amounts of data from sensors and other sources, leading to greater efficiency, productivity, and cost savings in industrial operations.

The IIoT is characterized by the use of advanced sensors, actuators, and other devices that can communicate with each other and with central systems, such as cloud platforms, to exchange data and perform complex tasks. This technology is being used in a variety of industries, including manufacturing, energy, transportation, and healthcare, among others.

One of the key benefits of the IIoT is the ability to monitor and control industrial processes in real-time, allowing for quick identification and response to potential problems or inefficiencies. This can lead to improved safety, reduced downtime, and increased quality and consistency of output.

However, the IIoT also presents challenges related to data privacy and security, as well as the need for specialized skills and expertise in areas such as data analytics and cybersecurity. As the IIoT continues to grow and evolve, it is expected to have a significant impact on the way industrial operations are managed and optimized.

KEYWORDS: A network of connected devices in the industry, transfer data without human-to-human or human-to-computer interaction etc.

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I. INTRODUCTION

The development of wireless technologies during the past decades has led to a novel paradigm called the Internet of Things termed as IoT. The IoT paradigm was firstly introduced by Kevin Ashton in 1998 as a concept for connecting things or objects to the Internet. Although IoT is believed to have a wide range of benefits in many IoT applications such as smart homes, healthcare, transportation and environment, it is also believed to have a significant impact in the industry by achieving more efficient, optimized monitoring and controlling with reduce cost. IoT is expected to bring innovations and benefits to the industry leading to the concept of IIoT. The IIoT system allows the industry to collect and analyze a large amount of data that can be used to improve the overall performance of industrial systems, providing various types of services. The IIoT system is also believed to bring cost reduction in Capital Expenditures and Operating Expenses .Many similar terms are coined to describe the concept of IoT into Industry, for example, Industry 4.0, Industrial IoT and Smart Manufacturing etc. The core concept behind all these terms is the use of advanced technologies and applications (e.g. IoT, 5G, Cloud computing, Edge/Fog computing, Machine learning etc.) specially optimized for industrial processes.

In 2011, an initiative led by the German government, called ”Industry 4.0” or sometimes refer as ”Industrie 4.0”, was introduced in order to improve the efficiency of manufacturing in industry. aims to exchange and collect information during the whole lifecycle of any product.We define the IIoT as: Industrial IoT (IIoT) is the network of intel ligent and highly connectedindustrial components that are deployed to achieve high production rate with reduced operationalcosts through real-time monitoring, efficient management and controlling of industrial processes,assets and operational time.IIoT is a subset of IoT which requires higher levels of safety, security and reliable communication without thedisruption of real-time industrial operations due to mission-critical industrial environments. The focus of IIoT isefficient management of industrial assets and operations along with predictive maintenance. Table 1 outlines the keydifferences among IoT and IIoT systems. On the other hand, Industry 4.0 is a subset of IIoT which focuses on safetyand efficiency in manufacturing. The evolution of IIoT is expected widely in future industrial networks as well.

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ADVANCED AUTOMATIC VEHICLE DETECTION AND RESCUE SYSTEM

Prof. C. D. Sawarkar[*1], Kiran Kolhe[*2], Snehal Hole[*3], Yogini Bele[*4], Punam Waze[*5], Pooja Neware[*6], Prof. N. B. Vairagade[*7], Prof. M.N. Raut[*8]

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ABSTRACT

Road accidents rates are very high nowadays, especially two wheelers. Timely medical aid can help in saving lives. This system aims to alert the nearby medical center about the accident to provide immediate medical aid. The attached accelerometer in the vehicle senses the tilt of the vehicle and the a heartbeat sensor on the user's body senses the abnormality of the heartbeat to understand the seriousness of the accident. Thus the systems will make the decision and sends the information to the smartphone, connected to the accelerometerthrough gsm and gpsmodules. The Android application in the mobile phone will send text messages to the nearest medical center and friends. Application also shares the exact location of the accident and it can save time.

Keywords-Accident detection, alertsystem, GPS, GSM, Accelerometer, Android application.

I. INTRODUCTION

Nowadays, the rate of accidents has increased rapidly. Due to employment, the usage of vehicles like cars, bikes have increased, because of this reason the accidents can happen due to over speed. People are going under risk because of their over speed, due to unavailabilityof advanced techniques, the rate of accidents can't be decreased. To reduce the accident rate in the country this paper introduces a solution. Automatic accident detection and alertsystems are introduced. The main objective is to control the accidents by sending a message to the registered mobile, hospital and police station using wireless communications techniques. When an accident occurs in a city or any place, the message is sent to the registered mobilethroughGSMmoduleinlesstime.Arduinois theheart ofthesystem which helps in transferring the message to different devices in the system. Vibration sensor will be activatedwhentheaccidentoccursand theinformationistransferred totheregisterednumber through the GSM module. The GPS system will help in finding the location of the accident spot. The proposed system will check whether an accident has occurred and notify nearest medical centers and registered mobile numbers about the place of accident using GSM and GPS modules. The location can be sent through a tracking system to cover the geographical coordinatesoverthearea. Theaccident can bedetectedbyavibration sensorwhich is used as a major module in the system.

II. METHODOLOGY

The automatic vehicle accident detection and rescuesystem proposed in this work is shown in Fig. 1. It is a compact IoT-based system, and operates at a low-cost inThe automatic vehicle accident detection is an IoT-based project divided into 4 main subsystems namely accident detector subsystem, Emergenc Medical Service (EMS)subsystem.

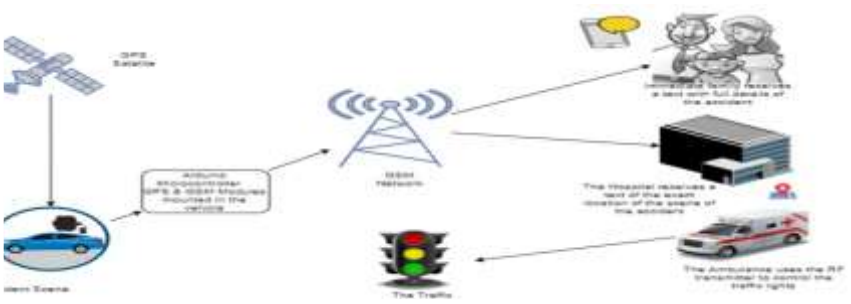

Figure 1: Overview of the automatic vehicle accident detection and rescue system

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INDUSTRIAL INTERNET OF THNIGS IIOT

Prof. C. D. Sawarkar[*1], Prof. M.N. Raut[*2], Ganesh Mahakalkar[*3], Dolly Fulkar[*4], Saiba Shaikh[*5], Nilesh Bakade[*6], Noorul Huda Ansari[*7], Prof. Vaishali V. Jikar[*8]

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Advanced Automatic Vehicle Accident Detection and Rescue System

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Digimart–A Blockchain Based E Commerce

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KEYWORDS: Accident detection, alert system, GPS, GSM, Accelerometer, Android application.

1.INTRODUCTION

Nowadays, the rate of accidents has increased rapidly. Due to employment, the usage of vehicles like cars, bikes have increased, because of this reason the accidents can happen due to over speed. People are going under risk because of their over speed, due to unavailabilityof advanced techniques, the rate of accidents can't be decreased. To reduce the accident rate in the country this paper introduces a solution. Automatic accident detection and alertsystems are introduced. The main objective is to control the accidents by sending a message to the registered mobile, hospital and police station using wireless communications techniques. When an accident occurs in a city or any place, the message is sent to the registered mobile through GSM module in less time. Arduinois theheart of the system which helps in transferring the message to different devices in the system. Vibration sensor will be activated whentheaccidentoccursand the information is transferred to the registered number through the GSM module. The GPS system will help in finding the location of the accident spot. The proposed system will check whether an accident has occurred and notify nearest medical centers and registered mobile numbers about the place of accident using GSM and GPS modules. The location can be sent through a tracking system to cover the geographical coordinates over the area. The accident can be detected by a vibration sensor which is used as a major module in the system.

II. METHODOLOGY

An advanced automatic vehicle detection and rescue system methodology would involve the following steps: Vehicle Detection: The first step is to detect the presence of a vehicle that needs to be rescued. This can be done using sensors such as cameras, radar, or LIDAR. The sensors will detect the vehicle and provide information about its location and orientation. Identification: Once the vehicle has been detected, the next step is to identify it. This can be done using computer vision techniques such as object recognition or license plate recognition. The identification process will provide information about the type of vehicle and its owner.

Communication: The system must be able to communicate with the vehicle's owner or emergency services. This can be done using a variety of communication channels such as cellular networks, satellite communication, or short-range wireless communication Rescue Plan: Based on the information collected from the previous steps, the system must create a rescue plan. The plan will involve determining the best way to approach the vehicle, how to extract the occupants safely, and how to transport them to safety.

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GRIEVANCE MANAGEMENT SYSTEM

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ABSTRACT

ThepurposeoftheGrievanceManagementSystemistomanagethecomplaintraisedbythestudents and staff of the institute. The system has three stakeholder Admin, Service Team and Users. Italso hasthe different categories for complaint having prioritya shigh, mediumandlow. Forhighpriority complaint the time allotted to resolve the complaint is 6 hours, for medium priority complaint time allottedtoresolvethecomplaintis8hoursandforlowprioritycomplaintthetimeallottedtoresolve the complaint is 10 hours. Admin has the function to add department, add categories, add sub- categories, manage users, add sub-admin and manage user logs. Service Team consists of 2 level, Level 1 as service manager and Level 2 as service engineer. The work of service team is toresolve thecomplaintraisedorlodgebytheuser.Firstthecomplaintwillgotolevel1i.e.,servicemanager if the service manager is not able to solve the complaint within the allotted time, then it will automaticallyescalatetolevel2i.e.,serviceengineer.Themaintaskoftheserviceteamistoresolve thecomplaintandupdatethestatusofcomplaintasinprocess,notyetprocessandclosed.Theuser of the system is staff as well as students, both are able to lodge the complaint, check the action of complaint.Theyarealsoabletoupdatetheirprofile,changepassword.Whileraisingthecomplaint user has to select the category, sub-category, complaint type, department, and upload a document for proof isoptional.

Overall, the system will help user to come forward and lodge their complaint without any fear.

The complaint is confidential between the service team and the user.

Keywords: Grievance, complaint, Service Team, Service Manager, Service Engineer, Escala

I. INTRODUCTION

1. A Grievance or a complaint can be described as a statement expressing dissatisfaction about an action/service or lack of services in the Institution requiring immediate remedial action.
2. In many circumstances students fail to state their issues and sometimes fail to seek out proper support for the issue they are facing in the Institute.
3. The issues either related to academic or non academic. On analysing the above mentioned problems we designed Student Grievance Management System to deal with the grievance and to seek the redressal.
4. The web application builds a platform for the students and staff to lodge the arising conflicts in their daily walk of lives.
5. In the web application user can address their complaints which are forwarded to the Grievance Committee.
6. The Committee will forward the valid complaints to the Institute or Department supporting the sensitivity of the matter.

II. OBJECTIVES

1. To allow student to register their complaints related to the resources and infrastructure like hostel, mess and parking used by them within the campus through a simple single interface, which is an integration of several campus complaint registry systems.
2. Provide a complainant with access to an open and responsive complaints handling process.
3. Enable an organisation to identify trends and attempt to eliminate causes of complaints and improve the organisation's operations.

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Blockchain Based Identity Verification System

Prof. N.B Vairagde[*1] Avinash Waghmare [*2], Nilesh Deshmukh[*3], Prajkta Thool[*4], Mayur Darunde[*5], Sunil Wete[*6]

[*1]Professor, Department of Computer science & Engineering SSPACE, Wardha Maharashtra, India

[*2,3,4,5] Student, Department of computer science &Engineering SSPACE, Wardha, Maharashtra, India

ABSTRACT: It is based on Cyber security dataset Cloud services have increased the number of data owners it has been store their encrypted data in the cloud, while an equal or greater number of data users based in data retrieval.It is based on Block chain Hybrid ECC and AES Algorithm using the Encrypted and Decrypted the dataset. Encrypted File will be Stored in Cloud Server and User based on Keyword Searching for Algorithm. User based Enter the keyword that also Encrypted Query After that Searching Encrypted Cloud Server Finally Retrieval the Related File on Query based. User based enter the Particular key user decrypts File the better performance better performance in terms of recall, ranking privacy, precision, searching time

KEYWORDS: Blockchain, Self- sovereign Identity, authentication mechanism, Identify proofing, claim verification.

I. INTRODUCTION

- Identity theft is the unauthorized acquisition of another person's confidential information in order to misuse it.
- In any registration process we have to bring physical document that causes unauthorized access of users personal document.
- A BLOCKCHAIN TECHNOLOGY can solve this problem.
- In this, a system called Blockchain-based personal Identity security System is proposed whereby it is a system which stores an individual's personal records on the blockchain.
- This system uses the security features of blockchain to allow everyone to know who has access to their data

II. METHODOLOGY

In this research, our motivation is to develop a concept that maximizes the transparency as well as the control over personal data for users. My Data has proposed a human-centric approach that empowers the user by placing him in the center of his data ecosystem.

The main focus here is not owning the data (i.e. storing the data on the user's own server), but to control the data flow from data to service provider by controlling the associated consents from the user to the respective service. While the approach of My Data, requires a significant shift in the ecosystem and that service providers agree on this way of handling data, we sought to develop an approach that can enable a fair balance in the ecosystem without support from the service provider, but only through technology and legislative means.

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BLOCK CHAIN BASED IDENTITY VERIFICATION SYSTEM

Prof. N. B Vairagde[*1], Avinash Waghmare[*2], Nilesh Deshmukh[*3], Prajkta Thool[*4], Mayur Darunde[*5], Sunil Wete[*6], Prof. C. D. Sawarkar[*7], Prof. M. A. Ramteke[*8]

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[*2,3,4,5,6]Student, Department of computer science &Engineering SSPACE, Wardha ,Maharashtra, India

ABSTRACT

ItisbasedonCybersecuritydatasetCloudserviceshaveincreasedthenumberofdataownersithasbeenstoretheirencrypteddatainthecloud,whileanequalorgreaternumberofdatausersbasedindataretrieval.ItisbasedonBlockchainHybridECCandAESAlgorithmusingtheEncryptedandDecryptedthedataset. Encrypted File will be Stored in Cloud ServerandUserbasedonKeywordSearchingforAlgorithm.UserbasedEnterthekeywordthatalsoEncryptedQueryAfterthatSearchingEncryptedCloudServerFinallyRetrievaltheRelatedFileonQuerybased.UserbasedenterthePparticularkeyuserdecryptsFilethebetterperformancebetterperformanceintermsofrecall,rankingprivacy, precision,searchingtime

Keywords: Blockchain, Self-sovereignIdentity,authenticationmechanism,Identifyproofing,claimverification.

I. INTRODUCTION

- Identitytheftistheunauthorizedacquisitionofanotherperson'sconfidentialinformationinordertomisuseit.
- Inanyregistrationprocesswehavetobringphysicaldocumentthatcausesunauthorizedaccessofuserspersonaldocument.
- ABLOCKCHAINTECHNOLOGYcansolvethisproblem.
- Inthis,asystemcalledBlockchain-basedpersonalIdentitysecuritySystemisproposedwherebyitisasystemwhichstoresanindividual'spersonal recordsonthe blockchain.
- ThissystemusesthesecurityfeaturesofblockchaintoalloweveryonetoknowwhohasaccessTo theirdata

II. METHODOLOGY

In this research, our motivation is to develop a concept that maximizes the transparency as well as the controloverpersonaldataforusers.MyDatahasproposedahuman-centricapproachthatempowerstheuserbyplacinghimin thecenter ofhisdataecosystem.

Themainfocushereisnotowningthedata(i.e.storingthedataontheuser'sownserver),buttocontrolthedataflowfrom datatoserviceproviderbycontrollingtheassociatedconsentsfromtheusertotherespectiveservice.While the approach of My Data, requires a significant shift in the ecosystem and that service providers agree onthis way of handling data, we sought to develop an approach that can enable a fair balance in the ecosystemwithoutsupportfromtheserviceprovider,but onlythroughtechnologyandlegislativemeans.

III. MODELINGANDANALYSIS

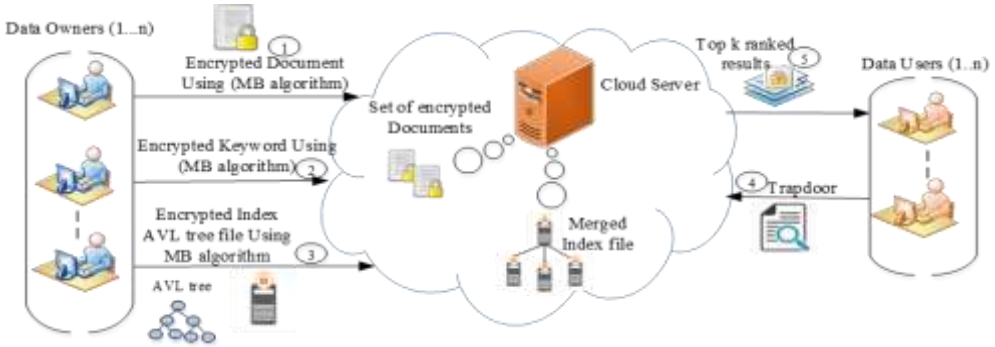

Figure1: Architecture

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OBJECT DETECTION IN REAL TIME A COMPARATIVE STUDY OF TRADITIONAL AND DEEP LEARNING APPROACHES

Prof. M. A. Ramteke[*1], Rahul Jani[*2], Rushikesh Yerawar[*3], Shalini Ambade[*4], Saurabh Dhumne[*5], Rupali Dhakite[*6], Prof Vaishali V. Jikar[*7], Prof A. R. Ghongade[*8]

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[*2,3,4,5,6]Student, Department of Computer Science & Engineering, SPACE, Wardha, Maharashtra, India.

ABSTRACT

Object recognition systems aim to identify objects in the real world from an image by leveraging pre-existing object models. Despite its ubiquity in humans, object recognition is a difficult task to implement algorithmically. In this chapter, we will outline the various steps involved in object recognition and discuss techniques that have been employed across a range of applications. We will explore the different types of recognition tasks that vision systems may need to perform, assessing the complexity of each and presenting approaches that are useful at different phases of the recognition process. At its core, the object recognition problem involves labelling regions in an image as belonging to one or more known objects, based on a set of models that the system has access to. This task is closely related to segmentation, as without at least some degree of object recognition, it is impossible to accurately segment an image, and conversely, without effective segmentation, object recognition becomes much more challenging. we will discuss the various steps involved in object recognition and explore the techniques used in a variety of applications. Throughout the article, we will present approaches that are useful at different stages of the recognition process.

Keywords: CNN, Dataset, YOLO, object detection, tracking, surveillance.

I. INTRODUCTION

Surveillance cameras are ubiquitous in modern society and are used for more than just security. They can help identify areas of interest, aid in completing tasks, and play a crucial role in machine vision for target detection, recognition, positioning, tracking, and navigation. Object detection systems currently repurpose classifiers to identify objects by evaluating them at various locations and scales in an image. This method, such as deformable parts models (DPM), employs a sliding window approach where the classifier runs at evenly spaced locations over the entire image. While many researchers have proposed methods for detecting humans in video images, there is a need for real-time and accurate detection, positioning, and motion analysis of human bodies in various scenarios. However, such video detection and recognition often encounter various problems in complex natural conditions, such as differences in lighting, environment, and shooting angle, as well as gaps in semantic understanding, computational complexity, and adaptability. Furthermore, in many cases, motion recognition is necessary, requiring the detection and analysis of the detected people's motion.Object detection is an essential task in computer vision, and various techniques have been proposed, including feature-based and template-based approaches, as well as background subtraction. However, selecting the best technique for a specific application depends on the available hardware resources and the scope of the application. Feature-based detection searches for corresponding features in successive frames, such as Harris corner, edges, SIFT, contours, or colour pixels. Background subtraction is a popular method that uses a static background and calculates the difference between the hypothesized background and the current image. This approach is fast and suitable for fixed backgrounds, but it cannot handle dynamic environments with differentillumination and motions of small objects. Tracking aims to establish a correspondence between the detected target object of images over frames. Tracking using mean shift kernel is also introduced, which performs well when there is occlusion, which can be solved using templates. Camshift (Continuously Adaptive Meanshift) can track a single object fast and robust using colour features, but it is ineffective for occlusion. Appearance-based object detection is also a research area that uses whole 2-D images to perform tracking for navigation in faster time. However, this approach requires several templates and does not work when the target object, colour, or perspective view is changed. The main challenge in object detection and tracking is the temporal variation of

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Object Detection in Real-Time: A Comparative Study of Traditional and Deep Learning Approaches

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ABSTRACT: Object recognition systems aim to identify objects in the real world from an image by leveraging pre-existing object models. Despite its ubiquity in humans, object recognition is a difficult task to implement algorithmically. In this chapter, we will outline the various steps involved in object recognition and discuss techniques that have been employed across a range of applications. We will explore the different types of recognition tasks that vision systems may need to perform, assessing the complexity of each and presenting approaches that are useful at different phases of the recognition process. At its core, the object recognition problem involves labelling regions in an image as belonging to one or more known objects, based on a set of models that the system has access to. This task is closely related to segmentation, as without at least some degree of object recognition, it is impossible to accurately segment an image, and conversely, without effective segmentation, object recognition becomes much more challenging.

Currently, deep learning-based algorithms for detecting and recognizing human body movements have shown significant advancements. However, in some high real-time applications, existing deep learning real-time detection and recognition networks struggle to achieve high detection accuracy. Hence, achieving accurate detection and recognition of human moving targets while ensuring real-time detection is still a critical issue in this field. we will discuss the various steps involved in object recognition and explore the techniques used in a variety of applications. We will also examine the different types of recognition tasks that vision systems may need to perform and evaluate their complexity. Throughout the article, we will present approaches that are useful at different stages of the recognition process.

KEYWORDS: CNN, F-RCNN, Dataset, Images, Videos, object detection, tracking, surveillance.

I. INTRODUCTION

Surveillance cameras are ubiquitous in modern society and are used for more than just security. They can help identify areas of interest, aid in completing tasks, and play a crucial role in machine vision for target detection, recognition, positioning, tracking, and navigation. Object detection systems currently repurpose classifiers to identify objects by evaluating them at various locations and scales in an image. This method, such as deformable parts models (DPM), employs a sliding window approach where the classifier runs at evenly spaced locations over the entire image. While many researchers have proposed methods for detecting humans in video images, there is a need for real-time and accurate detection, positioning, and motion analysis of human bodies in various scenarios. However, such video detection and recognition often encounter various problems in complex natural conditions, such as differences in lighting, environment, and shooting angle, as well as gaps in semantic understanding, computational complexity, and adaptability. Furthermore, in many cases, motion recognition is necessary, requiring the detection and analysis of the detected people's motion. Object detection is an essential task in computer vision, and various techniques have been proposed, including feature-based and template-based approaches, as well as background subtraction. However, selecting the best technique for a specific application depends on the available hardware resources and the scope of the application. Feature-based detection searches for corresponding features in successive frames, such as Harris corner, edges, SIFT, contours, or colour pixels. Background subtraction is a popular method that uses a static background and calculates the difference between the hypothesized background and the current image. This approach is fast and suitable for fixed backgrounds, but it cannot handle dynamic environments with different illumination and motions of small objects. Tracking aims to establish a correspondence between the detected target object of images over frames. Tracking using mean shift kernel is also introduced, which performs well when there is occlusion, which can be solved using templates. Camshift (Continuously Adaptive Meanshift) can track a single object fast and robust using colour

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DRIVER DROWSINESS DETECTION SYSTEM

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ABSTRACT

Road crashes and related forms of accidents are a common cause of injury and death among the human population. According to 2015 data from the World Health Organization, road traffic injuries resulted in approximately 1.25 million deaths worldwide, i.e. approximately every 25 seconds an individual will experience a fatal crash. While the cost of traffic accidents in Europe is estimated at around 160 billion Euros, driver drowsiness accounts for approximately 100,000 accidents per year in the United States alone as reported by The American National Highway Traffic Safety Administration (NHTSA). In this paper, a novel approach towards real-time drowsiness detection is proposed. This approach is based on a deep learning method that can be implemented on Android applications with high accuracy. The main contribution of this work is the compression of heavy baseline model to a lightweight model. Moreover, minimal network structure is designed based on facial landmark key point detection to recognize whether the driver is drowsy. The proposed model is able to achieve an accuracy of more than 80%

Keywords: Android, OpenCV, Drowsy Driver Detection, Eye Detection

I. INTRODUCTION

Driver drowsiness is one of the leading causes of motor vehicle crashes. This was confirmed by a study1 conducted by the AAA Foundation for Traffic Safety, which showed that 23.5% of all automobile crashes recorded in the United States in 2015 were sleep-related: 16.5% for fatal crashes and 7% for non-fatal crashes. Essentially, this report implied that over 5,000 Americans lost their lives as a result of sleep-related vehicular crashes. The development of drowsiness detection technologies is both an industrial and academic challenge. In the automotive industry, Volvo developed the Driver Alert Control which warns drivers suspected of drowsy driving by using a vehicle-mounted camera connected to its lane departure warning system (LDWS). Following a similar vein, an Attention Assist System has been developed and introduced by Mercedes-Benz that collects data drawn from a driver's driving patterns incessantly ascertains if the obtained information correlates with the steering movement and the driving circumstance at hand. The driver drowsiness detection system, supplied by Bosch, takes decisions based on data derived from the sensor stationed at the steering, the vehicles' driving velocity, turn signal use, and the lane-assist camera mounted at the front of the car. Notably, the use of these safety systems which detect drowsiness is not widespread and is uncommon among drivers because they are usually available in luxury vehicles. An increased embedding and connecting of smart devices equipped with sensors and mobile operating systems like Android, which has the largest installed operating system in cars, was shown by surveys in 20152. In addition, machine learning has made groundbreaking advances in recent years, especially in the area of deep learning. Thus, the use of these new technologies and methodologies can be an effective way to not only increase the efficiencies of the existing real-time driver drowsiness detection system but also provide a tool that can be widely used by drivers. The remainder of this paper is organized as follows. In section 2, the literature review is presented. In section 3, the proposed system along with the implementation of each system's block will be described. The computational results obtained from experiments are discussed in section 4. Finally, in Section 5, conclusions, as well as directions for future research, are presented.

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TITLE FROM SYMTOMS TO SOLUTIONS A STUDY ONCROP DISEASE DETECTION USING MACHINE LEARNING

Prof. Ashmita Ghongade[*1], Tejas Shahade[*2], Priyanshu P[*3], Shreshta D[*4], Tanaya D[*5], Kalyani G[*6], Prof. N.B. Vairagade[*7], Prof. M. A. Ramteke[*8]

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ABSTRACT

Crop diseases can have significant impacts on agricultural production, leading to significant losses in yield and quality. Early detection and diagnosis of crop diseases is essential for effective control and management. In this study, we propose a novel approach to crop disease detection using machine learning algorithms and image processing techniques. The proposed system is based on machine learning and support vector machine (SVM). Our results demonstrate the effectiveness of the proposed system in accurately identifying various crop diseases with a high degree of accuracy. The proposed approach has the potential to provide farmers with a cost-effective and reliable tool for early crop disease detection, ultimately leading to improved crop management and increased agricultural productivity.

Keywords: Crop Disease Detection, Machine Learning, Image Classification, Support Vector Machine, Disease Diagnosis, Agriculture.

I. INTRODUCTION

Crop diseases have been a persistent problem for farmers and the agricultural industry for centuries. With the increasing global population and the demand for food, it is more important than ever to ensure that crops are healthy and productive. Crop disease detection is a critical tool in this endeavour, providing farmers and gardening enthusiasts with the information they need to diagnose, treat, and prevent diseases from spreading. However, the rise of new and more virulent diseases, as well as the limitations of traditional methods of detection, make it necessary to explore new and innovative approaches to crop disease detection. In this research, we delve into the latest developments in technology, policy, and practices for crop disease detection, exploring the benefits, challenges, and opportunities in this field.

1.1 MACHINE LEARNING

Machine learning is a subfield of artificial intelligence that focuses on the development of algorithms and statistical models that enable computers to learn from data, rather than being explicitly programmed. The goal of machine learning is to build systems that can automatically improve their performance withexperience.

Machine learning can be used for unique information for crop disease detection in a number of ways:

- Image recognition: Machine learning algorithms can be trained on images of crops to identify signs of disease such as discoloration, spots, or wilting. The algorithms can then be used to detect these signs in new images, allowing for early disease detection and control.
- Predictive modelling: Machine learning algorithms can be trained on historical data to identify patterns and relationships between environmental factors, crop growth, and disease outbreaks. This information can then be used to predict future disease outbreaks and prioritize disease control efforts.
- Disease classification: Machine learning algorithms can be trained on images and other data to classify different diseases and their severity, helping farmers and researchers better understand and respond to outbreaks.
- Crop-specific algorithms: Different crops have unique patterns of disease development, and machine learning algorithms can be customized to suit the needs of specific crops, leading to more accurate disease detection and control. By incorporating machine learning techniques, crop disease detection can become more efficient, accurate, and cost-effective, helping to improve agricultural productivity and food security.

