ACADEMIC YEAR (2022-2023)						
			J K K Munirajah college of Technology, T.N.Palayam			Metric No 1.3.2
S.No	Name of the course	course code	programme offering	Contents mapping to		Number of students
				project work	internship	
(2022-2023) Regulation-2017						
1	Project Work	EC8811	Electronics and Communication Engineering	✓	✓	15
2	Electronic Devices	EC8252	Electronics and Communication Engineering	✓		12
3	Electronic Circuits- I	EC8351	Electronics and Communication Engineering	✓	✓	15
4	Linear Integrated Circuits	EC8453	Electronics and Communication Engineering	✓		12
5	Medical Electronics	EC8073	Electronics and Communication Engineering	✓		9
6	Microprocessors and Microcontrollers	EC8691	Electronics and Communication Engineering	✓	✓	15
7	Wireless Networks	EC8004	Electronics and Communication Engineering	✓	✓	15
8	Embedded and Real Time Systems	EC8791	Electronics and Communication Engineering	✓		15
9	Satellite Communication	EC8094	Electronics and Communication Engineering	✓		

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J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY

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T.N.Palayam (Po), Gobi (Tk), Erode (Dt) – 638 506

Department of Electronics and Communication Engineering

ACADEMIC YEAR 2022-2023

S.NO	REGISTER NUMBER	STUDENT NAME	PROJECT WORK	INTERNSHIP
1	731219106001	BHARATHI M	✓	
2	731219106004	JAGADEESH KUMAR G	✓	✓
3	731219106006	KEMPARAJ K	✓	✓
4	731219106008	MATHANKUMAR M	✓	✓
5	731219106009	MOHAN K	✓	✓
6	731219106010	MUTHUPANDI M	✓	
7	731219106011	NANDHINI P	✓	
8	731219106012	NARMATHA M	✓	✓
9	731219106014	RAMESHPRABHU R	✓	
10	731219106015	ROHINI M	✓	✓
11	731219106016	SABARIGAYATHRI A	✓	✓
12	731219106018	SATHYA PRIYA K	✓	✓
13	731219106019	SURENDAR P	✓	✓
14	731219106021	UDHAYAKUMAR M	✓	
15	731219106301	KURALARASAN D	✓	

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Department of Electronics and Communication Engineering

S.NO	Name of the Course that Include Experimental Learning through project Work/Internship/Field Visit
1	Project Work
2	Electronic Devices
3	Electronic Circuits- I
4	Linear Integrated Circuits
5	Medical Electronics
6	Microprocessors and Microcontrollers
7	Wireless Networks
8	Embedded and Real Time Systems
9	Satellite Communication

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PROJECT WORK

EC8811	PROJECT WORK	L T P C
		0 0 20 10

OBJECTIVES:

- To develop the ability to solve a specific problem right from its identification and literature review till the successful solution of the same. To train the students in preparing project reports and to face reviews and viva voce examination.

The students in a group of 3 to 4 works on a topic approved by the head of the department under the guidance of a faculty member and prepares a comprehensive project report after completing the work to the satisfaction of the supervisor. The progress of the project is evaluated based on a minimum of three reviews. The review committee may be constituted by the Head of the Department. A project report is required at the end of the semester. The project work is evaluated based on oral presentation and the project report jointly by external and internal examiners constituted by the Head of the Department.

TOTAL: 300 PERIODS

OUTCOME:

- On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.

