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CRITERION: 3.1.1

Grants for research projects sponsored by government/non government sources such as industry, corporate houses, international bodies, endowment, chairs in the institution during the last five years

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தமிழ்நாடு அறிவியல் தொழில்நுட்ப மாநில மன்றம்
TAMIL NADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

(Established by Government of Tamilnadu)
Directorate of Technical Education Campus, Chennai - 600 025

Phone : 044 - 2230 1428

Web : www.tanscst.nic.in

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

To PRL
copy to
RMD.

Ref: TNSCST /S&T Capacity /AR / 2020-21/ 12438

28.09.2020

To

The Principal
Kings College of Engineering,
Punalkulam – 613 303



Sir / Madam,

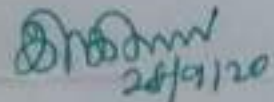
Sub: TNSCST – Programme on "Science & Technology Capacity building for Industrial needs(2020-21)" – approval intimation- -reg.

With regard to above, I am happy to inform you that your institution has been approved as a centre for organizing the programme on "Science & Technology Capacity building for Industrial needs" in your district with a budget of Rs. 1, 50,000/- (One lakh fifty thousand only). Co-ordinators meeting will be arranged to discuss the implementation of programme and approved grant will be released in due course of time.

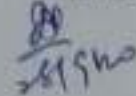
Kindly nominate a faculty member (preferably related to placement activities) as a local Co-ordinator for implementing the programme and provide the contact details of the co-ordinator name, designation, mobile number and e-mail-id on or before 15.10.2020. The expenses related to this program will be borne by the Council.

Thanking you,

Yours faithfully,



Member Secretary





Dr. J. Arputha Vijaya Selvi, M.E., Ph.D
PRINCIPAL

Ref. No. : KCE/PRL/TNSCST/023/2020-2021

Date : 12.10.2020

To

The Member Secretary,
Tamil Nadu State Council for Science and Technology,
Directorate of Technical Education Campus,
Chennai - 25

Sir,

Sub: TNSCST- Programme on "Science & Technology Capacity building for industrial need (2020-21)" – approval – reg.

Ref: Letter No. TNSCST/S&T Capacity/AR/2020-21 dated 28.09.2020

Greetings from Kings College of Engineering. We thank the TNSCST for approving our Institution as a center for organizing programme on "Science & Technology Capacity building for industrial need (2020-21)" in our district.

I hereby nominate Ms. B. Suresh Babu, Assistant Professor, Training and Placement department, as the coordinator of programme.

Name of the Faculty	:	Mr. B. Suresh Babu
Designation	:	Assistant Professor, Training & Placement
Mobile No	:	9791808034
Email id	:	sureshkrishnab78@gmail.com sureshkrishnab78@kingsindia.net

Thank you,

J. Arputha Selvi
12/10/2020
PRINCIPAL

GENERATION OF FUEL FROM PLASTIC WASTES

(Pavithra R, Rasika M, Sakthi Sridevi R - IV EEE, Kings College of Engineering
Coordinator Dr.S.Sivakumar, Professor - EEE, Kings College of Engineering)

The increased demand and high price for energy sources are driving efforts to convert organic compounds into useful hydrocarbon fuels. Although much of this work has focused on biomass, there are strong benefits to deriving fuels from waste plastic material. Waste plastic is abundant and its disposal creates large problems for the environment. Plastic does not break down in landfills, it is not easily recycled and degrades in quality during the recycling process, and it can produce waste ash, heavy metals, and potentially harmful gas emissions if incinerated at high temperatures. However, thermal processes can be used to convert plastics into hydrocarbon fuels such as gasoline, diesel, aviation / jet fuel, which have unlimited applications in airline industries, helicopter, heavy transportation, and electricity generation. The method and principal of the production / process will be discussed.

INTRODUCTION

Plastic waste is regarded as a potentially cheap source of chemicals and energy. Lots of us have encountered a variety of products that use plastic materials today. As a result of the increasing level of private consumption of these plastic materials huge amount of wastes are discharged to the environment. Plastic materials are a type of material that cannot be decomposed easily in a short period of time. Substantial quantities of plastic have accumulated in the natural environment and in landfills. Those wastes can be classified according to their origins. As a brief introduction to plastics, it can be said that plastics are synthetic organic materials produced by polymerization. They are typically of high molecular mass, and may contain other substances besides polymers to improve performance and/or reduce costs.

These polymers are made of a series of repeating units known as monomers. Therefore polymers can be moulded or extruded into desired shapes. There are two main types of plastics: thermoplastics and thermosetting polymers.

EXISTING COMMERCIAL PLASTIC PYROLYSIS TECHNOLOGIES AND PROCESSES

The waste plastic pyrolysis plants were developed and built in many countries. The selection of the process and the plant is determined mainly on the feedstock composition and the target products. PVC pyrolysis has different the thermal cracking process and different products from those of other common waste plastics including PE, PP and PS. In the PVC pyrolysis, the products containing HCl are particularly hazardous for fuels. If the feedstock contains PVC, the plants must have re-treatment system to remove and a solvent scrubber to remove HCl from the pyrolysis products.

The other important property for some current processes is the size of feedstock. The requirement for the feedstock size is to avoid the feeding blockage and to enhance the heat transfer between the heating medium and the plastics particles.

PROPOSED SYSTEM

The production method for the conversion of plastics to liquid fuel is based on the pyrolysis of the plastics and the condensation of the resulting hydrocarbons. Pyrolysis refers to the thermal decomposition of the matter under an inert gas like nitrogen.

Depending on the pyrolysis conditions and the type of plastic used, carbonous matter gradually develops as a deposit on the inner surface of the reactor. After pyrolysis, this deposit should be removed from the reactor in order to maintain the heat conduction efficiency of the reactor. The resulting oil (mixture of liquid hydrocarbons) is continuously distilled once the waste plastics inside the reactor are decomposed enough to evaporate upon reaching the reaction temperature.

The evaporated oil is further cracked with a catalyst. The boiling point of the produced oil is controlled by the operation conditions of the reactor, the cracker and the condenser. In some cases, distillation equipment is installed to perform fractional distillation to meet the user's requirements.

FUEL TESTING AND ANALYSIS

The purified fuel is to be tested to find out its characteristics. In order to interpret the quality and properties of fuel, various tests were carried out in the laboratory under various testing conditions. The tests performed were: Colour, Density, Viscosity, Calorific Value, Flash Point, Ash Content, Cloud Point, Pour Point, GC/MS Test, FTIR Test

CONCLUSION

Pyrolysis of hydrocarbon polymers is a very complex process, which consists of hundreds of reactions and products. Several factors have significant effects on the reactions and the products. Based on previous research, this chapter investigated the fundamental plastic processes and reactions. With temperature increasing, plastic will go through glassy state, rubbery state, liquid state, and decomposition. Decomposition of plastic in an inert environment into liquid is called pyrolysis. There are four stages of reactions during the plastic pyrolysis process: initiation, propagation, hydrogen transfer, and termination reactions.

FUTURE SCOPE

The project shows some light on the possibility of manufacturing liquid fuels which could be used as feed stock refinery for further modification or commercial use. By using this technology we could solve the waste plastic problem and also significantly reduce the landfills-which are the cause of infertility of Agriculture land. Waste plastics can also become a very good source of energy and an alternative to fossil fuel which have caused an environment imbalance.

REFERENCE

1. Yuan, X., *Converting Waste Plastics into Liquid Fuel by Pyrolysis: Developments in China*, in *Feedstock Recycling and Pyrolysis of Waste Plastics*, J. Scheirs and W. Kaminsky, Editors. 2006, John Wiley & Sons, Ltd: Changsha, P.R. China.
2. Material Safety Data Sheet Polypropylene (PP) Indian Oil Corporation Ltd.
3. Ciliz, N.K., E. Ekinici, and C.E. Snape, *Pyrolysis of virgin and waste polypropylene and its mixtures with waste polyethylene and polystyrene*. *Waste Management*, 2004.
4. Aguado, J., D.P. Serrano, and J.M. Escola, *Catalytic Upgrading of Plastic Wastes*, in *Feedstock Recycling and Pyrolysis of Waste Plastics*, J. Scheirs and W. Kaminsky, Editors. 2006, John Wiley & Sons, Ltd: Mostoles, Spain.
5. Williams, P.T., J. Scheirs and W. Kaminsky, Editors. 2006, John Wiley & Sons, Ltd: Leeds. *Yield and composition of gases and oils/waxes from the feedstock recycling of waste plastic*, in *Feedstock Recycling and pyrolysis of waste plastics*.

FORMAT FOR STUDENT PROJECT PROPOSAL

1. Name of the Students and Institutional address : R.Pavithra, M.Rasika, and R.Sakthi Sridevi
Final year students,
Department of Electrical & Electronics Engineering,
Kings College of Engineering,
Punalkulam.
2. Name of the Guides and Address
With mobile no. and email id :Dr.S.Sivakumar
Professor,
Department of EEE,
Kings College Of Engineering
Punalkulam, Pudukkottai dist
Pincode - 613303,
Mob.No :9442590003
Email: vpkings@gmail.com
- 3 .Project Title : Generation of fuel from plastic wastes
4. Sector : Engineering Technology
5. Project Details : **ANNEXURE-1**
6. Has the similar project been carried: No
out of your college/elsewhere. If so,
furnish details of the previous
project and highlight the
improvements suggested in the
present one

CERTIFICATE

This is to certify that R.Pavithra, M.Rasika, and R.Sakthi Sridevi is a bonafide final year student of U.G.Engineering courses of our college and it is also certified that two copies of certificate and final report along with seminar paper will be sent to the Council after completion of the project by the end of April 2020.



Signature of the Guide



Signature of the HOD



Signature of the principal

PRINCIPAL
Kings College of Engineering,
PUNALKULAM - 613 303



தமிழ்நாடு அறிவியல் தொழில்நுட்ப மாநில மன்றம்
TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
(Established by Government of Tamilnadu)
Directorate of Technical Education Campus, Chennai – 600 025.
Ph : 044-22301428, Telefax : 044-22301552 www.tanscst.nic.in

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

Lr.No.TNSCST/SPS/AR/2019-2020

LAO.

18.03.2020

To
The Principal
Kings College of Engineering
Pudukkottai - 613 303

Sir/Madam,

Sub: TNSCST – Student Project Scheme – 2019-2020 – 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 in Time.

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-no.5&6) on completion of the project.

Thanking you,

Yours faithfully,

[Signature]
18/3/20

Member Secretary.