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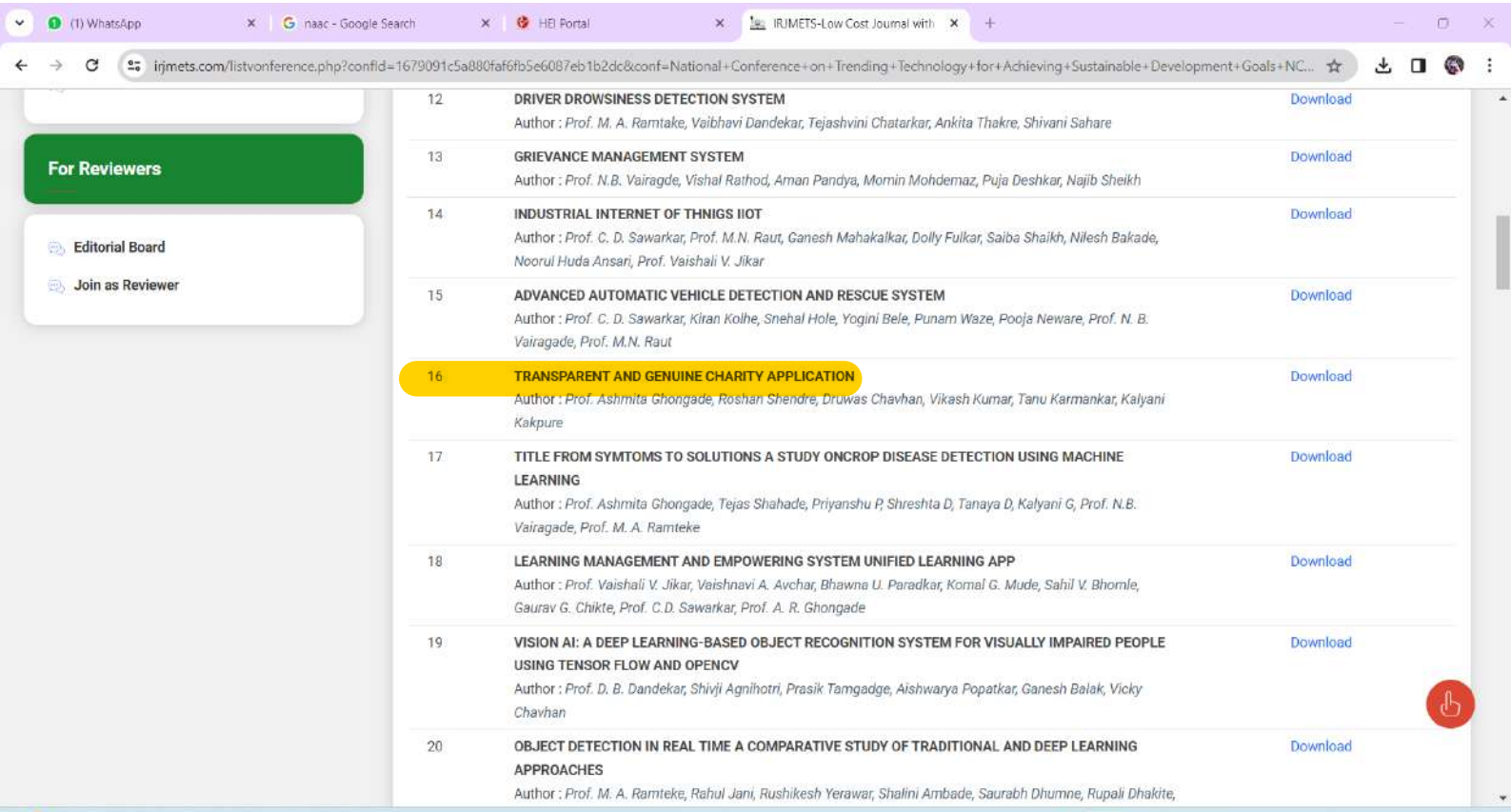
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TRANSPARENT AND GENUINE CHARITY APPLICATION

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ABSTRACT

The charity organizations in India lack transparency and supervising them is difficult, which has a negative impact on the willingness of the people to donate. There exist many online donation platforms in the world and yet issues concerning extra fees, accountability, and processing delay are still a hurdle. We have witnessed increased growth of non-commercial organizations and charity funds through recent years, collecting donations for various philanthropic needs. Unfortunately, charity funds frequently gain much traction from the unscrupulous organization, leading to significant damage for industry's reputation, reducing trust level, affecting the power to boost donations. We strongly believe that utilizing blockchain technology will boost trust, increase efficiency, and encourage more donations. The Charity app project, a blockchain-based charity foundation platform that facilitates the trustful network's formation and is accountable for collecting donation funds. The blockchain network would be comprised of publicly known, trustful, and prestigious organizations. We hope to increase the transparency of charities to enhance the public's trust in charities and promote the development of philanthropy by a blockchain-based charity system.

Keywords: Blockchain, Smart contract, Beneficiary, Donors, Charity Application

I. INTRODUCTION

Blockchain could be a data structure that could be a growing list of information blocks. The knowledge blocks area unit coupled along, such recent blocks can't be removed or altered. Blockchain is the backbone Technology of Digital Cryptocurrency BitCoin. The blockchain is a distributed database of records of all transactions or digital event that have been executed and shared among participating parties. Each transaction verified by the majority of participants of the system. It contains every single record of each transaction. Bitcoin is the most popular cryptocurrency an example of the blockchain. Blockchain Technology first came to light when a person or Group of individuals name 'Satoshi Nakamoto' published a white paper on

"BitCoin: A peer-to-peer electronic cash system" in 2008. Blockchain Technology Records Transaction in Digital Ledger which is distributed over the Network thus making it incorruptible. Anything of value like Land Assets, Cars, etc. can be recorded on Blockchain as a Transaction.

Smart Contract- A smart contract is a self-executing contract with the terms of the agreement between different users being directly written into lines of code. The code and the agreements contained therein exist across a distributed, decentralized blockchain network. The code controls the execution and transactions are trackable and irreversible. Smart contracts permit trusted transactions and agreements to be carried out among disparate, anonymous parties without the need for a central authority, legal system, or external enforcement mechanism.

II. MOTIVATION AND PROBLEM DEFINITION

Motivation- The need for decentralization is the key motivation behind the blockchain technology, and decentralization is achieved by distributing the computation tasks to all the nodes of the blockchain network. Decentralization solves several problems of traditional systems

Problem Definition- Blockchain-based platforms helps charity organizations to harness the power of peer-to-peer networks by eliminating the financial intermediaries such as banks. This would reduce the transaction costs and transaction settlement time dramatically.

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QUANTUM COMPUTING AN INTRODUCTION TO THE NEXT GENERATION OF COMPUTER

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ABSTRACT

Quantum Computing is an emerging technology that has the potential to revolutionize the way we process information. Quantum computers use the principles of quantum mechanics to perform operations that are beyond the capabilities of classical computers. This research paper provides an overview of quantum computing, its history, and the basic principles that underlie it. The paper also discusses some of the potential applications of quantum computing, as well as the challenges that must be overcome before it can become a

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A REVIEW ON TRAIN TRACK CRACK DETECTION AND ACCIDENT AVOIDANCE SYSTEM USING IOT

Prof. Anuprita Linge[*1], Prof. Virendra Kotewar[*2], Pooja H. Kongare[*3], Ashwini L. Ahake[*4], Archana Kumari[*5], Kundan Kudmathe[*6]

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ABSTRACT

The Indian Railways has one in all the most important railway networks in the international, criss- crossing over 1,15,000 km in distance, throughout India. In india so many transport facilities are available. In which railway played vital role to transport of Indian population. The Indian population is on second position in world. So, transportation problem is reduced because of Indian railways. The Railway Safety Management Centre analyses the defect information and provides an alert to the next approaching train. The train derailment can be avoided and chance of loss of human life and economy can be minimized. Rail transport in India is at the forefront of providing the transport infrastructure wanted to meet the desires a quickly expanding economy. Manual detection of tracks is bulky and now not fully powerful because of a whole lot time consumption and requirement of skilled technicians. This mission work is aimed toward addressing the difficulty by means of growing an automated railway song crack detection gadget. With the proliferation of net of factors (IoT).

Keywords- criss -crossing, vital, forefront, ,infrastructure, proliferation, IOT.

I. INTRODUCTION

India is big country in which millions of people live. Transport has played very good role in growing the economics condition of country. The Indian railway network today has a track length of 113,617 KM over a route of 63,974 KM and 7,083 stations.For millions of people across the world railways are the prime mode of transportation. Safety is one of the key issues for railway transportation. Due to the heavy duty of the train transportations, train accidents happen every year in the world, and results in serious destruction of property and injury or death of passengers and crew members. To avoid this problem in this project. To provide protection from rail damage due to cracks occurring in the track. The IoT module will specify the exact location to which the message will be sent to the authorities. live feeds and data from the IoT module will be updated on the meant use of the wireless device. through using this technology, we will be able to prevent the loss of valuable existence or property.

II. PROBLEM STATEMENT

The foremost hassle has been the lack of cheap and green generation to hit upon problems inside the rail tracks and of path, the lack of proper preservation of rails that have resulted in the formation of cracks in the rails and other similar problems because of delinquent elements which jeopardize the security of operation of rail transport. in the past, this hassle has cause a number of derailments resulting in a heavy lack of lifestyles and assets. Cracks in rails had been identified to be the main purpose of derailments in the beyond, yet there were no reasonably-priced automated answers to be had for checking out functions.

- To offer safety in journeying of trains, a device detects fault in music .
- To design gadget which provide detection according to railway track with the assist of IR sensor.
- For smooth operation consisting of indication of crack side we're using buzzer.
- To update information on website the use of IOT.

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INDUSTRIALPRODUCTIVITY AND QUALITY IMPROVEMENTTECHNIQUES A REVIEW

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ABSTRACT

Productivity and its related terms play important roles in management of an industry. There are various methods to estimate as well as to improve the productivity of an industry albeit these methods are not widely known in Indian small scale industrial environment. Introduction of such simple methods and techniques to industrialists is important for effective management and growth of their industries. This paper shows importance of implementation of such techniques with touch of computer operating systems. From researches, studies and surveys conducted by various learned people it is obvious that for efficient growth of small-scale industries in all over India these techniques along with technical attachment of improved data sciences might bring revolution to these industries. Just like improvement in productivity quality of the final products of these small-scale industries can be improved by implementing various methods and techniques. These methods can help an industry gain maximum efficiency of gained profit against investments.

Keywords: Productivity Improvement, Quality Control, Industrial Management, Small Scale Industries

I. INTRODUCTION

Productivity of an industry is the mark of the growth of that industry. Its high value(greater than 1) shows stable profit while its low value (less than 1) indicates loss. High productivity value also indicates efficient utilization of the inputs. On the other side low productivity value is an indication of inefficient usage and wastage of inputs. For any industry improvement of its productivity is an important objective. There are various ways to increase the productivity and thus gain more profit while using same resources and inputs.

This paper puts forth some methods proposed by many researchers in different articles and papers published in last decade when many small-scale industries emerged. The objective of this paper is to introduce these methods and techniques to new industrialists as well as existing ones so as to increase the efficiency and productivity of their industries. Along with productivity of the industry the quality of the product formed must be improved over time. Constant supply of superior quality product always works in the favour of the industry. For continuous growth of any industry its popularity in the market is necessary which is brought by superior quality of the products that industry sells. This paper also puts forward quality management techniques along with productivity management techniques.

II. PRODUCTIVITY & QUALITY IMPROVEMENT TECHNIQUES

There are various methods and techniques coined by various authors and researchers but implementation of each and every technique in a single industry might not be possible considering the various factors being locality, availability of resources, lack of data collection methods, lack of forecasting methods, etc. Hence it is advised to consider the impact of these factors prior to actions. Improvement in quality might result in improved productivity similarly improving productivity can help improve quality.

Fig. Productivity & Quality Improvement Techniques

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THERMAL ANALYSIS OF THREE CYLINDER ENGINE HEAD A REVIEW

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ABSTRACT

In the thermal analysis of thermal barrier coated compression ignition engine is done .The heat transfer through the cylinder head with and without ceramic insulation is analysed .two different insulation coating materials are used .Heat transfer is analyzed and the amount of coolant required is optimized to save the heat lost and power consumed. Series of experimentation's and computational software are used for the thermal analysis of the L.H.R. (low heat rejection) engine. The rapid advances in computer and simulation technology make it possible to model complex geometrical shapes, assign load cases and analyze associated deformations and material behavior. The results show that optimization of the cooling system of the conventional and L.H.R. engine saves the extra heat lost in cooling and is available for improving the engine performance internal combustion engine is a rich source of examples of almost every conceivable type of heat transfer. There are a wide range of temperatures and heat fluxes in the various components of the internal combustion engine. Internal combustion engines come in many sizes, from small model airplane engines with a 0.25 " (6 mm) bore and stroke to large stationary engines with a 12" (300 mm).About 25 % of the air/fuel mixture energy is converted to work, and the remaining 75% must be transferred from the engine to the environment. The heat transfer paths are many, and include many different modes of heat transfer. In this review we will discuss the heat transfer processes in the engine components, then consider the engine parameters and variables which affect the heat transfer processes. Maximum amount of heat is transferred through the cylinder head. In this project we have taken efforts to analyze the heat transfer through the cylinder head of three cylinder S.I. engine. CAE is extensively used for simulation. Heat transfer is analyzed for different rates of coolant flow and a optimized coolant flow rate is suggested.

Keywords: Cylinder Head, Thermal Analysis, Heat Transfer.

I. INTRODUCTION

Internal combustion engines at best can transform about 25 to 35% of chemical energy in the fuel into mechanical energy. About 35% of heat generated is lost into the surrounding of combustion space. Remainder being dissipated through exhaust & radiation from the engine. It should be remembered that abstraction of heat from the working medium by the way of cooling the engine components is a direct thermodynamic loss. High pressure fuel injection systems such as common rail system & electronically controlled unit injector [EUI] systems have been widely applied modern heavy duty diesel engines. They are shown to be very effective for achieving high power density with high fuel efficiency & low exhaust gas emissions. However the increased peak combustion pressure gives additional structural & thermal load to engine structure. Thus proper material selection & thermal analysis of engine components are essential in order to meet the durability, requirements of heavy duty CI engines adopting high pressure injection systems. About 35% of the total chemical energy that enters an engine in the fuel it converted to crankshaft work, & about 30% of the fuel energy is carried array from the engine in the exhaust flow in the form of enthalpy & chemical energy. This leaves about one third of the total energy that must be dissipated to the surrounding by some mode of heat transfer. Temperatures within the combustion of an engine reach values on the order 2700 K & up. Materials in the engine cannot tolerate this kind of temperature & would quickly fail if proper heat transfer did not occur. Removing heat is highly critical in keeping an engine & engine lubricant away from thermal failure. On the other hand it is desirable to operate an engine as hot as possible to maximize thermal efficiency. It must be remembered that the reliability of an engine depends not so much, it is true on the proportion of the total heat converted into useful work, but rather upon the proportion of the total heat which is not so converted & which is left over to

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A REVIEW ON EXTRACT OF NEEM PRODUCT AND THEIR AGRICULTURAL APPLICATIONS

Mr. Girdhar S. Shendre*1, Prof. Sandip S. Jawre*2, Prof. Abhijit A. Kanaskar*3, Prof. Dilip R. Rangari*4

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ABSTRACT

"RiceisLife"formillionsofpeopleandstaplefoodformorethanpartialoftheworlds'population.Therequestfor rice is growing with ever increasing population. At present the grain yield in rice has to be increased and the yieldachievedhastobesustained.ThepitchstudiesatWetlands,TamilNad uAgricultural UniversityCoimbatore esultedincompilationofagronomicalus eofneema nditsbypro ductsinricecultivation.TheWetlandFarmat CultivatedCollegeandResearchInstitute,Coimbatoreissituatedint heW esternAgroClimaticZoneofTamil Naduat11°NorthLatitudeand77°EastLongitudeatanaltitudeof4 26.72maboveM SL.Thepropertiesofneem as insecticide, antifeedant, hormonal, antifungal, antiviral and nematicide properties is well known .These activities are brought out with neem use in the form of leaves, leaf extracts, seeds, cakes, oil and fruit extracts. The neem and its products are used in seed treatment, manurial application, increasing nutrient efficiency by which the grain yield in rice crop is enhanced and its sustainability is seen in rice based cropping system. Evaluationoftheseproductsinmanagingthericecrop,throughagronomialculturalpracticesatvariousstages of crop growth has been discussed in detail in thispaper.

Key words: Agronomical cultural practices, neem, rice

I. INTRODUCTION

Neem,*Azadirachtaindica*isnativetothearidregionsofthe Indian sub continent, where it grows to 12-24 m high at altitudes between 50 and 100 m with 130 mm of sufficient rainfall per annum for its normal growth. In India, neem is known for its use and is more utilized in rice cultivation.[3] Neem is also called '*arista*' in Sanskrit- a word that means 'perfect, complete and imperishable'. The Sanskrit name '*nimba*' comes from the term '*nimbatisyasthyamdadati*' which means 'to give good health'.[6] The seeds, bark and leaves contain compounds with proven antiseptic, antiviral, antipyretic,anti-inflammatory,anti-ulcerandantifungaluses. *Azadirachtaindica*can be propagated easily by seed, or 9 to 12 month-old neem seedlings can also be transplanted. Freshfruityieldperneemtreerangesbetween37and50kg peryear.[8]Fortykgfruityieldsnearly24kgofdryfruit(60%), which in turn gives 11.52 kg of pulp (48%), 1.1 kg of seed coat(4.5%),1kgofhusk(25%)and5.5kgofkernel(23%). Thekernelgivesabout2.5kgofneemoil(45%)and3.0kgof neem cake(55%).[9]Neem is recognized today as a natural product which has much to offer in solving global agricultural, environmental andpublichealthproblems.Researchersworldwidearenow focusing on the importance of neemin the agricultural industry.[12] The magical tree and hundreds of its active compounds are used to manufacture a number of products. Natural properties of neem do not have any toxicreactions,

II. LITERATURE SURVEY

Applications of Neem

Neemoilisextractedfromtheseedsoftheneemtreeandhas insecticidalandmedicinalpropertiesduetowhichithasbeen usedinpestcontrolinricecultivation.Neemseedcake(residue of neem seeds after oil extraction) when used for soil amendment or added to soil, not only enriches the soil with organic matter but also lowers nitrogen losses by inhibiting nitrification.[7] It also works as a nematicide. Neem leaves are used as green leaf manure and also in preparation of litter compost.Neemleavesarealsousedinstorageofgrains.Twigs of neem when tender is used as green manure after decomposingandwidelyincorporatedinricecultivationfields. Neem(leaf and

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THERMO-STRESS ANALYSIS OF COATED AND NON-COATED ENGINE PISTON TO FIND EFFECTIVE HEAT BARRIER

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ABSTRACT

Todays car engines are technically advanced and consumes less fuel to achieve maximum power output. Every time research and development department optimize the performance of the engine. Cylinder head, connecting rod, crank shaft, cam shaft and piston are the most important parts of the engine. These parts always come under thermal and impact loading. However, piston comes under great impact of thermal stresses and loading. The temperature of the piston always increases while engine running and every time the cooling must be applied to piston. To avoid generation of heat by friction oil control ring is provided. It lubricates engine piston and avoid extensive friction and wear. But at the T.D.C. power stroke will generate the extensive heat and power which directly impinge on the piston top. During long term running of engine this heat on the engine top and thrust generated cause the piston material wear and damage. To avoid such damage, we can provide coating on the piston surface which will be thermal insulating material and tough enough to withstand on high impact loading. In this project thermal analysis of coated and non-coated piston will be carried out with the help of ANSYS 2020 R1 software, which is FEM tool. For that purpose, CAD model of Piston will be created in CATIA V5R21 Software. The temperature, thermal stresses and heat transfer rate will be compared with each other to find effectiveness of the thermal barrier coating. For coating of piston ceramic will be used which is thermal insulator and good adhesive.

Keywords: Coated and Non-coated Piston, ANSYS 2020 R1, CATIA V5R21, Thermal Stresses etc.

I. INTRODUCTION

The piston is the most essential part of a reciprocating engine. It helps to convert the chemical energy obtained by the combustion of fuel into useful mechanical power. The piston provides a means of conveying the expansion of the gases to the crankshaft, through the connecting rod, without loss of gas from above or oil from below. The piston is basically a cylindrical plug that moves up and down in the cylinder. It has a piston ring to provide a good seal between the piston and cylinder wall. Although the piston seems to be a simple part, it is actually quite complex from a design stand point. The efficiency and economy of the engine depending on the working of the piston . It must operate in the cylinder with minimum friction and it should be able to withstand the high explosive force generated in the cylinder and also the very high temperature ranging from 2,000°C to over 2,800°C during operation. The piston should be as strong as possible, however, its weight should be minimized as far as possible in order to reduce the inertia due to its reciprocating mass.

1.1 Piston Functions

- Receive the thrust produced by the combustion of the gas in the cylinder and transmit it to the connecting rod.
- Piston reciprocates in the cylinder as a gas-tight plug generating suction, compression, expansion, and exhaust strokes.
- Piston forms a guide and bearing to the small end of the connecting rod and takes the side thrust due to the obliquity of the rod.

The top portion of the piston is called the head. Ring grooves are cut on the circumference of the piston's upper portion of the piston. The parts below the ring grooves are called a skirt. The portions of the piston that separate the grooves are called the lands. Some pistons have a groove in the top land called a heat dam which reduces heat transfer to the rings. The piston bosses are those reinforced parts of the piston designed to hold the piston pin or wrist pin.

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EXPERIMENTAL INVESTIGATION OF PERFORMANCE PARAMETERS OF SOLAR AIR HEATER BY PERFORATED PLATES A REVIEW

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ABSTRACT

In Solar Air Heater, collector plate is the important component which is mainly responsible for heat transfer through convection. Attached ribs to the collector plate will also improve the thermal efficiency of the solar air heater. It is also proved with an experiment that the rate of heat transfer can be also increased by using variety of ribs. Perforated ribs can give better heat transfer rate as compared with flat collector plate. But the limitation of solar energy i.e. fluctuation in intensity and availability in days only narrows the use of solar air heater. A better solution of use of solar panel to charge battery and use it further in night for heating of collector plate could be done. This arrangement will give hot air in night also. Performance of solar air heater is same as we got in day condition if we maintain required collector plate temperature.

Keywords– Solar Air Heater, Perforated Ribs, Solar Intensity, Collector Plate, Heating.

I. INTRODUCTION

Solar air heaters are being used for many applications at low and moderate temperatures. Some of these are crop drying, timber seasoning, space heating, cooking etc. The thermal efficiency of solar air heater has been found to be low due low thermal capacity of air and because of low convective heat transfer coefficient between absorber plate and flowing air in the duct. Attempts has been made to enhance the heat transfer rate by use of extending surface in form of fins but the heat transfer is accompanied by pressure drop penalty. In another approach use of artificial roughness is the most effective and economic way for improving performance of solar air heater. In this approach turbulence is created by roughened surface in viscous sub layer to obtain heat transfer enhancement. Several roughness geometry has been tested so far to enhance heat transfer with consumption of pumping power. [1]Energy is the one of the most important need of mankind, be it proving light or be it to run machines. Energy in different forms and functions has portrayed a very important role in the extensive economic boom and industrialization. For coming generations, we need to depend on the source which can provide infinite energy. Solar energy can be said to be one of those forms which is freely available, and easily accessible and of course is non- polluting in nature. It is considered to be an indispensable source of energy to meet the growing demand for the sustainable development and to control the global climate change. The need to enhance the thermal performance of heat exchangers, consequently, effecting energy, material, and cost savings as well as a consequential mitigation of environmental degradation had led to the development and use of many heat transfer enhancement techniques. There are several devices like solar water heater and solar air heater are used to harness the solar energy. Many researchers have conducted numerical study of solar air heater. CFD is a vital tool to analyze thermal systems [7].

II. LITRATURE SURVEY

Suman Saurav1,"Heat transfer and thermal efficiency of solar air heater having artificial roughness: a review": In this paper the artificial roughness in the form of ribs is discussed. Authors have given the experimental justification for the roughness which improves the thermal efficiency of solar air heater. It shows that making of specific designed patterns on surface (ribs) the efficiency will improve. Different patterns are considered to prove this. [1]NareshPrajapati*, "Comparison Of Performance of Double Pass Solar Air Heater Having Double Layer Glass": The discussion about the comparison of the thermal performance of double pass solar air heater of different types of absorber plates has been done in this paper. For this purpose, three different types/colors of metallic sheets are used. The absorber plates have- metallic color, black color and black color with mesh wire

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SOLAR OPERATED MULTIPURPOSE PESTICIDE SPRAY PUMP

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ABSTRACT

The 70% population of our country lives in villages & their main occupation is agriculture. Similarly more than 40% of these areas do not get regular electricity supply. Most of the farmers uses engine or electrically operated spray pumps, which is costly affair for them. Our prominent aim of this project is to introduce a novel spray which works on solar power i.e. using non-conventional energy sources. Thus solar operated spray pump will help the farmers of remote areas of country where electricity and fuels (like diesel or petrol) availability is irregular. Thus they can perform their regular work as well as saves the electricity and fuel up to large extent. This will going to save the electricity and fuel also reduce the demand of it to substantial extent. In this project we have used the solar energy which operates the multipurpose pesticide spray pump. It would not be wrong to say that the Sun was supplying ample energy which can fulfill the needs of entire human being still man is only relying on non-renewable sources of energy

Keywords-Solar Panels, DC Pump, Sprayer, Photovoltaic Cell (PV), Electricity.

I. INTRODUCTION

Spraying of pesticides is an important task in agriculture For protecting the crops from insects. Farmers mainly use Hand operated or fuel operated spray pump for this task. This conventional sprayer causes user fatigue due to excessive bulky and heavy construction. This motivated us to design and fabricate a model that is basically solar sprayer In our design, here we can eliminate the back mounting of Sprayer ergonomically it is not good for farmer's health point of view during spraying. in this way here we can reduce the users fatigue level. There will be elimination of engine of fuel operated spray pump by which there will be reduction in vibrations and noise. The elimination of fuel will make our spraying system eco-friendly. So with this background, we are trying to design and construct a solar powered spray pump system. Now days there are non-conventional energy sources are widely used. The energy which is available from the sun is in Nature at free of cost. In India solar Energy is available around 8 months in year .so it can be used in spraying operation. Solar pesticide sprayer can give less tariff or price in effective spraying. Solar energy is absorbed by the solar Panel which contains photovoltaic cells. The conversion of the solar energy into electrical energy is done by these cells. This converted energy utilizes to store the voltage in the DC Battery and that battery further used for driving the spray Pump. Solar spray are the ultimate cost effective solution at the locations where spraying is required. This solar-powered spray pump system uses solar energy as source. Solar energy is first used to charge a storage battery. The solar energy stored in the battery is utilized to operate motor which functions as pump. As the name of the paper suggests, it deals with the constant discharge of pesticide, compress air control system, solar power, battery charging, monitoring as well as timer and non-conventional power controlling techniques. As far as controlling is concerned, it include the parameters such as pressure, pesticide level, battery voltage, current, solar cell and discharge condition. In this paper we are trying to make unique equipment for cultivation users. Mostly in the forming process pesticide spray is taking a critical role due to poison properties of chemical. So, in this paper we have committed to do something unique and useful equipment with non-conventional source technique. Also reduce the weight of unique solar spray jet as compare to diesel spray jet.

II. LITRATURE REVIEW

The conventional energy sources will be exhausted before the end of this century. Hence there is need to search an alternative source of energy to replace this conventional type of fuels. The energy which has the above qualities is solar energy. So we decided to use solar energy for agriculture purpose for spraying pesticides. The

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A REVIEW ON FLYWHEEL AND ITS APPICATION

Dilip R Rangari[*1], Sandip S Jawre[*2], Piyush Kitey[*3], Nikhil Pande[*4], Mayur Lokhande[*5], Mayur Shambharkar[*6], Navneet Burnure[*7]

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ABSTRACT

The flywheel and its applications are studied in this paper. In many mechanical machines, flywheel plays an important role and having more applications. A flywheel is a heavy wheel attached to a rotating shaft so as to smooth out delivery of power from a motor to a machine. The inertia of the flywheel opposes and moderates fluctuations in the speed of the engine and stores the excess energy for intermittent use. In automobile engines the flywheel serves to smooth out the pulses of energy provided by the combustion in the cylinders and to provide energy for the compression stroke of the pistons. The larger the rotational inertia of the flywheel, the smaller the changes in speed resulting from the intermittent power supply and demand. In power presses the actual punching, shearing, and forming are done in only a fraction of the operating cycle. During the longer, nonactive period, the speed of the flywheel is built up slowly by a comparatively low-powered motor. When the press is operating, most of the required energy is provided by the flywheel.

Keywords: Flywheel, machine, inertia, energy

I. INTRODUCTION

A flywheel is an inertial energy-storage device. It absorbs mechanical energy and serves as a reservoir, storing energy during the period when the supply of energy is more than the requirement and releases it during the period when the requirement of energy is more than the supply. The main function of a flywheel is to smoothen out variations in the speed of a shaft caused by torque fluctuations. Generally used materials for manufacturing of flywheels are Steel, Cast Iron, Aluminum Alloy, and Titanium. Cast iron is most preferred because of long term durability and its design can be easily modified by avoiding cost of complete replacement. Internal combustion engines with one or two cylinders are a typical example. Piston compressors, punch presses, rock crushers etc. are the other systems that have flywheel. [1]

Figure 1: Flywheel

Several years ago pure mechanical flywheels where used solely to keep machines running smoothly from cycle to cycle, thereby render possible the industrial revolution. During that time many shapes and designs were implemented, but it took until the early 20th century before flywheel rotor shapes and rotational stress were thoroughly analyzed. Later in the 1970s flywheel energy storage was proposed as a primary objective for electric vehicles and stationary power backup. At the same time fiber composite rotors where built, and in the 1980s magnetic bearings started to appear. Thus the potential for using flywheels as electric energy storage has long been established by extensive research. More recent improvements in material, magnetic bearings and power electronics make flywheels a competitive choice for a number of energy storage applications.[2] Flywheels became the topic of intensive analysis as power storage devices for applications in vehicles. The energy storage of the flywheels is a better alternative for electrochemical batteries because of higher energy density capacity, higher life term, and settled charge state and also ecological clean nature.[3] Using high strength materials allows to store more kinetic energy in the flywheel. The capacity of the flywheel to store the energy mainly depends on the material, geometric design and the rotational speed.[4]

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DESIGN AND FABRICATION OF SAND FILTER MACHINE A REVIEW

Prof. Dilip R. Rangari[*1], Chetan M. Chavhan[*2], Prashant S. Tamgadge[*3], Ankita Burghate[*4], Amar P. Patil[*5], Amit G. Ladhe[*6], Ashish A. Kohad[*7], Aniket K. Wankhede[*8]

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ABSTRACT

A sand sieving machine is a machine tool that assists in the separation of sand and stone from a produced mixture. If sand, stone and other large particle are included in the produced mixture, it is not used for further constructional work. As a result, if a worker was sieving the sand in traditional ways without having a machine, sieving machine will helps that worker who sieve the sand in traditional ways with the help of machine mechanism, which is automated by help of motor power and it will increase the efficiency in the terms of time and energy required to screening sand. The aim of this research is to fabricate the best possible machine in terms of design, operating costs, and efficiency. The literature review, objectives, idea generation, idea creation and analysis, design, and research of numerous concepts, computation, and Gantt chart are the steps of design evaluation.

Keywords- Efficiency, Quality, Analysis, Design evaluation, Traditional

I. INTRODUCTION

Here we demonstrate the design and fabrication system .Sand is used in construction, manufacturing and many industries. Sand needs to be filtered and separated from unneeded particles, stones and other large particles before it is put to use.Sand is the most important component in every construction project. Because it normally comes in a mixture form, before used in constructions it required to be removed from unwanted material like stones and other undesired large particles before used in constructions. Similarly, the size of sand changes depending on the stage of building, for example, fine sand is used for plastering and slightly coarse sand is used for wall and slab construction. That's why, sands need to be appropriately screened as requirements of sand in different stages of construction. [1].

II. LITERATURE REVIEW

S. K. Subramaniam et.al 2022 have developed the machine whose title was "Design and fabrication of automated Sand filter and waste separator machine". The main purpose of this paper to reduce the time and waste material. Author used two horizontal sieve net and operate the machine by the horizontal reciprocating motion with the help of electrical motor. With using rectangular mesh sieving of the sand is carried out where the mesh is inclined at certain angle. Due to this a relative motion between particles and the sieve take place. This will helps to separation of sand, individual particles pass through the sieve mesh or retained on the sieve surface according to their size[1]. Dr. S.M.Mowade1,. Rohit Dhakulkar2, Sachin kapgate3, Nitesh Meshram4, Rohit Hemane 5 el.al. Vol. 4, No.4, 2019 Fabrication of Power Operated Sand Filtering Machine When we begin the engine shaft transmit the movement starting with one pulley then onto the next pulley by utilizing belt drive, at that point another pulley is associated with the rectangular edge that perform responding movement. This responding movement helps to channel sand. Pradeep Kumar Krishnan* and Bushra Zaid Humaid Alrisi el.al. 2021 Design and Development of an Electronic Sieving for Sand Separation using Node MCU System Sand sieving is now considered one of the essential needs in the construction industry. Where businesses collaborate to find the best and highest-quality methods for extracting pure sand suitable for construction. These businesses always require high-quality machines to complete the process flawlessly. This is also to prove its market power and guarantee its products.