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EC8004 **WIRELESS NETWORKS**

L	T	P	C
3	0	0	3

OBJECTIVES:

- To understand the concept about Wireless networks, protocol stack and standards
- To understand and analyse the network layer solutions for Wireless networks
- To study about fundamentals of 3G Services, its protocols and applications
- To have in depth knowledge on internetworking of WLAN and WWAN
- To learn about evolution of 4G Networks, its architecture and applications

UNIT I WIRELESS LAN **9**

Introduction-WLAN technologies: - IEEE802.11: System architecture, protocol architecture, 802.11b, 802.11a – Hiper LAN: WATM, BRAN, HiperLAN2 – Bluetooth: Architecture, WPAN – IEEE 802.15.4, Wireless USB, Zigbee, 6LoWPAN, WirelessHART

UNIT II MOBILE NETWORK LAYER **9**

Introduction - Mobile IP: IP packet delivery, Agent discovery, tunneling and encapsulation, IPV6-Network layer in the internet- Mobile IP session initiation protocol - mobile ad-hoc network: Routing: Destination Sequence distance vector, IoT: CoAP

UNIT III 3G OVERVIEW **9**

Overview of UTMS Terrestrial Radio access network-UMTS Core network Architecture: 3GPP Architecture, User equipment, CDMA2000 overview- Radio and Network components, Network structure, Radio Network, TD-CDMA, TD – SCDMA.

UNIT IV INTERNETWORKING BETWEEN WLANS AND WWANS **9**

Internetworking objectives and requirements, Schemes to connect WLANS and 3G Networks, Session Mobility, Internetworking Architecture for WLAN and GPRS, System Description, Local Multipoint Distribution Service, Multichannel Multipoint Distribution System.

UNIT V 4G & Beyond **9**

Introduction – 4G vision – 4G features and challenges - Applications of 4G – 4G Technologies: Multicarrier Modulation, Smart antenna techniques, IMS Architecture, LTE, Advanced Broadband Wireless Access and Services, MVNO.

TOTAL:45 PERIODS

OUTCOMES:

Upon completion of the course, the student would be able to:

- Conversant with the latest 3G/4G networks and its architecture
- Design and implement wireless network environment for any application using latest wireless protocols and standards
- Ability to select the suitable network depending on the availability and requirement
- Implement different type of applications for smart phones and mobile devices with latest network strategies

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EC8691 **MICROPROCESSORS AND MICROCONTROLLERS**

L T P C
3 0 0 3

OBJECTIVES:

- To understand the Architecture of 8086 microprocessor.
- To learn the design aspects of I/O and Memory Interfacing circuits.
- To interface microprocessors with supporting chips.
- To study the Architecture of 8051 microcontroller.
- To design a microcontroller based system

UNIT I THE 8086 MICROPROCESSOR 9

Introduction to 8086 – Microprocessor architecture – Addressing modes - Instruction set and assembler directives – Assembly language programming – Modular Programming - Linking and Relocation - Stacks - Procedures – Macros – Interrupts and interrupt service routines – Byte and String Manipulation.

UNIT II 8086 SYSTEM BUS STRUCTURE 9

8086 signals – Basic configurations – System bus timing –System design using 8086 – I/O programming – Introduction to Multiprogramming – System Bus Structure – Multiprocessor configurations – Coprocessor, Closely coupled and loosely Coupled configurations – Introduction to advanced processors.

UNIT III I/O INTERFACING 9

Memory Interfacing and I/O interfacing - Parallel communication interface – Serial communication interface – D/A and A/D Interface - Timer – Keyboard /display controller – Interrupt controller – DMA controller – Programming and applications Case studies: Traffic Light control, LED display , LCD display, Keyboard display interface and Alarm Controller.

UNIT IV MICROCONTROLLER 9

Architecture of 8051 – Special Function Registers(SFRs) - I/O Pins Ports and Circuits - Instruction set - Addressing modes - Assembly language programming.

UNIT V INTERFACING MICROCONTROLLER 9

Programming 8051 Timers - Serial Port Programming - Interrupts Programming – LCD & Keyboard Interfacing - ADC, DAC & Sensor Interfacing - External Memory Interface- Stepper Motor and Waveform generation - Comparison of Microprocessor, Microcontroller, PIC and ARM processors.

TOTAL: 45 PERIODS

OUTCOMES:

At the end of the course, the students should be able to:

- Understand and execute programs based on 8086 microprocessor.
- Design Memory Interfacing circuits.
- Design and interface I/O circuits.
- Design and implement 8051 microcontroller based systems.

