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LIST OF RESEARCH GRANTS
Academic Year (2022-2023)

Name of the Research Project/ Endowment	Name of the Principal Investigator/ Co-investigator	Department of Principal Investigator	Amount Sanctioned INR in Lakhs	Duration of the Project	Name of the Funding Agency	Type (Government/non-Government)
EXPERIMENTAL TEST AND PERFORMANCE CHARACTERISTIC OF SIMPLE J SHAPED AND LENZ TYPE COMBINED VERTICAL AXIS WIND TURBINE IN OPEN FIELD CONDITIONS	Dr. S. KARTHIKEYAN	MECHANICAL ENGINEERING	0.075	6 Months	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
IOT BASED SAFETY GADGETS FOR CHILD SAFETY MONITORING AND NOTIFICATION	Er. S. SENTHAZHAI	ELECTRONICS AND COMMUNICATION ENGINEERING	0.075	6 Months	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
A CHATBOT MOBILE QUARANTINE APP FOR STRESS RELIEF	Dr. S. RAMESH	COMPUTER SCIENCE AND ENGINEERING	0.075	6 Months	TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY	GOVERNMENT
AN INNOVATIVE WEARABLE DEVICE FOR WOMEN SAFETY USING IBEACON TECHNOLOGY WITHBLE	Er.S.SENTHAZHAI	ELECTRONICS AND COMMUNICATION ENGINEERING	0.050	6 Months	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
IOT BASED MONITORING AND TRACKING OF LANDSLIDES	Er. S. RAMESH	COMPUTER SCIENCE AND ENGINEERING	0.050	6 Months	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
SOLAR FED SENSORLESS BLDC MOTOR DRIVE FOR WATER PUMPING APPLICATION	Dr. P. NAMMALVAR	ELECTRICAL AND ELECTRONICS ENGINEERING	0.050	6 Months	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
HEAT TRANSFER THROUGH SHELL AND TUBE EXCHANGER USING AL_2O_3 NANO FLUID	Er. C. KUBENDRAN	MECHANICAL ENGINEERING	0.050	6 Months	ARUNAI CHARITABLE TRUST	NON-GOVERNMENT
EXPERIMENTAL INVESTIGATION OF REPLACING E-WASTE TO COARSE AGGREGATE IN CONCRETE	Er. PON SIVAMATHI	CIVIL ENGINEERING	0.075	6 Months	MAJESTIC BUILDERS	NON-GOVERNMENT
PARTIAL REPLACEMENT OF CEMENT WITH FLY ASH	Er. A. RAJESWARI	CIVIL ENGINEERING	0.075	6 Months	MAJESTIC BUILDERS	NON-GOVERNMENT
		Total Amount	**0.575**			

KRISHNASAMY COLLEGE OF ENGG. CUDDALORE 607 109. TECH

Dr.G.ELANGO, M.E.,Ph.D.,
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TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
(Established by Government of Tamilnadu)
Directorate of Technical Education Campus, Chennai – 600 025.
Ph : 044-22301425, www.tanscst.nic.in

Dr.R.SRINIVASAN, M.Sc., Ph.D.,F.I.C.S., M.A.C.S.(USA).,
Member Secretary

03.03.2023

Lr.No.TNSCST/SPS/BS/2022-2023

To
The Principal
Krishnasamy College of Engineering and Technology,
Cuddalore - 607 109

Sir/Madam,

Sub: TNSCST – Student Project Scheme – 2022-2023 – approval intimation–grant release- reg.

With respect to the above scheme, the list of projects approved by the State Council is enclosed along with terms and conditions. You are requested to adhere to terms and conditions such as submission of UC and Seminar Paper on Time.

1	1. Mr.K.Kumaguruparan, Assistant Professor, Department of Mech. Engg. Krishnasamy College of Engineering and Technology, Cuddalore - 607 109	Experimental test and performance characteristics of simple J shaped and Lenz type combined vertical axis wind turbine in open field conditions	J. Bakkiyaraj, A. Dineshkumar, C. Ragulraj,	EME-0402	The Principal	Rs 7500/-
2	2. Dr.Ramesh.S, Assistant Professor, Department of CSE, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109	A Chatbot Mobile Quarantine App for Stress Relief	V. Jayashree, K. Kalaiselvi, S. Nandhini,	CSE-843	The Principal	Rs 7500/-
3	3. Mrs.Senthazhai S, Head, Department of ECE Krishnasamy College of Engineering and Technology, Cuddalore - 607 109	IOT based safety gadgets for child safety monitoring and notification	Chermathi J, Gayathri K, Kamala Varthini G, Thilaga K S	EEE-1037	The Principal	Rs 7500/-
					Total	Rs 22500/-

Herewith enclosed the cheque for the approved grant and disburse the grant to the concerned students through the guides at the earliest

Kindly send the utilisation certificate (format enclosed) and seminar paper (Ref.T&C) on completion of the project.

Thanking you,

Yours faithfully,

3/3/23
Member Secretary.