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ANALYSIS AND DESIGN OF MULTY STOREY G+6 RESIDENTIAL BUILDING USING STAAD PRO A REVIEW

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ABSTRACT

To compete in the developing competent market. It is most important for a structural engineer to save time. An aim is made to analyze and design a Multi-storeyed building by using the computer program Staad pro. For analyzing a multi-storied building, one has to consider all the feasible loadings and see that the structure is well against all possible loading conditions. There is a methodology for the analysis of different frames like Kani's method, cantilever method, portal method, and Matrix method. The present project deals with the analysis of a multi-storeyed residential building of G+6 consisting of 5 apartments on each floor. The dead load &live loads are enforced and the design for beams, columns, and footing is obtained. STAAD Pro with its new features exceeds its predecessors, and compotators with its data sharing ability with other major software like AutoCAD, and MS Excel. We conclude that Staad pro is a very significant tool that can save much time and is very accurate in Designs. Thus, it is concluded that Staad pro package is worthy for the design of a multi-storeyed building. Structural design is a research method of the rigidity, strength, and stability of the building. The essential aim in structural analysis and design is to construct a structure suitable for overcoming all applied loads without failure during its designed life. The process of structural design is associated with various stages such as the computation of loads, member design, detailing, and many more. The conventional method of structural design and analysis leads to a lot of complications and tedious and time-consuming calculations. Nowadays to complete a design and analysis in an efficient manner fast software's used. Computer-aided design of the residential building using STAAD PRO which includes-

- Generating a structural framing plan
- Analysis of the structure
- Design of structure
- Getting model

Keywords: STAAD PRO, Multi-Storey Building, Analysis, Design, Wind load.

I. INTRODUCTION

Buildings are the key indicator of the social development of the county. Every human has the desire to own comfortable homes on a standard normally one spends his two-third lifetime in the house. The security civic sense of the responsibility. These are the few excuses that are blamed that the person does almost effort and spendinghard-earnedsavings in owning houses. Building construction is the engineer's act with the construction of building such as residential houses. A simple building can be known as a surrounding space by walls with roofs, food, cloth, and the simple needs of human beings. Before ancient times humans lived in caves, over trees, or under trees, to defend themselves from wild animals, rain, sun, etc. as times passed as people started living in huts made of timber branches. The shade of those old hasprogressed nowadays into beautiful houses. Rich people live in advanced-condition houses. Building new homes is currently a key component of the county's societal advancement. Every day, new methods are being developed to build homes affordably, swiftly, and by community needs. Architects and engineers are responsible for the structures' design, planning, and arrangement, among other tasks. Building drawings must be completed under the guidance of architects and engineers by draughtsmen. The draughtsman must be knowledgeable in his field, be able to adhere to the engineer's instructions, and be able to create the necessary construction drawings, site plans, arrangement

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ANALYSIS AND DESIGN OF TRANSMISSION LINE TOWER USING STAAD PRO A REVIEW

Prof. Tushar W. Parate[*1], Om P. Muke[*2], Harsha M. Fulkar[*3], Ankit K. Lanjewar[*4], Arti S. Kamble[*5], Suraj U. Subhedar[*6], Shubham V. Thakare[*7]

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ABSTRACT

The design of the electric power transmission tower is written in consideration of the confrontation between the high-voltage transmission line and the insulator that require height from the ground. For the same purpose, a transmission pylon with a similar context of 49 m height, 220 kV dual-circuit conductors and a flight control with STAAD PRO is recreated. Both structural and electrical considerations are taken into account when designing transmission line towers for safety and economy. According to IS 800-2007, in addition to its own weight, wind forces on towers, ladders and insulation are very noticeable. This work focuses on optimizing transmission pylons by using "X" and "K" braces and by modifying sections studied in static analysis. The upshots of using 'X' bracing to 'K' bracing are the appraisable reduction in the weight of the structure by 6% and having the displacement values supplemented.

Keywords- Analysis and Design, Conductors and Insulators, Double circuit conductors, STAAD Pro., Angle and Bracing system, Static Analysis.

I. INTRODUCTION

India has a large population abiding each over the country and the electricity force need of this population creates demand of a large transmission and distribution system. Also, the disposition of the primary resources for electrical power generation viz., coal, hydro eventuality is relatively uneven, therefore again adding to the transmission conditions. Transmission line is an intertwined system conforming of conductor subsystem, ground line subsystem and one subsystem for each order of support structure. Mechanical supports of transmission line represent a significant portion of the cost of the line and they play an important part in the dependable power transmission. They're designed and constructed in wide variety of shapes, types, sizes, configurations and accoutrements. The supporting structure types used in transmission lines generally fall into one of the three orders lattice, pole and guyed. Transmission towers are built to evacuate electric strength generated in electricity stations over long distances across the use to substations for similarly transmission and distribution to diverse load centres. Energy transmission towers are widely divided into categories, viz. Alternating current (A.C.) and Direct current (D.C.) provided in Low tension (L.T.) i.e., inside the range of 0.4 KV to 33KV and in more high tension (E.H.T.) in the variety of 132KV to 400KV and past as much as 800KV. Extra high Voltage (E.H.V) is essential to lessen electricity losses for transmission over lengthy distances. The electricity is carried in three phase supply through three separate conductors for each of the circuit subsequently the towers are required to be designed for single circuit, double circuit and or multi circuit as in line with the required technical specifications of clients. The tower configuration and geometry depend upon the requirement of the technical specification energy is transmitted through flexible metal conductors strung at secure heights over towers. Towers are commonly self-supported four-legged cantilever metal structures holding the energy conductors with using insulators at required positions on cross hands. The strength conductors are clamped to the erected towers and carried forward aerially with using stringing system warding off dragging of conductor at the ground.The thing of every designer is to design the stylish(optimum) systems. But, because of the practical restrictions this has been achieved through suspicion, experience and repeated trials, a process that has worked well. Power Grid pots of India Limited has specified the following way to. Optimized the Design of Power Transmission Lines-

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BY USING GRANITE FINE EVOLUTION OF HOLLOW CONCRETE BLOCK A REVIEW

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ABSTRACT

Nowadays, in the world, using granite fine in solid waste management becomes a major environmental concern. Awareness should be increased about landfill space, cost-increasing issues, and using waste materials like granite fine have become alternate content. We have spotted from this work, granite is fine and used in multiple proportions in the manufacturing process of hollow concrete block socks. In this work hollow blocks are manufactured, of size 300mm*150mm*150mm using granite fine as a supplement. The waste of granite fine can be applied for the preparation of concrete and coarse aggregate partially replaced to get more workability of concrete due to the exciting massively high cost of course aggregate. The weight of granite fiwaswere added to 0,14.5,27,38.5 and 55. The concrete block was tested for compressive strength for 7,14 & 28 days after this test result,the proportion of hollow concrete block made 1:3:5 mix using 30% granite fine replaced with course aggregate gave 8.25 N/mm2 to optimum compressive strength. So in this research using granite fine manufactured hollow concrete block gave a high performance and high strength.

Keywords- concrete, course aggregate, granite fine, strength, high performance.

I. INTRODUCTION

A- Blocks of Hollow Concrete.

From this polishing unit granite fines were obtained was found as the specific gravity of granite fineIn the construction of walls concreteSeverals essentially used as a building material. Sometimes it is called a concrblocksasonry unit (CMU). Several precast concrete products which are used in construction is a concrete blocks. Before blocks ar toe brought to the job site the blocks are hardened and formed maybes the fact of the term precast refers. One or more blocks are in many concrstartlocks and sides may be the with a design and cast smooth. While usingconcrete block held toge, there, and start with new concretbindingrhe symmetricallythe wall and the impulse length.In 200 B.C. by the rththeans concrete mortar was used. For bind, the symmetdestructionped stack together n running construction of the building. Concrete technology developed, after the destructionof the designer's Empire,Was lost in the fifth century.In 1890 the patterns following concrete blockswere introduced or designed by Romen, Palmar in the United States. The design patterns in 1 are900 by Palmar after 10 years of experimenting.The gr and unitewere acquired from Bidadi. Granite fine content is 13% of sand particle size,72%of silt particle size, and 17.5% of clay particle size.As a care construction,the material in various forms of granite is widely used as an igneous rock Lots of waste strengthwas reduced in the granite industry. The granite density is between 2.44 to 2.67 g/cm3. Compressive strength was more than 150 Mpa.

II. EXPERIMENTA SETUP

Commonly used to make blocks of concrete is a mix of Portland cement, sand, gravel & water. This creates lite blocks with a fine texture of surface & compressive strength was high. Weight of concrete blocks 37-44 lb (16.3 - 20.2 kg).The concrete mix design used for making the blocks that are used for construction has a greater r percentage of sand & miner percentage of gravel, and water is added after the concrete mix is used for the making of hollow conc. blocks. When it's removed from the mold dry mixture holds its shape.

Cement- The (O.P.C.) ordinary Portland cement was used GRANITE FINES:- The granite fines were acquired from the limestone object. 2.9 was the specific gravity of granite fine & 0.33% was the average moisture

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A REVIEW PAPER ON EXPERIMENTAL INVESTIGATION ON CONCRETE USING GGBS WITH PARTIAL REPLACEMENT OF FINE AGGREGATE

Prof. Sakshi A. Zambre[*1], Rupesh S. Gote[*2], Rahul R. Khokale[*3], Sagar M. Dhole[*4], Yash S Darane[*5], Pranav G. Zodge[*6], Achal G. Bokade[*7], Asmita R. Dhole[*8]

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ABSTRACT

As indicated by this paper we examine that the liability of using grained impact heater sediment(GGBS) in bond concrete as a beach incompletely replace, for learning the ecological difficulties honoured with the fine total mining and waste transfer of sediment. The position of GGBS negotiation is likewise, 15 to normal beach for the standard w c proportion of0.4 is considered. The broadened work is finished with 100 displacing's of normal beach with GGBS in the w/ c proportions of0.4 and0.6. In this we examined the inflow rates of the different composites and their compressive rates at different period. A request for common beach in concrete is expanding step by step. We take over this exploratory examination to exploration the impact of deficient supplanting of bond with ground granulated impact heater sediment(GGBS) in concrete containing chase tidy as fine total. GGBS is one of the side- effect of sword fabricating diligence. On operation of the mechanical soil waste or supplementary accoutrements for the generation of bond and cement is amped in field of development since it adds to dwindling the application of characteristic means. By displacing the fine aggregate to discover the quality, durability also, corrosion protection parcels of cement. The infiltration of chloride patches by styles for astounded voltage system in saline medium and gravimetric weight reduction system. The negotiation of fine total by GGBSin the compass of 0%(without GGBS), 25,50,75 and 100Concrete composites were blended completely, tried and discover the compressive, flexural and disunited severity are varied and the customary cement.

Keyword: GGBS, Compressive Strength, Cement, Aggregate.

I. INTRODUCTION

The advancement of concrete technology can reduce the consumption of natural coffers and energy sources and lessen the burden of adulterants on the terrain. Presently a large quantum of sediment generated from colourful Iron and sword shops. This waste in form of sediment, beget a great impact on terrain and humans. This paper describes the use of GGBS (Ground Granulated Blast Furnace Sediment) and its feasibility in use of it as a partial relief to beach (or Fine total). Blast furnace sediment is a by- product of iron manufacturing assiduity. The molten sediment has a composition of 30 to 40 silicon dioxide (SiO2) and roughly 40 Cao, which is close to the chemical composition of Portland cement. After the molten iron tapped off, the remaining molten sediment, which substantially consists of siliceous and aluminous remainders, is also fleetly water- quenched, performing in the conformation of a glassy granulate. This glassy granulate is dried and base to the needed size which is known as ground granulated blast furnace sediment(GGBS). Ground granulated impact heater sediment (GGBS) is a side- effect from the impact heaters employed to make press. The temperature is around 1500 degrees centigrade can worked and bolstered with the mix of press essence, coke and limestone in vigilant way. In this the iron mineral is lessened to press and the remaining accoutrements from a sediment that can be skims over the press. likewise, tapping off the sediment in sometimes as a liquid fluid and on the off chance that it's to be employed for the yield of GGBS it must be snappily extinguished in extensive volumes of water. The extinguishing streamlines that the cementations parcels and produces grains like coarse beach. At that point dried the grained sediment and make it to fine greasepaint. The parcels like particular graveness, patch estimate appropriation, shape and face are impacting the parcels of mortars and cement in the crisp state. In any case, in a many parcels like, the mineralogical conflation, continuity, protean modulus and position of revision of summations are observed to be influence the parcels of cement especially in the

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EFFECT OF PARTIAL REPLACEMENT OF CEMENT BY MIXTURE LIME STONE POWDER AND RICE HUSK ASH A REVIEW

Prof. S. A. Zambre[*1], Prof. S. M. Shaikh[*2], Chetan G. Mendhule[*3], Prajakta S. Kusram[*4], Gaurav S. Jadhav [*5], Priti P. Ghangale[*6], Avinash S. Punse[*7], Bhushan S. Jaunjal[*8]

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ABSTRACT

To meet the requirement of globalization in the construction of buildings and other structures concrete plays the rightful role. The constituent of concrete is coarse aggregate, fine aggregate and limestone powder, and rice husk powder, and binding material and water the limestone powder and rice husk powder to partially replace the cement. This experimental study presents the variation in the strength of cement by limestone powder and rice husk powder by 5%, 7.5%, 10%, 12.5%, and 15% for preparation of M25 grade of concrete taken into the study, the compressive strength of concrete cube at age of 7,14 and 28 days.

Keywords: Limestone powder, Rice husk ash, Cement concrete, Compressive strength

I. INTRODUCTION

Commercial improvement and urbanization have accelerated the call for brand-new develop ment and systems one of the most typically used structural materials is concrete because of its durability and strength. Concrete is considered a critical detail from various varieties of systems. certainly one of the fundamental elements of concrete is the aggregate which performs a vital role in the compressive strength of the concrete. The aggregates occupy the largest length of the concrete and the concrete performance is largely influenced with the aid of the form of the mixture used in it. yet, this industry of concrete is considered by many researchers as a considerable source of pollutants around the arena. Concrete produces diverse varieties of gases that affect human fitness and the environment consisting of greenhouse gases that reason international warming. Worldwide warming reasons an enormous shortage of freshwater and pollution. Additionally, concrete production generates massive portions of polluted water with diverse kinds of pollution disposed of in water our bodies. Those pollutants encompass suspended solids and organic compounds consequently, concrete factory wastewater needs superior and powerful technology to put off the pollutants from manufacturing unit effluences like filtration, coagulation, chemical treatment, and also blend techniques. further to environmental pollutants, the large use of concrete in improvement has brought about the enormous use of natural aggregates which caused the depletion of earth resources of herbal mixture based totally on the above consequences of concrete usage, researchers have been investigating the usage of different materials that update the constituents of concrete to minimize the outcomes of concrete. Limestone is considered one of the usually used fabrics to update naturalaggregates in concrete manufacturing. The limestone more often than not consists of calcium carbonate, magnesium carbonate, and siliceous materials in its composition. The usage of limestone as aggregate in concrete extensively minimizes the environmental outcomes of concrete except, the production of limestone is less expensive than the natural aggregates and desires less effort and energy except, the manufacturing of limestone combinations produces considerably lower quantities of pollution along with carbon dioxide. additionally, limestone and rice husk ash combination utilization in concrete produces more strong concrete and decreases the quantity of concrete waste, and decorates the durability and energy of the concrete.This extends the existence span of the concrete and reduces the concrete waste [49-52].combination has caused a great boom in limestone usage as aggregate in concrete production around the area. The coarse mixture largely influences the concrete properties owing to the outcomes of the gradation of the combination and the connection among the mixture and other substances within the concrete. The parameters of the coarse combination like length distribution have a great effect on the strength of produced concrete systems. Researchers showed that the limestone meets the requirements of aggregates and might be adopted to provide concrete mixes. therefore, the overwhelmed limestone provides a useful alternative to the concrete aggregates

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Design of Sewerage System by Dynamic Programming an Optimization Technique

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Abstract: The infrastructure that uses sewers to transport sewage or surface runoff is known as the sewerage system. It contains components of sewer system, such as receiving screen-drains, manhole types, pump system, surface- overflows. Sewerage terminates at the point of release into the environment or at the sewage treatment centre . The system of sewer appurtenances like chambers, pipes, manholes, etc. that transfer sewage and surface water from the source to the place of discharge.

Majority of the cost of sewerage networks is made up of pipe cost and the excavation cost for sewer trenches. When designing a sewerage network, lowering the cost of excavations and pipes frequently leads to competing goals. In order to transfer wastewater without exceeding predetermined hydraulic constraints It is essential to select the proper pipe diameter and slope combination for each link when designing an actual sewerage system. A trial-and-error process is used to design a sewerage network. Engineering decisions cannot result in a sewerage network that is designed cost-effectively, which will result in large savings. The optimal solution for the design of sewerage networks using dynamic programming techniques is presented in this paper.

Keywords: Sewer, Sewerage networks, Design, Optimization, Dynamic programming.

I. INTRODUCTION

Sewers are an important part of society's infrastructure due to the safe diversion of water used in both private and public life. Before carrying them to effluent treatment plant or another disposal location, sewers collect waste water and unclean sewage. To evacuate all sewage from the homes effectively and efficiently up until the point of disposal, the sewerage system must be correctly and expertly planned and developed. To prevent sewer overflows, property damage, and health risks, the sewers must be of a suitable capacity. The sewer pipe should be designed to be laid on a slope that will provide appropriate slope velocity in order to provide economically adequate sized sewers.

The sewer discharge must first be determined as accurately as possible. The flow velocity shouldn't be either too low to produce deposits in the sewage line or too high to require substantial excavation and high lift for pumping.A sewer network is consist of sewer and sewer accessories such as receiving screen-drains,manhole types, pump system, surface- overflows etc. In such a hypothetical network, wastewater is discharged into the nodes (man holes), and then it travels through a network of linkages to a disposal node.The availability and cost of property, the proximity of disposal facilities, terrain of the area etc. are taken into consideration while choosing the site of the system outlet or sink.

When designing an actual sewerage system, it is important to choose the correct pipe diameter and slope for each connection so that the wastewater may be transported without violating specified hydraulic limitations. A trial-and-error process is involved in sewerage network design. The traditional design method takes a long time involves trial anderror in order to reduce the cost of sewerage networks. In comparison to conventional design, and the proposed design method is a systematic and iterative search technique with avery high probability of arriving at the ideal design.This study presents the best design for a sewerage network using dynamic programming.

II. COST VARIABLES

To design a sewer network it is important to describe the variables of cost. A sewage network link has inverts d1 and d2, a trench- width :w, a sewer diameter: D, and length: L. The total cost of the sewerage network includes the cost of sewer pipes, sewer trench excavation, and manholes.

A sewer pipe's cost C_m can be calculated as follows:

$$C_m = k_m L D^m \quad (1)$$

Where, k_m and m are the pipe dependant cost factors.

The cost of excavation of sewer trench is equal to the cost of earthwork, shoring and sheeting. Considering parallel sides right angle to base, the total cost of earthwork of the link C_e calculated as follows:

$$C_e = k_e L(d_1 + d_2) \quad (2)$$

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Experimental Investigation on Transparent Concrete using Optical Fiber and Crumbed Rubber-A Review

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Prof. Karim S Mulani, Abhishek Prasad, Akash Kumar, Anish Kumar Gupta, Gaurav Kumar Gupta
Sinhgad Institute of Technology, Lonavala, Maharashtra, India

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Bhavantu Karanjkar, Pratik Patil, Sanket khomane, Aditya Bobade, P. N. Patil
JSPM'S Jayawantrao Sawant College of Engineering, Pune, India

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Krishna Kumar Sharma and Er. Aditya Sharma

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Experimental Investigation on Transparent Concrete using Optical Fiber and Crumbed Rubber-A Review

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Abstract: *Transparent concrete as the smart and green building material with increased strength good aesthetic appearance and also having the light transmitting property. Transparent concrete is the new type of concrete introduced in modern era which carries special property of light transmitting due to presence of glass powder & is also known as translucent concrete or light transmitting concrete and also by adding crumbed rubber It is lighter than conventional concrete having special features such as low density and thermal conductivity with main advantage of reduction in dead weight.Tranmissive and light weight properties due to embedded light optical elements usually Optical fibers and glass powder and crumbed rubber. Main aim of the study is to design light weight and translucent concrete blocks with the use of glass powder and crumbed rubber with sand & cement. The cement replaced with glass powder and fine sand replaced with crumbed rubber and then analyse their various physical & engineering properties with respect to conventional concrete. The specimen casted will contain 90%of concrete and 5%of plastic optical fibers. And 5% crumbed rubber The concrete considered is cement mortar which contain fine aggregate and cement. The fibers are disturbed in shortest direction to increase the transparency of concrete use of this concrete is an architectural purpose for good aesthetical view of the building.*

Keywords: Glass powder Crumbed rubber , optical fibers, Workability, Compressive strength, Flexural strength

I. INTRODUCTION

Translucent lightweight Concrete is a new material with various applications in the construction field, architecture, decoration and even in furniture industry. In today's time where whole of the research isconcentrated towards non utilization of natural resources as much as possible and to reduce its consumption which are decreasing with time, Lightweight LiTraCon ("Lightweight light transmitting concrete") is alightweight translucent concrete building material made of fine concrete embedded with up to 5% by weight of concrete mix which are impregnated inside the concrete cubes so that light can be transmitted from the outside in or inside out of the building. Due to great economic growth, urbanization, population growth, space utilization worldwide, there is drastic change in concrete technology. Most of the big buildings are built close to each other all in the same areas like sky scrapers There arises one of biggest problem in deriving natural light in building due obstruction of nearby structures. When buildings are stacks closed to each other, there is not much natural sunlight passing through it.

This innovative concrete is made transparent by reinforcing the optical fibers and crumbed rubber in it. This is because of optical fibers can transmit sunlight without any light, heat or any other photochemical reaction. In this optical plastic fiber can transmit the light from one end ofthe fiber to another end.

II. LITERATURE REVIEW

Visakh. V. A -Transparent concrete is a concrete based building material with light-Tranmissive properties due to embedded light optical elements usually Optical fibers and glass powder. The Light is conducted through the stone from one end to the other. Therefore the fibershave to go through the whole object. Transparent concrete is

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BY USING GRANITE FINE EVOLUTION OF HOLLOW CONCRETE BLOCK A REVIEW

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ABSTRACT

Nowadays, in the world, using granite fine in solid waste management becomes a major environmental concern. Awareness should be increased about landfill space, cost-increasing issues, and using waste materials like granite fine have become alternate content. We have spotted from this work, granite is fine and used in multiple proportions in the manufacturing process of hollow concrete block socks. In this work hollow blocks are manufactured, of size 300mm*150mm*150mm using granite fine as a supplement. The waste of granite fine can be applied for the preparation of concrete and coarse aggregate partially replaced to get more workability of concrete due to the exciting massively high cost of course aggregate. The weight of granite fiwaswere added to 0,14.5,27,38.5 and 55. The concrete block was tested for compressive strength for 7,14 & 28 days after this test result,the proportion of hollow concrete block made 1:3:5 mix using 30% granite fine replaced with course aggregate gave 8.25 N/mm2 to optimum compressive strength. So in this research using granite fine manufactured hollow concrete block gave a high performance and high strength.

Keywords- concrete, course aggregate, granite fine, strength, high performance.

I. INTRODUCTION

A- Blocks of Hollow Concrete.

From this polishing unit granite fines were obtained was found as the specific gravity of granite fineIn the construction of walls concreteSeverals essentially used as a building material. Sometimes it is called a concrblocksasonry unit (CMU). Several precast concrete products which are used in construction is a concrete blocks. Before blocks ar toe brought to the job site the blocks are hardened and formed maybes the fact of the term precast refers. One or more blocks are in many concrstartlocks and sides may be the with a design and cast smooth. While usingconcrete block held toge, there, and start with new concretbindingrhe symmetricallythe wall and the impulse length.In 200 B.C. by the rththeans concrete mortar was used. For bind, the symmetdestructionped stack together n running construction of the building. Concrete technology developed, after the destructionof the designer's Empire,Was lost in the fifth century.In 1890 the patterns following concrete blockswere introduced or designed by Romen, Palmar in the United States. The design patterns in 1 are900 by Palmar after 10 years of experimenting.The gr and unitewere acquired from Bidadi. Granite fine content is 13% of sand particle size,72%of silt particle size, and 17.5% of clay particle size.As a care construction,the material in various forms of granite is widely used as an igneous rock Lots of waste strengthwas reduced in the granite industry. The granite density is between 2.44 to 2.67 g/cm3. Compressive strength was more than 150 Mpa.

II. EXPERIMENTA SETUP

Commonly used to make blocks of concrete is a mix of Portland cement, sand, gravel & water. This creates lite blocks with a fine texture of surface & compressive strength was high. Weight of concrete blocks 37-44 lb (16.3 - 20.2 kg).The concrete mix design used for making the blocks that are used for construction has a greater r percentage of sand & miner percentage of gravel, and water is added after the concrete mix is used for the making of hollow conc. blocks. When it's removed from the mold dry mixture holds its shape.

Cement- The (O.P.C.) ordinary Portland cement was used GRANITE FINES:- The granite fines were acquired from the limestone object. 2.9 was the specific gravity of granite fine & 0.33% was the average moisture

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LOWCOST WATER FILTER USING RICE HUSK ASH

Prof. Ashwini A. Hingankar[*1] , Pooja Bhalkar[*2], Poonam Lende[*3], Dhyaneshwari Nagose[*4], Rutuja Bakre[*5], Ketan Maskar[*6], Ishwar Rathod[*7], Sarthak Nande[*8]

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ABSTRACT

Rice husk is a biomass of polymers with abrasive hardness and higher adsorbing capacities. This work investigates the use of rice husks in the purification of Water. A filter is constructed using carbonized rice husk, and Water is filtered. Results show that this method is efficient for removing hardness, turbidity, toxic metals, etc. Also, the filter constructed offers an efficiency of 54 mL per second. The efficiency of adsorbing material shows that this method is economically feasible and eco-friendly. Rice husk can replace the synthetic adsorbing materials used in modern filters, which causes many health issues

Keywords: Column Filters, Filter pats, Rice Husk Ash (RHA), Water Quality Analysis

I. INTRODUCTION

Water, one of the most abundant resources, is one of the necessities to sustain life. Clean, safe, and pure drinking water is an absolute necessity for the well-being of human beings. Many countries, including India, are facing a scarcity of pure drinking water. Purification of Water gains much importance in Kerala after the 2018 flood. Even though there are many purification methods, Keralites are looking for low-cost filters. Also, the Periyar river, the second largest river in Kerala, has been polluted due to human activities like the discharge of domestic, natural, industrial, and agricultural waste, pesticides by farmers, leakage of radioactive materials, etc. Recent reports show that using an eco-friendly and low-cost filter in every house is essential. The project investigates the use of rice husks in the purification of Water. In Kerala, rice husk is considered waste with a high level of silica. It is difficult to reuse due to its negative characteristics like abrasiveness, resistance to degradation, etc. Among the various sources of silica, rice husk is considered valuable agricultural biomass material and a cost-effective resource that can provide biogenic silica for biomedical applications. Rice husk is a biomass of polymers with abrasive hardness and higher adsorbing capacities. They contain a higher quantity of lignin and 95% SiO2, responsible for their adsorbing capacities. It can be used for water filtration since it has a high external surface area and can trap up to 95% turbidity and bacteria in Water . The significant advantage of this project is that it is a novel water purification method and is simple, efficient, and economically viable. This method makes the purification of Water possible by following a green path. Turbidity, chemical contents, chlorine content, presence of metals, etc., are analyzed before and after Filtration. Rice husk is a potential source of amorphous silica, which has a variety of applications in material science, production of Portland cement, etc. Because of the high specific surface area and presence of activated carbon, they are good in imprisoning other impurities as well as substances such as Chlorine. This method can also be used for the purification and elimination of toxic components in the liquid and gaseous state and reactions of catalysis.The carbonized rice husk's physical and chemical properties vary with the temperature increase. When we increase

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DIGITAL CONSTRUCTION TECHNIQUES A REVIEW

Prof. Ashwini A. Hingankar*1, Prof. S. M. Shaikh*2, Deepak wane*3, Ashish bagde*4, Pratik Mendhe*5, Akash Mandavkar*6, Zishan Shaikh*7, Rehman Khan*8

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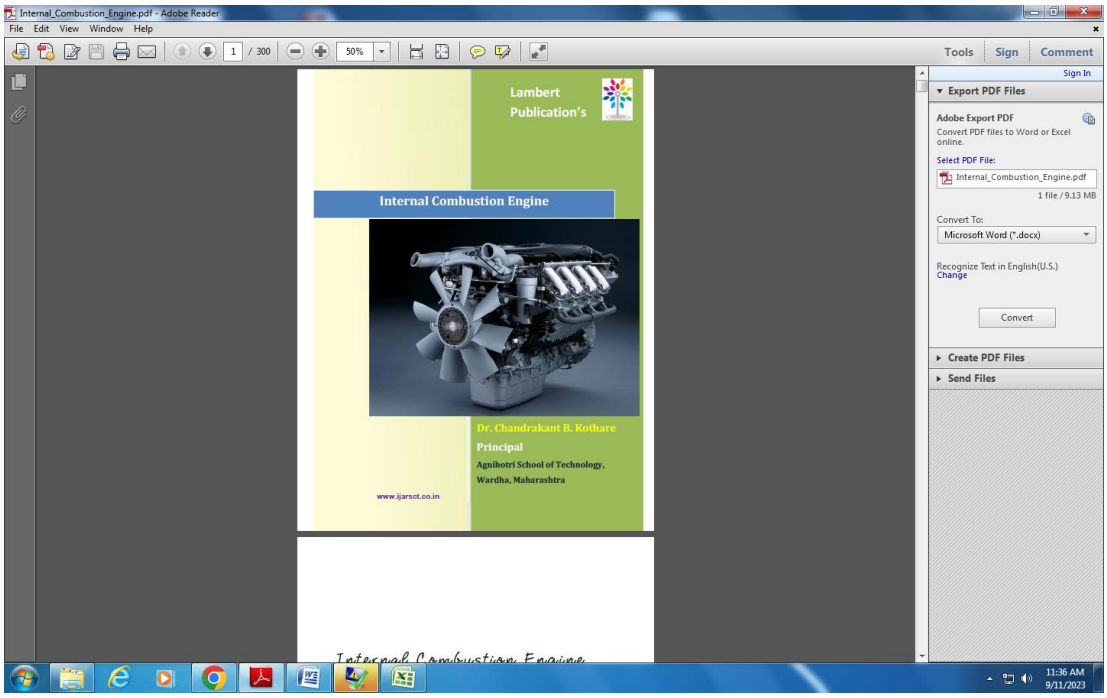
ABSTRACT