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FIRE DETECTING AND EXTINGUISHER USING ARDUINO

A PROJECT REPORT

Submitted by

MUTHUPANDI.M	**(731219106010)**
NANDHINI.P	**(731219106011)**
KURALARASAN.D	**(731219106301)**

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING IN

ELECTRONICS AND COMMUNICATION

ENGINEERING

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T.N.PALAYAM-638506

ANNA UNIVERSITY: CHENNAI-600 025

MAY 2023

PRINCIPAL
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GOBI (Tk), ERODE (Dt).

ANNA UNIVERSITY : CHENNAI-600 025

BONAFIDE CERTIFICATE

Certified that this project report "FIRE DETECTING AND EXTINGUISHER USING ARDUINO "is the bonafide work of

MUTHUPANDI.M	(731219106010)
NANDHINI.P	(731219106011)
KURALARASAN.D	(731219106301)

Who carried out the project work under my supervision.

SIGNATURE

Dr.C.MURUGESAN,M.E.,(Ph.D).,

HAED OF THE DEPARTMENT

Department of Electronics and Communication Engineering

JKK Munirajah College of Technology

T.N.Palayam.

17/05/23

SIGNATURE

Mr.N.NAVINDRAN,M.E.,

SUPERVISOR,AP/ECE

Department of Electronics and Communication Engineering

JKK Munirajah college of Technology

T.N.Palayam.

Submitted for the project Viva-Voce examination held on 18-05-2023

INTERNAL EXAMINER

EXTERNAL EXAMINER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
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ABSTRACT

Fire is a calamity that can result in the loss of life, property damage, and the victim's lasting incapacity. In the case of a fire, we are compelled to employ human resources, which are not safe, to rescue people and put out the fire. With the advent of technology, particularly in robotics, it is now possible to respond quickly to fire locations and combat fires. This would increase fire-fighter efficiency while simultaneously preventing them from putting their lives in danger.

In this project, we created a prototype robot using Arduino that detects and extinguishes fires autonomously. When the flame sensor detects a fire, the water pump and servo motor are activated. The capacity to detect fire sites automatically and extinguish fire remotely at a distance of 60 cm from the fire. The robot is designed to locate fires and spray water into them in order to decrease the amount of damage.

KEY WORD: Arduino Uno, SIM(800L) GSM Module.

CHAPTER 6

6.CONCULSION AND FUTURE WORK

6.1 CONCULSION:

The prototype of the fire fighter robot was efficiently designed. This prototype has facilities to be integrated with many sensors making it move forward. The toolkit detects the infrared light emitted by the fire with photo diode and sends signal to controller. We intend to extend this work to provide a keypad programmed to allow manipulation of robot to move desired direction with help of motor driver module and extinguish the flames using water tank which is rotated at 180 degrees with help of servo in order for faster result.

6.2 FUTURE SCOPE:

The project has been motivated by the desire to design a system that can detect fires and take appropriate action, without any human intervention. This future work will also explore to the use of a long distance sensor with suitable hardware to get better and faster results addition to the characters.

The development of sensor networks and the maturity of robotics suggest that we can use mobile agents for tasks that involve perception of an external stimulus and reacting to the stimulus, even when the reaction involves a significant amount of mechanical actions. This provides us the opportunity to pass on to robots tasks that traditionally humans had to do but was inherently life- threatening. Fire-fighting is an obvious candidate for such automation. Given the number of lives lost regularly in fire-fighting, the system we envision is crying for adoption. Our experience

PROJECT WORK

EC8791	EMBEDDED AND REAL TIME SYSTEMS	L	T	P	C
		3	0	0	3

OBJECTIVES:

The student should be made to:

- Understand the concepts of embedded system design and analysis
- Learn the architecture and programming of ARM processor
- Be exposed to the basic concepts of embedded programming
- Learn the real time operating systems

UNIT I INTRODUCTION TO EMBEDDEDSYSTEM DESIGN **9**

Complex systems and micro processors– Embedded system design process –Design example: Model train controller- Design methodologies- Design flows - Requirement Analysis – Specifications-System analysis and architecture design – Quality Assurance techniques - Designing with computing platforms – consumer electronics architecture – platform-level performance analysis.