Encl: a) Terms & Conditions (T&C)
b) Format of Utilisation Certificate (UC)
c) Cheque for Rs.22500/- Cheque No:574876 dt.03.03.2023

Copy to: Individual Guides

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TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
DOTE CAMPUS, CHENNAI - 600 025

STUDENT PROJECT SCHEME 2022-2023
UTILISATION CERTIFICATE

(TWO COPIES)

1. Name of the guide and address : Dr. S. KARTHIKEYAN,
Krishnasamy College of Engineering & Tech
Anand Nagar, Nellikuppam main Road,
S. Kumarapuram, Cuddalore

2. Name of the student(s) : J. BAKKIYARAJ
A. DINESH KUMAR
C. RAHUL RAJ

3. Title of the project : EXPERIMENTAL TEST T-SHAPED LBN2 TYPE COMBINED VERTICAL AXIS WIND TURBINE

4. Project code : EmE0402

It is certified that a sum of Rs. 7500/- (Rupees Seven Thousand five hundred O sanctioned by the Council for carrying out above mentioned student project has been utilized for thepurpose for which it was sanctioned and sum of Rs. NIL remaining unutilized is refunded.

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EXPERIMENTAL TEST ON COMBINED J-SHAPED – LENZ TYPE VERTICAL AXISWIND TURBINE

BAKKIYARAJ J, DINESHKUMAR A, RAGULRAJ C

Department of Mechanical Engineering
Krishnasamy College of Engineering and Technology
Cuddalore 607 109

ABSTRACT

The design of this turbine is inspired by the combination of the Lenz2 airfoil design of Dr Ed Lenz of windstuffnow.com and the J- shaped profile used as the blade airfoil. This project combines the advantage of the two popular designs of vertical axis wind turbines (Savonius and Darrieus). The J-Shaped profile is designed for eliminating a fraction of the pressure side of the airfoil. Hence, it also overcomes the drawbacks of the presently available turbine design. The fabrication of the turbine was done using basic materials and simple tools. The blade is made out of carbon fiber. The remaining structure is made essentially of mild steel. The turbine is a single-staged model with each turbine standing 1200 mm in height and having a radius of 600 mm. The angular position of each blade is 120° apart from one another and the two turbines are angularly offset on the shaft by 60° thus creating maximum chances for trapping the wind from varying directions. The rotor is tested under different loads and wind speeds, test results show reliable and efficient performance. Other characteristics of the turbine like tip speed ratio and coefficient of power generation were calculated using mathematical equations. The experiments will be conducted in an open area condition. The wind velocity ranging from 2 to 5m/s is available everywhere dependigon different climatic seasons. Moreover, by employing this Lenz type and J-Shaped profile, the wind turbine Characteristics and performance of the turbine are improved.

INTRODUCTION

A Vertical Axis Wind Turbine (VAWT) is a type of wind turbine that has its rotor shaft oriented perpendicular to the ground. Unlike horizontal-axis wind turbines, which have blades rotating around a horizontal axis, VAWTs have blades that rotate around a vertical axis. The vertical axis wind turbine (VAWT) is a type of wind turbine where the main rotor shaft is set vertically, with the blades rotating around it. Unlike horizontal axis wind turbines, VAWTs do not need to be pointed into the wind, and they have a lower noise level and a smaller footprint. There are several types of VAWTs, including Savonius and Darrieus turbines. The Darrieus turbine has a more complex design, with curved blades that are shaped like airfoils. One advantage of VAWTs is that they can be placed closer together than horizontal axis wind turbines, which allows for greater energy output per unit of land. However, VAWTs typically have a lower efficiency than horizontal-axis wind turbines, and they are less common in large-scale wind power projects. Despite their lower efficiency, VAWTs are becoming increasingly popular for small-scale and residential wind power applications due to their ease of installation and operation, as well as their unique aesthetic appeal.

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This is to certify that **Mr./Ms. J. Bakkiyaraj**, **Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"Experimental test and performance characteristics of simple J shaped and Lenz type combined vertical axis wind turbine in open field conditions"** in the Sector MECHANICAL ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2022-2023.

Chennai-600 025
27.10.2023
EME-0402/2023

Dr. R. SRINIVASAN
Member Secretary

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This is to certify that **Mr./Ms. A. Dineshkumar**, **Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"Experimental test and performance characteristics of simple J shaped and Lenz type combined vertical axis wind turbine in open field conditions"** in the Sector MECHANICAL ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2022-2023.

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This is to certify that **Mr./Ms. C. Ragulraj, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"Experimental test and performance characteristics of simple J shaped and Lenz type combined vertical axis wind turbine in open field conditions"** in the Sector **MECHANICAL ENGINEERING** under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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STUDENT PROJECT SCHEME 2022-2023
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1. Name of the guide and address : Dr. S. Ramesh
Krishnasamy College of Eng & Tech.
Anand Nagar, Nellikuppam main road, S. Kumarapuram.