Through a systematic literature review we explore the concept of digital transformation in construction. Despite the increasing prevalence of digital technologies and their profound impact on the products and production of the built, such a systematic and longitudinal view of the evolution to the current status of digital transformation, does not exist. The paper contributes by improving our understanding of the current status of digital technologies and their impact of the built environment. The review analyses 3,091 titles and abstracts and 79 full papers. We find that 50% of the studies of the sampled literature on digital transformation were published after 2015. The paper also presents implications of digital transformation with regards to professionals, projects and organisations. Surprisingly, although most of the reviewed sampled studies examine the impact of digital transformation at a project level, the future recommendations and proposed remedies focus on organisational and ecosystem levels. Finally, future directions and suggestions for digital transformation in construction are discussed

keywords : Digital transformation, systematic literature review, innovation, organisations, projects,

I. INTRODUCTION

The construction industry is a large market for new technologies, including digital systems. The global construction technology market is estimated to be worth several billion dollars [1]. However, the process by which a technology is disseminated has been ignored in the building construction literature. The market analytics, including the technology diffusion process, is critical to manufacturers and innovators, and is frequently acknowledged in construction [2–5]. Understanding the details and sequences of the market and the process are important because the construction Buildings 2019, 9, 158 2 of 34 market is subject to booms and collapses. These fluctuations have a huge impact on the innovation process, including the equipment and tool manufacturers, particularly recently established vendors. Despite this, many business reports indicate that new technologies fail at a stunning rate of 40 to 90% [6,7] depending on the technology type [6–8] and due to lack of training, organisation policy, innovativeness of users, and complexity of the technology. These figures demonstrate that technology dissemination strategies, including different strategies of technology demonstration in the construction industry, are a significant phenomenon, which has been reflected in recent studies [2,9,10]. Sophisticated high technologies have been created in an attempt to offer technological solutions to increase safety and productivity and the complicated challenges facing today's construction industry. Previous research [4,11– 19] suggests that new technologies have a large beneficial effect on overall productivity, quality and safety in construction. However, the whole industry continues to be stagnant in technology adoption and the evidence shows that it is generally resistant to change [11,20–25]. For example, the empirical data from the Melbourne Institute of Applied Economics and Social Research [26] shows that the construction innovation index is always significantly lower than all other industries. For example, CAD technology was developed in the 1960s, but its adoption by construction companies mainly took place two decades later in the US, and much later in Asia and other countries. The technology adoption lag and risk aversion to utilising the technologies, which could be called the "adoption paradox", are due to many reasons such as the uniqueness of the technologies [27,28], the variability of vendors and companies' expertise, and the nature of the industry itself [29]. Prior research about technology adoption provides an abundance of theory and evidence regarding how technology is adopted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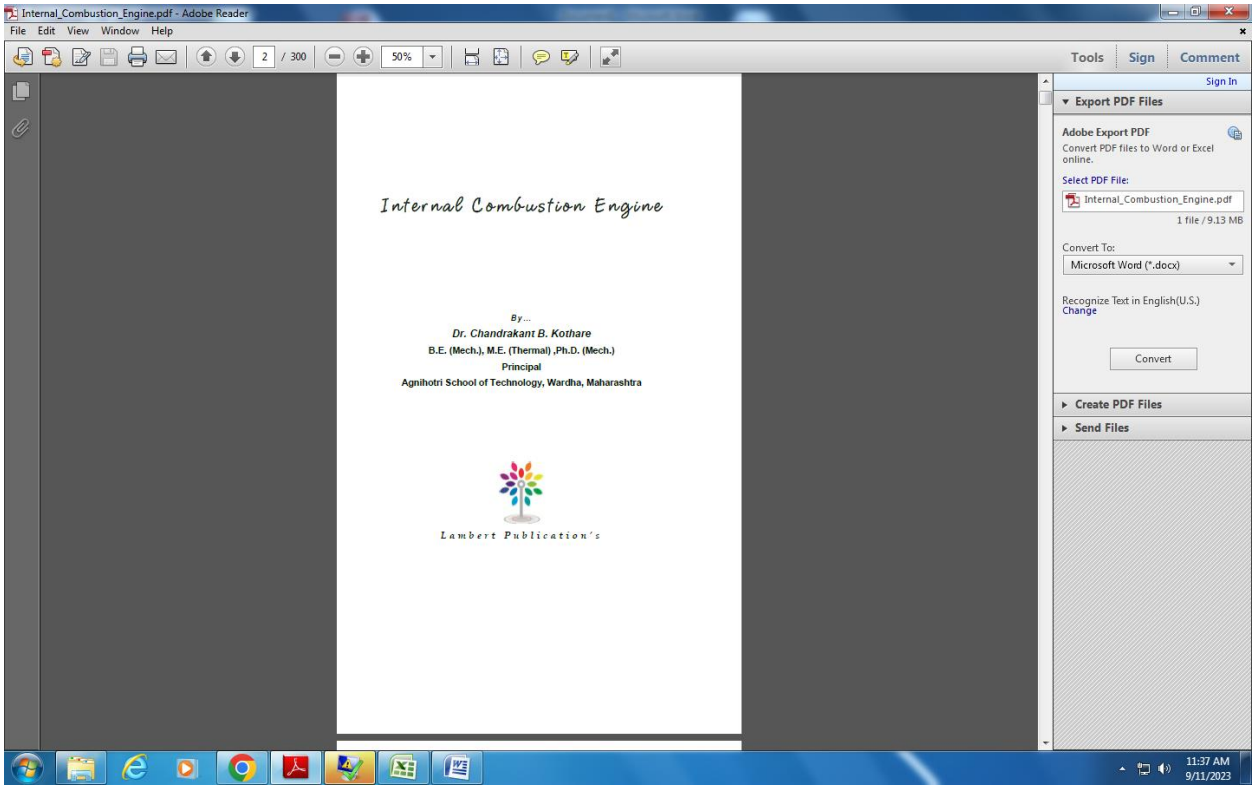
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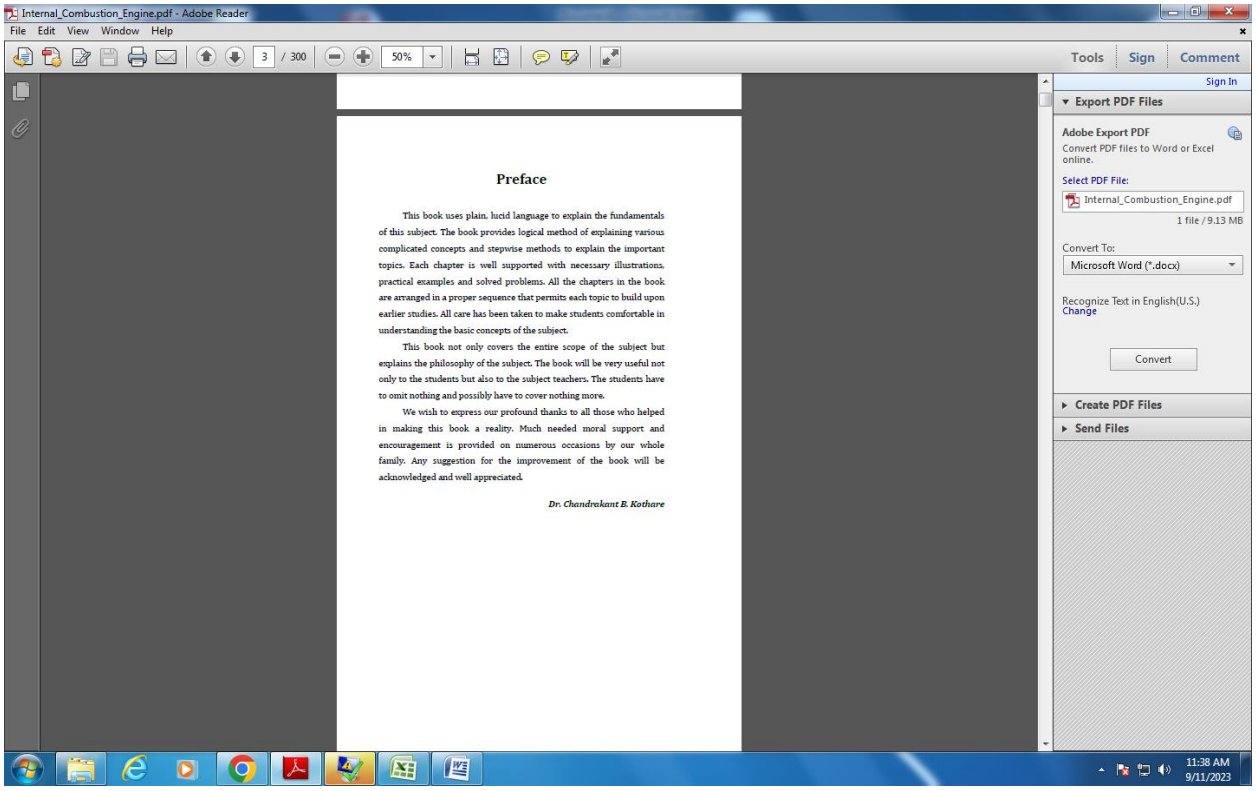

Preface

This book uses plain, lucid language to explain the fundamentals of this subject. The book provides logical method of explaining various complicated concepts and stepwise methods to explain the important topics. Each chapter is well supported with necessary illustrations, practical examples and solved problems. All the chapters in the book are arranged in a proper sequence that permits each topic to build upon earlier studies. All care has been taken to make students comfortable in understanding the basic concepts of the subject.

This book not only covers the entire scope of the subject but explains the philosophy of the subject. The book will be very useful not only to the students but also to the subject teachers. The students have to omit nothing and possibly have to cover nothing more.

We wish to express our profound thanks to all those who helped in making this book a reality. Much needed moral support and encouragement is provided on numerous occasions by our whole family. Any suggestion for the improvement of the book will be acknowledged and well appreciated.

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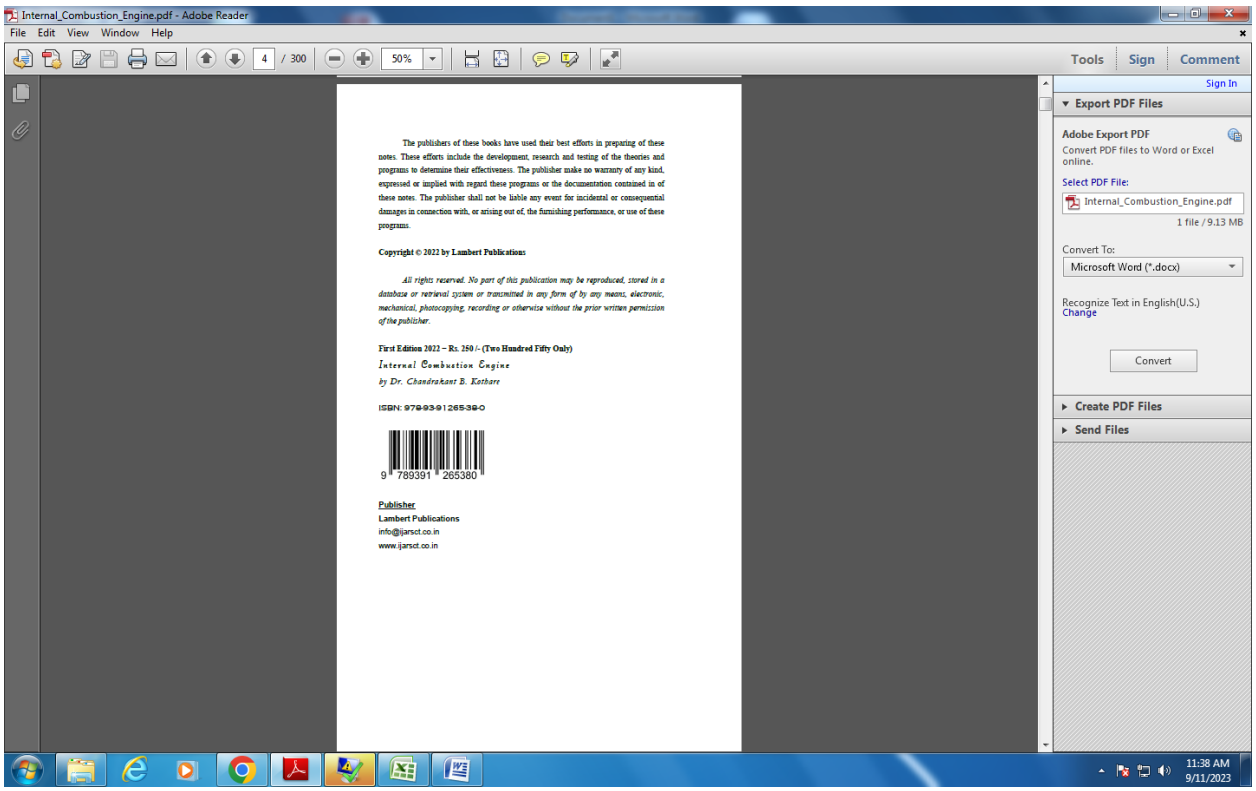

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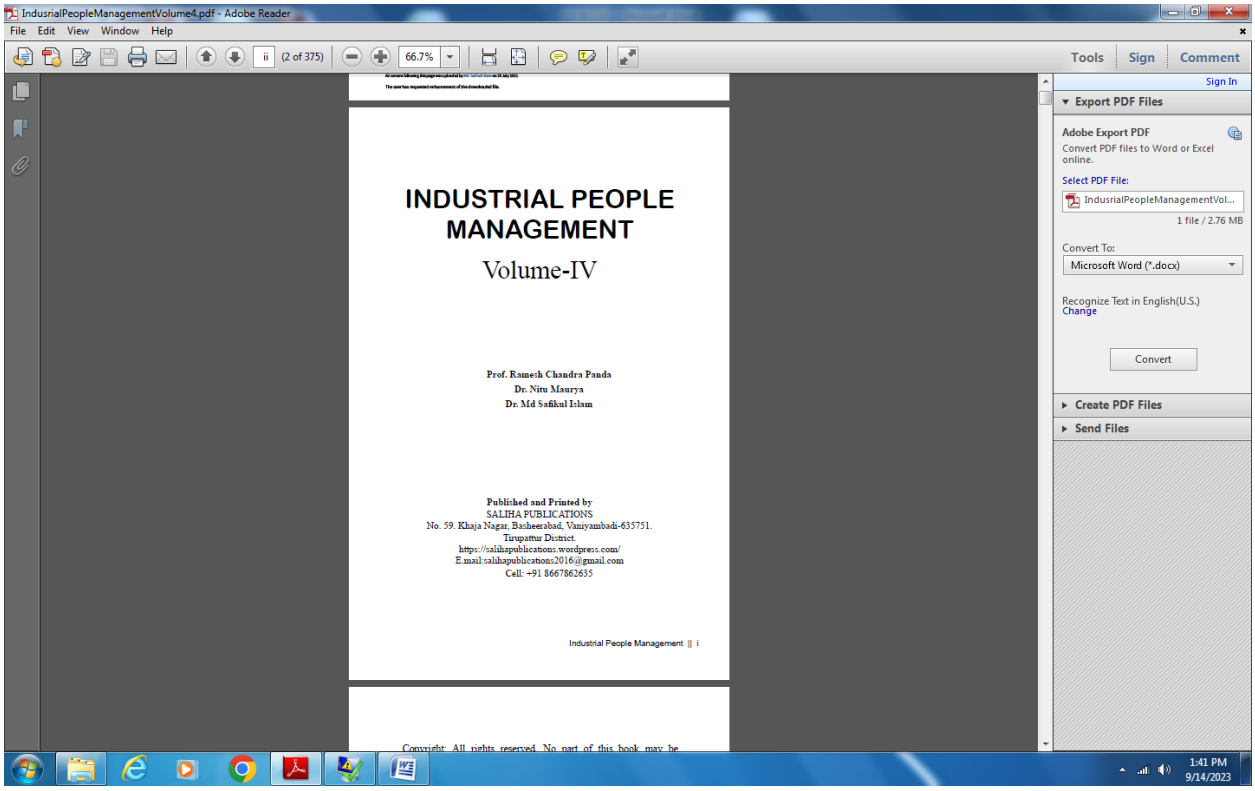
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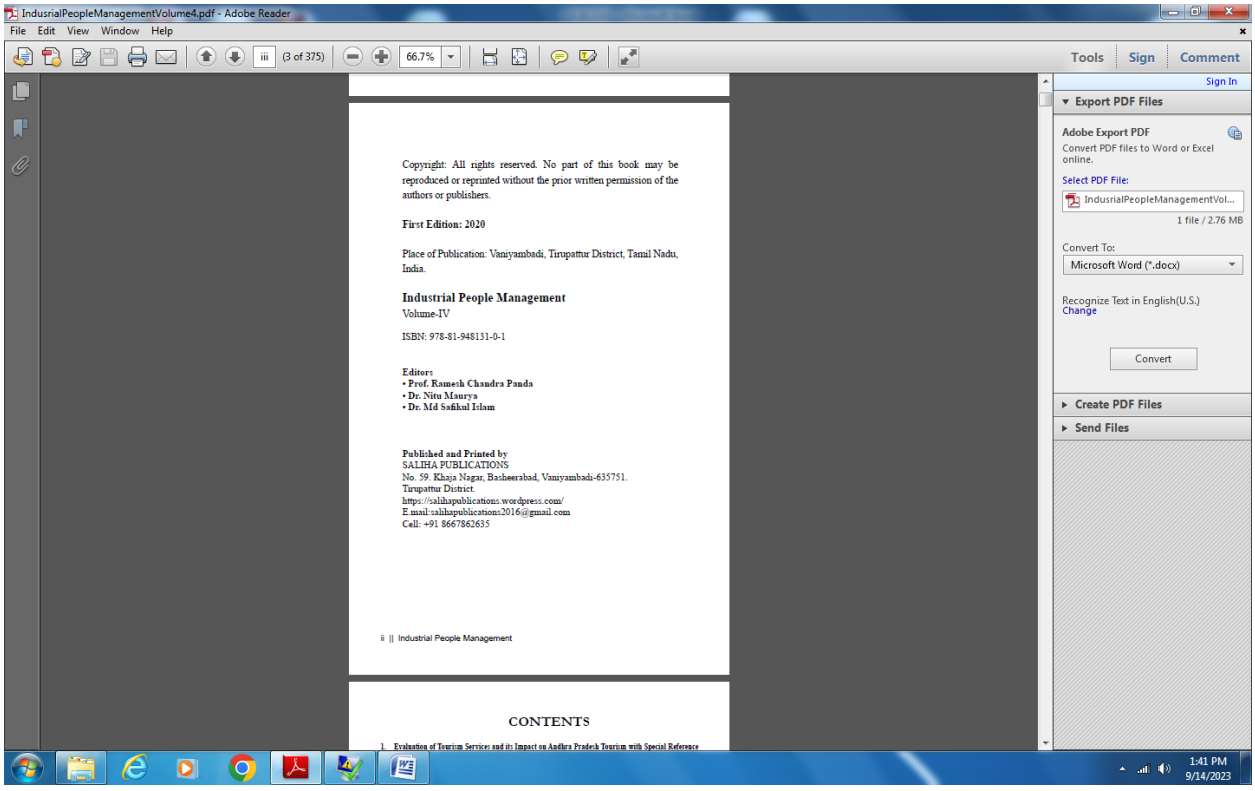
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DR. MEGHASHAM NARAYANRAO NARULE

INNOVATIVE CHEMISTRY FOR MANKIND

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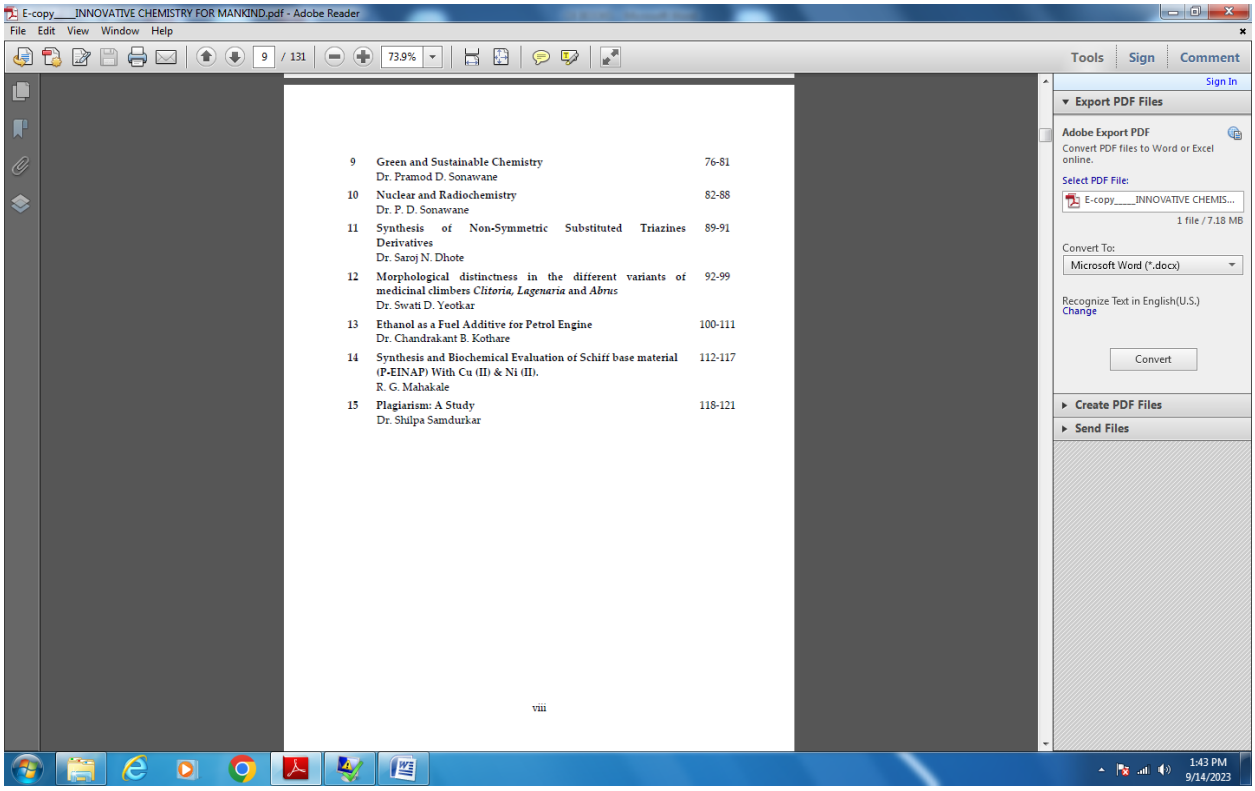

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IOT BASED SMART FARMING SYSTEM USING NODEMCU8266 AND ATMEGA328P

Dr. R. M. Tugnayat[*1], Prof. Imran Khan[*2], Prof. Sagar G. Taiwade[*3], Rutvika R. Chaudhary[*4], Shantanu B. Pathak[*5], Suraj S. Khot[*6], Punamgauri N. Deobansi[*7], Vipin S. Thul.[*8]

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ABSTRACT

India is mainly an agricultural country. Water is the main resource for Agriculture. Currently, agriculture accounts for 83% of the total water consumption in India. By using various smart agricultural equipment, farmers have gained an upper hand over the process of raising livestock and growing crops. This paper proposes a based on IOT smart farming system. This paper's main role is making use of developing technology IoT and smart agriculture using automation. In this system water availability to crops is monitored through sensors and as per need watering is done through controlled irrigation. This project narrates how irrigation can be handled smartly using IoT. In this proposed system we are using various sensors like soil moisture sensor, temperature and humidity sensor, motion, rainwater sensor which senses the various parameters of the soil and measures the exact moisture level in the soil. The main aim of this project is to control the water supply and monitor the plants through a Smartphone. This paper's aim is to a cost-effective irrigation system. With the help of our project describes how irrigation can be handled using IoT.

Keywords: Internet Of Things (IOT), Smart Irrigation, Soil Moisture Sensor, Temperature And Humidity Sensor, Motion And Rainwater Sensor.

I. INTRODUCTION

Irrigation plays an important role in agriculture. Smart irrigation means not only consuming less water it also providing water supply depending on the requirement. The IoT system has also recently given a strong imposing on agriculture. The IoT is a key element for the integration of scalable systems such name as software and hardware, cost-effective, self-sustainable, and smart decision for smart farming. So, the automatic irrigation system is needed because it is a very simple and easy to control system. It can also avoid human errors. The proposed system will allow farmers to continuously monitor the moisture level in the farm and control the system using the Blynk app over the internet. When moisture goes below a certain level then the sensor senses the data on the app. There are four sensors are used such as soil moisture, raindrop sensor, temperature and humidity sensor, motion sensor, the main part is the ESP8266 Nodemcu Microcontroller in this project. By using Internet (IoT) technology and sensor network technology we can control wastage. The aim of this smart farming system is that it gives an update of crops and warns the farmer before any kind of unfavourable position on the farms.

II. LITERATURE REVIEW

The researchers have used different ideas depending on the condition. This system developed automated irrigation or smart farming for the farmer based on a sensor network. This system continuously monitors the parameters of temperature, humidity, and moisture of the soil. Agriculture does not only depend upon the management of resources but also the health of the plant plays an important role here. This system provides a real-time monitoring setup that enables the farmer to monitor the farm crops 24 on 7 with the help of sensors used in a system and take quick action accordingly to the environment. Similar to this paper monitories of various parameters such name as water, soil moisture, temperature, humidity is an effective ways of maintaining an agricultural system. This study proposes a good technique for smart farming by linking smart sensing and irrigation system through wireless communication technology or IOT Technology. It is a low-cost and efficient sensor network technique to receive the soil moisture, humidity and temperature sensors, etc. from various locations of the fields and as per the need. The study also suggests an idea about how to automated irrigation system was developed to better water use for agricultural purposes.

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ONLINE VOTING SYSTEM USING CLOUD COMPUTING

Prof. D.B. Dandekar*1, Girish Umratkar*2, Pranali Manwar*3, Sneha Sute*4, Zain Ansari*5, Hamza Khan*6, Baseer Ansari*7, Bhuvanesh Joshi*8

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ABSTRACT

In this investigation work. Voting is commonly related to politics and is finished with often taking advantage and manual approach where voters stand to vote for his or her decisions. In the new era of advanced technology where online system improve work speed, reduces mistakes and encourage the generation of accurate results, having manual election system becomes a misfortune. A public election system add up to the backbone of a democracy where the people have to elect their state's leader. India currently uses a manual election system, which source several kinds of problems. Due to this papape tally ased election system, some problems are faced by voters before or during elections and others are faced by the management before and after the voting. An online system, which involves procedures like booking voters, vote casting, vote counting, and declaring results would constitute a good solution to replace current system and put forward system in this thesis will be helpful for the voters by using any resources like their own system or arranged by executive. Moreover, the put forward stem will also decrease the risk for corruption. The system is put forward after interviewing officials of two departments, the Nation Database and Registration Authority India (NADRA) and the Election task of India (ECP). NADRA has an online archive of the citizens of India, and is providing the Computerized National Identity Cards (CNIC) and also hold up different organizations with their online system. So, by using NADRA's system it becomes easy to register all voters of the age 18 or above, and furthermore to verify and secure their data. Our system is also provide with a chat bot that works as a support or guide to the voters, this helvps the using the voting process.

I. INTRODUCTION

In the new period of trend setting innovation where online framework supports work an incident Introducing new technology is always a complex undertaking, and has many different aspects. These aspects are partly technical, partly social, political, organization and legal, and partly behaviour. This is also the case for information and communication technologies, and we see the study of these dimensions in various disciplines. In most cases, the research then aims at bringing forward practical knowledge about design, development and implementation of ICT's, and at the same time at contributing to the theoretical knowledge of the discipline involved. As a sequel, multidisciplinary research is the characterisation of the social research related to technological change, and this paper is not different. of the aims our study has is to inform practical development and use of ICT's for politics, but also to learn fundamental things within the disciplines involved. Here we focus on one of the important dimensions, that is the role of social and socio-psychological factors. Experiments with Internet technology in real life situations may inform us about various things, all studied by different disciplines. However, taking the design, the development, the implementation and the use of new technologies as point of departure, all these disciplinary approaches in studying Internet voting should inform the designer. . This is what we call 'design oriented research', in which we try to produce results that inform the scholarly debates as well as the practical discourse. In the research project on which this paper is based, these many things are in fact done: first of all designing and building a prototype. Secondly, testing the automation in real situations; experimenting with the 2 prototyoe in order to find out One political, organizational, administrative, legal contains. And finally, experimenting with the prototype in order to learn about the acceptance, use, usability, evaluation, trust by the individual voter, and the implications for the vote.

II. LITERATURE REVIEW

Distributed computing is make use for information putting away in circulated condition and these information can be gotten to effectively from anyplace whenever. E Voting can be consideration of as Good Governance in India. Current E-Voting substructure has a few issues of including votes, fraud in making sham votes and pool of

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security. In any case, to settle such issues give out computing offers quantities of chances, yet the development of distributed computing advances are still at diaper days organize. In this paper, we speak to the general still at diaper days organize. In this paper, we speak to the general of distributed computing, survey of various techniques make use for cloud based E-Voting framework over the aadhar card, SMS and Traditional System. The primary point of this paper is to find the difficulties looked in current E-Voting framework and protection issues, which are vital part of EVoting, As mentioned by Ms.Bhargabi Jadav and Ms.Aneri Desai.