UNIT II ARM PROCESSOR AND PERIPHERALS **9**

ARM Architecture Versions – ARM Architecture – Instruction Set – Stacks and Subroutines – Features of the LPC 214X Family – Peripherals – The Timer Unit – Pulse Width Modulation Unit – UART – Block Diagram of ARM9 and ARM Cortex M3 MCU.

UNIT III EMBEDDED PROGRAMMING **9**

Components for embedded programs- Models of programs- Assembly, linking and loading – compilation techniques- Program level performance analysis – Software performance optimization – Program level energy and power analysis and optimization – Analysis and optimization of program size- Program validation and testing.

UNIT IV REAL TIME SYSTEMS **9**

Structure of a Real Time System — Estimating program run times – Task Assignment and Scheduling – Fault Tolerance Techniques – Reliability, Evaluation – Clock Synchronisation.

UNIT V PROCESSES AND OPERATING SYSTEMS **9**

Introduction – Multiple tasks and multiple processes – Multirate systems- Preemptive real-time operating systems- Priority based scheduling- Interprocess communication mechanisms – Evaluating operating system performance- power optimization strategies for processes – Example Real time operating systems-POSIX-Windows CE. - Distributed embedded systems – MPSoCs and shared memory multiprocessors. – Design Example - Audio player, Engine control unit – Video accelerator.

TOTAL: 45 PERIODS

OUTCOMES:

At the end of the course, the student should be able to:

- Describe the architecture and programming of ARM processor
- Outline the concepts of embedded systems
- Explain the basic concepts of real time operating system design
- Model real-time applications using embedded-system concepts

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EC8094	SATELLITE COMMUNICATION	L	T	P	C
		3	0	0	3

OBJECTIVES:

The student should be made to:

- Understand the basics of satellite orbits
- Understand the satellite segment and earth segment
- Analyze the various methods of satellite access
- Understand the applications of satellites
- Understand the basics of satellite Networks

UNIT I SATELLITE ORBITS 9

Kepler's Laws, Newton's law, orbital parameters, orbital perturbations, station keeping, geo stationary and non Geo-stationary orbits – Look Angle Determination-Limits of visibility – eclipse-Sub satellite point –Sun transit outage-Launching Procedures - launch vehicles and propulsion.

UNIT II SPACE SEGMENT 9

Spacecraft Technology- Structure, Primary power, Attitude and Orbit control, Thermal control and Propulsion, communication Payload and supporting subsystems, Telemetry, Tracking andcommand-Transponders-The Antenna Subsystem.

UNIT III SATELLITE LINK DESIGN 9

Basic link analysis, Interference analysis, Rain induced attenuation and interference, Ionospheric characteristics, Link Design with and without frequency reuse.

UNIT IV SATELLITE ACCESS AND CODING METHODS 9

Modulation and Multiplexing: Voice, Data, Video, Analog – digital transmission system, Digital video Broadcast, multiple access: FDMA, TDMA, CDMA, DAMA Assignment Methods, compression – encryption, Coding Schemes.

UNIT V SATELLITE APPLICATIONS 9

INTELSAT Series, INSAT, VSAT, Mobile satellite services: GSM, GPS, INMARSAT, LEO, MEO, Satellite Navigational System. GPS Position Location Principles, Differential GPS,Direct Broadcast satellites (DBS/DTH).