[Signature]
18/3/20

- Encl: a) Terms & Conditions (T&C)
b) Format of Utilisation Certificate (UC)
c) Cheque for Rs.7500/- No: 852977 dt.18.03.2020

Copy to: Individual Guides

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
 DOTE Campus, Chennai-600025

STUDENT PROJECT SCHEME 2019-2020
APPROVED LIST OF PROJECTS - ENGINEERING STREAM

No.	Guide Name & Address	Title of the Project	Student(s) Name	Code	Amt. Rs.
Chemical Engineering					
1.	Dr.M.Rengasamy Assistant Professor Dept. of Petrochemical Engg, Anna University Tiruchirappalli-620024	Fabrication of capillary action crude oil removal and recovery model to clean up oil spills	V.Krishna Theja S.Manojkumar V.Vijayakumar	CHE-001	7500/-
2.	Dr.N.Samsudeen, AP & Dr.K.M.Muthukumar Professor Dept. of Chemical Engg National Institute of Tech. Tiruchirappalli-620015	Simultaneous electricity and bio butanol production from industrial waste water treatment using microbial fuel cell	Khadeeja Parveen	CHE-002	7500/-
3.	Mr.S.Yuvaraj Assistant Professor Dept. of Chemical Engg Adhiyamaan College of Engg, Hosur-635109	Experimental investigation on extraction (Soxhlet + Microwave assisted) and drying characteristics of red dragon fruit (Hylocereus polyhizus)	Arun R Kabileeshwaran S Muthupandi S Nandhakumar T	CHE-003	7500/-
4.	Mr.M.P.Murugaesan Assistant Professor Dept. of Chemical Engg Erode Sengunthar Engineering College Erode-638057	Production of the oral dosage form for the treatment of cholestrol and vitamin deficiency from the natural source	J.V. Dhanagopal M.S.Idhikaskumar A.Aravinth R.Hariharan	CHE-004	7500/-
5.	Dr.R.Palani Associate Professor Dept. of Chemical Engg Sri Venkateswara college of Engineering, Sriperumbudur-602 117	Removal of Chromium(VI) from contaminated water by using the petals of banana blossoms	I.Becky Miriyam	CHE-005	7500/-
6.	Dr.M.D.Duraimurugan Professor Dept. of Petro Chemical Technology Excel College of Engg and Technology, Namakkal-637303	Extraction and recovery of azo dye into an anionic liquid	Kanchaiya Kumar Sumit Kumar Sajid Ahmed K Mohamed Arshad Mahboob N	CHE-006	7500/-
7.	Dr.C.Gomadurai Associate Professor Dept. of Chemical Engg Kongu Engg College Erode-638 060	Experimental Studies on leaching of copper from chalcopyrite using mixed solvent	C.Prabhu V.Shree Ram R.Vinith	CHE-007	7500/-
8.	Mr.D.Sreenivasan Assistant Professor Dept. of Chemical Engg., Paavai Engg College Namakkal-637018	Isolation of Chitin and Chitin derivative from shell waste (Scylla serrata)	A.Suresh Babu S.Parandhaman P.Adnan Sreerag Manikandan	CHE-008	7500/-
9.	Dr.S.Satheeskumar Professor Dept. of Nanotechnology KSR College of Tech Namakkal-637215	Electroless deposition of copper - zinc oxide nano particle on banana bark fiber silk to produce high efficient anti-bacterial bandages	S.Praveen Kumar	CHE-009	5500/-

200.	Dr. S. Sivakumar Professor, Dept. of EEE Kings College of Engg. Pudukottai - 613 303	Generation of fuel from plastic wastes	R.Pavithra M.Rasika R.Sakthi Sridevi	EEE-073	7500/-
201.	Mr. E. Kannan Asst. Professor Dept. of EEE K.S.R. College of Engg., Tiruchengode - 637 215	Automatic yeast filling and sealing machine using PLC	Logesh G Prabhakaran P Prasanth M Praveen Kumar P	EEE-074	7500/-
202.	Dr. V. Agnes Idhaya Selvi Associate Professor Dept. of EEE Kalasalingam Academy of Research and Education Krishnankoil - 626 126	Smart life jacket for fisherman	Saran Ganesh M Vasantha Kumar R Praveen Shai M	EEE-075	7500/-
203.	Dr. S. Senthilrani Asst. Professor Dept. of EEE Vellammal College of Engineering and Tech., Madurai - 625 009	Alleviation of Fishery using Sensor Based Technology: A Step Towards Life Shelf Improvement	S. Babitha Sri U. Gayathri R.M. Sanju Vikasini	EEE-076	7500/-
204.	Ms. A. Keerthana Asst. Professor Dept. of Biomedical Engineering Vels Institute of Science, Technology and Advanced Studies, Pallavaram Chennai - 600 117	Design and development of 3D printed prosthetic socket for lower limb amputees	Jenkins Albert.A	EEE-077	7500/-
205.	Mr. S. Mathankumar Associate Professor Dept. of Biomedical Engg Vinayaka Mission's Kirupananda Variyar Engineering College Salem - 636 308	Electronic nerve stimulation device for paralyzed drop foot correction	Divya C Karan G Devi Priya S Nandhini R	EEE-078	7500/-
206.	Mr.S.Gnanamurugan AP / Dept. of ECE Vivekanandha College of Engineering for Women, Elayampalayam Namakkal – 637 205	Belligerent's Foe Robot with Night Vision wireless Camera using RF Technology	S.Rama Devi K.Sonia M.Subbulakshmi S.Suruthi D.Yazhini Chellam	EEE-079	7500/-
207.	Dr. R. Rajkumar Asst. Professor/ECE VLB Janakiammal College of Arts and Science Kovaipudur Coimbatore - 641 042	Rapid response ambulance management system for accident rescue operation	Joshua.B Ajithkumar.M Subair.S.M	EEE-080	7500/-
208.	Mr. G. Sadiq Basha Associate Professor/ ECE V.R.S. College of Engineering and Technology Villupuram - 607 107	Design and implementation of an interactive road safety system for young bikers	P.Sivaganga P.Karthiga E.Kiruthika	EEE-081	7500/-
209.	Dr. K. Penyameen Asst. Professor Dept. of ECE Vaigai College of Engineering Madurai - 625 122	Money withdrawal without ATM Card	B.R.K. Balaji K.R. Vishal	EEE-082	7500/-



TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY



GOVERNMENT OF TAMILNADU

CERTIFICATE

This is to certify that **Ms. R. Pavithra, Kings College of Engineering, Pudukkottai - 613 303** has successfully completed the project titled "**Generation of fuel from plastic wastes**" in the Sector **ELECTRICAL, ELECTRONICS AND COMMUNICATION ENGINEERING** under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2019-2020.

Chennai-600025
18.12.2020

DR.R.SRINIVASAN
Member Secretary

No.LEE O73/2020



TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

GOVERNMENT OF TAMILNADU



CERTIFICATE

This is to certify that **Ms. R. Sakthi Sridevi**, Kings College of Engineering, **Pudukkottai - 613 303** has successfully completed the project titled "*Generation of fuel from plastic wastes*" in the Sector **ELECTRICAL, ELECTRONICS AND COMMUNICATION ENGINEERING** under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2019-2020.

Chennai-600025
18.12.2020

DR.R.SRINIVASAN
Member Secretary



TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

GOVERNMENT OF TAMILNADU



CERTIFICATE

This is to certify that **Ms. M. Rasika**, Kings College of Engineering, Pudukkottai - 613 303 has successfully completed the project titled "*Generation of fuel from plastic wastes*" in the Sector **ELECTRICAL, ELECTRONICS AND COMMUNICATION ENGINEERING** under **STUDENT PROJECT SCHEME** sponsored by the Council during the academic year 2019-2020.

Chennai-600025
18.12.2020


DR. R. SRINIVASAN
Member Secretary

No. EEE-073/2020

TNSCST – STUDENT PROJECT PROPOSAL

Name of the Students : Festus Devapriyan J.D,
Nethaji T.S

E-mail id : franklinkv@gmail.com

Name of the Guide : Ms. R.Suganthalakshmi

Department / Designation : CSE/AP

Institutional Address : Kings College of Engg,
Punalkulam, Thanjavur

Phone No & Mobile No. : +91 9677 800 720

Project Title : Pacifier (Mobile App)

**Sector in which your
Project proposal is to be
considered** : Engineering &
Technology

PROJECT DETAILS

Introduction

Smart-phones have become today's gadgets of necessity. From making calls to checking email, from downloading the latest chart-topper to checking bank balances, they symbolize the convergence of technology in one small, mobile device. Recently, phone vendors have transitioned from highly customized to general purpose operating systems, such as Symbian, Windows Mobile, and Linux, making it easier for third-party developers to build applications. Nowadays the Security concerns in the society have become a major issue that needs to be addressed. The help from the digital world is a necessary phenomenon to this problem. Also, the accessing of security service through technology must be simple and easily accessible. In addition to that, every necessary activities and day to day needs cannot be accessed through a single Application. Every android user will have multiple apps on their mobile for different uses and they follow different method to get into that app. Every mobile user will be happy to connect with their daily needs and environment if they come under one roof. Apart from Security, the availability of any basic amenities to a user will be encouraged if it comes in common window of single application in mobile itself.

So our project emphasis on the multi utility of the system application that is modified into a user friendly mobile app for the same.

Objectives

The main objective of this project is to cover as much basic amenities of a user as possible in a single window of application for the android users and this project is developed to provide a security, integrity and ease of access to some necessary operations which are carried out in today life and the project helps the user to access some of his basic attributes simultaneously.

This project is created in such a way that every different group of people like Students, Children, Old people, Ladies and other set of peoples can have their own choice of accessing the amenities present in this application.

In a nutshell, this project is created as a multi utility application.

Methodology

Requirement Analysis:

The major requirement for implementing this project is using the android studios software along with any database application. This project requires cloud storage for dataset management and data analysis process.

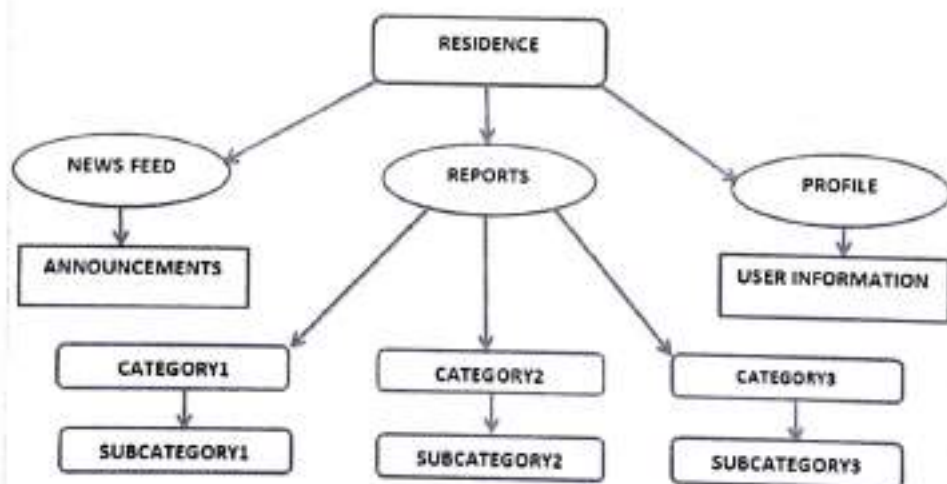
Design Process:

The design process of the project will be carried out under many structures. The major structures are as follows:

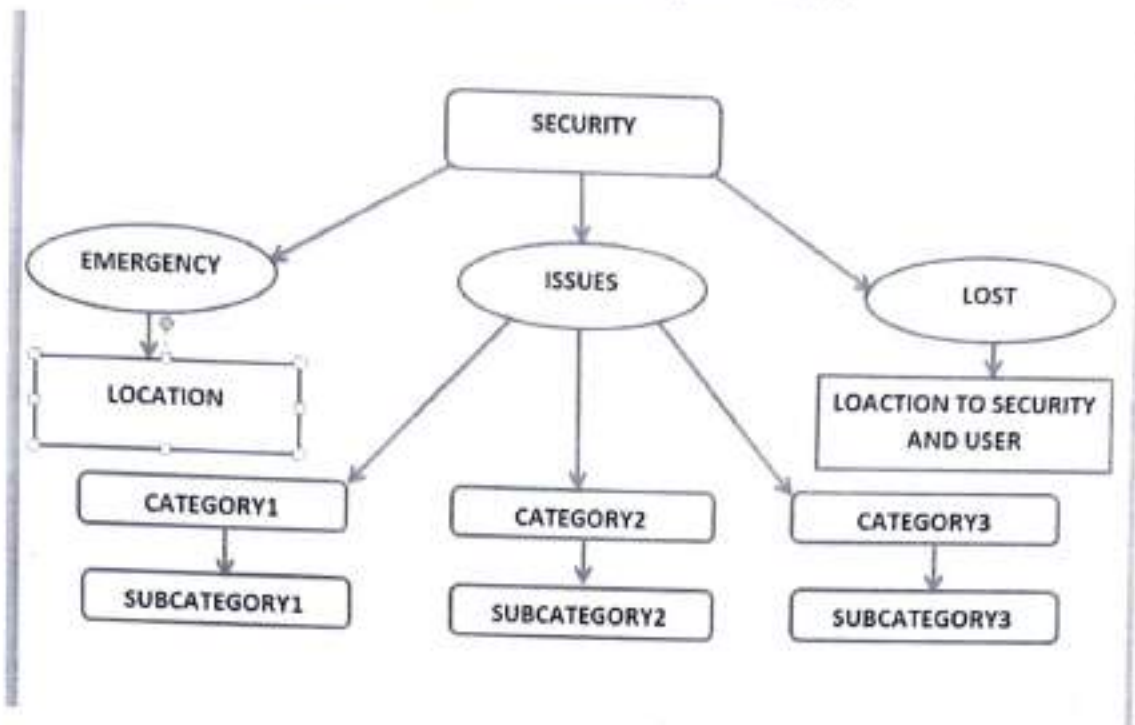
- Students
- Old people
- Ladies

Each structure has nearly 5-6 modules and these can be implemented using android studio or xamarin software along with valid database software. The common modules are security, messaging and notification attributes. The other modules will be based on the categories that the user choice.

The design of ResidenceModule for instance is given below:



The design of Security Module is given below:



Design of Each Module will follow the same pattern in the above manner itself.

Development Phase:

The development phase is carried out through multiple coding level using either JAVA or Microsoft.NET languages. The development phase is carried out in 4 phases which are listed below:

- Code implementation of major screens like login page, home screen, and profile screen.
- Code implementation of common Modules for each category.
- Code implementation of other modules related to those categories
- Using Test cases the project development part is verified.

Also the development phase involves the creation of the other basic details regarding the use of the project within the application itself. This helps the user to know about the app.

Implementation:

The implementation of this project carries two phases namely:

- **Testing:** Deploying to the closest sources and updating the glitches and problems present in the application.
- **Deployment:** Deploying the application in the Google playstore and making it accessible to every user in common.

Work Plan

The work plan for entire methodology of the project is divided into 7 timeslots or phases which are briefed below:

REQUIREMENT ANALYSIS and SPECIFICATION REPORT:

In this phase, the necessary information about the project, its requirements, scope of the project, software analysis, database analysis and viability of the report is analysed.

Design:

In this phase, the design of the entire project is made along with the design for each category and each module too.

Development – I:

In this phase, the initial design is converted into coding that is the home screens, login screens and other basic screens are developed.

Development – II:

In this phase, the modules that will be present in every category are identified from the design and they are developed into coding.

Development – III:

In this phase, the modules that are left in the design structure are developed into coding.

Development – IV:

In this phase, the programs or modules are integrated into a single unit and the testcases are generated separately and collectively to verify the projects accountability.

Deployment:

In this phase, the completed project is deployed to various users for testing and after certain corrections the application is published in the Google Playstore.

Budget Estimation

Description	Value
Cloud Storage	
○ Yearly package	2000 rs
○ Monthly Package	700 rs
Publish an App	2000 rs
Licensed Software purchases	2000 rs

Note:

We thought of maintaining this project by constant updates and features additions if the downloads and feedbacks are positive for this application, then the updates and other enhancements will be done at regular basis.

Has a similar project been carried out?

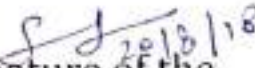
Yes there are much application present in the playstore that emphasis the security in the society but in our project, we provide with multiple amenities apart from security.

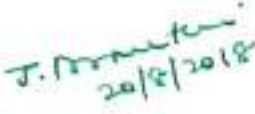
This application will be created as a multi utility application for the android users who can make merry with many things under a common roof.

CERTIFICATE

This is to certify that Mr. J.D.Festus Devapriyan, Nethaji T.S are bonafide final year students of B.E Computer Science and Engineering course of our college and it is also certified that two copies of utilization certificate and final report along with seminar paper will be sent to the Council after completion of the project by the end of April 2019.


Signature of the
Guide


Signature of the
HOD


Signature of the
Principal/Head of
the Institution
PRINCIPAL
Kings College of Engineering,
PUNALKULAM - 613 303.


TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

(Govt. of Tamilnadu)

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

Ref: TNSCST/SPS/AR/2018-2019/

24.06.2019

To: Ms.R.Suganthia Lakshmi
Assistant Professor
Dept. of Computer Science and Engineering
Kings College of Engineering
Punalkulam
Thanjavur -613003

Sir/Madam,

Sub: TNSCST Programme 'Student Project Scheme' – Conduct of Seminar–Cum–Exhibition – Invitation extended – reg.

With reference to the above, the Seminar-cum-Exhibition has been arranged on 19th and 20th **JULY 2019 at Kalasalingam Academy of Education and Research (Kalasalingam University), Krishnankoil, Srivilliputhur-626126.** I request you to kindly ensure that one of the student who did the project must come to Krishnankoil and present the findings of the project in the seminar. Models pertaining to the project can be exhibited and share your innovative ideas with others.

The following points may please be noted:

- The student must report to coordinator Dr.R.Ramalakshmi (9486488642 & rama@klu.ac.in) & Dr. N. Nallamuthu (8220471458 & nnallamuthu@gmail.com) Kalasalingam Academy of Education and Research, Krishnankoil, Srivilliputhur-626126.
- Accommodation and food will be provided from the evening of 18th July 2019 till the evening 20th July 2019 in the college hostel.
- Only one student will be provided boarding and lodging in the College hostel. No charges need to be paid. **Second sleeper class train fare / Actual Bus (Govt. bus) fare** (Up & Down) from the Place of study to Kalasalingam Academy of Education and Research, Srivilliputhur will be provided for one student of each project.
- The student must be present on both the days (i.e) 19th and 20th **JULY 2019.**
- The student should make the oral presentation within the allotted time of 10 minutes and LCD Projectors will be provided.
- Request for specific requirement for display of project must be made in advance to the Co-ordinator.
- Certificate will be given to those who have done the project.
- Prizes will be given to the best presentation and best exhibit in each discipline.

Those who have not submitted the Utilization Certificate so far, kindly arrange to send the same immediately without any further delay.

I request you to co-operate in making this seminar-cum-exhibition a successful academic event.

Thanking you,

Yours faithfully,

Member Secretary

PACIFIER (MULTI UTILITY MOBILE APPLICATION)

By

Ms. R.Suganthalakshmi, T.S.Nethaji, J.D.Festus Devapriyan

INTRODUCTION

Smart-phones have become today's gadgets of necessity. From making calls to checking email, from downloading the latest chart-topper to checking bank balances, they symbolize the convergence of technology in one small, mobile device. Recently, phone vendors have transitioned from highly customized to general purpose operating systems, such as Symbian, Windows Mobile, and Linux, making it easier for third-party developers to build applications. Nowadays the Security concerns in the society have become a major issue that needs to be addressed. The help from the digital world is a necessary phenomenon to this problem. Also, the accessing of security service through technology must be simple and easily accessible. In addition to that, every necessary activities and day to day needs cannot be accessed through a single Application. Every android user will have multiple apps on their mobile for different uses and they follow different method to get into that app.

Every mobile user will be happy to connect with their daily needs and environment if they come under one roof. Apart from Security, the availability of any basic amenities like notepad, his/her CV, issues addresser and etc. to a user will be encouraged if it comes in common window of single application in mobile itself. So our project emphasis on the multi utility of the system application like security to ladies, Issues registering for students, notepad, and profile updates etc. that is modified into a user friendly mobile app for the same.

SYSTEM ARCHITECTURE

The overall system design consists of following modules:

(a) User Module: In this module we are authenticating the users by providing user name and password. If user name and password is valid then they will be taken to their static screens. When they get matched with each other, system checks their status and transfer the control to respective user-interface.

(b) Database Module: The system uses MySQL as its database and Apache Tomcat Server because of their simplicity and flexibility. This module store every single information about students, faculty and model their data on specified operations. These operation can be storing student attendance, result data or can be authentication credentials.

(c) Issue Addresser Module: This module is designed for hostellers and student, which use mobile phone to report the issues to the warden and the staff. This module provides with various categories and sub categories that user has to choose within and the message or mail will be sent to the concern head.

(d) Security Module: This module allows the user to have security issues to the security personnel and provides the mail with the latitude and longitude of the location also, this also comes in different categories and sub categories.

(e) Service Forum Module: This module is a feature where students can have multiple services and data presentation. The Service module also gives the location of the user and provides multiple dynamics to the user.

CONCLUSION

The system offers reliability, time savings and easy control. It provides students and other people a platform to actively attribute to the betterment of the system. This mobile application enables the system and user with a proper dynamics and the development towards the betterment of the applications and the management. The PACIFER deals with the multiple utility of the systems and the processes that involves within the mobile applications. This project is created in such a way that every different group of people like Students, Children, Old people, Ladies and other set of peoples can have their own choice of accessing the modules present in this application.

 इंडियन बैंक Indian Bank		Branch : DOTE CAMPUS DOTE OFFICE BUILDINGS GANDY, CHENNAI IFB Code : IIB0000000	<i>Ac. Payee Only</i>	VALID FOR THREE MONTHS ONLY 18.02.2019 D D M M Y Y Y Y
PAY <i>The Principal, Kings College of Engineering,</i>		या धारक को OR BEARER		
RUPEES रुपये <i>Twenty thousand only</i>		<i>Thanjavur</i>		
अदा करें ₹ 20,000/-				
W. H. AC No.	SB 479135159			
		FOR MEMBER SECRETARY TN STATE COUNCIL FOR SCIENCE & TECHNOLOGY-		
		CBS Code: 01636		
		AUTHORIZED SIGNATORY  Please sign above		
992000067		PAYABLE AT PAR AT ALL OUR BRANCHES		

⑈795040⑈ 600019119⑈ 135159⑈ 31

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

STUDENT PROJECT SCHEME 2018-2019
UTILISATION CERTIFICATE

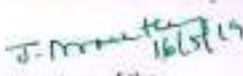
(TWO COPIES)

1. Name of the guide and address : Ms. R. SUGANTHA LAKSHMI
2. Name of the student(s) : FESTUS DEVARJAN J.D.
NETHADI T.S
3. Title of the project : PACIFIER
4. Project code : CSE - 035

It is certified that a sum of Rs. 5000. (Rupees ^{FIVE} THOUSAND) Sanctioned by this council for carrying out above mentioned student project has been utilized for the purpose for which it was sanctioned and sum of Rs. _____ remaining unutilized is refunded.