2.1 Background

This is a structurethat can be used by user to cast vote in an election. All the voters have to login and click on cast vote to his/her select candidates to submit his/her vote. An anyasis development and testing are done on LAN. On other hand online voting software is been an analysis for many years, researched cases of wrong

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AN IOT BASED SMART WATER MANAGEMENT SYSTEM WITH QUALITY MONITORING

Kiran P.Chichate[1],Rashmi D. Talewar [2], Snehal H. Lajurkar[3], Monika R. Esampelli [4], Pooja R. Khawshi[5] , Prof. Anuprita P. Linge[6] *[1]Department of electronics and telecommunication Engineering, SSPACE,Wardha, 442001,(M.S),India, kiranchichate123@gmail.com*

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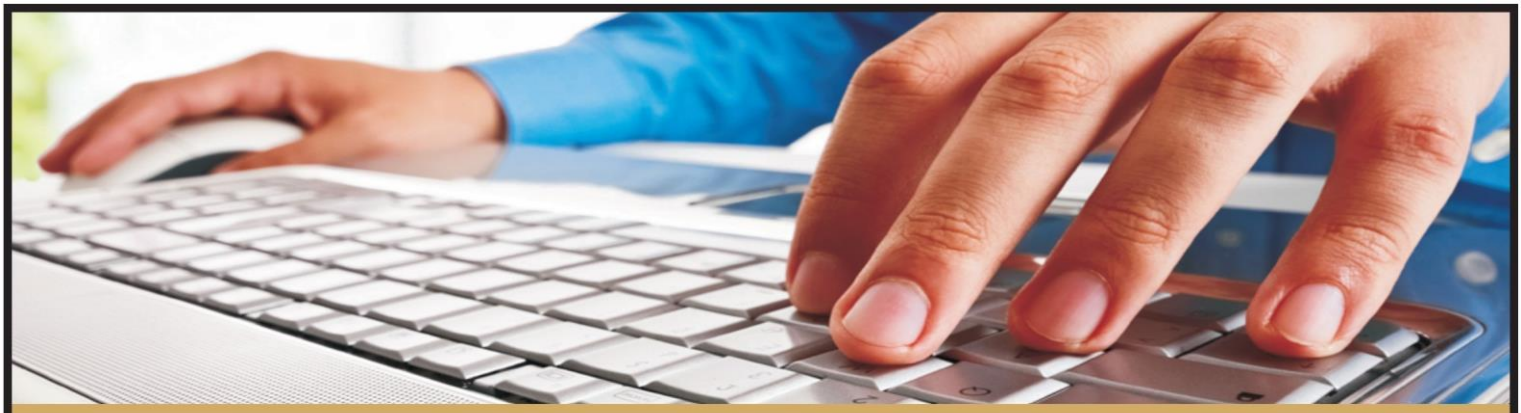
ABSTRACT

In order to ensure the safe supply of the drinking water the quality needs to be monitor in real time. In this paper we present a design and development of a low cost system for real time monitoring of the water quality in IOT(internet of things).The system consist of several sensors is used to measuring physical and chemical parameters of the water. The parameters such as temperature, PH, turbidity, flow sensor of the water can be measured. The measured values from the sensors can be processed by the core controller. The Arduino model can be used as a core controller. Finally, the sensor data can be viewed on internet using WI-FI system. The general objective of this project is to design the monitoring and control system of industrial parameters using IOT. This project is used to reduce the high manpower requirement in industries by monitoring the overall parameters through a single mobile by with the help of IOT communication. And also controls the parameters without any manual operation. Basically, this project is designed with microcontrollers and various sensors such as pressure sensor, temperature sensor and level sensor.

Keywords: *IOT, Arduino module, Flow sensor, PH sensor, Turbidity sensor, Temperature sensor, Ultrasonic sensor, WI-FI system*

1. INTRODUCTION

In the 21st century, there were lots of inventions,Water is an important resource for life and its existence. Nowadays, due to increase in migration from a rural area to urban areas, the population in cities is increasing rapidly. To meet the need of water, its distribution and quality check, a novel approached is proposed which is based on



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1. Utilization of Geotextile in Civil Engineering Work's

AUTHOR NAME : Aparna V. Kose, Mohini N. Sonone, Mayuri D. Meshram, Somu S. Gondule, Vaibhav S. Zade, Aniket N. Tajane, Prof. Shrikant R. Nagoshe

ABSTRACT : Geotextiles from part of a geosynthetic materials use in civil, environmental, agriculture engineering geotextile materials have four main functional applications that include: separation, filtration, drainage, and reinforcement. Technical textiles have diverse products which will lead the future world market and researchers from various fields of science and engineering will work together for the development of these textile materials. There is also a need for awareness about other areas where geotextiles can function one of such areas is the prevention of moisture evaporation from the soil in agriculture.

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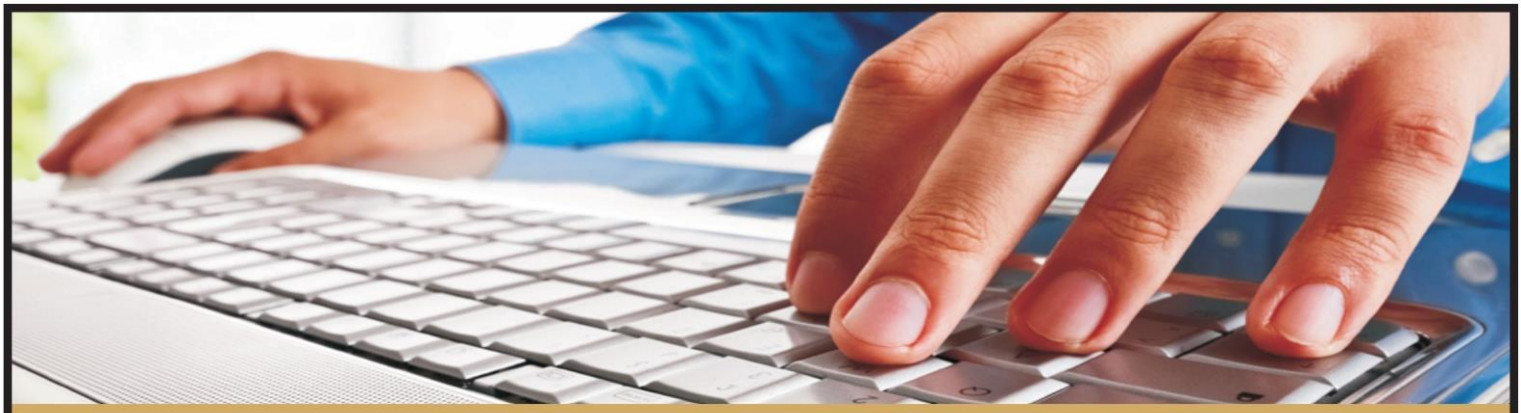
ABSTRACT

Geotextiles from part of a geosynthetic materials use in civil, environmental, agriculture engineering geotextile materials have four main functional applications that include: separation, filtration, drainage, and reinforcement. Technical textiles have diverse products which will lead the future world market and researchers from various fields of science and engineering will work together for the development of these textile materials. There is also a need for awareness about other areas where geotextiles can function one of such areas is the prevention of moisture evaporation from the soil in agriculture.

1. INTRODUCTION

Geotextiles are permeable fabrics that when used in association with soil has the ability to separate filter, reinforce, protect or drain typically made from polypropylene or polyester geotextiles fabrics come in a three basic woven (resembling male back sacking) needle punched (resembling felt) or heat bonded (resembling ironed felt)

Geotextile composites have been introduced and products such as geogrids and meshes have been developed Geotextiles are durable and are able to soften a fall in a someone falls down overall this material is referred to as a geosynthetic and each configuration geo nets geosynthetic clay liners geo grid geotextiles tubes and others can yield benefits in a geotechnical and environmental engineering design the most popular



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coarse aggregate weight were 0, 12.5, 25, 37.5, and 50. The compressive strength of blocks was tested for 7, 14, and 28 days. The test results indicate the replacement of coarse aggregate with granite fines has a beneficial effect on mechanical properties such as compressive strength. The hollow concrete blocks made with 1:2:4 mix proportion using 25% granite fines replacement with coarse aggregate gave optimum compressive strength of 7.85 N/mm2. Based on the results of this research work it can be concluded that High Strength and High-performance Hollow Concrete Blocks can be manufactured by using the Granite fines as an additive.

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6. Utilization of Industrial Waste in Pervious Concrete

AUTHOR NAME : Anand W. Kale, Shruti K. Sontakke, Chanchal G. Talwekar, Moreshwar A. Khadse, Shravan A. Dasarwar, Virag S. Hiwarkar, Prof. Shrikant R. Nagoshe

ABSTRACT : In precast concrete, the amount of fine aggregate is small or not at all aggregate as good as sand, hence the so-called "No fine or thin concrete". This study reveals the impact of cement when changing Fly ash and slag mixed with various sizes of solid aggregate in continuous concrete materials such as compressive strength, water permeability, water absorption, and porosity. The water content of cement is 0.34 and the cement to coarse aggregate ratio is 1: 3 The thickness of the solid aggregate used is 10 mm and 20 mm. The cement used is OPC 53 range and the cement content is estimated to be 300 kg / m3. To test the compressive strength the full concrete cubes of 150mm * 150mm * 150mm are prepared and the investigation should be carried out over a period of 3 days, 7 days, and 14 days. Cubes size 100mm * 100mm * 100mm and cylinders size 100 mm dia. A length of 200mm is thrown to check the water penetration, water absorption, and Porosity. The result shows that the compressive strength of 20% filled concrete instead of fly ash and slag was more than 5 to 15% of the conversion. Collaborative interaction with accessibility and content was found to be the same for both size sizes.

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7. A Study of Flat Slabs Using Different Shear Reinforcement Parameters

AUTHOR NAME : A. V. Kohad, R. D. Ghasad, R. R. Thakare, Prof. V. B. Shriramе

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Utilization of Industrial Waste in Pervious Concrete

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ABSTRACT

In precast concrete, the amount of fine aggregate is small or not at all aggregate as good as sand, hence the so-called "No fine or thin concrete". This study reveals the impact of cement when changing Fly ash and slag mixed with various sizes of solid aggregate in continuous concrete materials such as compressive strength, water permeability, water absorption and porosity. The water content of cement is 0.34 and the cement to coarse aggregate ratio is 1: 3 The thickness of the solid aggregate used is 10 mm and 20 mm. The cement used is OPC 53 range and the cement content is estimated to be 300 kg / m3. To test the compressive strength the full concrete cubes of 150mm * 150mm * 150mm are prepared and the investigation should be carried out over a period of 3 days, 7 days, and 14 days. Cubes size 100mm * 100mm * 100mm and cylinders size 100 mm dia. A length of 200mm is thrown to check the water penetration, water absorption, and Porosity. The result shows that the compressive strength of 20% filled concrete instead of fly ash and slag was more than 5 to 15% of the conversion. Collaborative interaction with accessibility and content was found to be the same for both size sizes.

1. INTRODUCTION

Conventional Portland cement concrete is generally used for the construction of pavements. The concrete pavement has impervious nature which has low permeability and due to that causes an increase in water runoff into the drainage system occurs and which causes flooding in built-up areas. Pervious concrete has become popular in recent decades, because of its potential to reduce environmental issues. Pervious concrete is a type of concrete with high water permeability and high void content which allows water to precipitate through it and reduces the runoff from that area and recharges the groundwater levels. Pervious concrete is also called "porous concrete", "no-fine concrete" and "gap graded concrete" Pervious concrete is a special type of concrete that has high porosity and consists of cement, coarse aggregate, admixtures, water, and cementitious material if necessary. In

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STUDY OF DRYING KINETICS AND DETERMINATION OF THERMOMECHANICAL PROPERTIES OF DRAGON FRUIT

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ABSTRACT

Dragon fruit (Hylecereus polyhizus) is well known for the rich nutrient contents and it is commercially available worldwide for improving many health problems. Several studies show the proximity value of red pitaya and white pitaya fruits but the nutrient composition of the stem has not been extensively studied. This study was carried out to measure the proximate analysis of moisture content, Moisture Ratio, Drying Rate of dragon fruit. As well as calculate Thermal Conductivity. The dried powder was produced from the stem of dragon fruit and the proximate analysis of dragon fruit stem was compared between sunlight drying process and drying oven process.

Keywords: Hylecereus Polyhizus, Red Pitaya, Drying Kinetics.

I. INTRODUCTION

Dragon fruit or red pitaya belongs to the Cetacea family from the subfamily Cestoidean of the tribe Cactus. Hylocereus polyrhizus is a small fruit climbing cactus that has received world-wide recognition as an ornamental plant for its large, scented, night-blooming flowers. The red skin fruit weighed up to 1kg has translucent dark-red flesh considered as a rich source of nutrients and minerals such as vitamin B1, vitamin B2, vitamin B3 and vitamin C, protein, fat, carbohydrate, crude fibre, flavonoid, thiamine, niacin, pyridoxine, cobalamin, glucose, phenolic, betacyanin's, polyphenol, carotene, phosphorus, iron and Phyto albumin. The rehydration ratio can be considered as a measure of the injuries caused by the processing and drying to the material.

Knowledge of the thermal, physical and mechanical properties of food stuff such as specific heat, thermal conductivity, density, puncture force, toughness has significant importance to the food processing industry given a recent demand for foods that maintain their original quantity. Heat and mass transfer are a complex problem, due to this above property of food material are important, these properties change during drying. Hence it is essential to experimentally determine these parameters and their variation during the drying process.

II. RESEARCH GAP

After visiting, reviewing various research paper following research gap is Identified.

1) Most of the percentage of dragon fruit are spoiled due to lack of processing equipment's and storage facility.
2) Mechanical properties are required to know to develop post-harvest equipment.
3) Self-life of dragon fruit is small because of high moisture content.
4) Most of the attempts are made by various research investigate thermal properties of fruits like banana, apple, orange, meat, fish, etc. but no researcher determined thermal properties of dragon fruits.

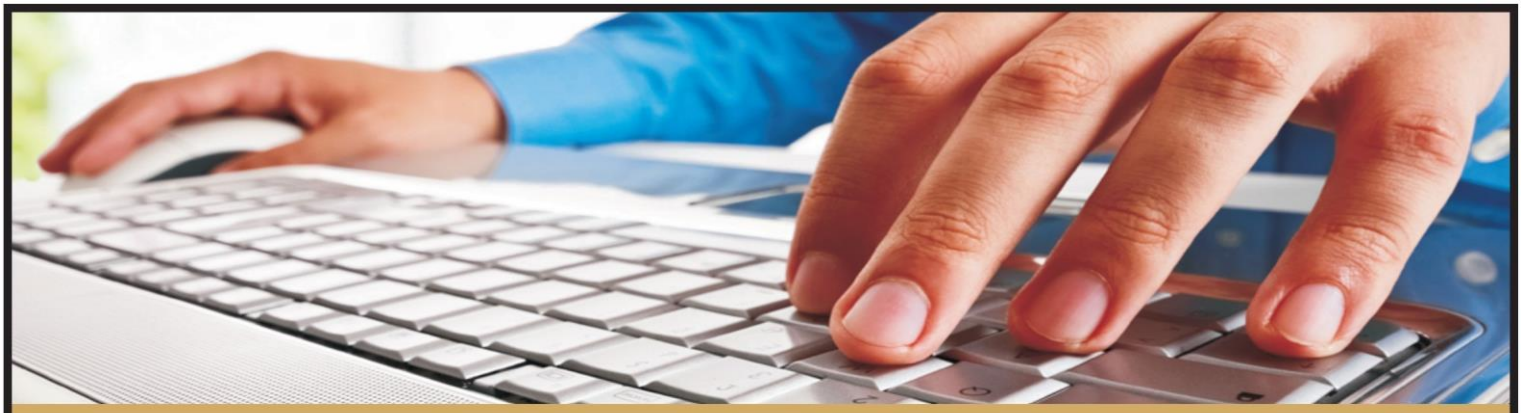
III. METHODOLOGY

Determination of Physicochemical Properties

1. Moisture Ratio

Moisture ratio is the ratio of the moisture content at any time, t to that of the initial moisture content of the sample. Therefore, it has no unit. Well, Drying ratio should be the ratio of the final weight of dried samples to its initial weight.

$$\mathbf{MR} = \frac{\mathbf{Mdi} - \mathbf{Mde}}{\mathbf{Mdo} - \mathbf{Mde}}$$



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ABSTRACT : This research investigates the effects of the waterproofing admixture Penetron Admix on the fresh and hardened properties of structural concrete and assesses whether the product is suitable for use on construction projects. Many tests were conducted by the researchers by using a grade 25 control mix containing different percentages of admixtures and keeping the water content ratio constant. The results showed that Penetron Admix enhanced the properties of the concrete. Even with the small percentage increase of 0.8% dosage, there was an increase in compressive strength of 15%. The results of 28 days of curing period were significantly more than 7 days of curing for compressive strength. At a standard dosage of 0.8% increase in compaction, a factor was observed in the range of 0.92-0.98 for compaction factor value. Permeability was decreased by 79% with the standard dosage of 0.8was an increase in compressive strength of 15%. The results of 28 days of curing period were significantly more than 7 days of curing for compressive strength. A higher dosage was even more beneficial for the strength, but with a higher dosage, the cost of the concrete will also increase. An increase in workability was also observed with 2% use of admixture and the initial setting time was increased by 30 minutes and the final setting time was increased by 1 hour. At a standard dosage of 0.8% increase in compaction, a factor was observed in the range of 0.92-0.98 for compaction factor value. Permeability was decreased by 79% with the standard dosage of 0.8.

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5. Operation and Maintenance of Sewage Treatment Plant

AUTHOR NAME : Madhukar B. Patil, Nitin A. Bawane, Krishnakant D. Thakare, Rajesh D. Thakare, Ajay R. Kamble, Prof. Tushar W. Parate

ABSTRACT : Sewage treatment is a type of wastewater treatment that aims to remove contaminants from sewage to produce an effluent that is suitable for discharge to the surrounding environment or an intended reuse application, thereby preventing water pollution from raw sewage discharges. Sewage contains wastewater from households and businesses and possibly pre-treated industrial wastewater. There are a high number of sewage treatment processes to choose from. These can range from decentralized systems to large centralized systems involving a network of pipes and pump stations, which convey the sewage to a treatment plant for cities that have a combined sewer, the sewers will also carry urban runoff to the sewage treatment plant. Sewage treatment often involves two main stages, called primary and secondary treatment, while advanced treatment also incorporates a tertiary treatment stage with polishing processes and nutrient removal. Secondary treatment can reduce organic matter from sewage, using aerobic or anaerobic biological processes.

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Operation and Maintenance of Sewage Treatment Plant

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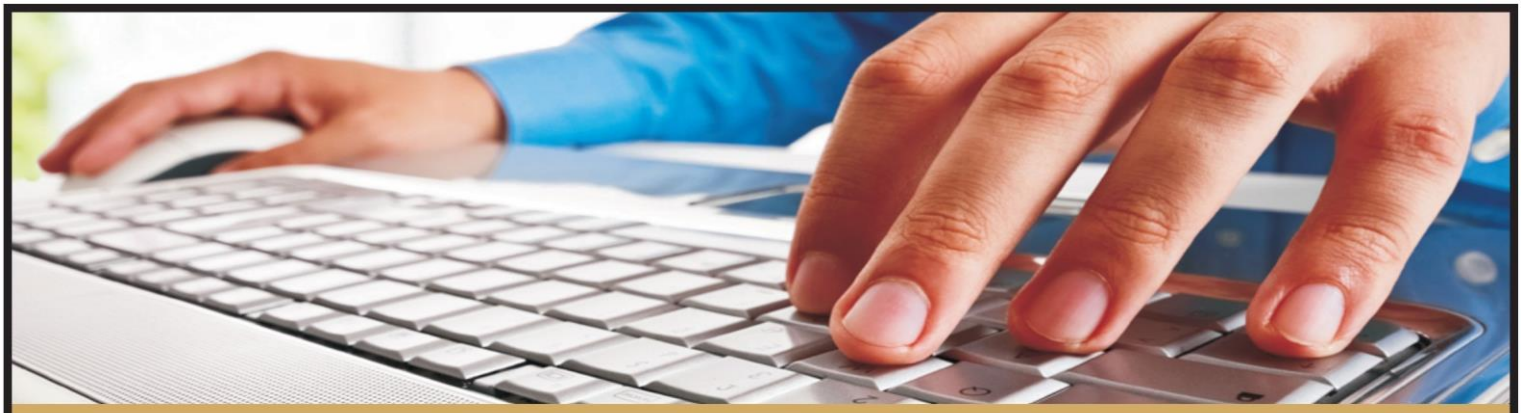
ABSTRACT

Sewage treatment is a type of waste water treatment which aims to remove contaminants from sewage to produce an effluent that is suitable for discharge to the surrounding environment or an intended reuse application, thereby preventing water pollution from raw sewage discharges. Sewage contains wastewater from households and businesses and possibly pre-treated industrial wastewater. There are a high number of sewage treatment processes to choose from. These can range from decentralized systems to large centralized systems involving a network of pipes and pump stations, which convey the sewage to a treatment plant for cities that have a combined sewer, the sewers will also carry urban runoff to the sewage treatment plant. Sewage treatment often involves two main stages, called primary and secondary treatment, while advanced treatment also incorporates a tertiary treatment stage with polishing processes and nutrient removal. Secondary treatment can reduce organic matter from sewage, using aerobic or anaerobic biological processes.

1. INTRODUCTION

This Operation and Maintenance (O&M) is the basic reference for the operation and maintenance of the equipment and processes that comprise the Central Facilities Area (CFA) Sewage Treatment Plant (STP) at the Site. The manual is required by the facility's Municipal Wastewater Reuse Permit. Managers, operators, and maintenance personnel use this manual and associated company and equipment manufacturer's procedures to operate the STP in support of CFA activities and permit requirements. The Laboratory Instructions (LI) listed below provide additional step-by-step instructions for operating specific components of the STP and laboratory equipment are prepared and cancelled as needed to provide directions for operating and maintaining STP equipment.

The CFA STP has been designed to effectively treat raw wastewater by biologically digesting the majority of the organic waste and other major constituents, thereby producing a treated wastewater suitable for reuse via land application.



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reusing of PET bottle containers represents a potential risk of being changed to a cancer-causing material and just a little measure of PET bottles is being reused. Thus these Polyethylene terephthalate (PET) bottles are cleaned and included with fine total (sand) at different ratios (1:2, 1:3, 1:4) to acquire high-quality brick blocks that have warm and sound protection properties to control contamination and to decrease the general expense of development, Thus this sort of brick blocks are ideally utilized for underground septic tank construction, submerged constructions, and underground construction like passages and furthermore utilized for the substructure of the buildings so as to oppose the leakage of the water on account of less water absorption limit and furthermore have a high compressive quality which opposes the substantial basic burdens.

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5. Evolution of Hollow Concrete Block by using Granite Fine

AUTHOR NAME : R. R. Padole, S. A. Nagtode, K. B. Kosamkar, C. T. Alone, Prof. Tushar W. Parate

ABSTRACT : Solid waste management including the granite fines has become one of the major environmental concerns in the world. With the increasing awareness about the environment, scarcity of land-fill space, and due to its ever-increasing cost, waste materials and by-product utilization like granite fines have become an alternative to disposal. In this work, we have highlighted some aspects concerning the use of granite fines in various proportions in the manufacture of hollow concrete blocks. In this high performance. Hollow blocks are manufactured of size 400mm x 200mm x 200mm utilizing granite fines as an additive. This granite fines waste can be utilized for the preparation of concrete as a partial replacement of coarse aggregate to improve the workability of concrete due to the exorbitant hike in the price of coarse aggregate and its limited availability. The percentages of granite fines added by weight to replace coarse aggregate weight were 0, 12.5, 25, 37.5, and 50. The compressive strength of blocks was tested for 7, 14, and 28 days. The test results indicate the replacement of coarse aggregate with granite fines has a beneficial effect on mechanical properties such as compressive strength. The hollow concrete blocks made with 1:2:4 mix proportion using 25% granite fines replacement with coarse aggregate gave optimum compressive strength of 7.85 N/mm2. Based on the results of this research work it can be concluded that High Strength and High-performance Hollow Concrete Blocks can be manufactured by using the Granite fines as an additive.

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Evolution of Hollow Concrete Block by using Granite Fine

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ABSTRACT

Solid waste management including the granite fines has become one of the major environmental concerns in the world. With the increasing awareness about the environment, scarcity of land-fill space, and due to its ever-increasing cost, waste materials and by-product utilization like granite fines have become an alternative to disposal. In this work, we have highlighted some aspects concerning the use of granite fines in various proportions in the manufacture of hollow concrete blocks. In this high performance, Hollow blocks are manufactured of size 400mm x 200mm x 200mm utilizing granite fines as an additive. This granite fines waste can be utilized for the preparation of concrete as a partial replacement of coarse aggregate to improve the workability of concrete due to the exorbitant hike in the price of coarse aggregate and its limited availability. The percentages of granite fines added by weight to replace coarse aggregate weight were 0, 12.5, 25, 37.5, and 50. The compressive strength of blocks was tested for 7, 14, and 28 days. The test results indicate the replacement of coarse aggregate with granite fines has a beneficial effect on mechanical properties such as compressive strength. The hollow concrete blocks made with 1:2:4 mix proportion using 25% granite fines replacement with coarse aggregate gave optimum compressive strength of 7.85 N/mm2. Based on the results of this research work it can be concluded that High Strength and High-performance Hollow Concrete Blocks can be manufactured by using the Granite fines as an additive.

1. INTRODUCTION

A. Hollow Concrete Block's

A concrete block is primarily used as a building material in the construction of walls. It is sometimes called a concrete masonry unit (CMU). A concrete block is one of several precast concrete products used in construction. The term precast refers to the fact that the blocks are formed and hardened before they are brought to the job site. Most concrete blocks have one or more hollow cavities, and their sides may be cast smooth or with a design. In use, concrete blocks are stacked one at a time and held together with fresh concrete mortar to form the desired length and height of the wall.

Concrete mortar was used by the Romans as early as 200 B.C. to bind shaped stones together in the construction of buildings. During the reign of the Roman emperor Caligula, in 37-41 A.D, small blocks of precast concrete were used as a construction material in the region around present-day Naples, Italy. Much of the concrete technology developed by the Romans was lost after the fall of the Roman Empire in the fifth

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CASE STUDY ON SELF-HEALING CONCRETE BY USING BACTERIA

Vaibhavi A. Chudiwale[*1], Kavita O. Panditkar[*2], Mangesh G. Korwate[*3], Imran M. Ninsurwale[*4], Shahid K. Pathan[*5], Prof. Tushar W. Parate[*6]

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ABSTRACT

Cracks Conformation is veritably common miracle in concrete structure which allows the water different type of chemical into the concrete through the cracks and decreases their continuity, strength and which also affect the underpinning when it comes in contact with water. For repairing the cracks developed in the concrete, it requires regular conservation and special types of treatment which will be veritably precious. So, to overcome from this problem independent tone- mending medium is introduced in the concrete which will help to repair the cracks and pores in the concrete. The bacteria present in tone- mending concrete improves the structural parcels similar as tensile strength, water permeability, continuity and compressive strength. This concrete is beneficially from environmental point of view also reconstruction cost reduction and eco-friendly, which results to ameliorate the continuity of structure accoutrements and life of structure.

Keywords: Plasticity In Depression Cone Test, Compressive Strength Test, Split Tensile Strength Test, Flexural Strength Test.

I. INTRODUCTION

Concrete, it's the most extensively used material for the construction. Concrete is weak in pressure and strong in contraction and cracks are ineluctable in concrete. Once cracks form in concrete it may reduce the lifetime of the concrete structures. Micro-cracks and pores in concrete are largely undesirable because they give an open pathway for the doorway of water and injurious substances which leads to the erosion of underpinning and reduces the strength and continuity of concrete. Colorful form ways are available to repair the cracks, but they're largely precious and time- consuming process. There are moderate ways to repair the cracks in concrete by itself called Tone- Healing Concrete. Cement concrete is the major material used in construction workshop which is recyclable. It's strong, locally available, durable and protean. It's a compound material with combined fine summations, coarse summations, water, cement that hardens over time. And, no matter how the concrete admixture is handled it ultimately leads in cracking. We all know that structures are susceptible to cracking which makes the water to enter and degrade the strength of concrete and needs precious and largely health-threat conservation in sealing of cracks.

Tone- mending concrete is a result of natural response ofnon-reacted limestone and a calcium- grounded nutrient (calcium lactate) with the help of bacteria to heal the cracks appeared on the structure. Special type of bacteria's known as Bacillus Subtilis are used along with calcium nutrient known as Calcium Lactate. While medication of concrete, this products are added in the wet concrete when the mixing is done. When the cracks appear in the concrete, the water seeps in the cracks.

II. METHODOLOGY

FOLLOWING ARE THE Way INVOLVED-

1 Exploration and discussion for design selection.

2 Finishing a content after discussion and advice of design companion.

3 Collection of data for detailed study of the design.

4 Planning and scheduling of design tasks.

5 Preparation of report and donations.

6. Performing original tests of accoutrements for achieving better quality.

7 Conducting blend design and medication of concrete blend.

8 Casting SHC as cells and cylinders of standard confines.

9 Casted cell and cylinder are immersed in water for curing in and 28 days

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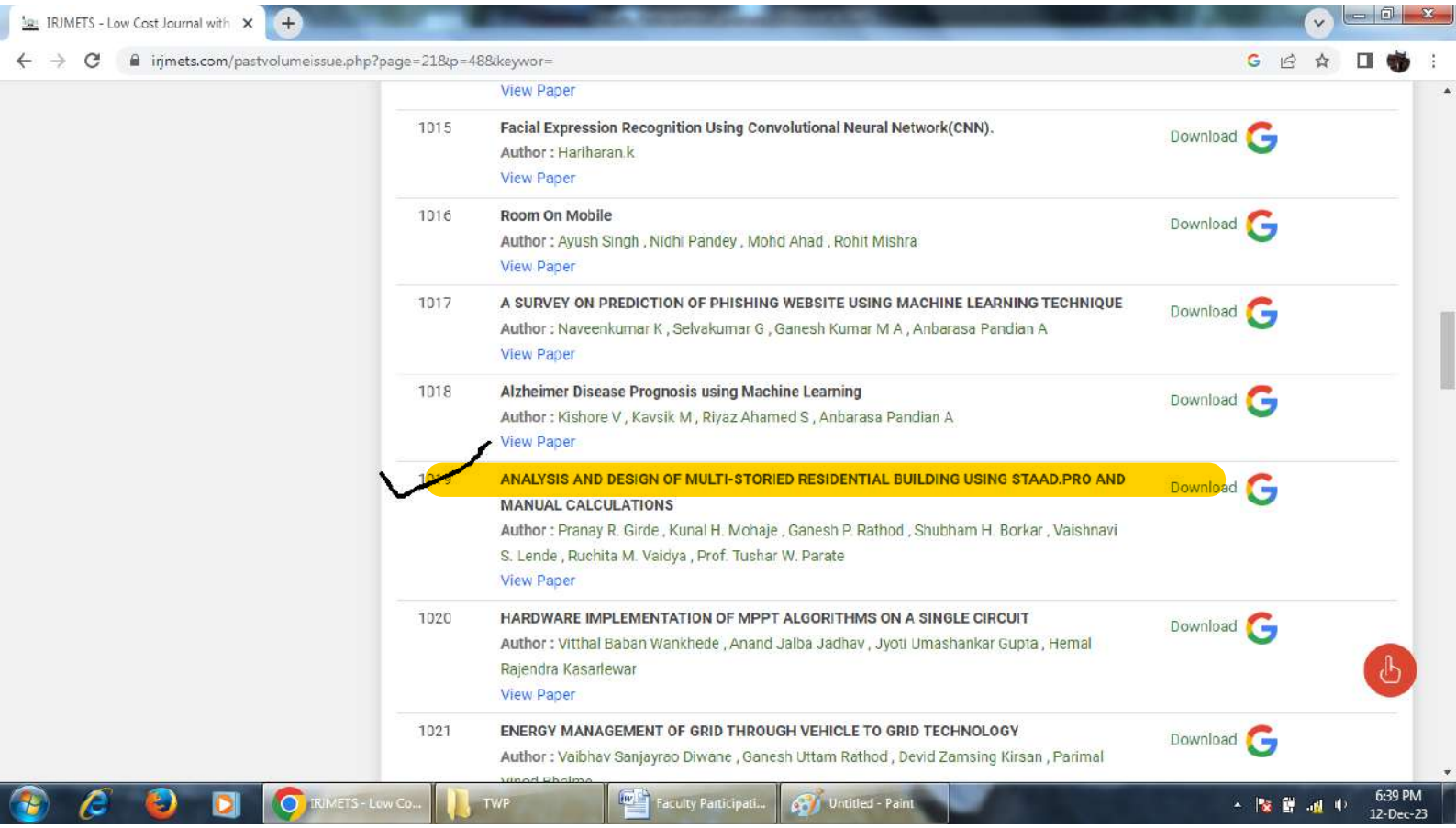
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ANALYSIS AND DESIGN OF MULTI-STORIED RESIDENTIAL BUILDING USING STAAD.PRO AND MANUAL CALCULATIONS

Pranay R. Girde[*1], Kunal H. Mohaje[*2], Ganesh P. Rathod[*3], Shubham H. Borkar[*4], Ruchita M. Vaidya[*5], Vaishnavi S. Lende[*6], Prof. Tushar W. Parate[*7]

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ABSTRACT

This is a final year civil project report which analyzes and designs the multi-storied building. The project report uses staad.pro software. The project is based on most of the software and it is necessary to know the details. The main objective of the project is to design and analyze multi-storied buildings includes manually load calculation. This design is Indian standard code of practice compatible limit state design. Staad.pro has state-of-the-art user interface, visualization tools, advanced limited components and dynamic analysis, powerful analysis. This is a business choice gives and redirects to the user visualization and result verification. Our final work was proper design and analysis. It was analyzed using different load combinations. Each floor had 97 beams and 24 beams. Each floor had a height of 3 meters. With the help of STAAD. Pro, calculated using the wind intensity at different height and strictly abiding by the specification of IS:875. the calculation of earthquakes load were done by following IS:1893-2002. Complicated and high rise building is very time consuming calculation using conventional manual methods. So, the STAAD.PRO software give us a speed, efficient, easy to use and accurate platform for analyzing and designing structure.