2. Name of the student(s) :
V. Jayashree
K. Kalaiselvi
S. Nandhini

3. Title of the project : A Chatbot Mobile Quarantine App for Stress Relief

4. Project code : CSE - 843

It is certified that a sum of Rs. 7,500 (Rupees Seven Thousand and Five hundred sanctioned by the Council for carrying out above mentioned student project has been utilized for the purpose for which it was sanctioned and sum of Rs. Nil remaining unutilized is refunded.

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A CHATBOT MOBILE QUARANTINE APP FOR STRESS RELIEF

Jayashree. V, Kalaiselvi. K, Nandhini. S

Department of Computer Science and Engineering
Krishnasamy College of Engineering & Technology, Cuddalore.

Abstract

The COVID-19 epidemic has had a dreadful effect on psychological and physical health on the patient, as a public health disaster of international significance, and this trauma can even lead to death. Studies in COVID patients on psychiatric therapies are still relatively uncommon. During a COVID-19 pandemic, the efficacy of cognitive conduct therapy was investigated in this project. So, introduce Chatbot that questions the user with a certain time interval and play their mood with music. If they do not react to the situation, the camera is immediately activated and their face gestures recognized by sentimental analysis and encourage them to alleviate the tension and transmit the message to others. In this pandemic situation, this is very helpful for all people to distract their stress. Detecting and analyzing the emotional state of quarantined people is a huge task and it is one of the major issues faced by non-quarantine people who belong to the same family. Various applications of big data analytics in healthcare have lot of positive and lifesaving outcomes. But still does not get proper clarity about detecting the emotional stress range of patients. So, this proposed work combined deep learning technique with sentimental analysis in order to analyze and detect patients stress level. Also enables a time counter in which identifies the depth of the stress. Deep learning techniques have found to be effective and superior for many applications.

Introduction

Data mining is an interdisciplinary subfield of computer science. It is the computational process of discovering patterns in large data sets ("big data") involving methods at the intersection of artificial intelligence, machine learning, statistics, and database systems. Big data is a collection of data sets so large and complex that it becomes difficult to process using on-hand database management tools. The challenges include capture, curation, storage, search, sharing, analysis, and visualization. The trend to larger data sets is due to the additional information derivable from analysis of a single large set of related data, as compared to

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This is to certify that Mr./Ms. V. Jayashree, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled **"A Chatbot Mobile Quarantine App for Stress Relief"** in the Sector COMPUTER SCIENCE AND ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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27.10.2023
CSE-0843/2023

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This is to certify that Mr./ Ms. K. Kalaiselvi, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109 has successfully completed the project titled **"A Chatbot Mobile Quarantine App for Stress Relief"** in the Sector COMPUTER SCIENCE AND ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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This is to certify that **Mr./Ms. S. Nandhini, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"A Chatbot Mobile Quarantine App for Stress Relief"** in the Sector COMPUTER SCIENCE AND ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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STUDENT PROJECT SCHEME 2022-2023
UTILISATION CERTIFICATE

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1. Name of the guide and address : Mrs. S Senthazhai
Krishnasamy College of Eng & Tech.
Anand Nagar, Nellikuppam main Road
S. Kumarapuram.

2. Name of the student(s) : J. Charumathi
K. Gayathri
G. Kamala Varthini
K.S. Thilaga

3. Title of the project : IoT Based Safety Gadgets for Child Safety Monitoring & Notification System.

4. Project code : EEE1037

It is certified that a sum of Rs. 7,500 (Rupees Seven Thousand and Five hundred. sanctioned by the Council for carrying out above mentioned student project has been utilized for thepurpose for which it was sanctioned and sum of Rs. NIL remaining unutilized is refunded.

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IOT BASED SAFETY GADGETS FOR CHILD SAFETY MONITORING AND NOTIFICATION SYSTEM

Charumathi.J, Gayathri.K, Kamala Varthini.G and Thilaga.K.S

Department of Electronics and Communication Engineering

Krishnasamy College of Engineering & Technology

S.Kumarapuram, Cuddalore-607109

Abstract

Borewell accidents are common due to uncovered openings of borewell. It is very difficult and risky to rescue the trapped children. A small delay in the rescue can cost the child his or her life. Due to that, parents whose families were located near boreholes are worried for their children and perhaps, a hard challenge for them to guarantee safety of their children when they are out. To overcome this issue, IOT is applied to propose a wearable smart band which helps parents to monitor and get known of their child's condition at anywhere and anytime even if they are not by their children side. It helps in tracking of child's location and capturing of data remotely such as temperature and pulse. It also sends notification if the child is out of location or when the device realizes abnormal conditions/situations. The heartbeat and temperature sensors are deployed to fetch the data and the values are send to microcontroller which in turn reflects in IOT webserver to monitor remotely. Then microcontroller sends the collected data to parent's smartphones by SMS using GSM module. When there are abnormal values detected that is when the child is out of the parent location, it will then automatically make calls to registered contact and to the nearest police station with help of GPS tracking.