Signature of the guide


Signature of the HOD


Signature of the
REGISTRAR/PRINCIPAL/DEAN
With SEAL

D.D of Computer Science & Engineering
KINGS COLLEGE OF ENGINEERING
Pudukulam, Cuddalore (TK)
Pudukottai (DU) - 613 303.

PRINCIPAL
Kings College of Engin
Pudukulam - 613 303.



PROJECT PROPOSAL

on

**VLSI IMPLEMENTATION OF AUTOMATED MONITORING AND
DETECTION SYSTEM FOR TONSILLITIS BY IMAGE PROCESSING**

Submitted to

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

DOTE Campus,

Chennai-600025.

Submitted by

S.SHEEBA

SECOND YEAR M.E VLSI Design

KINGS COLLEGE OF ENGINEERING,

PUNALKULAM, PUDUKKOTTAI - 613 303.

Guided by

Mr.T.JEYASEELAN, AP/ECE

Department of Electronics & Communication Engineering

KINGS COLLEGE OF ENGINEERING,

PUNALKULAM, PUDUKKOTTAI - 613 303.

PROJECT PROPOSAL

1. Name of the student : **S.SHEEBA**
2. One valid e-mail id : sheebastephen95@gmail.com
3. Name of the guide : Mr. T.Jeyaseelan
4. Department/designation : ECE/ Assistant Professor
5. Institutional address : **KINGS COLLEGE OF ENGINEERING**, Punalkulam,
Gandarvakottai-Taluk, Pudukkottai-613303.
6. Phone no & Mobile : 04362-282474, 9894104645.
7. Project title :

VLSI IMPLEMENTATION OF AUTOMATED MONITORING AND DETECTION SYSTEM FOR TONSILLITIS BY IMAGE PROCESSING

8. Sector in which your project
Proposal is to be considered. : Engineering & Technology
9. Category of the Students : PG/ (Engineering-VLSI)
10. Discipline in science : EEE

Abstract

In this project the design and implementation of automatic tonsillitis monitoring and detection system using FPGA is proposed. An automatic tonsillitis monitoring and detection system aims for personal use and provides mobility, a compact size and a light weight with reliable functionality. In this system a tonsillitis image of a person is acquired through camera and the image is processed for noise reduction and tonsil color and size is extracted by using boundary detection and feature extraction algorithm. Finally, the tonsillitis stages are determined. The performance of the proposed method is evaluated by comparing the results of proposed experimental system with results of the doctors. The simulation results that shows the red color level of tonsillitis image for normal stage, early stage and final stage lies in the range of (224-243), (185-123) and (39-109) respectively.

Introduction

Tonsillitis is one of the viral diseases that affect each side of the back throat. Tonsillitis is affected by virus. Mouth and Nose are the way of affecting tonsils by bacteria. To cure and prevent the diseases, peoples need to consult the doctors. The earlier detection of tonsillitis results in better diagnosis and gives complete cure from the disease. Tonsillitis can occur at any age and is common in childhood by infection. Symptoms of tonsillitis are wound gullet, difficult or painful swallowing, high temperature, larger kind secretor (lymph nodes) in the neck.

Objective

The main goal of this project is

- To detect the tonsillitis disease in the tonsil gland.
- To develop and implement an efficient VLSI architecture for automated detection and monitoring of Tonsillitis.

Design Methodology

A tonsillitis detection system requires a CCD camera to capture the input image in the oral cavity. The distance (D) is set to approximately 10 cm. The tonsil image is acquired through camera. The captured image is stored as test image in an image memory. The images are sent to storage via the data pipeline in the preprocessing block. The test image is preprocessed to filter the noise contained in an image and to extract the boundaries of a test image by image segmentation process. The output of preprocessing is temporarily stored in SD- RAM. The stored images are processed to extract features, which include the tonsil size and color in the feature extraction block. The output is passed through the pipeline for storage in memory. Finally, the tonsillitis stages are determined in the fuzzy decision block, where a diagnosis is output.

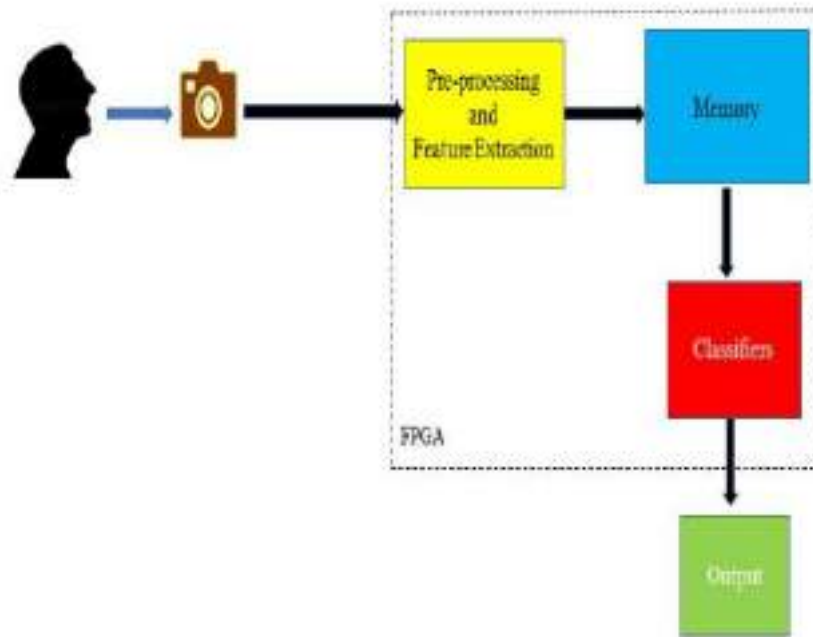


Fig:1 System design

From this system design Fig. 1. Every block requires to functions as the software method. This process is starting with camera to take the picture from the patient mouth. Then the input image is store in the image memory block for further process and next the image is sent to the preprocessing block. Preprocessing block is used to reduce the noise in the image followed by boundary extraction of tonsils and then extracted by features extractions. The output of the preprocessing is short-term to store in memory. Next the stored image is processed to classifiers which include the tonsil size and color. At last the output can be displayed in the system. Table.4 describes the using components features.

Working

It starts with capturing oral images using a camera. In preprocessing, the captured image is converted into grayscale image. Here, median filter is used to filter the salt and pepper noise in grayscale image. Next process is to be detecting the edges in the filter image by Sobel operators.

Sobel operators are used in gradient magnitude particular for edge detection. Then it processes to Watershed Transform. Before beginning the process of tonsil boundary detection, the input images are filtered to diminish noise using the threshold technique. Boundary detection is then performed using global and local processing. The green channel is suitable for boundary detection and is used to find boundary candidates during global processing. The boundary candidates are then confirmed or removed during local processing.

Local processing for tonsil boundary detection starts by converting a tonsil image into a gray scale image. The gray scale image is then transformed into a gradient magnitude image using a Sobel edge detector, and the gradient magnitude is then transformed using watershed to enhance the edges in the process of calculating the gradient magnitude. At the next step of marking the foreground of the object, the background and foreground of the tonsil image are subtracted using a global gray-scale threshold. Tonsil candidates are then extracted using a local threshold, which is located at the highest range of the global gray-level threshold. In the last step of tonsil segmentation, another local threshold is employed to select tonsil boundaries from the tonsil boundary candidates. Information about redness and the area of the tonsil boundary are employed as features for tonsillitis diagnosis. Our goal is to develop an expert system for automated tonsillitis detection, the fuzzy model used for decision making in this paper has to be created based on medical knowledge.

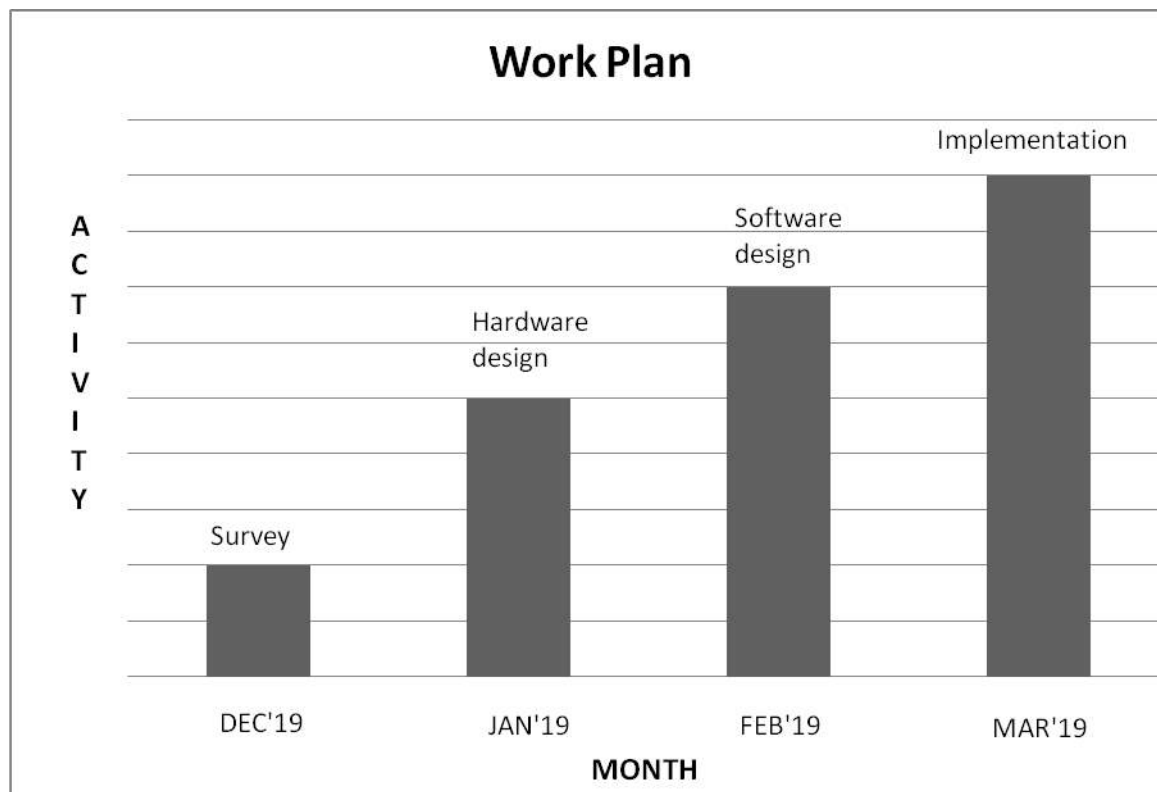
Expected Outcome:

This project presents a method for the design and implementation of an automated system for tonsillitis detection and monitoring using fuzzy logic. The results generated by the MATLAB where the column shows the redness value of normal (224-243), early (185-123), and last-stage (39-109) tonsillitis images respectively.