Keywords: Analysis, Design, Shear Force, Bending Moment.

I. INTRODUCTION

Analysis and design of a multi-storey building for use for residential purposes using STAAD PRO and manual calculations. The main purpose of this project is to apply the knowledge of the classroom to the real world by designing a multi-storied residential building. These structures require large and clear areas not blocked by pillars. The large floor area provides adequate flexibility as well a center for the later change of production structure without major structural change. The residential buildings are built with adequate overhead use.

STAAD Pro. V8i is a well-known architectural software product model production, analysis and composition of many objects. It is intuitive, easy to use GUI, visual tools, dynamic analysis and design areas and seamless integration an a few other modeling and design software products. The software is fully compatible and all Windows operating systems but designed for Windows XP.

A general purpose calculator engine to analyze the structure and integrated design of Steel, Concrete, Timber and Aluminum. First we solved the sample problems using STAAD.Pro and tested accuracy of results with manually calculated calculations. The results were satisfying too they were accurate. In the first phase of our project we did some math about loading on buildings and monitoring earthquakes and wind loads Structural analysis includes a set of natural rules and statistics needed to learn and predicts structural behavior. The analysis of the structure can be viewed very clearly as a way to drive the engineering design process or to prove the soundness of the design without relying on direct examination.

Statement of the project:

The design data shall be as follows:

Live load = 2.0 KN/m^2

Floor finish = 1.0 KN/m^2

Weight of partition = 2.0 KN/m^2

Location = Visakhapatnam city (Zone-II)

Depth of foundation below ground= 2.5 m

Safe bearing capacity of the soil= ‘200 KN/m^2

Storey height = 3 m

Floors = Stilt+G+4 upper floors

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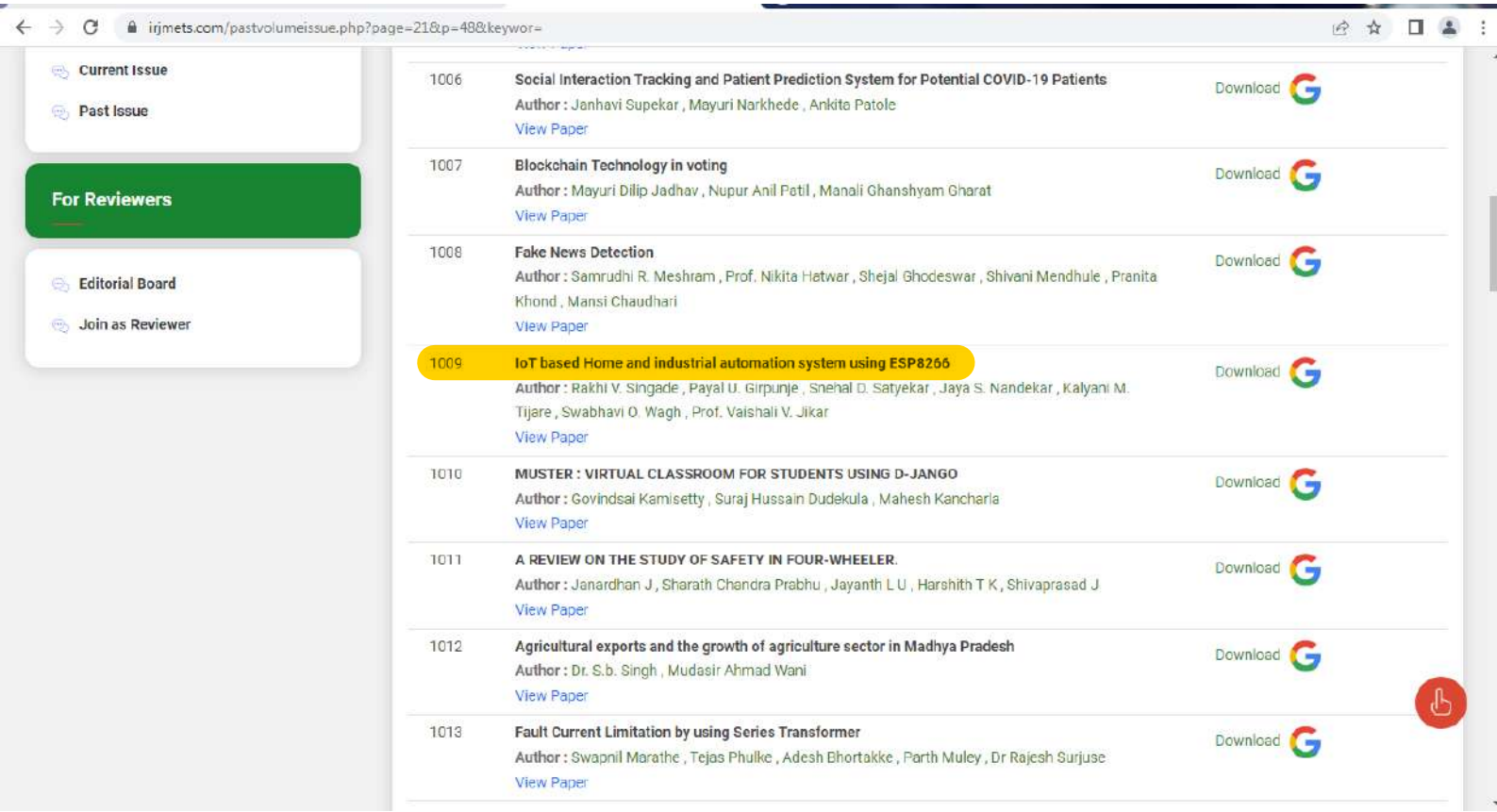
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IOT BASED HOME AND INDUSTRIAL AUTOMATION SYSTEM USING ESP8266

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ABSTRACT

The home automation system has gained great popularity over the past few decades and increases comfort and standard of living. This paper discusses current and emerging automation programs at home. Today most home automation systems include the smart phone and me.

Due to the rapid advances in the automation industry, human health is greatly improved and improved in all respects. In the current scenario, Automated systems are preferred over non-default systems. With the rapid growth in the number of consumers using the Internet over the years, the internet has become an important part of life, and IoT is a new and emerging internet technology. The internet of things plays an important role in a person's life and in the field of education because it is able to provide information and complete tasks given while we are busy doing other work. In this paper, we have demonstrated the example and use of Smart Home Automation with Wi-Fi technology.

ESP8266 is a proposed system that incorporates a Hardware interface and a software interface. In the interface of the computer hardware, integration of ESP8266 Wi-Fi technology for home appliances and sensors is displayed, and the system is provided with control for most home users, smartphones, tablets, and laptops. This program is one of the best ways to easily manage home devices by many users and one of the best ways to manage power. Access to the entire system is only given to its administrator by different users. This system can also be expanded to control a variety of home appliances and home safety and security purposes as long as they are still available on Wi-Fi networks such as Wi-Fi technology. control.

Keywords: Home Automation, Nodemcu, ESP2866 WI-FI Module, Relay, Website, Android Application, Smartphone.

I. INTRODUCTION

A Wireless Home Automation system (WHAS) using IoT is a system that uses computers or mobile devices to control basic household tasks and features automatically online anywhere in the world, an automated home is sometimes called a smart home. Home automation or demodicosis building home automation, called smart home or smart house. The automated home system will monitor and / or control home features such as lighting, weather, entertainment systems, and electrical appliances. It may also include home security such as access control and alarm systems. When connected to the Internet, home devices are an integral part of Internet of Things ("IoT").

The home automation system usually connects controlled devices to a smart home hub (sometimes called a "gate"). The user control system uses wall-mounted terminals, tablet or desktop computer, mobile system, or Web interface that can be accessed offline via the Internet.

While there are many competing vendors, there are growing efforts towards open source systems. However, there are problems with the current state of home automation which includes a lack of standard security measures and the withdrawal of older devices without backward interaction.

Home automation has great potential for sharing data between family members or trusted individuals for security and can lead to energy saving practices that have a positive impact on the environment in the future. It aims to save energy and human energy.

II. LITRATURE REVIEW

They presented a paper on the online implementation of home automation items. This paper focuses mainly on IoT streaming which connects all the various features such as smartphones, tablets, digital cameras and sensors

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E-COMMERCE WEBSITE USING HTML & CSS THE NAMED AS STORE WITH MORE

Prof. Ashmita Ghongade[*1], Ankit Kashti[*2], Suyog Surpan[*3], Aniket Chahande[*4], Vaishnavi Giradkar[*5], Vaishnavi Kamdi[*6], Chaitali Awthale[*7]

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ABSTRACT

In our modern world every process is automated from daily groceries to costly electronic products but in between there are many vendors who are getting profit from supply chain.thus the it results in costly goods or minimum purchasing price from the producers, so to minimize this brokerage which results in costly products such as vegetables grains or daily consumables, we are introducing a platform (website) which will reduce the cost cutting of supply chain which automatically provide fresh locally made veggies with effective price that will result in more profit. To producers our website is a platform which will sell vegetables and fruits directly to the consumer irrespective of market process, thus this platform will help to produce a large number of opportunities for farmers to grow vegetables locally and sell them to customer locally. This will generate revenue that will help to reduce social causes like unemployment, farmer suicides and will also promote agricultural development in order to meet market demands. This research paper is designed to study the main methodology of E-Commerce website via creating our own E-commerce platform (Store With More..). The main technologies which are being used in this project are HTML5 programming Language. the database is managed through MySql.

Keyword: E-Commerce, HTML5, MYSQL.

I. INTRODUCTION

Store With More.. is a web-based shopping system for an existing shop. The project objective is to deliver the online shopping application into web platform. Online shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. It is a form of electronic commerce. This project is an attempt to provide the advantages of online shopping to customers of a real shop. It helps buying the products in the shop anywhere through internet by using an android device. Thus, the customer will get the service of online shopping and home delivery from his favorite shop.

Online shopping is a form of electronic commerce where the buyer can online purchase products to the seller through us usually via the internet. The sale and purchase transaction is completed electronically and interactively in real-time such as Amazon.com for new books. If an intermediary is present, then the sale and purchase transaction is called electronic commerce such as online shopping. The main purpose to introduce our Foodstuff to place a connection between nature and technology so that customer can get the fresh product direct from the farm through our website. As well as the vendors who works on small scale, can enlarge their business area from local to global. As we know farming business is one of the best business plan in India and any one can start this farming business plan from small scale level to commercial scale business. But the main reason of failure the business that they all work in manual manner like on paper-pen. It is rarely founded that any software is installed on their farming business.

II. METHODOLOGY

SYSTEM DESIGN: -

This website is designed by mainly on creating modules using HTML5, CSS3, MYSQL, VISUAL STUDIO CODE.

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EXPERIMENTAL INVESTIGATION ON CONCRETE USING BAMBOO LEAF ASH AND PAWPAW LEAF ASH

Miss. Sakshi A. Zambre*1, Prof. G.D. Dhavale*2, Asst. Prof. V.A. Kalmegh*3

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ABSTRACT

The present study is aim to develop a high strength concrete by using mineral admixtures of bamboo leaves ash and pawpaw leaves ash. In order to check the compatibility, physical and chemical properties of materials are studied. This aims to provide a comprehensive review of recent trends incorporating biomass ashes from agricultural waste in ordinary Portland cement (OPC).The material properties of different leaf ashes and their effect on fresh and hardened concrete properties (i.e., mechanical and durability properties) are reviewed. Partial replacement of OPC with byproducts , such as bamboo leaf ash,pawpaw leaf ash. It will also contribute to the effort of achieving zero waste technology and sustainable development.

Keywords: Bamboo Leaves Ash, Pawpaw Leaves Ash, Agricultural Waste, Compressive Strength, Flextural Strength, Split Tensile Strength.

I. INTRODUCTION

Concrete is most widely used human made material in existence. It is the second most consumed substance on the planet after water, mainly due to its low cost ,versatility, and durability. Due to infrastructure developments and mushrooming population worldwide, it is one of the most versatile and heterogeneous construction material ever discovered.

In cement industries continuous makes an attempt are being created (1) to scale back the price of production of hydraulic cement, (ii) to scale back the consumption of the raw materials. (ii) to shield the atmosphere and (iv) to boost the standard of cement a method is to use sure low value materials for partial replacement of hydraulic cement clinker. Low value materials used are industrial and agricultural by-products (wastes). Mixture of hydraulic cement and therefore the on top of by-products are called blended cements or composite cements. By definition integrated cements are hydraulic binders during which a neighborhood of hydraulic cement is replaced by alternative hydraulic or non hydraulic materials. Their general behavior is sort of like that of hydraulic cement since they harden once mixed with water and kind an equivalent association product. the foremost common ingredients for mixing with hydraulic cement clinkers ar latent hydraulic component(blast chamber slag), or a pozzolanic element like pozzolana, fly ash, rice husk ash, condensed oxide fume, burnt clay or filler element like lime stone and alternative waste materials.

II. EXPERIMENTAL PROGRAM

2.1 Materials

2.1.1 Cement

In the gift study OPC fifty three grade cement for style combine. The various properties of cement square measure examined i.e. compressive strength, lastingness, and flexural strength when 7days, 28 days, fifty six days and ninety days.

2.1.2 Coarse aggregate

The twenty millimeter size combination. The coarse combination with a size of twenty millimeter were tested. The properties of coarse combination investigated

2.1.3.Fine aggregate

The purpose of fine combination is to fill the voids within the coarse combination and to act as a workability agent. stream sand was used as fine combination. the dimensions of the sand used is four.75 millimeter and down size. The properties of (sand) investigated.

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Colour Based Object Sorting Machine

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Experimental Investigation on Concrete Using Agricultural Waste Ash-A Review

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Amrutvahini Polytechnic, Sangamner, Maharashtra, India

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Face Detection Based Emotion Recognition Using Deep Learning

Suraj Rathrod, Akshay Patil, Rohan Satpute, Prof. Komal Jadhav

G H Raisoni College of Engineering and Technology, Pune, Maharashtra, India

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A Survey on Machine Learning Techniques for the Diagnosis of Liver Disease

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Experimental Investigation on Concrete Using Agricultural Waste Ash-A Review

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Abstract: *The present study is aim to develop a high strength concrete bye using mineral admixtures of bamboo leaf ash and pawpaw leaf ash. In order to check the compatibility, physical and chemical properties of materials are studied. This aims to provide a comprehensive review of recent trends incorporating biomass ashes from agricultural waste in ordinary Portland cement(OPC).The material properties of different leaf ashes and their effect on fresh and hardened concrete properties are review. Partial replacement of OPC with by products, such as bamboo leaf ash, pawpaw leaf ash. Partial replacement of OPC with by products, such as bamboo leaf ash, pawpaw leaf ash. It will also contribute to the effort of achieving zero waste technology and sustainable development.*

Keywords: Bamboo leaf ash, pawpaw leaf ash, Compressive Strength**.**

I. INTRODUCTION

Concrete is most widely used human made material in existence. It is the second most consumed substance on the planet after water, mainly due to its low const, versatility, and durability. Due to infrastructure developments and mushrooming population worldwide, it is one of the most versatile and heterogeneous construction material ever discovered. In cement industries, continuous attempts are being made (i)to reduce the cost of production of Portland cement, (ii) to reduce the consumption of the raw materials, (iii) to protect the environment and (iv) to enhance the quality of cement. One way is to use certain low cost materials for partial replacement of Portland cement clinker. Low cost materials used are industrial and agricultural by-products (wastes). Mixture of Portland cement and the above by-products are known as 'blended cements' or 'composite cements'. By definition blended cements are hydraulic binders in which a part of Portland cement is replaced by other hydraulic or non-hydraulic materials. Their general behaviour is quite similar to that of Portland cement since they harden when mixed with water and form the same hydration products.

II. LITERATURE REVIEW

Ernesto Villar (2010)- was represents a characterization and study of the pozzolanic behavior between calcium hydroxide(CH) and bamboo leaf ash (BLA), which was obtained by calcining bamboo leaves at 600°C for 2 h in a laboratory electric furnace. To evaluate the pozzolanic behavior, conduct ometric method was used, which is based on the measurement of the electrical conductivity in a BLAsh/CH solution with the reaction time. Later, the kinetic parameters are quantified by applying a kinetic-diffusive model. The kinetic parameters that characterize the process (in particular, the reaction rate constant and free energy of activation) were determined with relative accuracy in the fitting process of the model. The pozzolanic activity is quantitatively evaluated according to the values obtained of the kinetic parameters. The results show that this kind of ash is formed by silica with a completely amorphous nature and a high pozzolanic activity. The correlation between the values off green energy of activation and there action rate constants are in correspondence with the theoretical studies about the rate processes reported in the literature.

Massazza.F (1979) was identified the structure complexity and the wide variability of chemical and mineralogical composition of pozzolanas justify the difficulties which arise in establishing genera lvalidity relations between chemical and physical characteristics and activity of pozzolanas. Singh et al (2000) discussed that ecofriendly composite cements may be obtained by partial replacemen of Portland cement with certain low cost materials. They studied the

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A Review Paper on Smart Text and Book Reader for Blind People

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Abstract: *In this era, there are many types of physically challenged people one of these types is Blind people. To help such types of people we developed an automatic text reading system based on Raspberry Pi. The main objective of this paper is to provide review information about this system. This is a magnificent technique to convert text to audio using Optical Character Recognition (OCR) and Text to Speech Synthesizer (TTS) in Raspberry Pi. With the help of a camera, the text is captured and then converted into the voice message output which is heard through headphones or a speaker by the blind person. This device is introducing the integration of a complete Text Read- out system. This device is divided into two parts of modules one is an image processing module and the other is a voice processing module. The efficiency of this device is very good which can be detected from an experimental model.*

Keyword: *OCR, TTS, Raspberry pi, Webcam, Python*

I. INTRODUCTION

Physically challenged people are an indivisible part of our human society, one of these is blind people. In the entire world, many people are blind. Some have blindness disorders, night blindness, etc. That's the reason they have to face many challenges like reading, study problems, writing, etc. Although there is a technique to overcome all such problems commonly known as the Braille technique, it is not an easy technique. They find this technique somewhat difficult to learn and understand. Therefore, we are focusing on and trying to resolve related problems and hence we have developed a device that detects the text and then converts it into a voice message which easily helps blind people to understand, learn and read. This work is done in three steps. This device works on the methodology of OCR and TTS technology. There are two sections that are OCR module section and the other is TTS module Section. Firstly, the typed or written text on anything is captured using the camera and with the help of the OCR (optical character recognition) technique, the text is recognized and is processed using TTS (Text to Sound) technique to get the sound output. All this is done on the framework of an embedded system based on the Raspberry Pi Board. Then the output sound message is heard by using the speaker or headphone.

II. LITRETURE SURVEY

A. This paper explains in detail about the OCR (Optical Character Recognition). The objective is to develop user friendly application which performs image to speech conversion system using android phones. The OCR takes image as the input, gets text from that image and then converts it into speech. This system can be useful in various applications like banking, legal industry, other industries, and home and office automation. It mainly designed for people who are unable to read any Type of text documents.

B. This paper gives the information about the Text to speech (TTS) synthesis. It is the automatic conversion of text into speech. Generally, TTS system consists of two phases. The first is text analysis, where the input text is transcribed into a phonetic or some other linguistic representation. The second one is the generation of speech waveforms. In this TTS system, text to phoneme conversion depends on dictionary based approach to get the exact phonetic transcription. Speech synthesis such as domain specific, phoneme based synthesis and unit selection synthesis are used for concatenating speech. For numerical text to speech system, domain specific synthesis is applied. In phoneme based synthesis, the input text is considered as word to produce sound. For input sentence, unit selection speech synthesis is applied. This TTS system is mainly used for visual impairments and handicapped people.

C. This paper deals with research in which images are converted into audio output. OCR is used in machine process such as cognitive computing, machine translation, text to speech, key data and text mining. It is mainly used in the field of research in Character recognition , Artificial intelligence and computer vision .In this research , as the recognition process is done using OCR the character code in text files are processed using Raspberry Pi device on which it recognizes cha[illegible]ract algorithm and python programming and audio output is listened.

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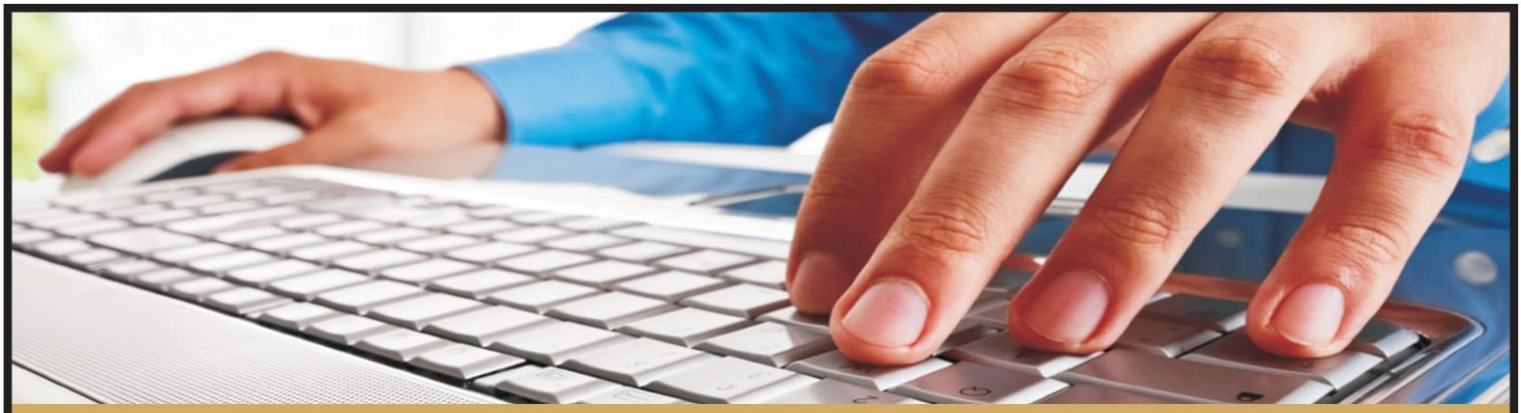

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20 Clarification of Water Using Natural Coagulants of Plant Origin

AUTHOR NAME : Dipak Waghmare, Afroj Ansari, Suraj Patil, Falash Dhone, Kajal Dable, Achal Jambhure, Swati Digraskar, Prof. S. R. Nagoshe

ABSTRACT : This paper aims to reduce the level of turbidity and thereby indirectly microbial contaminants from water using locally available natural coagulants this makes the water treatment process easier safe and environmental Friendly for household applications. Chickpea seeds were the most most effective natural coagulants as a Turbidity reduction efficiency of 97.38% observed. Then comes drums seeds, velvet bean seeds, and tamarind seeds respectively in the order of effectiveness as far as turbidity reduction is considered.

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21 Study On Performance of Recron 3S Fiber with Lime and Microsilica in Expansive Soil Stabilization

AUTHOR NAME : Jayali S. Nimkar, Vaishnavi A. Kotalwar, Sarang N. Mangalgiri, Devashish S. Gode, Saurabh P. Thakare, Akshay D. Kshirsagar, Prof. Vijay B. Shriname, Prof. Akash A. Ingale

ABSTRACT : The black cotton soils undergo excessive volume changes, making their use in the construction of civil engineering projects very difficult. The properties of the black cotton soils can be altered in many ways viz. mechanical, thermal, and chemical means. Therefore, soil stabilization techniques are necessary to ensure the good stability of soil so that it can successfully sustain the load of the superstructure especially in the case of soil that is highly active; also, it saves a lot of time. In the present work, an attempt has been made to study the compaction and CBR characteristics tests of black cotton soil mixing with different percentages of lime, Micro silica, and Recron-3s Fiber with a view to determine the optimum percentage. Test results show that stabilizing Expansive soils with lime, Micro silica, and imparting Recron-3s fibers enhance the strength.

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22 Retrofitting of Concrete Structure an Overview with A Case Study

AUTHOR NAME : Miss Diksha v. Gulhane, Miss Pratiksha s. Kopankar, Miss Swati G. Ombase, Miss Jyoti J. Ombase, Miss Ramina R. Durge, Miss Pallavi P. Gulhane, Mr. Santosh R. Hagawane, Prof. Tushar W. Parate

ABSTRACT : Buildings constructed with non-seismic details are at risk of damage and collapse concrete (RC) moment-resisting frames, seismic retrofitting methods that can enhance strength or ductility should be applied. However, such strategies have many disadvantages related to constructability, serviceability, securing integrity, and cost. In this paper, a welded concrete-filled steel tube (WCFST) system was examined in order to resolve the problems of the existing seismic retrofitting methods for RC moment-resisting frames. To evaluate the seismic performance of the proposed system, two specimens, one with non-seismic details and another reinforced with a WCFST seismic system, were manufactured for the cyclic loading tests. As a result of the experiments, the specimen retrofitted with the WCFST system showed maximum load, effective stiffness, and energy dissipation capacity values approximately 2, 2, and 2.5 times greater, respectively, than those obtained from the existing reinforced concrete frame specimen. The experimental results indicate that the proposed WCFST system is expected to be effective at improving the seismic performance by enhancing both the strength of the existing reinforced concrete frame structures and the dissipation of the seismic energy.

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23 Utilization of Fly Ash in Normal Concrete

AUTHOR NAME : Rakshu M. Made, Juli R. Bangade, Mayuri K. Jirapure, Bhagyashri G. Choudhari, Suraj G. Gawande, Nitin P. Katre, Kamlesh H. Bahunglale, Prof. Sagar Kitey

ABSTRACT : Owing to the growing demand for power and increasing industrialization huge quantity of fly ash produced every year. It is expected that very soon production of fly ash in India will reach 200 MT per annum. Presently in Portland Pozzolana Cement (PPC) fly ash is a significant constituent however much scope is still available for utilization of fly ash. The present study was intended to explore the possibility of utilization of fly ash in concrete using

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Retrofitting of Concrete Structure an Overview with A Case Study

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Keywords— Black Cotton Soil, Lime, Micro silica, Recron-3s Fiber, Compaction, CBR Tests

I. INTRODUCTION

retrofitting is the modification of existing structures to make them more resistant to seismic activity, ground motion, or soil failure due to earthquakes. This goal maybe achieved by adopting one of the following strategies like By reducing the seismic demands on members and the structures as a whole, By increasing the member capacities Stiffness, strength and ductility are the basic seismic response parameters taken into consideration while retrofitting. However, the choice of the technique to be applied depends on locally available materials and technologies, cost considerations, duration of the works and architectural, unctional and aesthetic considerations/restrictions. Seismic retrofitting schemes can be either global or local, based on how many members of the structures they are used for. Global (Structural level) Retrofit methods include conventional methods (increase seismic resistance of existing structures) or non-conventional methods (reduction of seismic demand).

What is retrofitting:

- Retrofitting is the seismic strengthening of existing damaged or undamaged structures.
- It is an improvement over the original strength when the Evaluation of the building indicates that the strength available before the damaged walls insufficient and restoration alone will not be adequate in future quakes.

A. Why retrofitting is required

Problem faced in concrete structure.

- Damage to structural members.
- Excessive loading
- Errors in design or construction
- Modification of structural system
- Seismic Damage
- Structural cracks
- Corrosion due to penetration honey combs

B. Objective of retrofitting

Retrofitting is the seismic strengthening of existing damaged or undamaged structures.

It is an improvement over the original strength when the Evaluation of the building indicates that the strength available before the damaged walls insufficient and restoration alone will not be adequate in future quakes.

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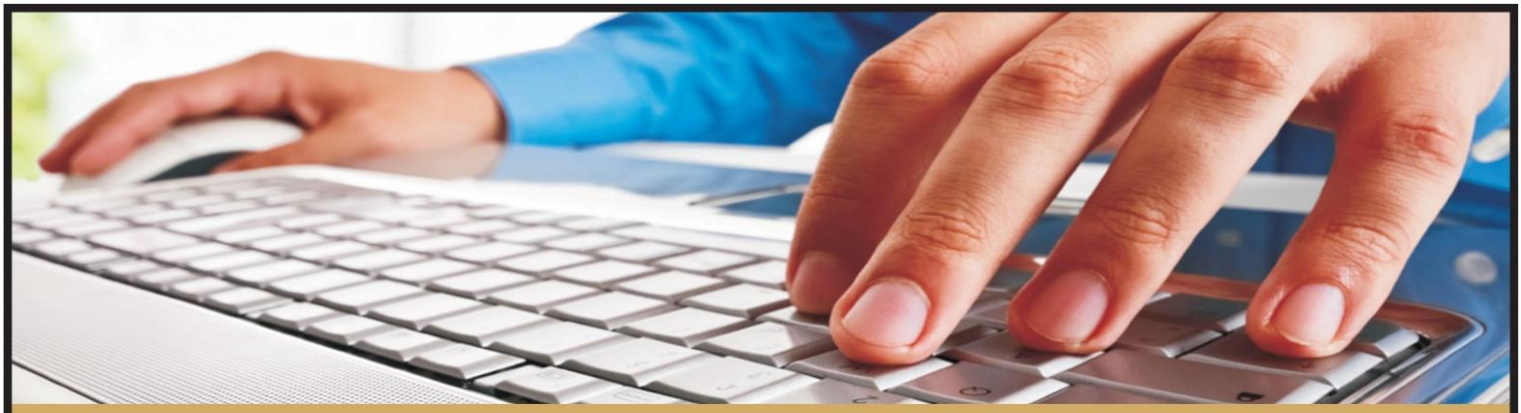

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18. Light Weight Concrete with Artificial Aggregate Manufactured from Plastic Waste

AUTHOR NAME : Irfan Ansari, Anas Ansari, Qaseem Ansari, Abdul Jabir, Arefaz Khan, Tanveer Sheikh, Rajat Mishra, Prof. S R. Nagoshe

ABSTRACT : The concrete industry needs millions of tons of aggregate, comprising natural sands and gravels, each year. In recent years there has been an increasing trend towards use of recycled aggregate to save natural resources and to produce lightweight concrete. In this investigation, an attempt was undertaken to produce recycled plastic aggregate (RPA) using waste plastic and red sand as a filler. The physical properties of RPA are reported and an experimental investigation of concrete incorporating RPA as coarse aggregates is presented. It was observed that 100% replacement of conventional lightweight aggregate (LWA) with recycled plastic aggregate (RPA) showed about a 15% reduction in chloride penetration. Compressive strength was reduced; however, the waste plastic used for experiments is of LDPE (Low-density poly Ethylene), 9-7 mm size and specific gravity of waste plastic are found to be 0.92, and the compressive of test concrete is compared with plane concrete and it is found that the compressive strength up to 80% is achieved for a mix of waste plastic up to 30% (as a replacement for coarse aggregate) in concrete. Hence is recommended for lightweight concrete structure, non-structural elements such as low side building, cementitious backfill, pavements, and others.