Introduction

Sensors and actuators to the Internet, according to. It is able to make decisions via detecting the surrounding environment without human interaction. In this research, IOT is applied to propose a wearable smart band which helps parents to monitor and get known of their child's condition at anywhere and anytime even if they are not by their children side. Via the IOT smart band, children safety is guaranteed, and crime rate is reduced as immediate actions can be taken in case the child is in danger. Besides, unlike existing smart band, which is less focusing on child security aspect, the proposed system emphasizes in getting as much data as possible so that actual situation can be identified. The use of IOT in this device is motivated by the need of child security system in Malaysia due to child safety issues resulting from increasing cases on child related crime. In fact, IOT has been applied in domains such as smart home, smart city, smart factory, supply chain, retail, agriculture, lifestyle, transportation, emergency, health care, environment, energy, culture and tourism.

Methodology

This work deals with the keep track of the children's parameters such as position, breathing and heart rate. Arduino Uno is used in designing the children monitoring system, can be explained as the system used for monitoring physiological information that includes the parameters like heart beat, position, gases related parameters, etc. based protype model where we are monitoring the heart beat rate and temperature of body parameters through the Arduino Uno. The perfect direction and the medical related information of the children can be sent to the base station in real time, so that desired steps can be taken by base station. Internet of Things (IoT) with Global Positioning System (GPS) is used for tracking the location of the

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This is to certify that **Mr./Ms. J. Charmathi, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"IOT based safety gadgets for child safety monitoring and notification"** in the Sector ELECTRICAL AND ELECTRONICS ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

Chennai-600 025
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Dr. R. SRINIVASAN
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This is to certify that **Mr./Ms. K. Gayathri, Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"IOT based safety gadgets for child safety monitoring and notification"** in the Sector ELECTRICAL AND ELECTRONICS ENGINEERING under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2022-2023.

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This is to certify that Mr./Ms. **G. Kamala Varthini**, **Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"IOT based safety gadgets for child safety monitoring and notification"** in the Sector ELECTRICAL AND ELECTRONICS ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2022-2023.

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EEE-1037/2023

Dr. R. SRINIVASAN
Member Secretary

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This is to certify that **Mr./Ms. K.S. Thilaga**, **Krishnasamy College of Engineering and Technology, Cuddalore - 607 109** has successfully completed the project titled **"IOT based safety gadgets for child safety monitoring and notification"** in the Sector ELECTRICAL AND ELECTRONICS ENGINEERING under STUDENT PROJECT SCHEME sponsored by the Council during the academic year 2022-2023.

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27.10.2023
EEE-1037/2023

Dr. R. SRINIVASAN
Member Secretary

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RESEARCH & DEVELOPMENT CENTRE

Date : 19.05.2023

Recommended Project list for Financial Grant for the Academic year 2022-23

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students
Mrs.S.Senthazhai, AP Krishnasamy College of Engineering and Technology, Cuddalore.	An innovative wearable device for women safety using IBEACON technology WITHBLE	Keerthika.B Sathya.S	Electrical and Communication Engineering
Mr.S.Ramesh, AP Krishnasamy College of Engineering and Technology, Cuddalore.	IOT based monitoring and tracking of landslides	Narmatha.S Shanthini.A Sumaiya farveen.N Ummulnasiha.U	Computer Science and Engineering
Dr.P.Nammalvar, AP Krishnasamy College of Engineering and Technology, Cuddalore.	Solar fed sensorless BLDC motor drive for water pumping application	Abinaya.T Divya.V Preethi.R	Electrical and Electronics Engineering
Mr.C. Kubendran, AP Krishnasamy College of Engineering and Technology, Cuddalore.	Heat transfer through shell and tube exchanger using AL_2O_3 nano fluid	Arjunraj.R Murasolimaran.M Vignesh.V	Mechanical Engineering

Submitted to the
Principal

19/5/23

R&D In charge

Dr. B. RAMESH

AP-ECE

19/5/23

VICE-PRINCIPAL

PRINCIPAL

To

The Chairman,
Arunai Charitable Trust,
157/16, Siva Flats,
20th Main Road, Anna Nagar,
Chennai – 600 040.

19.05.2023

Respected Sir,

Sub: Submission of Application for Financial grand for the students' projects – 2022-23-Krishnasamy College of Engineering & Technology, Cuddalore – Reg.

Ref: Telephonic requisition for project grant recommendation, from your office Dated 10.05.2023

With reference to the above, I am herewith submitting the list of projects of our students which are recommended by our Research and Development Centre for financial grant after obtaining the approval from our Chairman, Dr. K. Rajendran. The particulars of the project, students name and Project supervisor name for the academic year 2022 -23 is enclosed herewith for your kind perusal.

I request, the recommended projects may kindly be considered and financial grant be sanctioned from your end.

Thanking you,

Yours truly,

PRINCIPAL

Encl : Recommended Project List.

o/c
19/5/23

MAA 570673022

ARUNAI CHARITABLE TRUST

(Estd 1994)

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Chennai

03.06.2023

The Chairman,
Krishnasamy college of Engineering & Technology,
Nelikuppam Main Road,S Kumarapuram,
Cuddalore – 607 109

Sub : - Financial Grant to Recommended student – Reg.
Ref: - Recommendation letter dated 19.05.2023

With reference to the recommended applications for financial assistance for the student projects from you on 19.05.2023, We are enclosing the KVQ cheque No.000651 dated 03.06.2023 for Rs.20,000/–towards financial Grant assistance to the recommended four Projects @ Rs.5000/– each. Kindly acknowledge the receipt by signing the enclosed voucher and return back to us.