BUDGET

Sl. No	Particulars	Quantity	Price (INR)
1.	Camera module	1	1800
2.	VLSI Development board- Spartan-6 FPGA module	1	7500
3.	SMPS DC Power supply	1	500
4.	Miscellaneous expenses	-	250
5.			
Total (Rs)			10,050
Rupees Ten thousand and fifty only			

WORK PLAN:




CERTIFICATE:

This is to certify that **S.SHEEBA** are a bonafide final year students of P.G. Engineering (VLSI Design) of our college and it is also certified that two copies of utilization certificate and final report along with seminar paper will be sent to the Council after completion of the project by the end of April 2019.



Signature of the guide



Signature of the HOD



Signature of the
REGISTRAR/PRINCIPAL/DEAN
With SEAL
Dr. J. Arputha Vijaya Selvi,
PRINCIPAL B.E., M.E., Ph.D.
Kings College of Engineering
Punalakulam- 613 303.



தமிழ்நாடு அறிவியல் தொழில்நுட்ப மாநில மன்றம்
TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
 (Established by Government of Tamilnadu)
 Directorate of Technical Education Campus, Chennai – 600 025.
 Ph : 044-22301428, Telefax : 044-22301552 www.tanscst.nic.in

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

Lr.No.TNSCST/SPS/AR/2018-2019

To
 The Principal
 Kings College of Engineering
 Puunakulam - 613303, Thanjavur - Dt.,



Sir/Madam,

Sub: TNSCST – Student Project Scheme – 2018-2019 – 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. Kindly read and ensure adherence to the terms and conditions such as submission of UC and seminar paper in time.

Kindly find enclosed here with 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-no.5&6) on completion of the project.

Thanking you,

Yours faithfully,


 Member Secretary.

Encl: a) Terms & Conditions (T&C)
 b) Format of Utilisation Certificate (UC)
 c) Cheque for Rs 20000/- No: 795040

dt:18.02.2019.

Copy to: Individual Guides

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
DOTE CAMPUS, CHENNAI-600025

APPROVED LIST OF STUDENT PROJECTS 2018-2019
ENGINEERING STREAM

CHEMICAL ENGINEERING

No.	Guide Name & Address	Title of the Project	Student(s) Name	Code	Amt. Rs.
001	Dr. S. Venkatesan Associate Professor Dept. of Petrochemical Technology Anna University (BIT Campus) Tiruchirappalli - 620024	Deep desulfurisation of liquid fuels using ionic liquids	Abirami R Samanya R	CHE-001	7500/-
002	Dr.N. Samsudeen Assistant Professor Dept. of Chemical Engineering National Institute of Technology Tiruchirappalli - 620015	Design of a controller for enhancing the hydrogen production in microbial electrolysis cell	Aenai Premkumar K P	CHE-002	7500/-
003	K Chidra Associate Professor Dept. of Chemical Engineering A.C.Tech, Anna University Chennai-600025	Experimental Studies on Residual vacuum oil viscosity reduction	K Zeliyan	CHE-003	7500/-
004	Dr P Mullai Professor Dept. of Chemical Engineering Annamalai University Chidambaram-608002	Bitumen binding with lignin for road construction - An eco-friendly approach	J Iyyappan	CHE-004	7500/-
005	K P Bhuvana Associate Professor Dept. of Plastics Technology Central Institute of Plastics Engineering and Technology Chennai-600032	Development of long lasting polymer material for tower systems to install photovoltaic panels in water bodies	Aakshai Kumar G Gayathri V Priya S Rathimalar S	CHE-005	7500/-
006	N Subramanian Assistant Professor Dept. of Chemical Engineering Kongu Engineering College Erode-638060	Biodegradable plastic from mixed starch	Haritha S R Chandra Choodan K David Madhusudhanan K	CHE-006	7500/-
007	Raj Kumar A Assistant Professor Dept. of Petrochemical Engineering SVS College of Engineering Coimbatore-642109	Efficient Removal Of Acid And Base Dye From Aqueous Solution Using A Nanocomposite Of Polypyrrole grafted - Sodium Alginate And Incorporated Bentonite	Mohamed Yasar I	CHE-007	7500/-
008	Dr J B Veeramalini Assistant Professor Dept. of Chemical Engineering Vel Tech High Tech Dr.Rangarajan Dr.Sakunthala Engineering College Chennai-600062	Comparative study and oxidative stability of various natural antioxidant potentials in essential oils	V N Kavya N U Yuvatri	CHE-008	7500/-
009	P Induja Assistant Professor	Synthesis Of Microcrystalline Cellulose, Silica And Imparting	G Ashwin A John	CHE-009	7500/-

184	Mr.T.Jevaseelan Kings College of Engineering Punalkulam-61303 Thanjavur-DI.	VLSI Implementation of automated monitoring and detection for tonsillitis by image processing	S.Shoeba	EEE-059	7500/-
185	Mr.T.Yuvaraja Assistant Professor Dept. of ECE Kongunadu College of Engineering and Technology Thottiam,Trichy - 621 215	Forest fire detection and rescue system for hill areas in India	N.Abuthaheer V.Gowtham B.Jaisurya M.S.Haribaran	EEE-060	7500/-
186	B Lalitha and Dr J Karpagam Associate Professor and Professor,Dept. of EEE KPR institute of engineering and Technology Coimbatore-641407	Parametric monitoring and controlling of wind turbine based on wireless transmission using IoT	Pavithra M Sangavai S Shobika Varsini S Sreenithi SG	EEE-061	7500/-
187	Mr.A.Ravi Assistant Professor Dept. of ECE KSR Institute of Engineering and Technology Tiruchengode - 637 215	Soldier navigation and health tracking system using arduino	S.Keerthana K.Nivedha C.Nivedhan Raj C.Selvarakeshkumar	EEE-062	7500/-
188	Mr.D.Allin Joe Assistant Professor Dept. of ECE Kumaraguru College of Technology,Saravanampatti Coimbatore -641 049	Smart water can ordering system	U.S.Praveen Raj K.B.Ajithkumar L.Jey Ganesh G.Sushrut	EEE-063	7500/-
189	A.Jothivel Assistant Professor M.A.M. School of Engineering Siruganur, Tiruchirappalli-621105	An increasing the engine speed by using flywheel booster	S.Ranjithkumar S.Denis I.Ajay Prasanth M.Aslam Nijamudeen	EEE-064	7500/-
190	Dr.S.Palanivel Rajan Associate Professor Dept. of ECE M. Kumarasamy College of Engineering,Thalavapalayam Karur-639113	Design of an aided system for visually challenged people in bus transportation	L.Kavitha	EEE-065	7500/-
191	A.N.Sivadarshani Assistant Professor Dept. of ECE Mangayarkarasi College of Engineering Paravai, Madurai - 02	Bridge monitoring and alerting system	A.Amirtha N.Lakshmi Priya M.Pavithra R.Nandhini	EEE-066	7500/-
192	Mr.Lalin L.Laudis Assistant Professor Dept. of EEE Mar Ephraem College of Engineering and Technology Elavuvilal Marthandam - 627 171	Farm Watch an efficient way of monitoring and controlling a multi corp farm	Sudhan.S Jefrin.E Prabin.S	EEE-067	7500/-
193	Dr.S.Muralidharan Dept. of EEE Mepco Schelenk Engineering College,Sivakasi - 626 005	MPPT implementation for fuel cell under various fuel flow condition	Kavipriya Dharshini.A Vinithra.V Vinothini.R	EEE-068	7500/-
194	Dr.V.Sathiesh Kumar Assistant Professor Dept. of EEE MIT Campus, Anna University,Chennai - 600 044	Design and development of automatic skin lesion diagnostic system based on fully convolutional deep residual network	G.S.Jayalakshmi	EEE-069	7500/-

09.03.2019

From
J. Niranjan Samuel
JRF/ECE
Kings College of Engineering
Punalkulam

To
The Principal
Kings College of Engineering
Punalkulam

Respected Madam,

Sub: Submission of Cheque and withdrawal of amount –student project – reg.,

With reference to the above, we have received a cheque bearing no. **795040** for an amount of Rs. 20,000/- for three student projects from Tamil Nadu State Council for Science and Technology, Chennai as detailed below:

Name of the Guide	Title of the Project	Amount
R. Ponni	R3 Menstrual Kit	Rs.7500
R. Sugantha Lakshmi	Pacifier (Mobile App)	Rs. 5000
T. Jeyaseelan	VLSI Implementation of automated monitoring and detection for tonsillitis by image processing	Rs. 7500

In this regard, I request you to kindly permit me to encash in order to make the students to complete their project successfully.

Thank you,

Yours faithfully,


9/3/19
J. Niranjan Samuel

*Sub. to Secretary's
J. Niranjan Samuel
9/3/19.*

18/3/19

Encl.

Copy of sanction order

18/3/19

6/09/19



Tax Invoice

CoreEL Technologies (I) Pvt Ltd
No 21, 7th Main, 1st Block
Koramangala
Bangalore
GSTIN/UIN: 29AABCC1915E1Z1
State Name : Karnataka, Code : 29

Consignee
KINGS COLLEGE OF ENGINEERING
Gandarakottai Taluk, Pudukkottai,
KINGS COLLEGE OF ENGINEERING
Gandarakottai Taluk, Pudukkottai,
Punalkulam , Thanjavur - 613303
State Name : Tamil Nadu, Code : 33

Buyer (if other than consignee)
KINGS COLLEGE OF ENGINEERING
Gandarakottai Taluk, Pudukkottai,
Punalkulam , Thanjavur - 613303
State Name : Tamil Nadu, Code : 33
Place of Supply : Tamil Nadu

Invoice No. CUP/2019-20/036	Dated 18-Jul-2019
Delivery Note	Mode/Terms of Payment
Supplier's Ref. KCE/ECE/TNSCST/PO/2019-2020/01	Other Reference(s)
Buyer's Order No. KCE/ECE/TNSCST/PO/2019-2020/01	Dated 3-May-2019
Despatch Document No.	Delivery Note Date
Despatched through	Destination Thanjavur
Terms of Delivery Payment Terms : 100% Advance	

Sl No	Description of Goods	HSN/SAC	GST Rate	Quantity	Rate	per	Amount
1	Digilent Cmod S6 : Breadboardable Spartan-6 FPGA Module and necessary accessories Part No : 410-292	8538	18 %	1 No	7,500.00	No	7,500.00
	IGST Payable @ 18%					18 %	1,350.00
	Total			1 No			8,850.00

Amount Chargeable (in words)
Indian Rupees Eight Thousand Eight Hundred Fifty Only

HSN/SAC	Taxable Value	Integrated Tax Rate	Integrated Tax Amount	Total Tax Amount
8538	7,500.00	18%	1,350.00	1,350.00
Total	7,500.00		1,350.00	1,350.00

Tax Amount (in words) : **Indian Rupees One Thousand Three Hundred Fifty Only**

Company's PAN : **AABCC1915E**

Declaration
We declare that this invoice shows the actual price of the goods described and that all particulars are true and correct.