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19. Construction Waste Material Management in Road Construction Industry. Causes, Effects and Case Study

AUTHOR NAME : Pradeep H. Patil, Ramesh S. Tapase, Mohit N. Chaniyak, Ankit J. Lohit, Tushar A. Walde, Vaibhav A. Khirnagar, Gaurav Aade, Prof. Tushar Parate

ABSTRACT : The construction industry is the second largest industry in India after agriculture. The Construction industry generates employment and contributes 11% to the Gross Domestic Product of India. Out of this 11%, the major chunk i.e., 9 percent is contributed by the Road Construction Industry. Material waste from the construction industry has been identified as a major problem in recent times. Studies from different construction sites in different countries have shown that even the materials required in small quantities and in the waste in large quantities. Materials are very important for the construction industry at the construction site but all the materials that are delivered are not used completely, creating piles of unused materials which create waste. This waste has a large effect on the environment and hampers the profitability of the contractors. Construction material waste is difficult to recycle and creates problems for disposal. With some changes in the practices of the construction industry, there might be some reduction in the waste and cut down the environmental effects of the waste. In the Indian construction industry currently, the management of materials is done manually which is not very accurate, time-consuming, and unsatisfactory. With the scarcity of construction materials and the increasing cost of construction materials, there is a need for the efficient use of construction materials.

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20. Clarification of Water Using Natural Coagulants of Plant Origin

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With some changes in the practices of the construction industry there might be some reduction in the waste and cut down the environmental effects of the waste. In Indian construction industry currently the management of materials is done manually which is not very accurate, time consuming and unsatisfactory. With the scarcity of the construction materials and the increasing cost of the construction material there is a need of efficient use of construction material.

Keywords— Road Construction Industry, Material waste, environmental effects

I. INTRODUCTION

India being on the verge of becoming worlds' third largest construction market by 2025 according to the study of Global Construction Perspectives and Oxford Economics. In India construction industry is the second largest industry after agriculture and its contribution to India's GDP is 11%. The construction industry in India will flourish as it provides infrastructure for growth and India is one of the fastest growing countries. Indian construction industry provides large opportunities for employment with the largest investments, maximum use of natural resources, which results in mass scale manufacture of products. The construction industry contributes to the development of the country but it has adverse impact on environment, facing several challenges such as air and noise pollution, land and water contamination, deforestation and hampering the wildlife and marine life. As construction industry involves the use of large amount of materials, the waste generated is also of large quantity.

India being a country of limited resources, the construction materials are always in shortage. If the materials are wasted an large quantities, the cost of the materials increase

Due to shortage and the cost of the project also increases due to cost over-run. Another major issue is of the disposal of the construction waste. In the recent time there is a need of new techniques for the reuse of the construction waste as we are running out of space for dumping of the construction waste.

Construction waste material has a major impact on the construction industry. It also hampers the environment in many ways. This study is to be conducted so as to reduce the impact of the construction waste on the project and the environment as it also decreases the profitability of the project. In India the work of estimation is majorly done manually which is time consuming, tiresome and uneconomic. The unavailability of the material is also a major issue in recent times and its efficient use will help the project in time bound completion with economy.

II. 4R TECHNIQUE

"4R" Technique consult with the management of construction waste in four ways, which is resource reduction, reuse, recycle and refuse (land filling).

First priority should be given for waste prevention / reduction followed by reuse, recycle, refuse, of construction waste material. The process of recycling of material in reconstruction work reduces the chances of the refused. By using "4R" Technique we can deal with the construction waste problem by proper construction waste management we can achieve prevention / minimization of construction waste along with minimization of cost.

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Use of Maize and Soybean Husk Fly Ash as an Adsorbent for Removal of Fluoride from Water

Prof. Tushar W. Parate[1], Maqsud B. Chaus[2], Harshad A. Somankar[3], Chhagan V. Karande[4], Sarang S. Chalkhure[5], Nagesh S. Khobre[6], Sonal V. Pawar [7]

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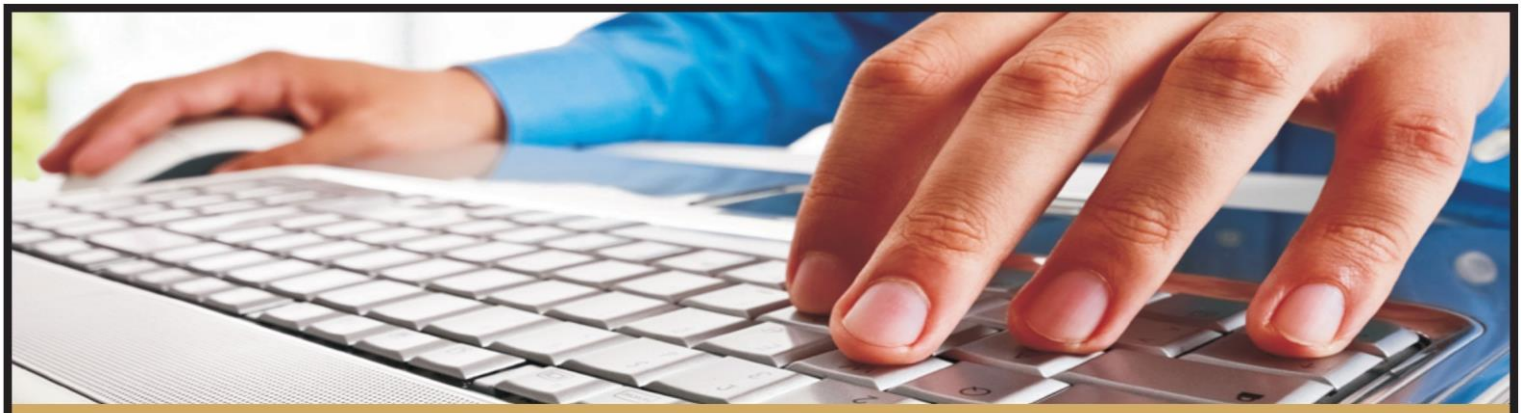
ABSTRACT

Fluoride is an inorganic, monatomic anion of fluorine with the chemical formula (F^-) Fluoride is the simplest anion of fluorine. Excess fluoride in drinking-water causes harmful effects such as dental fluorosis and skeletal fluorosis. The fluoride-bearing minerals or fluoride-rich minerals in the rocks and soils are the cause of high fluoride content in the groundwater, which is the main source of drinking-water in India. Indian standards for drinking water recommended an acceptable fluoride concentration of 1.0 mg/l & an allowable fluoride concentration of 1.5 mg/l in potable water (CPHEEO, 1984). To evaluate the efficiency of fly ash from Soybean husk and maize husk for removal of fluoride from water. Optimization of the different parameters to be varied to find the equilibrium values in order to get maximum efficiency.

Keywords— *Maize husk fly ash, Fluoride removal, Batch study, Adsorption isotherms*.

1. INTRODUCTION

Fluorine, a fairly common element of the earth's crust, is present in the form of fluorides in a number of minerals and in many rocks. Excess fluoride in drinking water causes harmful effects such as dental fluorosis and skeletal fluorosis. The fluoride-bearing minerals or fluoride rich minerals in the rocks and soils are the cause of high fluoride content in the groundwater, which is the main source of drinking-water in India. Adsorption is an efficient and economically viable technology for the removal of fluoride. Recently, many naturally occurring materials such as activated carbon from plant materials, egg shell, bone char, Tamarind seed, rice husk, limestone and some commercially available adsorbent such as Activated Alumina, calcium hydroxide [$Ca(OH)_2$], calcium chloride [$CaCl_2$], and calcium sulphate [$CaSO_4$] have been used for removal of fluoride. However, the alternative absorbents have not displayed significant fluoride removal capacities and, thus, alumina still remains a valuable material to study and pursue. Despite decades of application-based research, the underlying science and specific mechanisms behind fluoride sorption to alumina-based absorbents is still unclear. Currently, a wide range of defluorination methods exist. These methods can be divided into the following categories: sorption, chemical precipitation, removal by ion exchange, and membrane filtration. The most currently used method utilizes alumina absorbents to remove fluoride from drinking water. In developing countries there is also a growing movement towards the use of natural materials such as clays, ash, and bone char, which, when found in local communities, can significantly increase the cost efficiency of defluorination methods. Adsorption is an efficient and economically viable technology for the removal of fluoride. Recently, many naturally occurring



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ABSTRACT : This paper aims to reduce the level of turbidity and thereby indirectly microbial contaminants from water using locally available natural coagulants this makes the water treatment process easier safe and environmental Friendly for household applications. Chickpea seeds were the next most effective natural coagulants as a Turbidity reduction efficiency of 97.25% observed. Then comes drums seeds, velvet bean seeds, and tamarind Seeds respectively in the order of effectiveness as far as turbidity reduction is considered.

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21. Study On Performance of Recron 3S Fiber with Lime and Microsilica in Expansive Soil Stabilization

AUTHOR NAME : Sayali S. Nimkar, Vaishnavi A. Komalwar, Sarang N. Mangalgiri, Devashish S. Godse, Saurabh P. Thakare, Akshay D. Kshirsagar, Prof. Vijay B. Shriramе, Prof. Akash A. Ingale

ABSTRACT : The black cotton soils undergo excessive volume changes, making their use in the construction of civil engineering projects very difficult. The properties of the black cotton soils can be altered in many ways viz. mechanical, thermal, and chemical means. Therefore, soil stabilization techniques are necessary to ensure the good stability of soil so that it can successfully sustain the load of the superstructure especially in the case of soil that is highly active; also, it saves a lot of time. In the present work, an attempt has been made to study the compaction and CBR characteristics tests of black cotton soil mixing with different percentages of lime, Micro silica, and Recron-3s Fiber with a view to determine the optimum percentage. Test results show that stabilizing Expansive soils with lime, Micro silica, and imparting Recron-3s fibers enhance the strength.

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22. Retrofitting of Concrete Structure an Overview with A Case Study

AUTHOR NAME : Miss Diksha v. Gulhane, Miss Pratiksha s. Koparkar, Miss Swati G. Ombase, Miss Jyoti J. Ombase, Miss Rumina R. Dange, Miss Pallavi P. Gulhane, Mr. Santosh R. Hagawne, Prof. Tushar W. Parate

ABSTRACT : Buildings constructed with non-seismic details are at risk of damage and collapse concrete (RC) moment-

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Study on Performance of Recron 3S Fiber with Lime and Microsilica in Expansive Soil Stabilization

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Abstract— The black cotton soils undergo excessive volume changes, making their use in the construction of civil engineering projects very difficult. The properties of the black cotton soils can be altered in many ways viz. mechanical, thermal and chemical means. Therefore, soil stabilization techniques are necessary to ensure the good stability of soil so that it can successfully sustain the load of the superstructure especially in case of soil which is highly active; also, it saves a lot of time. In the present work, an attempt has been made to study the compaction and CBR characteristics tests of black cotton soil mixing with different percentages of lime, Micro silica and Recron-3s Fiber with a view to determine the optimum percentage. Test results shows that stabilizing Expansive soils with lime, Micro silica and imparting Recron-3s fibers enhance the strength.

Keywords— Black Cotton Soil, Lime, Micro silica, Recron-3s Fiber, Compaction, CBR Tests

I. INTRODUCTION

Expansive soils, which are also called as swell-shrink soil, have the tendency to shrink and swell with variation in moisture content. As a result of this variation in the soil, significant distress occurs in the soil, which is subsequently followed by damage to the overlying structures. During periods of greater moisture, like monsoons, these soils imbibe the water, and swell; they become soft and their water holding capacity

diminishes. As opposed to this, in drier seasons, like summers, these soils lose the moisture held in them due to evaporation, resulting in their becoming harder. Generally found in semi-arid and arid regions of the globe, these types of soils are regarded as potential natural hazard – if not treated, these can cause extensive damage to the structures built upon them, as well causing loss in human life. Soils whose composition includes presence of montmorillonite, in general, display these kinds of properties. Tallied in billions of dollars annually worldwide, these soils have caused extensive damage to civil engineering structures.

Soil stabilization the mode of alteration and the degree of alteration necessarily depend on the character of the soil and its deficiencies. In general requirement is adequate strength. In the case of a cohesion less soils can be achieved by proper confinement or by mixing the cohesion lees soil with cohesion material. Here the cohesion material act like a cementing agent. In case of cohesive soil, we can improve the soil strength by drying process or make the soil water resistant, changing the soil electrolyte configuration by adding 4 frictional properties. Stabilizing the soil is one of the techniques to increase soil strength and maintain atterberg limits within in the specified limit. By chemical alteration we can improve the engineering properties. Stabilization technique can be used to treat extensive variety of soil materials having poor engineering properties. Various types of stabilization techniques are in use. Stabilization can be broadly classified into two type-

1. Mechanical stabilization
2. Chemical stabilization.

A. Mechanical Stabilization

In general, weak aggregates are preferred for mechanical stabilization. Mechanical stabilization covers two strategies for changing soil properties the soil particle Rearrangement by improving the gradation of soil Any material prone to weathering action is suitable for mechanical stabilization.

B. Chemical Stabilization

Chemical stabilization comprises of binding the soil particles by a cementing agent. The binding agent i.e. cementing agent can be produced chemical reaction with in the soil. The chemical reaction does not as a matter of course incorporate the soil particles, although the holding involves intermolecular strengths of the soil.

II. LITERATURE SURVEY

As a prelude to begin with a project it is more essential to have general and detailed information regarding the subject content, strategic approaches, available research in the subject area, interpreted results and drawn conclusions. This chapter reviews the attempts made by several researchers to understand the behavior of stabilizing agent as reinforcing material in soil.

P. Sowmya ratna et al (2016) [1] studied the behavior of recron-3s fiber with lime in black cotton soil stabilization.

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"Smart Village Controller System"

Prof. D. B. Dandekar[1],A.T. Kurkute[2], M.M. Kamble[3], A.M. Sheikh[4], A.V. Pise[5], R.C.Dhikar[6],A.khan[7]

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Abstract

A Gram or rural area is a part of land area that is located outside cities, towns and forest, hilly areas, whereas the Gram community live. This research project deals with study and development of village as a smart village with interactive Gram society. the main aim to smarten the villages by offering basic facilities, education, small still growth business facility by suit Gram environment, interactive with government facilities, technical knowledge & technology review, etc. The motto of "Smart Village" will also attention to multiple challenges such as unplanned urbanization, underdevelopment of villages, migration for economic pursuance, improved standard of living, village identity(i.e. mapping location, history, moral places) and live present scenario etc. the project based on the grid interactive self-governance system, an application to solve issue and problem as a work of contribution with the technical manner and commanding chief surveillance. the village contain the body of member undertaken with sarpanch, Gram Sevak, Talathi, and police Patil, etc. the overall study case contains the all biological and physical data about village as research of permission and granted. The present research paper discusses about village development in developing world. The skill behind the concept of "Smart Village" is that the technology should acts as a means for development, enabling E-education and local market opportunities, improving health and welfare problem.

Index Terms: *Keywords—smart village, rural development, villagers, Gram society, Gram rules, smart controlling, etc.*

----------***----------

I. INTRODUCTION

Gram areas are also known as 'village' in India. In these villages, agriculture is the chief source of livelihood along with fishing, cottage industries, pottery, etc. According to 2011 census, rural area has population of 67.04%. In the Indian context, villages are the heart of the nation. Hence, for the overall development of the country based on village. The population of village is near about 1,000 to 3,000.We

making smart village by taking smart decisions using smart technologies and services

Possible Contribution of the study:- Ensuring that the village development process is widely known to all resident is a critical element in ensuring continue participation and rapid village development as given follows:

1. Punsari village is also supported for their own village development. The Punsari village are organized different number of tasks for their own rural development.
2. Punsari is a village located in Sabarkantha district in the state of Gujarat, India. The village is located at about 80 km from the state capital, Gandhinagar. The village follows the Panchayati raj system.

3. The village has undergone a transformation under the panchayat. There has been use of new and advanced technology in education.

II. OBJECTIVES

- A 'Smart Village/Ward' encompasses sustainable and inclusive development of all sections of its Community, so.
- The 100 per cent achievement of the following basic amenities, they enjoy a high standard of living.
- Skills and Village Enterprise development with bank and market linkages gave more flexible access to youth.
- The idea of smart village in the present-day context seems more reasonable as there is a limit of growth of cities which is leading to creation of urban jungles, where the population ratio per km of land is way above the desired norms.

III. RELATED WORK

1] Shri.Anna Hazare: In 1975, Anna took different initiatives to improve social and economic condition of the village. All his initiatives were experiment based and well supported by villagers of Ralegansiddhi. Again 300 from the profit generated through the work done by community participation, the villagers were asked to contribute 25% of the money into village fund, so as to utilize it for future community projects.

2]David Freshwater [2000]: This paper introduced related to sustainable development is generally discussed in terms of environmental considerations, but from a rural community perspective, Sustainable development must address how the people of the community generate the income to maintain their rural lifestyle. While market signals alone can, in principle, provide the information and the conditions for this type of dynamic process, the argument of the paper is that the nature of rural areas makes it unlikely for markets alone to allow Sustainable employment.

3] Zhao Zhifeng [2009]: This invention represents the fast urbanization has become already a main characteristic of socio-economic transitioning China. This paper points out

4] Dr.Milind Kulkarni [2010]: This research paper represent the India majority of the population still lives in villages. A lot of work needs to be done in making the villages clean. There are different aspects of clean village such as: water supply, sanitation, indoor air quality, solid waste management and renewable energy etc. All these aspects have different alternatives with the associated merits and demerits. In some aspects such as water supply, considerable work is done whereas in some areas like sanitation lot of work is required to be done. We can learn lot of lessons based on success and failure in adopting different alternatives. Keeping in touch with technology clean village projects should integrate technology and digital design, which will make the village not only clean but also smart. The paper discusses all these aspects with reference to Maharashtra and India. This discussion plans to give important inputs and alternatives to policy makers so that they can redirect and reformulate the policy. Engineering students can design and implement projects of clean and smart village which will help in their skill development. At the end paper gives recommendations for effective making of Clean and Smart Village.

5] Pallavi Tak Rai [2012]: This invention related to townships for sustainable Cities of emerging economies are their engines of growth, because if villages cater to agriculture and allied activities, then cities to the industry and service sector. The influx of FDI, expansion of markets, international assistance and aid, globalization, etc. all contribute to the rapid urbanization and simultaneously to the problems associated therewith. With the premature expansion of cities, in the absence of proper planning and preparedness, the challenges and repercussions of this haphazard growth become more evident and serious. The paper deal with the analysis of the problems associated with rapid urbanization, and seek

NAME	WORKS	YEAR
SHRI.ANNA HAZARE	• Indian social activist • Contributed to the development and structuring of Ralegan Siddhi	1975
DAVID FRESHWATER	• Watermark Retirement Communities Chairman • David Freshwater to maintain their rural	2000

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"POTHOLE DETECTION AND WARNING SYSTEM USING WIRELESS SENSOR NETWORK"

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A Novel Optimization AHBeeP Algorithm for Routing in MANET

A. V. Zade, R. M. Tugnayat and G. B. Regulwar

Abstract The world around us is becoming increasingly complex every day and changes dynamically. The problems that we face require adaptive and scalable systems that can offer solutions with ever-rising level of autonomy. Traditional approaches are becoming obsolete because they were designed for a simpler world. Therefore, any advancement in understanding and solving complex problems can have an impact on the entire set of disciplines in engineering, biology, sociology, etc. In this paper the ant colony optimization (ACO), genetic algorithm is evaluated and compares their performance with the novel proposed adaptive honey bee protocol (AHBeeP). The algorithms, stimulated by the supportive behavior of nature in colonies of animals and social insects, were initially applied to solve the traditional optimization problems. In today's scenario, the main challenge is to transfer the packets of data from source system to destination system. In the proposed approach, the optimization is used for transferring the data packets based on the honey bees intelligence to communicate each other in the form of dancing language that can be useful for finding the shortest route in the wireless networks and also in optimized way of pathfinding.

Keywords Swarm intelligence · ACO · AHBeeP · Waggle dance

1 Introduction

Swarm intelligence tactics are more hopeful for MANETs and WSNs due to the following prominent aspects interactions among themselves, availability of numerous paths, scalable performance robustness to failures, easiness of design and tuning. MANET is nothing but the collection of mobile nodes that intercommunicate each other on the basis of shared wireless channels working in self-configured, infrastructure-less networks. In mobile adhoc networks, the nodes are furnished

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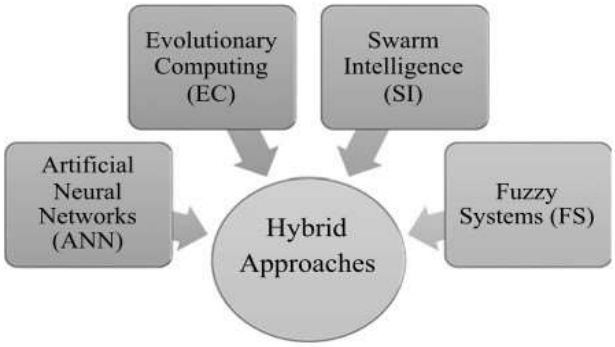

Fig. 1 General optimization approaches

with the connection establishment, flow and error control and connection termination capabilities. The mobile adhoc networks do not depend on any concrete infrastructure, and no one is having the centralized administration to control the network. In directive to connect every node in the network, each node will work as a router which will accept the data and forwards the packets of data to the other neighboring devices which are in the same range. With this approach, the mobile node will also work as a router, and with this feature, it shows the fast deployment of wireless networks.

The main task is to reduce the traffic congestion quite urgently because the amount of money lost due to congestion in traffic networks. Nature has always encouraged researchers; by simple perceiving the environment by simply noticing the outlines, the set of rules makes seemingly messy processes logical [1]. How do social insects communicate the messages optimally? These questions are answered by swarm intelligence (Fig. 1) [2].

Artificial bee colony optimization technique is currently involved in many research areas to crack optimization problems [3]. In real world network problems, social insect's intelligence can be adopted from environment and mimicking its behavior in our real world application problem statements.

The overall organization of the paper is as follows. Section 2 describes the challenges in mobile networks and types of networks exist. In Sect. 3, swarm intelligence paradigms are clarified in detail with ant colony and honey bee system algorithms. In Sect. 4, simulation environment with performance metrics are elaborated and analyzed both algorithms.

2 Dynamic Diversity Enhancement Swarm Optimization Algorithms

Social insects' behavior is always been fascinating to human being in every aspect [4]. In many areas, the capabilities of social insects surpass the human abilities. After observing the behavior of social insects and animals, we have been able to find many interesting solutions which we can co-relate or module into our generic problems.


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A Review on Design and Thermal Analysis of Thermoelectric Generator for Direct Power Generation from Municipal Waste Garbage

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Abstract - *In recent years, an increasing concern of environmental issues of emissions, in particular global warming and the limitations of energy resources has resulted in extensive research into novel technologies of generating electrical power. Thermoelectric power generators have emerged as a promising alternative green technology due to their distinct advantages. Thermoelectric power generation offer a potential application in the direct conversion of thermal energy by combusting municipal inorganic waste garbage into direct electrical power generation, where it is unnecessary to consider the cost of the thermal energy input. Generating electricity in present there is a shortage of fossil fuel, oil, gas, etc. burning of these fuels causes environmental problem like radio activity pollution, global warming etc. So that these (coal, oil, gas) are the limiting resources hence resulting new technology is needed for electricity generation, by using thermoelectric generators to generate power as a most promising technology and environmental free and several advantages in production. Thermoelectric generator can convert directly thermal (heat) energy into electrical power. In this TEG there are no moving parts and it cannot be produce any waste during power production hence it is consider as a green technology.*

Key Words: *Thermoelectric power generation, alternative green technology, direct energy conversion, heat, electrical power, thermoelectric materials*.

1. INTRODUCTION

Recently we are depending upon fossil fuels for maximum electricity generation. However, the reserves of fossil fuels will be goes on depleting, since oil & gas are the least sources. Recent years cost of unit electricity has increasing to unpredictable levels due the less supply of (oil, gas, coal). Thus the, green energies are more attractive artificial to electricity generation, as it will also provide a pollution free and cost less. In this innovative project, we are using one device which is used to be created and introduced by human as a renewable energy that is thermo electric generator equipment to generate electricity. As we know Renewable energies are, solar energy, wind energy, hydro energy, tidal energy, etc. above energies can produce electricity in different forms and way of generating method. There are some disadvantages. Solar cells are the most commonly used in applications such as household industrial and spacecraft electrical systems. However, if there is no sun light there will no production of electricity alternative sources are necessary for generating electricity. Or a method of storing energy for future use. Wind and hydro electric energy have their own drawback making them less power production and insufficient for wider usage. Many steam power plants there is large number of losses and bursting of pipes and low opt out low efficiency. But reviewing to model power generation from municipal inorganic waste garbage using thermoelectric generator has instant power output, noise free, no vibration and very high efficiency.

Utilizing municipal inorganic waste material into electricity using principle of seeback effect. Model use two seeback module with test ring .It contain heating zone, aluminum plate, and copper plate, water cooling jacket, radiator and coolant for generating maximum temperature difference for TEG power generation.

TEG of SP1848-27145, 10W module of material bismuth telluride (Bi_2Te_3), and Approx. Size: 40MM * 40MM* 3.4M. It produce power at 100 degree, produce 4.8V and 0.67 Amp current approx. 3.2W. Such type of two module used in this project and 3.2×2=6.4Watt power will be produce by this model.

For such power generation municipal waste garbage specially inorganic i.e. Plastic bags, Plastic, Cans, Food packaging, plastic soda bottles, Medicine bottles, Fertilizer and pesticide containers, Tea and coffee cups, Tyres, Rubber items are collected and burned in heating zone and heat produced from these are transferred to TEG and then converted to power.

In this model closed compartment of heating zone is used and emission of carbon content and any gaseous pollutant gets totally control and produce environmental friendly, zero pollution model.

1.1 TEG Construction and Working

The EMF cause by temperature gradient across the junctions of two dissimilar conductors, which form a close loop is seebeck effect shown in figure 1.

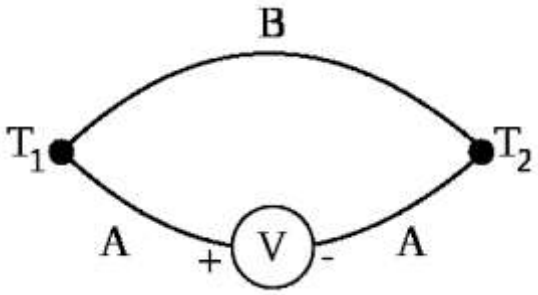

Figure 1: Seebeck effect [11]

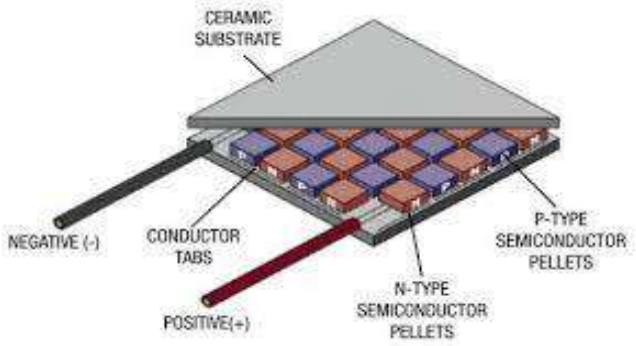

Figure 2: Thermoelectric generator [4]

A single thermoelectric couple is constructed from two 'pellets' of semiconductor material usually made from Bismuth Telluride (Bi2Te3). One of these pellets is doped with acceptor impurity to create a P-type pellet; the other is doped with donor impurity to produce an N-type pellet. The two pellets are physically linked together on one side, usually with a small strip of copper, and mounted between two ceramic outer plates that provide electrical isolation and structural integrity. For thermoelectric power generation semiconductor material A and B joint together show in figure.1, if a temperature difference is maintained between two sides of the thermoelectric couple (T1 and T2), thermal energy will move through the device with this heat and an electrical voltage, called the Seebeck voltage, will be created. If a resistive load is connected across the thermoelectric couple's output terminals, electrical current will flow in the load and a voltage (V) will be generated at the load. Practical thermoelectric modules are constructed with several of these thermoelectric couples connected electrically in series and thermally in parallel

The figure of merit Z describes material performance. It depends on the thermoelectric material properties material properties.

$$Z = \frac{\alpha^2 \sigma}{\kappa}$$

Where, α =Seebeck coefficient, σ = electrical conductivity, k = thermal conductivity.

2. LITERATURE SURVEY

Basel I. Ismail, Wael H. Ahmed [1] he has worked on Thermoelectric Power Generation Using Waste-Heat Energy as an Alternative Green Technology and such a model is developed for generating power from waste. He fined that thermoelectric power generation is presented through the applications implemented in the recent patents of thermoelectric power generation relevant to waste-heat energy.

Prashantha K, Sonam Wango [2] they have found that Smart Power Generation from Waste Heat by Thermo Electric Generator. They model such TEG for generating smart power from different waste heat.

Parth Shah [3] he worked on Analysis on Power Generation through Thermoelectric Generator. Find that detail analysis of power generation from waste heat using Thermoelectric Generator.

Aravind Karuppaiah, Ganesh's, Dileepan. T, Jayabharathi.S [4] they have created Fabrication and Analysis of Thermo Electric Generator for Power Generator. They have fabricated TEG for suitable power generation and detail analysis of these are taken.