Thanking you.

Your Frienly,
For Arunai Charitable Trust

K.Chandrasekaran
(Treasurer)

CET - CUDDALORE-607109
Incoming Tapal No: 654
O.P | R.P | Courier | In Person | e-mail
06 JUN 2023
CHAIRMAN | ED | PRINCIPAL | VP | AO

Encl: KVB Cheque No. 000651 & Voucher

.Address for Communicatio : **K.Chandrasekaran**

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VOID

K. Chandra

TRUSTEE(S)/AUTHORISED SIGNATORY

Please sign above

⑈000651⑈ 600053005⑆ 000860⑈ 31

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#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Mrs. S. SENTHAZHAI

Associate Professor

Department of Electronics and Communication Engineering

2 Name of the student(s) :

B. Keerthika

S. Sathya

3 Title of the project : An Innovative wearable device for women safety using I BEACON Technology WITH BLE

4 Department/Institution Name & Address : Electronics and communication Engineering / Krishnasamy College of Engineering and Technology S. Kumarapuram, cuddalore - 607109

It is certified that a sum of Rs 5000 (Five Thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide | Signature of the HOD | Signature of the Principal

AN INNOVATIVE WEARABLE DEVICE FOR WOMEN SAFETY USING IBEACON TECHNOLOGY WITHBLE

A PROJECT REPORT

Submitted by

B. KEERTHIKA (421318106006)

S. SATHYA (421318106015)

In partial fulfillment for the award of the degree

Of

BACHELOR OF ENGINEERING

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING & TECHNOLOGY

CUDDALORE-607109

ANNA UNIVERSITY: CHENNAI – 600025

JUNE-2022

ABSTRACT

According to the reports of WHO, NCRB-social-government organization 35%Women all over the world are facing a lot of unethical physical harassment in public places such as railway-bus stands, foot paths etc. This paper describes about a one touch alarm system for women's safety using IBEACON. In the light of recent outrage in Delhi which shook the nation and woke us to the safety issues for women, people are finding up in different ways to defend. Here we introduce a device which ensures the protection of women. This helps to identify protect and call on resources to help the one out of dangerous situations. Anytime you sense danger, all you had to do, is hold on the panic switch. The system resembles a normal wearable device which when activated, tracks the place of the women using Bluetooth low energy and sends emergency messages using GSM (Global System for Mobile communication), to SOS contacts and the police control room.The proposed work shows a flexible and interoperable combination of a device and application that will accessorize and empower the citizens and serve as a multifunctional device.

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Phone: (04142) 285 601 - 604, 94886 03394. Website: **www.kcet.in**

Certificate

This is to certify that Mr. / Ms. KEERTHIKA .B - ECE - IV Year of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled AN INNOVATIVE WEARABLE DEVICE FOR WOMEN SAFETY USING IBEACON TECHNOLOGY WITHBLE under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022- 2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / Ms. SATHYA.S, (ECE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled AN INNOVATIVE WEARABLE DEVICE FOR WOMEN SAFETY USING IBEACON TECHNOLOGY WITHBLE

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022 2023

Principal

Dr. K. Rajendran
Chairman

ARUNAI CHARITABLE TRUST

(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Dr. S. RAMESH
Assistant Professor
Department of computer science and Engineering

2 Name of the student(s) : S. Nasmatha
A. Shanthini
N. Sumiya Parveen
V. Ummal Nasiha

3 Title of the project : IoT Based monitoring and Tracking of landslides

4 Department/Institution Name & Address : computer science & engineering Krishnasamy college of engineering and Technology, S. Kumarapuram cuddalore - 607109.

It is certified that a sum of Rs 5000 (Five Thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide

C. Rajkha
Signature of the HOD

Signature of the Principal

IoT BASED MONITORING AND TRACKING OF LANDSLIDES

By

S.NARMATHA
A.SHANTHINI
N.SUMAIYA FARVEEN
U.UMMUL NASIHA

of

KRISHNASAMY
COLLEGE OF ENGINEERING & TECHNOLOGY
S.Kumarapuram, Cuddalore-607 109.

A PROJECT PROPOSAL

Submitted to the

Tamil Nadu State Council for Science and Technology

AUGUST 2022

IoT BASED MONITORING AND TRACKING OF LANDSLIDES

ABSTRACT

The slipping of rock, rubble, or dirty down a slope is known as a rock slide. A sort of "mass waste" that refers to any moving of rock and soil along a slope underneath the immediate impact of gravity is a slide. Landslides have a negative impact on a number of assets and are responsible for property damage, injuries, and fatalities. A avalanche is primarily caused by gravity, but there are additional factors that influence geotechnical and result in particular conditions that render a slope vulnerable to failure. Often, but not always, a particular incident (such as a lot of rain, an explosion, a slope being cut for a road, and numerous others) causes an avalanche to occur. The accessibility, amount, and water's quality can all be impacted by a landslide. Thus, limiting the disastrous effects of earthquakes requires significant investment in landslide monitoring. Our project's proposed system uses an Arduino UNO to detect and monitor the landslide. It conducts an actual analysis of the hilly region based on IoT sensors that identify landslides and alert locals via alert messages via GPS and GSM, as well as via buzzer in the event that system operation is lost.