Company's Bank Details
Bank Name : Karnataka Bank CD A/c # 0517009104207601
A/c No : 0947000104207601
Branch & IFS Code : Koramangala Extn Branch & KARB0000094
for CoreEL Technologies (I) Pvt Ltd

(Signature)
Authorized Signatory

This is a Computer Generated Invoice

Bill Amount : **8,850**

Less - 1350
7500
JV 27/7



इंडियन बैंक
Indian Bank

Branch: DOTE CAMPUS
DOTE OFFICE BUILDINGS
GUINDY CHENNAI
IFS Code :IDIB000D050

A/c. Payee Only

VALID FOR THREE MONTHS ONLY

18 02 20 19
D D M M Y Y Y Y

PAY The Principal, Kings College of Engineering
RUPEES रुपये Twenty thousand only

या धारक को OR BEARER

Thanjavur

अदा करें ₹ 20,000/-

खा. सं.
A/c No.

SB 479135159

FOR MEMBER SECRETARY TN STATE COUNCIL FOR SCIENCE & TECHNOLOGY

CBS Code: 01636

AUTHORISED SIGNATORY

PAYABLE AT PAR AT ALL OUR BRANCHES

Please sign above

992000067

⑈ 795040⑈ 600019119⑈ 135159⑈ 31


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

STUDENT PROJECT SCHEME 2019-2020
UTILISATION CERTIFICATE

(TWO COPIES)

1. Name of the guide and address : Mr. T. Jayaseelan, AP/ECE
Kings College of Engineering, Punalakulam,
Othandarkottai-Tk, Pudukkottai-Dist
2. Name of the student(s) : S. SHEEBA,
3. Title of the project : VLSI implementation of Automated
monitoring and detection system for
Tonsillitis by image processing
4. Project code : 18A, EEE-059

It is certified that a sum of Rs. ~~7500/-~~ ^{Seven thousand} (Rupees ~~five hundred~~ ^{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.remaining unutilized is refunded.


Signature of the guide


Signature of the HOD


Signature of the
REGISTRAR/PRINCIPAL/DEAN
With SEAL

Dr. J. Arputha Vijaya Selvi,
B.E., M.E., Ph.d.,
PRINCIPAL
Kings College of Engineering
Punalakulam- 613 303.



PROJECT PROPOSAL
on
R³ MENSTRUAL KIT
Submitted to
TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
DOTE Campus,
Chennai-600025.

Submitted by
L.MOWLI, K.JAISHREE
FINAL YEAR
ELECTRONICS AND COMMUNICATION ENGINEERING
KINGS COLLEGE OF ENGINEERING,
PUNALKULAM, PUDUKKOTTAI - 613 303.

Guided by
Mr.R.PONNI, AP/ECE
Department of Electronics & Communication Engineering
KINGS COLLEGE OF ENGINEERING,
PUNALKULAM, PUDUKKOTTAI - 613 303.

PROJECT PROPOSAL

1. Name of the student : **L.MOWLI, K.JAISHREE**
2. One valid e-mail id : mowlena271@gmail.com
3. Name of the guide : Mr. R.Ponni
4. Department/designation : ECE/ Assistant Professor
5. Institutional address : **KINGS COLLEGE OF ENGINEERING**, Punalkulam,
Gandarvakottai-Taluk, Pudukkottai-613303.
6. Phone no & Mobile : 04362-282474, 9894104645.
7. Project title :

R³ MENSTRUAL KIT

8. Sector in which your project
Proposal is to be considered. : Engineering & Technology
9. Category of the Students : UG/ (Engineering)
10. Discipline in science : EEE

Abstract

Menstruation is not fun. Most people believe that universal education and equal opportunity is needed to improve the menstrual health of women in poverty all over India. But unfortunately no one talks about it much. In parts of India, girls miss school when they are menstruating because they do not have access to sanitary pads and are afraid of menstrual leaks. Disposable sanitary pads are too expensive and 90% of the girls use rags instead of pads. On the other hand even if they use sanitary pads they face many health issues. They cause some contracting infections and they too contain DIOXIN (A Carcinogen i.e, A Cancer causing agent). Besides the gel in sanitary pads act as a breeding site for microbes. As a result most of the women were affected with UTERAL and VAGINAL CANCER.

So we came up with an idea of Reusing, Recycling, Reliable technology called “
R³

MENSTRUAL KIT ” which is a Perfect Sanitizer.

Introduction:

R³ MENSTRUAL KIT is an All in One washer and Dryer kit which enables the people to wash ,dry and reuse the sanitary pads. It works like a micro washing machine by washing reusable sanitary pads. The basic components of a washing machine are used in low ratings and specification to construct a micro washing machine. It is a wonderful tool which serves as a light for women in darkness (mensus). The aim of the model is to provide a safe , Hygienic and affordable menstrual option for the women living in poverty.

Objective

To assess the effects of sanitary pads and to provide a long lasting cheaper menstrual option for women in developing nations.

Materials and Methods

Washing machine motor is used for performing the basic function of rotation at the required r.p.m. It is combined with the agitator or the disc that turns the drum, it produces a rotator motion .The washing drums are used to load the sanitary pads. Water inlet control valve is used so that it opens and closes automatically when you load the clothes depending on how much water is required.

Agitator and Paddles are also used so that it helps to remove stains from the reusable sanitary pads. An Over Load Protection circuit is used to maintain the load capacity and indicates when it faces overload. Finally, all the dirty water is expelled from the machine via the drain pipe.

Working

R³ menstrual kit functions as an All in one washer and dryer kit which allows one to wash, dry and reuse. The reusable sanitary pad is placed inside the drum which is connected to a motor and enclosed by an outer covering. Now the pad to be washed is dropped inside the washer or drum along with the required amount of water. Thus the water fed by the inlet valve

.A gentle amount of detergent and Antiseptic solution can also be added. When the switch is ON the motor starts rotating in both clockwise and Counter clockwise directions vice-versa. After some time, the dryer does its work perfectly. The waste from drum will also be drained out via draining pipe.

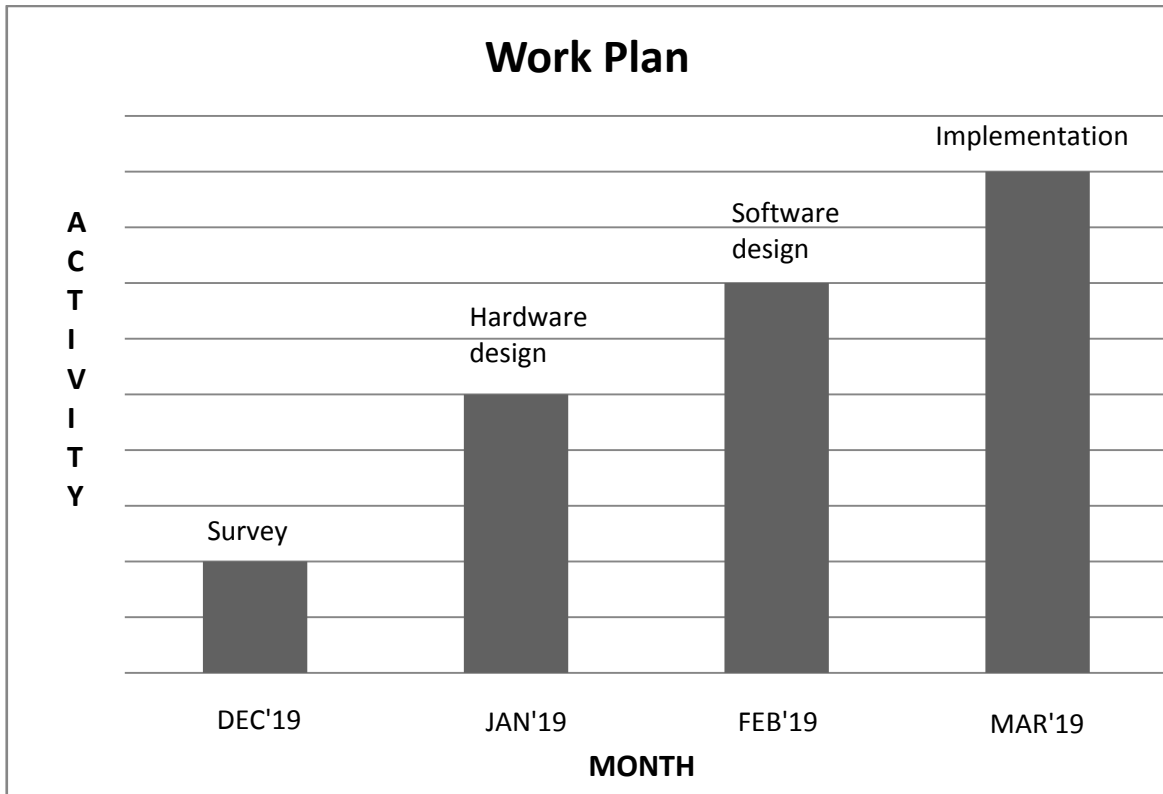
Expected Result

The R³ menstrual kit is found to be very efficient in terms of cost and the methodology used. This process of stain removal is highly appreciable.

BUDGET

Sl. No	Particulars		Quantity	Price (INR)
1.	Motor (300 rpm)	Single phase split	1	1500.00
2.	OLP	7 AMC	1	750.00
3.	Gear Box	1:3:7	1	750.00
4.	Inner drum	30cm	1	550.00
	Outer drum	35cm	1	820.00
	Bearing setup	Round(0.250)	1	950.00
	Mother board	-	1	900.00
	Heating element	180mm	1	250.00
	Water inlet tube	50cm		45.00
	Steel pulsator	20cm dia		210.00
	Paddles	170*55mm	1	180.00
	Belt	2.5 inch	1	50.00
	Water proof conselant	250gm	1	70.00
	Knobs	-	1	100.00
	Miscellaneous			500.00
				7625.00
Seven thousand six hundred and twenty five only				

WORK PLAN:



CERTIFICATE:

This is to certify that **L.MOWLI, K.JAISHREE** are a bonafide final year students of P.G. Engineering (VLSI Design) of our college and it is also certified that two copies of utilization certificate and final report along with seminar paper will be sent to the Council after completion of the project by the end of April 2019.



Signature of the guide



Signature of the HOD



Signature of the
REGISTRAR/PRINCIPAL/DEAN
With SEAL

Dr. J. Arputha Vijaya Selvi,
B.E., M.E., Ph.d.,
PRINCIPAL
Kings College of Engineering
Punakulam- 613 303.

5.10.19
9/2/19



தமிழ்நாடு அறிவியல் தொழில்நுட்ப மாநில மன்றம்
TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
 (Established by Government of Tamilnadu)
 Directorate of Technical Education Campus, Chennai – 600 025.
 Ph : 044-22301428, Telefax : 044-22301552 www.tanscst.nic.in

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

Lr.No.TNSCST/SPS/AR/2018-2019



To
 The Principal
 Kings College of Engineering
 Puunakulam - 613303, Thanjavur - Dt.,

Sir/Madam,

Sub: TNSCST – Student Project Scheme – 2018-2019 – 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. Kindly read and ensure adherence to the terms and conditions such as submission of UC and seminar paper in time.