M. G. Jadhav and J. S. Sidhu [5] have Design and Fabricate Silencer Waste Heat Power Generation System Using Thermo-Electric Generator. They fabricate and use TEG for power generation from silencer waste heat.

Tzer-Ming Jeng, Sheg Chung Tzeng, Bo-Jun Yang and Yi-Chun Li [6] they have Design, Manufacture and takes different Performance Test on Thermoelectric Generator System for Waste Heat Recovery of Engine Exhaust

Z.B.Tang, Y.D.Deng, C.Q.Su, W.W.Shuai, C.J.Xi. [7] has worked on a research on thermoelectric generator's electrical performance under temperature mismatch conditions for automotive waste heat recovery system and takes different performance riding under temperature mismatch condition.

Dipak Patil, Dr. R. R. Arakerimath, [8] have discuss A Review of Thermoelectric Generator for Waste Heat Recovery from Engine Exhaust and used TEG in this model for recovery from engine exhaust.

Shrutika Carped. [9] has worked on Thermoelectric Power Generation using Waste Heat of Automobile. Use waste heat of automobile for power generation.

Govind mishra, Shushil kumar Sharma [10] has discussed on Review of automotive thermoelectric generator and use waste heat of automobile for power generation.

Saniya LeBlanc [11] in their worked entitled thermoelectric generators linking material properties and systems engineering for waste heat recovery applications and suggest different material properties for TEG application.

P.Mohamed Shameer, D. Christopher [12] has worked on Design of Exhaust Heat Recovery Power Generation System Using Thermo-Electric Generator.

Rasit Ahiska, Hayati Mamur [13] they have discussed a review on thermoelectric generator in renewable energy. Use TEG in renewable energy as source.

Sham Patidar [14] he has discuss different Application of Thermoelectric Energy. Such as waste heat recovery as energy for power generation.

3. MODEL SP1848-27145 DESCRIPTION

Thermoelectric Power Generators also are known as TEG create and detects temperature differential on each side. You can take the advantage of this temperature differential detection to generate electricity**.**

After applying the heat on one side and cold on other side the device will start generating the voltage which depends upon the value of applied heat. The SP1848-27145 40x40mm Thermoelectric Power Generator TEG 150°C will generate the moderate amount of voltage with mA of current.

A Thermoelectric Generator (TEG) module is a semiconductor-based electronic component that functions as a small generator.

Temperature (°C)	20	40	60	80	100
Open circuit voltage (V)	0.97	1.8	2.4	3.6	4.8
Current (mA)	225	368	469	558	669

Model number side is exposed to "heat-sink or ice" and opposite side to "heat"**.** Placing 2-3 drops of grease compound on both sides of TEG Module

3.1 Features

1. Small and lightweight, convenient for use.
2. Designed specifically for power generation.
3. Sealed for moisture protection and contain
4. Thermal elements formulated for optimum Seebeck power generation.
5. High-temperature 150°C, with NM static Protection.
6. Quality tested cooling cells.
7. Simple to install and operate.
8. With 5v Booster board you can charge the cell phone

3.2 Inorganic Municipal Waste for Power Generation

About 1.43 lakh metric tons of solid waste is generated every day in the country. 23% of this waste is treated and disposed. Note that, under the Swachh Bharat Mission (SBM), 100% scientific processing and disposal of municipal solid waste is envisaged by 2019. The Committee recommended that all urban local bodies should prepare action plans to establish waste treatment facilities. Further, segregation of waste should be made mandatory in all government offices, households, and commercial establishments. It also suggested that scientific treatment and disposal of municipal solid waste should be made compulsory under SBM.

Organic wastes contain materials which originated from living organisms. Organic wastes are often disposed of with other wastes in landfills or incinerators, but since they are biodegradable, some organic wastes are suitable for composting and land application. They not create any harmful effect on environment that's not's required large management technic.

But inorganic waste garbage material are non-biodegradable and synthetic and semi-synthetic material create large harmful effect on leaving being and environment, required huge amount of management .this inorganic waste garbage are collected and we directly using in this model with zero pollution and produce direct power using TEG.

Different inorganic materials used are Plastic bags, Plastic, Polystyrene, Cans, Food packaging, plastic soda bottles, Medicine bottles, Fertilizer and pesticide containers, Tea and coffee cups, Tyres, Rubber items.

4. CONCLUSIONS

1. This project aims to Design and Thermal Analysis of thermoelectric generator for direct power generation from municipal inorganic waste garbage material.
2. Experimentally it is found that when two thermoelectric generators are connected in series. This generated power either directly used to run some auxiliary devices or may be stored in the battery and used later.
3. Study how to use the municipal inorganic waste as renewable energy sources
4. Reviewing to create zero pollution environmental friendly models.

5. To control hazardous effect of inorganic municipal waste garbage.

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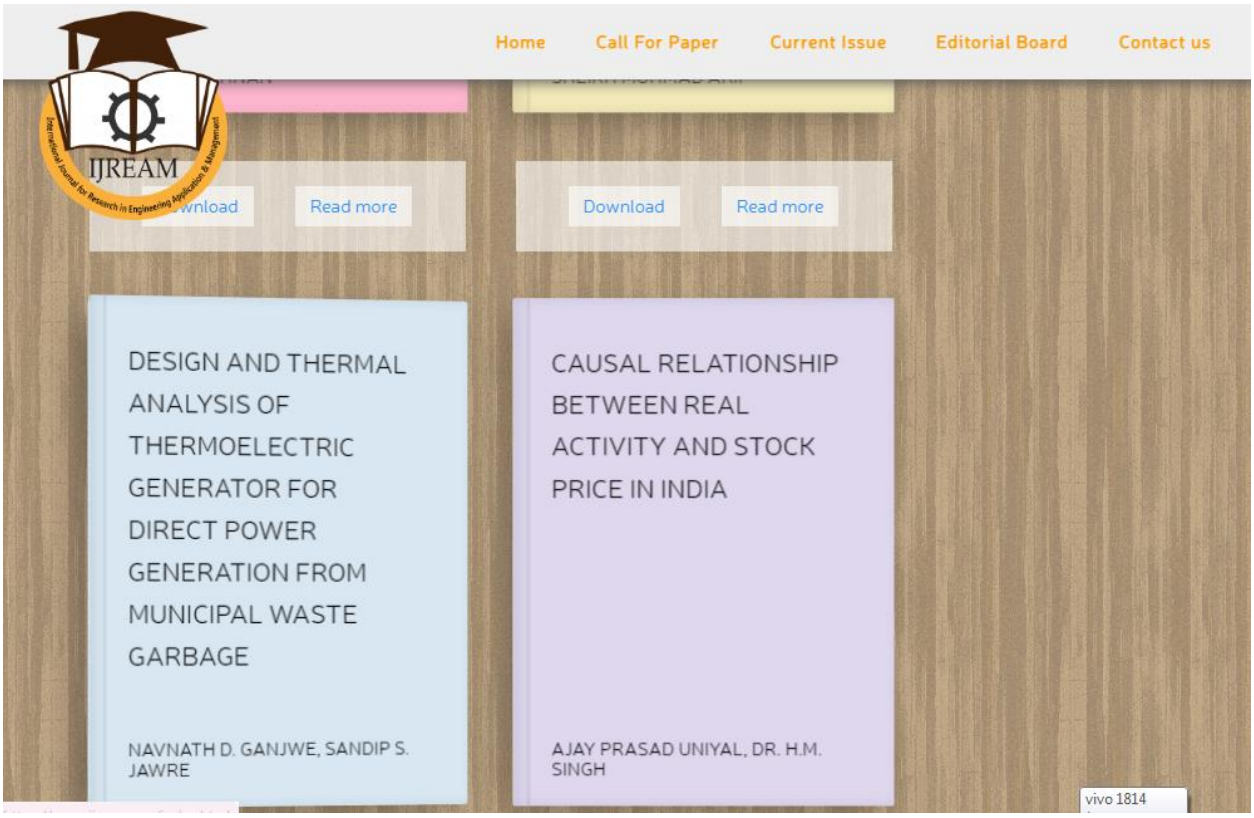
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Design and Thermal Analysis of Thermoelectric Generator for Direct Power Generation from Municipal Waste Garbage

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Sandip S. Jawre, Assistant Professor, Dept. of Mechanical Engineering, SSPACE, Wardha, India, jawre.sandip@gmail.com

Abstract **Recently an increasing amount of municipal inorganic waste garbage causes hazardous effect on environment and living beings. The reserves of fossil fuels will be going on depleting and cost of unit electricity has increasing to unpredictable levels. In this innovative research, used thermoelectric generator (TEG) for direct power generation from municipal inorganic waste garbage and use as renewable and green energy resource. In any power plant required large amount of water, fossil fuel, for power generation and there is many losses and overall power output is low. Required 5-10 tone of primary fuel and 8-10 hours for starting power plant. But in this power generation research don't required fossil fuel, any primary fuel free from mechanical and vibrational losses and there is immediate starting and direct power generation. Experimentation using 100 grams of inorganic waste garbage burnt into 33 cm^3 of heating zone with water cooling and Two TEG model SP1848-27145 connected in series and increasing temperature of hot plate is about 120℃ and cold plate is 33 ℃ produces temperature difference of 87 ℃ in time period of 150 sec and using only 80mm×40mm area of hot plate produced 0.87 Watt of power. If using all four faces of 33 cm^3 of heating zone as hot plate and connecting 192 TEG in series generate 83 watts of power only in 100 gram of inorganic waste garbage, temperature difference of 87 ℃ and time period of 150 second.**

Keywords — Heat, Inorganic waste garbage, Thermoelectric generator, thermoelectric materials, thermoelectric power generation, Environmental.

I. INTRODUCTION

Recently we are depending upon fossil fuels for maximum electricity generation. However, the reserves of fossil fuels will be going on depleting [1] since oil and gas are the least sources. Recent years, cost of unit electricity has increasing to unpredictable levels due the less supply of oil, gas, and coal. In this research found that the use the municipal inorganic waste garbage as renewable energy source and using TEG generate direct power from municipal inorganic waste garbage. This is based on the principles of Seebeck [4] effect [8]. Typically, semiconductors are used in TE couples because they can be doped with Additional electrons [8] or electron holes, [10] creating species to increase the Seebeck coefficient. Normal metal conductors have smaller coefficients due to equilibrium of positive and negative charges in the material that would induce the thermoelectric voltage. A larger amount of charge carriers on the hot side of the material results in a higher thermoelectric voltage, and hence semiconductors are optimum for TE devices. Thermoelectric materials are gauged by their figure of merit, which represents their Quality of performance [2] or efficiency, and is defined by the following:

$$z = \frac{\alpha^2 \sigma}{\kappa}$$

Where, α =Seebeck coefficient, σ = electrical conductivity, k = thermal conductivity [11].

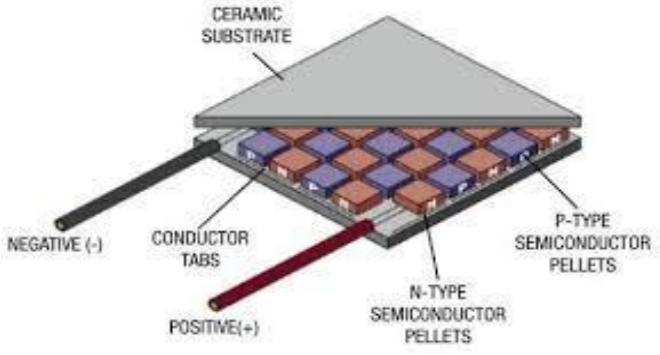

Fig 1: Thermoelectric generator [2]

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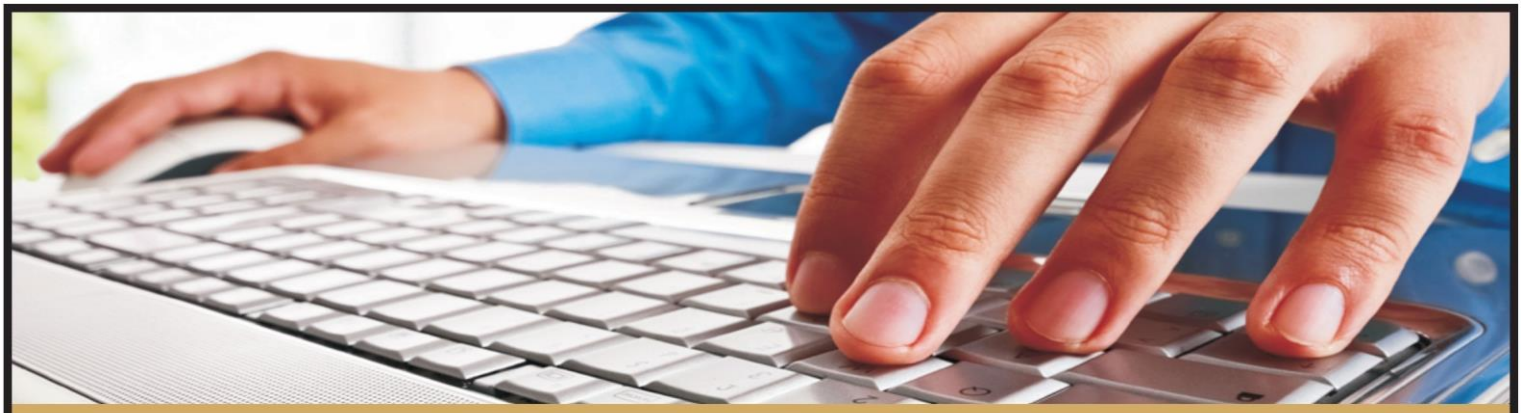

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hair as a fibre reinforcement material in concrete.

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10. STUDY ON PROPERTIES OF CONCRETE BY THE PARTIAL REPLACEME
COARSE AGGREGATE BY ASBESTOS SHEET WASTE (ASW) WITH THE ADDITI

AUTHOR NAME : A. S. Rathod, S. S. Sheikh, A. B. Gotefode, N. J. Mahule, S. S. Sa

ABSTRACT : This paper aims of studying and analyzing the various pro
Cement and coarse aggregate by Rice Husk Ash (RHA) and Asbestos
Fiber. These are the some solid waste produced by Human Beings for th
the compacting factor decreased as the percentage replacement of OPC
rice husk ash and coarse aggregate by Asbestos Sheet Waste (ASW) w
grade concrete compressive strength improvement at the replacer
experimental work & studies it is concluded that mix M2 (M0+10%RH
RHA and M3 (M0+15%ASW) with the 2% of Steel Fiber, which gives ma
and Flexural Strength over normal concrete.

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"STUDY ON PROPERTIES OF CONCRETE BY THE PARTIAL REPLACEMENT OF CEMENT BY RICE HUSK ASH (RHA) AND COARSE AGGREGATE BY ASBESTOS SHEET WASTE (ASW) WITH THE ADDITION OF STEEL FIBER"

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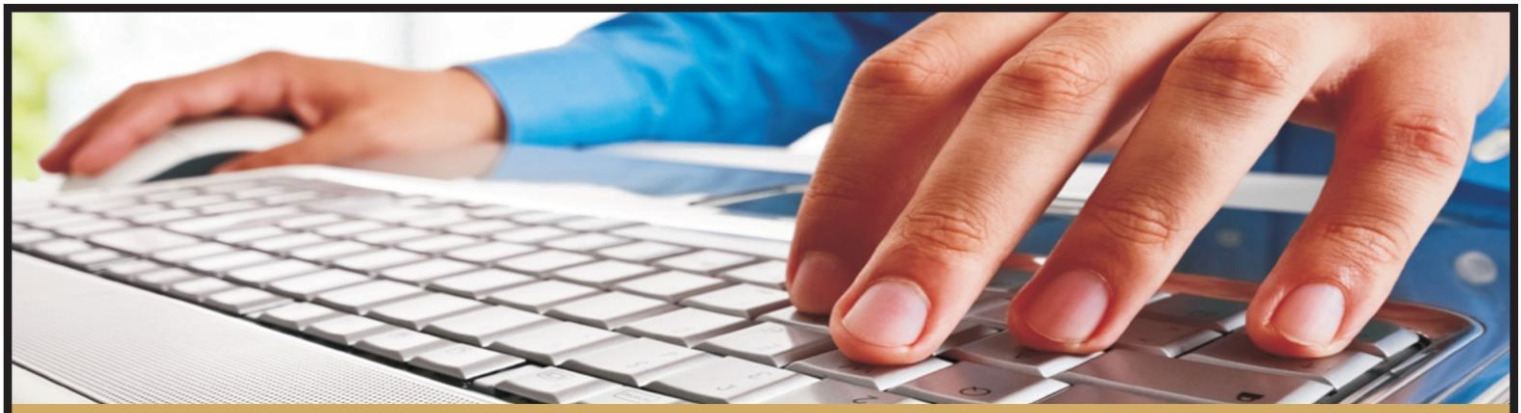
ABSTRACT: *This paper aims of studying and analyzing the various properties of concrete by partially replacement of Cement and coarse aggregate by Rice Husk Ash (RHA) and Asbestos Sheet Waste (ASW) with the Addition of Steel Fiber. These are the some solid waste produced by Human Beings for their day to day utilities. The result revealed that the compacting factor decreased as the percentage replacement of OPC with RHA increased. Replacement of cement by rice husk ash and coarse aggregate by Asbestos Sheet Waste (ASW) with the addition of Steel Fiber showed in M25 grade concrete compressive strength improvement at the replacement of 10% in all Ages. From this entire experimental work & studies it is concluded that mix M2 (M0+10%RHA) is the best combination among all mixes of RHA and M3 (M0+15%ASW) with the 2% of Steel Fiber, which gives max compression strength, Spilt Tensile Strength and Flexural Strength over normal concrete.*

1. INTRODUCTION

Due to rapidly growing civilization, day by day the amount of solid waste is increasing so there are only two way to control or to decomposed the waste is either to utilized it in healthy manner or to recycled it and reused it. This Industrial waste RHA is a great environment threat causing damage to the land and the surrounding area in which it is dumped. Lots of ways are being thought of for disposing it by making commercial use of this RHA. In the present investigation, Portland cement was replaced by rice husk ash at various percentages to study Compressive, Tensile and Flexural strength. About 20 million tons of RHA is produced annually. Same as off Asbestos Sheet Waste comes in the category of solid waste which comes from Old construction sites. Asbestos is a silicon-based mineral that is found in various locations around the world. Besides personal health, asbestos has a negative impact on the environment. A study presented in 2006 at the international conference Health, The Environment and Justice found that asbestos dust can easily travel through the air into the water supply. It can also settle on the surface of the soil instead of getting absorbed into the ground, which means that it can still get picked up by the wind and inhaled into human lungs. India uses an estimated 350,000 tons of asbestos annually, trailing behind China as the world's most prodigious consumer of the naturally occurring carcinogen. Only a fraction of the asbestos used in India originates in the country. The majority is imported from Russia and Brazil, the world's two biggest exporters of the product. Although its toxicity has prompted 52 countries to ban its use, India continues to utilize the material in cement roofing sheets, cement piping, friction materials, textiles and insulation. Steel wool, also known as iron wool, wire wool, steel wire or wire sponge, is a bundle of very fine and flexible sharp-edged steel filaments. Where Steel Wool Fiber is domestically used in India in large scale for washing the pots.



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9. USE OF HUMAN HAIR AS FIBRE REINFORCEMENT IN CONCRETE

AUTHOR NAME : Danish Khan, Atish Kamble, Pankaj Waghmare, Kuldip Kush

ABSTRACT : Since ancient times, many researches were carried out to ir
of concrete. As technology is getting advance day by day due to comm
explore the possibility for increasing the compressive strength of the c
among those which offers a convenient practical and economical met
types of deficiencies. It also reduced greater impact abrasion and shatt
resistance to tension and it is also found in abundance in nature hum
matter and at cheap cost, therefore it can be used as Fibre reinforceme
concrete cubes with addition of various percentage of human hair fibre
and coarse aggregate result were compare with those of plane cement c
were tested for their respective mechanical properties at curing perioc
research work will lead to the finding of the fact that whether compres
hair as a fibre reinforcement material in concrete.

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"USE OF HUMAN HAIR AS FIBRE REINFORCEMENT IN CONCRETE"

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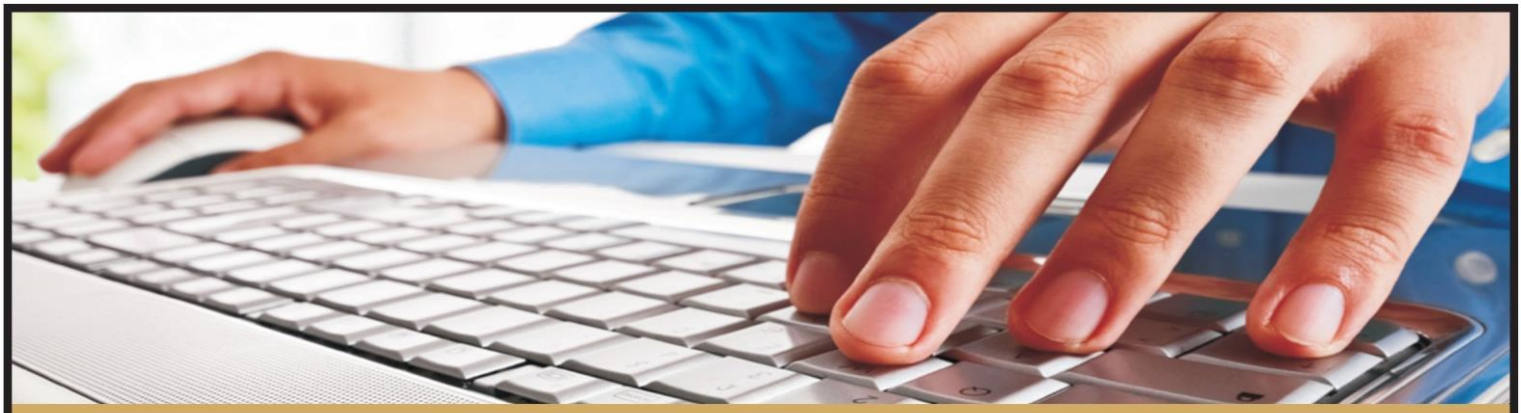
ABSTRACT: *Since ancient times, many researches were carried out to increase the mechanical and physical properties of concrete. As technology is getting advance day by day due to commercialization, new findings are being made to explore the possibility for increasing the compressive strength of the concrete. Fibre reinforce is one of the research among those which offers a convenient practical and economical method for overcoming micro-cracks and similar types of deficiencies. It also reduced greater impact abrasion and shatter resistance in concrete. As human hair offer resistance to tension and it is also found in abundance in nature human hair Fibre is an alternative non-degradable matter and at cheap cost, therefore it can be used as Fibre reinforcement in concrete. Experiment were conducted on concrete cubes with addition of various percentage of human hair fibre o % , 1% , and 1.5 % by weight of cement , fine and coarse aggregate result were compare with those of plane cement concrete of M20 and M 25 grade and the cubes were tested for their respective mechanical properties at curing period 7 , 14 , and 28 days the main result of these research work will lead to the finding of the fact that whether compressive strength increases or not by using human hair as a fibre reinforcement material in concrete .*

1. INTRODUCTION

Every civil engineer knew that what is concrete and where it is used it is a common term which means a mixture of materials generally used in the construction work. compressive strength is three primary measure parameter of concrete it depends upon the quality and quantity of material used to prepare the the concrete such as cement, fine aggregate and coarse aggregate fibre reinforced concrete is concrete containing fibrous material which increase its structural integrity, it contain short discrete Fibres that are uniformly distributed and randomly oriented the various fibre which can be used as the fibre reinforced material are glass fibre , synthetic fibre , steel fibre, and natural Fibre a fibre is a small piece of reinforcing material possessing certain characteristics properties addition of fibre to concrete influences its mechanical properties which significantly depend on the type , length and percentage of fibre . human hair can be used as Fibre in fibre reinforced concrete as well owing to the various reason it imparts higher tensile strength which can be equal to the tensile strength of copper wire having same diameter (Jain d and Kothari A .25th January 2012) human hair fibre has an elastic characteristic and it may undergo moderate starching either wet or dry when dry , the hair thread may be stretch 20-30 % of its length and in contact with water , and these may reach up to 50% (Nila V , Rajjan October 2015) . Human hair not only offers high compressive strength as well as reduced the micro cracking and increasing structural stability

2. ADVANTAGES

- Fibre reinforced concrete is used in structure where corrosion is to be avoided at the maximum



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ac voltage. In this way, the proposed solar power generation system g
phase with the utility voltage and is fed into the utility. The salient fea
that only six power electronic switches are used, and only one power ele
any time.

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8. PARTIAL REPLACEMENT OF CEMENT BY RICE HUSK ASH (RHA)

AUTHOR NAME : A. S. Rathod, S. S. Sheikh, A. B. Gotefode, N. J. Mahule, S. S. Sa

ABSTRACT : This paper aims of studying and analyzing the various pro
Cement by Rice Husk Ash (RHA). It obtains from burning of outer co
silicon dioxide (SiO_2) with high specific surface area and high pozzolani
natural materials, by-products or industrial wastes chemical propertie
result revealed that the compacting factor decreased as the percenta
Replacement of cement by rice husk asks showed in M25 grade concr
replacement of 10% in all Ages. From this entire experimental w
(M0+10%RHA) is the best combination among all mixes, which gives m

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"PARTIAL REPLACEMENT OF CEMENT BY RICE HUSK ASH (RHA)"

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ABSTRACT: *This paper aims of studying and analyzing the various properties of concrete by partially replacement of Cement by Rice Husk Ash (RHA). It obtains from burning of outer cover of rice husk. It consists of non-crystalline silicon dioxide (SiO_2) with high specific surface area and high pozzolanic reactivity. The Rice Husk Ash can be found as natural materials, by-products or industrial wastes chemical properties so far closer to micro silica, silica fume. The result revealed that the compacting factor decreased as the percentage replacement of PPC with RHA increased. Replacement of cement by rice husk asks showed in M25 grade concrete compressive strength improvement at the replacement of 10% in all Ages. From this entire experimental work & studies it is concluded that mix M2 (M0+10%RHA) is the best combination among all mixes, which gives max compression strength over normal concrete.*

1. INTRODUCTION

Rice Husk Ash (RHA) which is an agricultural by-product has been reported to be a good pozzolana by numerous researchers. The need to reduce the high cost of Ordinary Portland Cement in order to provide accommodation for the populace has intensified research into the use of some locally available materials that could be used as partial replacement for Pozzolana Portland cement (PPC) in Civil Engineering and Building Works. The optimized RHA, by controlled burn and/or grinding, has been used as a pozzolanic material in cement and concrete.

Sustainable development of the cement and concrete industry requires the utilization of industrial and agricultural waste components. India is a major rice producing country, and the husk generated during milling is mostly used as a fuel in the boilers for processing paddy, producing energy through direct combustion and / or by gasification. About 20 million tons of RHA is produced annually. This RHA is a great environment threat causing damage to the land and the surrounding area in which it is dumped. Lots of ways are being thought of for disposing it by making commercial use of this RHA. In the present investigation, Portland cement was replaced by rice husk ash at various percentages to study compressive and flexural strength. This research work examined the use of Rice Husk Ash as partial replacement for Ordinary Portland Cement in concrete. It involved the determination of workability and compressive strength of the concrete at different level of replacement.

2. EXPERIMENTALS AND METHODS

2.1. Materials used

2.1.1. Cement

The cement used was Ordinary Portland Cement. It was sourced Wardha and it conformed to the requirements of BS EN 197-1: 2000.

Object Oriented Programming (OOP) has become the preferred programming approach by the software people and companies, as it offers a powerful way to cope up with the complexity of real-world problems. This book is for the programmers as well as the students preparing for the exams in Engineering discipline. It explains in a simple lucid and easy to understand manner, this book assumes that the readers are familiar with C language. This book contains each and every topic in a practical way. This book contains number of programs which are already executed on Turbo C++ compiler and includes the C++ programs which are executed on GCC compiler. This is the first book which blends the features of such Windows and Open source compiler programs onto a single point. Also the Important questions after every chapter gives awareness regarding the exam point of view.

A Textbook for C++ Programming

Amol Zade
Rajkishor Tugnayat

Object Oriented Programming in C++: with Open Source Approach

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Detection of Bad Smell Code for Software Refactoring

Ganesh B. Regulwar and R. M. Tugnayat

Abstract Software refactoring is the process that requires modification in the source code to avoid bad smell. Professional has reviewed typical situations that may need refactoring call it bad smells, indicating that a few piece of the existing code stink dreadful. Bad smells are linked to consequent refactoring policy that can aid dismissing bad smells. Code smell is indication which representing some part is incorrect. It shows that code supposed to refractor or overall design should reconsider. Important is, where to refractor within in existing software is somewhat challenge to recognize region of bad design. Bad design is branded as "bad smells" in existing code. The detection of bad smell code can be done by parsing the particular code and store the related data in database, to detect the bad smell code, display result and provide solution.

Keywords Parsing · Long method · Lazy class · Duplicate code Detection of bad smell

1 Introduction

Code stink is also known as bad smell in existing code. "Bad code stink is an exterior sign which generally match up to profound crisis in the existing software". "Stinks are firm arrangement in the existing code which show destruction of original design ethics and unenthusiastically blow design excellence." Bugs are not code smells—bad smell [1] is not technically erroneous and would not check the functioning of program. Rather, it point out fault in design which may be

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time-consuming or growing the jeopardy of bugs or letdown in the prospect [2]. Often the profound difficulty implied by a code smell be able to exposed, when the code is focused to point out, when to refractor, and what exact refactoring techniques to apply [3]. So code stink is a driver for refactoring. Shaping code smell is slanted and differs by language, programmer and methodology for development. Refactoring, the method of altering the construction of code without changing its activities, is plainly a formalization of what programmers have done for a long time. It is broadly thought that refactoring get better software excellence and programmer efficiency by building it simple to preserve, recognize software system. Refactoring is described as the procedure of altering the construction of code with no changing the manner program performs [4]. Refactoring is a closely controlled method for improvement and presented body of code, changing its inner construction with no changing its outer performance. Several activities reduce in the title of refactoring: altering variable names, changing visibility, generalizing and specializing types, removing dead code. Refactoring is significant for a number of causes.

Introduction part is about what is mean by bad smell and software refactoring. Second part is about the literature review of bad smell. Different types of smell are how much it will be affecting to existing code. Third part is about proposed work to detect the bad smells and store into database. Fourth part is about Implementation of proposed work. Fifth is conclusion. Sixth is limitation and Future scope and last are references.

2 Literature Review

2.1 Bad Smell Code in Software Refactoring

The main topic is shaping the type of source code that need to improve the existing code. Many specialists have reviewed conditions that may need refactoring. [5–7] fowler and beck call them bad smells [5], representing that some piece of the existing code smells very bad. Cloned codes are symbols of latent harms in existing code which may want refactoring. Bad smells are generally connected to consequent refactoring rules which could aid disperse these bad stinks. Code smell is a sign that representing a bit incorrect. It specifies that the code must be changed or taken as a whole design must be reconsidered. Perceptive where to refractor [8] inside in software is relatively difficult to recognize awful design. This piece of bad design is recognized as bad stinks inside the existing code.