INTRODUCTION

In a number of locations, including mountainous regions, coastal cliffs, or even underneath, where they are known as submarine landslide, extreme events can occur and are characterised whether by steep or gradual steeper slopes. A landslide is primarily caused by gravity, but there are additional elements that affect geotechnical and result in particular situations that make a hillside vulnerable to failure. Often, but not always, a particular incident (such as a lot of rain, an explosion, a slope being cut for a highway, and numerous others) causes a landslides to occur. It need domain competence to develop an early detection system for the surveillance and tracking of landslides, not merely to build the instrumentation but also to use them correctly and analyze their information for logical purposes. The term "Internet of Things" (IoT) refers to a collection of wireless sensor devices that are capable of interacting with one another and acting in concert. By exchanging this data across systems, a Common Operating Picture is created (COP). IoT has emerged from its infancy and is now the next breakthrough technology in converting the Internet into a completely integrated Future Internet, spurred by the adoption of a number of contemporary advancements.

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Certificate

This is to certify that Mr. / Ms. NARMATHA.S (CSE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled IOT BASED MONITORING AND TRACKING OF LANDSLIDES

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022- 2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / Ms. SHANTHINI. A (CSE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled IOT BASED MONITORING AND TRACKING OF LANDSLIDES

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / Ms. SUMAIYA FARVEEN. N. (CSE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the

project titled IOT BASED MONITORING AND TRACKING OF LANDSLIDES

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 202- 2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / Ms. UMMULNAISHA . U (CSE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled IOT BASED MONITORING AND TRACKING OF LANDSLIDES

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022 2023

Principal

Dr. K. Rajendran
Chairman

ARUNAI CHARITABLE TRUST

(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Dr. P. NAMMALVAR

Associate Professor
Department of Electrical and Electronics Engineering

2 Name of the student(s) :

ABinaya . T
Divya . V
Preethi R

3 Title of the project : Solar fed sensorless BLDC motor drive for water Pumping Application

4 Department/Institution Name & Address : Electrical and Electronics Engineering / Krishnasamy College of Engineering and Technology, S. Kumarapuram cuddalore - 607109

It is certified that a sum of Rs 5000 (Five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide Signature of the HOD Signature of the Principal

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Certificate

This is to certify that ~~Mr.~~ / Ms. ABINAYA . T (EEE - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the project titled SOLAR FED SENSORLESS BLDC MOTOR DRIVE FOR WATER PUMPING APPLICATION.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that ~~Mr.~~ / Ms. DIVYA.V (EEE - IV YEAR) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled SOLAR FED SENSORLESS BLDC MOTOR DRIVE FOR WATER PUMPING APPLICATION, under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that ~~Mr~~. / Ms. PREETHI. R (EEE - IV YEAR) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled SOLAR FED SENSORLESS BLDC MOTOR DRIVE FOR WATER PUMPING APPLICATION. under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

ARUNAI CHARITABLE TRUST

(Estd 1994)

#157/16,Siva Flatss,20th MainRoad,AnnanagarWest,Chennai -600 040

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1	Name of the guide & Address	: Er. C. KUBENDREN Assistant professor Department of mechanical Engineering
2	Name of the student(s)	: Arjunraj. R Murasolimaran. M Vignesh. V
3	Title of the project	: Heat Transfer trough shell and Tube heat Exchanger using Al_2O_3 Nano fluid
4	Department/Institution Name & Address	: Mechanical Engineering/ Krishnasamy College of Engineering and technology, kumarapuram, cuddalore 607109

It is certified that a sum of Rs 5000 (Five thousand only) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Signature of the Guide | Signature of the HOD | Signature of the Principal

HEAT TRANSFER THROUGH SHELL AND TUBE HEAT EXCHANGER USING Al_2O_3 NANOFLUID

A PROJECT REPORT

Submitted by

R.ARJUNRAJ (421319114005)

M.MURASOLIMARAN (421319114024)

V.VIGNESH (421319114042)

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

in

MECHANICAL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

CUDDALORE – 607 109

ANNA UNIVERSITY: CHENNAI – 600 025

MAY – 2023

ABSTRACT

Heat exchanger is a device which is used to transfer the heat due to temperature difference. Effectiveness of the heat exchanger is depends on the properties of the cooling medium. Nanofluid has higher thermal conductivity, which is used to transfer the larger amount of heat. Distilled water has less mineral content which is less corrosive effect. Shell and tube heat exchanger are predominantly used to transfer the heat in larger amount and it plays a major role to cool the engine. Al_2O_3 has higher thermal conductivity in the range of (20-30 W/m.k). The mixture o Al_2O_3 and distilled water in different proportions were tested as coolant.