Kindly find enclosed here with 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-no.5&6) on completion of the project.

Thanking you,

Yours faithfully,


 Member Secretary.

- Encl: a) Terms & Conditions (T&C)
 b) Format of Utilisation Certificate (UC)
 c) Cheque for Rs 20000/- No: 795040

dt:18.02.2019.

Copy to: Individual Guides

TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
DOTE CAMPUS, CHENNAI-600025

APPROVED LIST OF STUDENT PROJECTS 2018-2019
SCIENCE STREAM

AGRICULTURAL SCIENCES

No.	Guide Name & Address	Title of the Project	Student(s) Name	Code	Amt. Rs.
001	S.Kalaivani Assistant Professor Shri sakthikailash Women's College Salem-636003	Biological control of leafminer (Aporocrem amodicella L.) in groundnut field against chitinase producing microorganism from soil	A Athira	AS-001	7500/-
002	Dr D Arulbalachandran Assistant Professor Dept. of Botany Periyar University Salam- 636011	Screening of drought tolerance rice genotypes in varied arid regions of western Tamilnadu	M Ramya P shanumuga Priya V Sivaranjani	AS-002	7500/-
003	B Narenthiran Dept. of Mech. Engg. Karpagam Academy of Hr.Educator Coimbatore - 641021	Design and fabrication of water filter using CNT/AGNW	P Ramkumar M Giri raja M Manikandan S Vinith Kumar	AS-003	7500/-
004	Dr. G. Ayyappadasan Assistant Professor Dept. of Biotechnology KS Rangasamy college of Technology Namakkal-637251	Design and development of sprouted multi chamber for the formulation protein rich powder as a ready to serve for adolescent girls	Ramya, S	AS-004	7500/-
005	Dr R Selvakumar Associate Professor Dept. of CSE Adhi College of Engg. And Tech Kancheepuram - 631305	iABIG: improved agriculture - best innovation for generations	N Kala G Geetha M Punitha E saranya	AS-005	7500/-
006	Dr R Durai singh Professor Regional Research Station Arappukottai-626107	Evaluation of planting methods and weed management practices in SRI raised under puddled and un - puddled field conditions	Nandhini Y	AS-006	7500/-
007	Dr K Chinmasy Professor, Dept. of ECE Velammal Inst. Of Technology Panchetti-601204 Thiruvallur DL.	Farmer to customer e-trade	B Ganasankari N R Abarna M Muthu Manjula	AS-007	7500/-
008	Dr. A. Joshi and Palariraj. A Professor Dept. of Information Technology Panimalar Institute of Technology Chennai-600123	Farmers toy	Antony Dhanupaul. V Anand. B Cesha Jephil. A Bhuvanesh. M	AS-008	7500/-
009	Dr K S K Sasikumar Associate Professor Dept. of Mechanical Engineering Kongu Engineering College Perundurai-638052	Design and development of coconut leaflet midrib separator	M.Gokulnath P Jagun S Gowthaman	AS-009	7500/-

086	Dr.M.Aniskumar Associate Professor Dept. of Biotechnology Pavendar Bhurathidasan College of Engineering and Technology Trichy - 620 024	Bioprocess consideration of bench top reactor for the production of cell biomass and secondary metabolites by using plant cell suspension cultures of andrographis paniculata	Vignesh.T	BS-036	7500/-
087	Dr.Prabhu G.R. Associate Professor Dept. of Biotechnology Karpagam Academy of Higher Education Coimbatore-641021	Bioactive phyto-chemical inhibitors for the major enzymatic components (Serine- and Metallo- Protease) of snake venom - A step towards Phyto-Chemical Antidote	Sasikumar S Chandralekha S	BS-037	7500/-
088	Dr.S.Sandhi Professor Dept of ECE KalaignarKarunanidhi Institute of Technology, Coimbatore-641402	Continuous glucose monitoring system in rural ICU	V.Sridevi J.Sandhya R.Mouli	BS-038	7500/-
089	Mr.V.Boobalan Assistant Professor Dept. of Biomedical Engineering Mahendra College of Engineering Salem -626 106	Sputtering of HAP Nanoparticle in Dental Implant to improve osseointegration	S.Murugan M.Vijay J.Pugazhenth S.Indra Kumar	BS-039	7500/-
090	M.Brindha Assistant Professor Dept. of Biomedical Engineering Velalar College of Engineering and Technology, Thindal Erode - 638 012	Alzheimer's patient movement tracking and monitoring using MIWI technology	Paulson Mathew G.Sridevi R.Vanitha K.G.Vichitra	BS-040	7500/-
091	Dr. Supriya S Assistant Professor Dept of Mechanical Engg., Government College of Engineering, Tirunelveli-627 007	Bio-mechanical and fracture analysis of FGM based human femoral bone through computational study	Sureshkumar T	BS-041	7500/-
092	Mr.M.Mohamed Yaseen Assistant Professor Dept. of ECE KCG College of Technology Chennai 600 097	Mission Quintroids	A Ajay Narayanan V.Muthu Pattu V.Arun Kumar	BS-042	7500/-
093	Dr.S.Karthikumar Assistant Professor Dept. of Biotechnology Kamaraj College of Engineering and Technology Virudhunagar-625701	Development of low cost IoT based high-throughput dip test for organophosphate pesticide detection in fruits and vegetables	D.Lenisha J.Juliana G.Janaki	BS-043	7500/-
094	Mrs.R.Ponni Assistant Professor Dept. of ECE Kings College of Engg Punalakulam-613003 Thanjavur -Dt.	R3 Mestrual Kit	L.Mowli K.Jaishree	BS-044	7500/-
095	Ms.P.Revathi Assistant Professor Dept. of ECE Kongu Engineering College Erode-636060	Medical aid for multiple sclerosis patient	G.Prasanna Kumar K.Prashanthi N.Thoufeek Raja	BS-045	7500/-

09.03.2019

From
J. Niranjan Samuel
JRF/ECE
Kings College of Engineering
Punalkulam

To
The Principal
Kings College of Engineering
Punalkulam

Respected Madam,

Sub: Submission of Cheque and withdrawal of amount –student project – reg.,

With reference to the above, we have received a cheque bearing no. **795040** for an amount of Rs. 20,000/- for three student projects from Tamil Nadu State Council for Science and Technology, Chennai as detailed below:

Name of the Guide	Title of the Project	Amount
R. Ponni	R3 Menstrual Kit	Rs.7500
R. Sugantha Lakshmi	Pacifier (Mobile App)	Rs. 5000
T. Jeyaseelan	VLSI Implementation of automated monitoring and detection for tonsillitis by image processing	Rs. 7500

In this regard, I request you to kindly permit me to encash in order to make the students to complete their project successfully.

Thank you,

Yours faithfully,


9/3/19
J. Niranjan Samuel

*Sub. to Secretary's
J. Niranjan Samuel
9/3/19.*

18/3/19

Encl.
Copy of sanction order


18/3/19

811 /841 Kollupetta Street,
Near East Gate Indian Bank,
Thanjavur-613001.
Contact : 8122975186

Customer ID : 006214
Customer Name : K. JAYA SRI
Contact : 993640901
Valid till : 20/04/2019

Time : 19:26:05 PM

Date : 04/03/2019

S.NO	PARTICULARS	DESCRIPTION	QUANTITY	COST
1	Motor (300 r.p.m)	Single phase,split	1	1500.00
2	OLP	7 AMC	1	750.00
3	Gear Box	1.3:7	1	350.00
4	Inner Drum	30 cm	1	550.00
5	Outer Drum	35 cm	1	820.00
6	Bearing setup	Round (0.250)	1	950.00
7	MotherBoard	-	1	900.00
8	Heating Element	180mm	1	250.00
9	Water Inlet Tube	50 cm	1	45.00
10	Steel Pulsator	20 cm dia	1	210.00
11	Paddles	177*55 mm	1	180.00
12	Belt	2.5 inch	1	50.00
13	Water proof Conselant	250gm	1	200.00
14	Water Outlet Tube	70 cm	1	65.00
15	Knobs	-	4	48.00

Project presentation at Kabsalingam
University at Kovilpatti

TOTAL : 6868.00
SALES TAX(3%) : 206.04
GRAND TOTAL : 7074.04

Travelling & incidental charges : Rs. 430/- only

52 Total : Rs. 7504.04

5/4/19

J. M. S. S.
5/4/19



इंडियन बैंक
Indian Bank

Branch: DOTE CAMPUS
DOTE OFFICE BUILDINGS
GUINDY CHENNAI
IFS Code :IDIB000D050

A/c. Payee Only

VALID FOR THREE MONTHS ONLY

18 02 20 19
D D M M Y Y Y Y

PAY The Principal, Kings College of Engineering
RUPEES रुपये Twenty thousand only

या धारक को OR BEARER

Thanjavur

अदा करें ₹ 20,000/-

खा. सं.
A/c No.

SB 479135159

FOR MEMBER SECRETARY TN STATE COUNCIL FOR SCIENCE & TECHNOLOGY

CBS Code: 01636

AUTHORISED SIGNATORY

PAYABLE AT PAR AT ALL OUR BRANCHES

Please sign above

992000067

⑈ 795040⑈ 600019119⑈ 135159⑈ 31

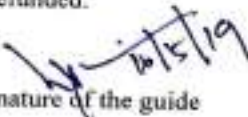
TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
DOTE CAMPUS, CHENNAI - 600 025

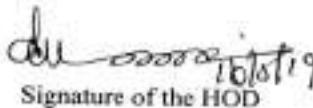
STUDENT PROJECT SCHEME 2019-2020
UTILISATION CERTIFICATE

(TWO COPIES)

1. Name of the guide and address : Mrs. R. Ponnai, Assistant Professor,
Department of ECE, Kings College of Engg,
Punalikulam - 613 303, Pudukkottai DT.
2. Name of the student(s) : L. Mowli,
K. Jaishree.
3. Title of the project : R3 Hestoral kit
4. Project code : BS-044

It is certified that a sum of Rs. ^{Seven thousand} 7500 (Rupees ^{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. remaining unutilized is refunded.


Signature of the guide


Signature of the HOD


Signature of the
REGISTRAR/PRINCIPAL/DEAN
With SEAL

Dr. J. Arputha Vijaya Selvi,
B.E., M.E., Ph.d.,
PRINCIPAL
Kings College of Engineering
Punalikulam - 613 303.

Dated: 18 January 2019



All India Council for Technical Education

(A Statutory body under Ministry of HRD, Govt. of India)

Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: www.aicte-india.org

SPDP- Sanction Order

To

The Drawing and Disbursing Officer,
All India Council for Technical Education,
Nelson Mandela Marg,
Vasant Kunj,
New Delhi - 110070.

To PAL
J. Prasad
14/1/19
copy to Ao

Sub: Release of a sum of Rs. Seven Lakh Twenty Two Thousand Five Hundred/- being the 1st installment of Grant-in-Aid under Skill and Personality Development Program Centre for SC/ST students (SPDP) scheme for the year 2017-18 payable during the current financial year 2018-19-reg.