The optimum proportion is found by using the cross flow heat exchanger, experimentally.

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Phone: (04142) 285 601 - 604, 94886 03394. Website: www.kcet.in

Certificate

This is to certify that Mr. / ~~Ms~~. ARJUNRAJ.R (ME - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the

project titled HEAT TRANSFER THROUGH SHELL AND TUBE EXCHANGER USING AL_2O_3 NANO FLUID.

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
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Phone: (04142) 285 601 - 604, 94886 03394. Website: **www.kcet.in**

Certificate

This is to certify that Mr. / ~~Ms.~~ MURASOLIMARAN.M (ME - IV YEAR) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled HEAT TRANSFER THROUGH SHELL AND TUBE EXCHANGER USING AL_2O_3 NANO FLUID under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022-2023

Principal

Dr. K. Rajendran
Chairman

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Certificate

This is to certify that Mr. / ~~Ms.~~ VIGNESH.V (ME - IV YEAR) of

Krishnasamy College of Engineering and Technology, Cuddalore has successfully completed the

project titled HEAT TRANSFER THROUGH SHELL AND TUBE EXCHANGER USING AL_2O_3 NANO FLUID

under Research / Project grant sponsored by the Arunai Charitable Trust during the academic year 2022 - 2023

Principal

Dr. K. Rajendran
Chairman

KRISHNASAMY
COLLEGE OF ENGINEERING & TECHNOLOGY
(Approved by AICTE, New Delhi & Affiliated to Anna University)
Anand Nagar, Nellikuppam Main Road, S.Kumarapuram, Cuddalore - 607 109.
☎ (04142) 285 601 - 604 | info@kcet.in | www.kcet.in

Prof. Dr. G. ELANGO, M.E., Ph.D.,
Principal

Lr. No. KCET/2022-23/Trust/124 **Date :10.01.2023**

From
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

To
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

Respected Sir,

Sub. : Project Funding – Reg.
Ref. : MoU dated 21.04.2021

The research project has been identified under the MoU of your esteemed organisation based on the recommendations of the Head of the Department and the Principal for the following batches. Thank you for your support and funding.

Academic Year 2022-2023				
Guide Name and Institution Address	**Title of the Project**	**Students Name**	**Department of the Students**	**Amount (Rs)**
Er.Pon Sivamathi Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental investigation of replacing E-Waste to coarse aggregate in concrete	Kalaiyarasan.G Krishnakumar.K Shyam.A	Civil Engineering	7500/-
MRS.A.Rajeswari Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Partial replacement of cement with fly ash	Mathavan.M Rajasekar.K	Civil Engineering	7500/-

KRISHNASAMY COLLEGE OF ENGG. & TECH. CUDDALORE 607 109.

Yours Sincerely,

PRINCIPAL
Krishnasamy College of Engineering & Technology, Kumarapuram, Cuddalore-607 109.

PRINCIPAL

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar,Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Date :17.01.2023

From
MAJESTIC BUILDERS,
5/12, Rajiv Gandhi Nagar,
Koothapakkam,
Cuddalore-2.

To
The Principal,
Krishnasamy College of Engineering and Technology,
S.Kumarapuram, Cuddalore-607109.

Respected Sir,

Sub. : Project Funding – Reg

Ref. : Lr. No. KCET / 2022-23/Trust/124

We are pleased to inform you that we approve your proposal based on the letter cited above as it is a very nice thought and we feel it definitely need to be encouraged. We would grant you a sum of amount INR.- 15000/-. We will support you throughout the execution of the idea.

The detailed report shall be forwarded to us and subsequent review discussions held by involving Engineers from Builders Association. It has been decided to sanction the funding as follows.

Academic Year 2022-2023

Guide Name and Institution Address	Title of the Project	Students Name	Department of the Students	Amount (Rs)
Er.Pon Sivamathi Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Experimental investigation of replacing E-Waste to coarse aggregate in concrete	Kalaiyarasan.G Krishnakumar.K Shyam.A	Civil Engineering	7500/-
MRS.A.Rajeswari Assistant professor Krishnasamy College of Engineering and Technology, Kumarapuram, Cuddalore-607109.	Partial replacement of cement with fly ash	Mathavan.M Rajasekar.K	Civil Engineering	7500/-

With Regards

STUDY ON PARTIAL REPLACEMENT OF COARSE AGGREGATE BY RUBBER IN CONCRETE

PROJECT REPORT

Submitted by

KRISHNARAJ.R	**421315103011**
PREM KUMAR.B	**421315103019**
SUGUMAR.S	**421315103028**

in partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

S.KUMARAPURAM, CUDDALORE-607 109

ANNA UNIVERSITY: CHENNAI 600 025

MARCH 2019

ABSTRACT

At present the disposal of waste tyres is becoming a major waste management problem in the world. It is estimated that 1.2 billion of waste tyre rubber produced globally per year. It is estimated that 11% of postconsumer tyres are exported and 27% are sent to landfill, stockpiled or dumped illegally and only 4 % is used for civil engineering projects. Hence efforts have been taken to identify the potential application of waste tyres in civil engineering projects. In this context, our present study aims to investigate the optimal use of waste tyre rubber as coarse aggregate in concrete composite. Cubes are casted of M25 grade by replacing 15% and 30% percent of waste tyre with coarse aggregate and compared with regular M25 grade concrete. Fresh and hardened concrete strength were identified

Keywords: Rubber, Compressive strength, Material Properties.

MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar, Koothapakkam, Cuddalore-2.
Email: cuddaloremajesticbuilders@gmail.com

Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Ev. Pon. Sivamathi
Assistant Professor
Department of Civil Engineering

2 Name of the student(s) : G. Kalaiyarasan
K. Krishnakumar
A. Shyam

3 Title of the project : Experimental Investigation of Replacing E-waste to Coarse Aggregate in Concrete.

4 Department/Institution Name & Address : Civil Engineering
Krishnasamy College of Engineering and Technology
S. Kumarapuram, Cuddalore
- 607109

It is certified that a sum of Rs 7500 (Seven Thousand and Five hundred) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

Pon. Sivamathi
Signature of the Guide

Signature of the HOD

Signature of the Principal

EXPERIMENTAL INVESTIGATION OF REPLACING E-WASTE TO COARSE AGGREGATE IN CONCRETE

A PROJECT REPORT

Submitted by

KALAIYARASAN. G	421319103008
KRISHNA KUMAR. K	421319103010
SHYAM. A	421319103017

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

S. KUMARAPURAM, CUDDALORE - 607 109

ANNA UNIVERSITY: CHENNAI - 600 025

MAY - 2023

ABSTRACT

Waste materials from other industries are being utilized in concrete productions such as fly ash, silica fume etc. The waste materials from electronics and electrical industries are divided in two categories hazardous and inert waste materials. The inert waste is also known as ***e-wastes*** describes obsolete, discarded, and malfunctioned electrical or electronics devices. It is very difficult to dispose-off the e-waste materials. Due to increase in cost of normal coarse aggregate it has forced the civil engineers to find out suitable alternatives to it. The mix design of M30 grade of concrete for normal mix (without e-waste) and with a partial replacement of coarse aggregates with e-waste material with 0%, 10%, 20%, 30%, and 40% is to be carried out and the effect of e-waste particle size using less than 10 mm, between 10 to 15 mm and up to 20 mm on compressive strength of concrete cubes and flexural strength of beam is also studied. The compressive strength of concrete cubes and flexural strength of beam tests at 7 and 28 days to be determined with and without e-waste material.

Keywords: Compressive Strength, Durability, E-Waste, Flexural Strength

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Certificate

This is to certify that Mr. / Ms. G. Kalaiyarasan (CE - IV year) of **Krishnasamy College of Engineering and Technology, Cuddalore** has successfully completed the project titled Experimental Investigation of Replacing E-Waste to Coarse Aggregate in Concrete under Research / Project grant sponsored by the Majestic Builders during the academic year 2022-2023

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This is to certify that Mr. / Ms. K. Krishnakumar (CE - IV year) of

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MAJESTIC BUILDERS
5/12, Rajiv Gandhi Nagar, Koothapakkam, Cuddalore-2.
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Research/Project Grant 2022-2023

UTILISATION CERTIFICATE

1 Name of the guide & Address : Ev. A. RAJESWARI,
Assistant Professor,
Department of Civil Engineering

2 Name of the student(s) : M. Mathavan
K. Rajasekar

3 Title of the project : Partial Replacement of Cement with Fly Ash

4 Department/Institution Name & Address : Civil Engineering
Krishnasamy College of Engineering and Technology
S. Kumarapuram, Cuddalore -607109

It is certified that a sum of Rs 7500 (seven thousand and five hundred) sanctioned by the Trust for carrying out above mentioned project has been utilized for the purpose for which it was sanctioned.

A. Rajeswari
Signature of the Guide

Signature of the HOD

Signature of the Principal

PARTIAL REPLACEMENT OF CEMENT WITH FLY ASH

A PROJECT REPORT

Submitted by

MATHAVAN. M	**421319103013**
RAJASEKAR. K	**421310193016**

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

CIVIL ENGINEERING

KRISHNASAMY COLLEGE OF ENGINEERING AND TECHNOLOGY

S. KUMARAPURAM, CUDDALORE- 607 109

ANNA UNIVERSITY: CHENNAI- 600 025

MAY - 2023

ABSTRACT

This paper describes about the strength analysis of fly ash in concrete. The objective of this paper is to investigate and compare the compressive strength and flexural strength of fly ash concrete with M20 grade concrete. In this project the specimen has been casted for different ratio of replacement with fly ash of about 10%, 20%, 30%.

Keywords: Cement, Compressive Strength, Conventional Concrete, Flexural Strength, Fly Ash.

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Principal

Elango

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