Sir,

This is to convey the sanction of the Council for payment of Rs. 722500/- (Seven Lakh Twenty Two Thousand Five Hundred) as 1st installment out of the total approved grant-in-aid of Rs. 1445000 for completion of Skill and Personality Development Program Centre for SC/ST students (SPDP) scheme on Kings Skill Development Centre in KINGS COLLEGE OF ENGINEERING, PUDUKKOTTAI Tamil Nadu Pin No - 613303, under the Scheme Skill and Personality Development Program Centre for SC/ST students (SPDP).

- The amount of the grant shall be drawn by the Drawing and Disbursing Officer, All India Council for Technical Education on the grant-in-aid bill and shall be disbursed to and credited to the Registrar/ Director/Principal of the institute through RTGS.
- This grant-in-aid is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.
- The sanctioned amount is debit to the Major Head 601.33(a) Gen. of the Scheme of Skill and Personality Development Programme Centre for SC/ST students (SPDP) and is valid for payment during the financial year 2018-19.

The instructions/guidelines to be followed by University/Institution

1. Release of funds and maintenance of accounts

- The Principal of the institute and the Coordinator of the scheme are requested to verify the correctness of the under mentioned bank account/ RTGS details submitted by them along with the Proposal, in which the grant is being released:-

Institute PAN No.	Bank Name	Bank Branch Name	Bank Branch Address	Account Holder Name	Account Type	Account Number	IFSC Code
AAATR4577K	INDIAN OVERSEAS BANK	NORTH MAIN STREET BRANCH	NORTH MAIN STREET, THANJAVUR	KINGS COLLEGE OF ENGINEERING - RESEARCH & DEVELOPMENTS	Current Account	13640200000661	IOBA0001364

In case of any omission the same should be reported to AICTE immediately.

- The Institute shall strictly follow the provisions laid down in the scheme document and sanction order No. F. No. 85-12 /RIFD/SPDP/Policy-1/2017-18 dated, 18-01-2019 issued by this office. All correspondence related to the scheme must contain this number along with year of sanction of the scheme; failing which correspondence will not be entertained.
- Funds covered by this grant shall be kept separately and would not be mixed up with other funds.
- The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure (list enclosed).

- c) Any change in the equipment's recommended/sanctioned shall not be acceptable in any circumstances.
- f) Any expenditure above the sanctioned amount of grant is to be incurred from Institute's own funds.
- g) The Institute/University shall not charge any overheads on this scheme and will provide all the administrative support for completion of the scheme
- h) The accounts of the institute will be open for test check by the Council or Controller & Auditor General of India or any other officer designated by them.

II. Disbursement of funds to institutions:

- a) The date of release of the grant by AICTE shall be taken as the **date of commencement of the scheme**. The Principal / Director / Registrar shall intimate about the receipt of the grant to AICTE. Any Expenditure incurred prior to the issuance of the approval letter will not be allowed to be adjusted in the grant and if the Institution / University do not take the scheme work within one month of the receipt of the grant, the approval shall ipso facto lapse.
- b) After receipt of the grant from AICTE, the Institute shall send a confirmation to AICTE within 2 months of receipt of grant that the sanctioned scheme has been started/is in progress.
- c) 50% of the sanctioned grant shall be released at the initial stage after acceptance of the proposal. 40 % & 10% of the sanctioned fund will be released in installments during the next two years, after receipt of feedback, attendance, Utilization Certificate (UC) and other supporting documents from the Institute.

III. Submission of documents by University/Institution

- a) The following mandatory relevant documents are required to be submitted by the University/Institution within one month of the completion of the scheme:-
 - (i) **The Annual Progress Report (APR)** in the prescribed format along with Statement of Expenditure and Audited Utilization Certificate shall be submitted to AICTE not later than one month after completion.
 - (ii) **The Utilization Certificate (UC)** supported by Audited Statement of Expenditure to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to the All India Council for Technical Education immediately after completion of the scheme. It should contain the head-wise break up of expenditure made from the grant-in-aid provided by the Council. In case of self-financing/private institutions, Statement of actual Expenditure & Utilization Certificate are required to be audited & signed and sealed by a Chartered Accountant endorsing the membership number and complete postal address.
 - (iii) **Scheme Completion Report (SCR)** in the prescribed format along with the copies of invoice/bills for the equipments purchased and copy of stock entry register where entry of the equipment have made duly verified. Audited Statement of Expenditure indicating expenditure incurred in the total duration of the project in the prescribed format and GFR-19 shall be submitted to the Council. Photocopies of formats are enclosed.
- b) A complete Status Report of the project indicating the activities undertaking, number of students benefited, laboratory works photographs of students, together with their views is to be submitted.
- c) The balance amount of the grant will be reimbursed to the University/Institution only on submission of the above documents. On receipt of these documents, the total amount of balance of financial assistance, admissible as per the norms, shall be worked out and grant-in-aid shall be released, as second instalment, in favour of the beneficiary institution.
- d) The University/Institution is expected to submit the above said mandatory documents viz. Utilization certificate, Expenditure Statement and completion certificate etc. within one month of completion of SPDP Scheme. However, delay of further 2 months may be condoned by AICTE in special circumstances as explained by the institute. Delay in submission of documents after three months of the completion of the SPDP scheme shall invite a penalty of 10% of the total sanctioned amount of the SPDP scheme, to be deducted from the balance amount of 2nd instalment. The entire amount of grant already released, along with interest accrued thereon shall be refunded to AICTE if mandatory documents are not submitted by the institute beyond one year.
- e) **Program Evaluation Committee (PEC)** is required to be constituted at institutional level. The constitution of the PEC shall be as under:
 - i. Principal/Director/Registrar of the institution (Chairperson)
 - ii. Coordinator of the scheme (Member Secretary),
 - iii. Two HoDs and one subject expert (members).

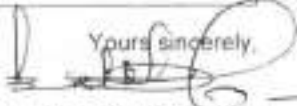
The members of the said PEC shall not be below the rank of Associate Professor. The minutes of the meetings are to be submitted to the Council at the end of the scheme along with other mandatory documents.

IV. General Instructions:

- The amount of interest accrued on the grant should be treated as part of the grant to be utilized for that particular scheme. However, the interest amount accrued along with grant disbursed should not exceed the total grant sanctioned for the scheme. The Institute receiving the grant should reflect the same in the audited statement of accounts/ utilization certificate and may either refund the interest amount to AICTE or AICTE should adjust the same in the next installment of grant before its release.
- The duration of the scheme is **for three years**. It may be ensured that the scheme is completed within the stipulated time. If the scheme is not completed in time no further extension will be granted in any case and institute has to refund the entire amount to AICTE.
- If scheme is not started within six months of the issuance of this Offer Letter, the released amount, along with interest accrued thereon, has to be returned to AICTE, by way of a demand draft in favour of **Member Secretary, AICTE, New Delhi**.
- Any unavoidable circumstantial change in the scheme with respect to name of Scheme Coordinator for the SPDP scheme would mandatorily require prior approval of the Council. All such requests should be addressed to AICTE, in advance, recording the specific reasons for proposed changes, failing which the offer for the grant already issued would be treated as automatically withdrawn and the financial assistance released in favour of the beneficiary institution shall be refunded immediately to the Council. Kindly mention the File No. 65-12/RIFD/SPDP/Policy-1/2017-18 in your future correspondence.
- The grantee shall maintain an audited record of assets acquired wholly or substantially out of the grant-in-aid and a register or assets shall be maintained by the Institute in the prescribed form i.e. GFR-19.
- The University / Institute receiving grant under SPDP is expected to put up a plaque at the main entrance of the Lab/Department, which has been modernized using the grant. All the equipment procured through the scheme should be super scribed with AICTE scheme file number.
- The assets acquired wholly or substantially out of All India Council for Technical Education's grant shall not be disposed or encumbered or utilize for the purpose other than those for which the Grant was given without proper sanction of the All India Council for Technical Education and should at any time the institution cease to function, such assets shall revert to the All India Council for Technical Education.
- GOI General Financial Rules (GFR)** should be followed during utilization of grant. URL addresses <http://doe.gov.in/orders-circular/GFR>.

V. List of Equipments Approved:

S.No.	Name of Equipment
✓ 1	Desktop Computer
2	UPS
3	Networking utilities
4	Managesble Switch
✓ 5	LCD Projector
✓ 6	SMART INTERACTIVE BOARD
✓ 7	Books/work books
8	Multifunction Printer
9	Library Almirah
10	Steel Table & Chair
✓ 11	Stereo headphone
✓ 12	Globearena software
13	Workshop
✓ 14	Guest lectures
15	Stationery and miscellaneous

Yours sincerely,

 (Prof. Dileep N. Malkhede)
 Advisor-1 (RIFD)

Copy forwarded for information and necessary action to :-

- Name & address of Coordinator of the scheme
 Mr. SIVAKUMAR SARAVANAN

18 MAR 2019

KINGS COLLEGE OF ENGINEERING
PUNALKULAM VILLAGE
GANDARVAKKOTTAI (TK)
PUDUKKOTTAI (DIST), PUDUKKOTTAI
Tamil Nadu - 613303

2. The Registrar / Director / Principal
KINGS COLLEGE OF ENGINEERING
PUNALKULAM VILLAGE
GANDARVAKKOTTAI (TK)
PUDUKKOTTAI (DIST), PUDUKKOTTAI
Tamil Nadu - 613303
3. Guard File

Name of the Institute: Kings College of Engineering, Punakulam - 613 303

UTILISATION CERTIFICATE FOR THE FINANCIAL YEAR 2019 - 2020

Name of the Scheme under which the amount was sanctioned under the Skill and Personality Development Program Centre for SC/ST Students (SPDP) for the session 2019-20.

(to be submitted separately for each sanction order)

Sl. No	AICTE Sanction Order/Letter No. & Date under which the amount was sanctioned	Amount (Rs.)	
	F.No. 65-12/RIFD/SPDP/Policy-1/2017-2018 dt. 18.01.2019	Rs. 7,22,500 (Rupees Seven Lakhs Twenty Two Thousand and Five Hundred Only)	Certified that out of Grant-in-Aid of Rs. 7,22,500 (Rupees Seven Lakhs Twenty Two Thousand and Five Hundred Only) sanctioned by the AICTE during the financial year 2018 - 2019 in favour of KINGS COLLEGE OF ENGINEERING as per letter mentioned in column 2 and Rs. 0.00 on account of unspent balance of previous year, Rs.8,06,673 has been utilized for the purpose for which it was sanctioned and the balance of Rs. 0.00 remained unutilized at the end of the year.

Certified that I have satisfied myself that the conditions on which the amount was sanctioned have been duly fulfilled and that I have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

Kinds of checks exercised:-

1. Receipts and Vouchers & Capt
2. Periodic Progress Reports.

Signature of Chartered Accountant

Name of Chartered Accountant
CA. F. VISWANATHAN
Mem. No. 213548.

Membership No.:

Full Address with Seal

Signature of the Finance Officer

Name & Designation

Name of the Finance Officer

Full Address with Seal

(Govt. Aided/University & wherever applicable)

Place:

Date:

Note: Each page should be signed by all the concerned

J. Muthukumar
20/2/2020

Signature of Head of the Institute

PRINCIPAL
Kings College of Engineering
Punakulam- 613 303.