TOTAL:45 PERIODS

OUTCOMES:

At the end of the course, the student would be able to:

- Analyze the satellite orbits
- Analyze the earth segment and space segment
- Analyze the satellite Link design
- Design various satellite applications

AUTOMATIC INSULIN INJECTION

A PROJECT REPORT

Submitted by

BHARATHI.M (731219106001)

RAMESHPRABHU.R (731219106014)

UDHAYAKUMAR.M (731219106021)

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING IN

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MAY 2023

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ANNA UNIVERSITY :: CHENNAI-600 025

BONAFIDE CERTIFICATE

Certified that this project report " **AUTOMATIC INSULIN INJECTION** " is the bonafide work of

BHARATHI.M **(731219106001)**

RAMESHPRABHU.R **(731219106014)**

UDHAYAKUMAR.M **(731219106021)**

Who carried out the project work under my supervision.

SIGNATURE

Dr.C.MURUGESAN,M.E.,Ph.D.,
HAED OF DEPARTMENT
Department of Electronics
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JKK Munirajah College of
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T. N.Palayam.

SIGNATURE

Mrs.U.SASIKALA,M.E.,AP/ECE
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Department of Electronics
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Submitted for the project Viva-Voce examination held on 18.05.2023 | FN

INTERNAL EXAMINER **EXTERNAL EXAMINER**

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AUTOMATIC INSULIN INJECTION

ABSTRACT

Many individuals with memory cognitive issues and physical disabilities are required to take a complex daily schedule of medications. Diabetic Mell it us (DM) can greatly reduce the patient's quality of life if left untreated. Traditional insulin infusion techniques' involving a syringe and needle is impractical and unpleasant. Insulin pumps are a great alternative to achieve ease of use and personal comfort. An existing low cost insulin pump is further modified to have additional features to improve user experience. The pump is highly precise delivering accurate quantities of insulin irrespective of external conditions. The invention of insulin pump was a relief for diabetic patients, as they could dispense insulin dosages self-reliantly. The design aspects and architecture of the insulin pump is presented here and using temperature sensor human body temperature is sensed continuously. But it is very expensive for a low earned people to check their health conditions frequently in a hospital. Thus, our goal is to design a device based automatic insulin injection.

KEYWORDS

Artificial Intelligence (AI) and Machine Learning (ML) are the technologies used for this concept.

CHAPTER 6

CONCLUSION AND FUTURE WORK

6.1 CONCLUSION

The prototype of a low cost insulin pump based on MEMS was developed. The Android application along with the database ensures easy access of data and pump usage for both doctor and the patient respectively. The pump was put through numerous experimental iterations and proved to be highly accurate with respect to the injected insulin dosage. The pump being compact and light weight can be easily worn.

6.2 FUTURE WORK

Future work for this concept could include improvements in the accuracy and reliability of automatic insulin injection systems. This could involve developing algorithms and sensors that can more accurately detect changes in blood glucose levels and adjust the amount of insulin injected accordingly. Additionally, research could be done to develop better needle designs that can more accurately deliver insulin without causing discomfort or other issues. Finally, further research could be done to develop systems that are easier to use and maintain by patients, and that can be used in a variety of settings.

INTERNSHIP

EC8073	MEDICAL ELECTRONICS	L	T	P	C
		3	0	0	3

OBJECTIVES:

The student should be made:

- To gain knowledge about the various physiological parameters both electrical and non electrical and the methods of recording and also the method of transmitting these parameters
- To study about the various assist devices used in the hospitals
- To gain knowledge about equipment used for physical medicine and the various recently developed diagnostic and therapeutic techniques.

UNIT I ELECTRO-PHYSIOLOGY AND BIO-POTENTIAL RECORDING 9

Sources of bio medical signals, Bio-potentials, Biopotential electrodes, biological amplifiers, ECG, EEG, EMG, PCG, typical waveforms and signal characteristics

UNIT II BIO-CHEMICAL AND NON ELECTRICAL PARAMETER MEASUREMENT 9

pH, PO2, PCO2, Colorimeter, Blood flow meter, Cardiac output, respiratory, blood pressure, temperature and pulse measurement, Blood Cell Counters.

UNIT III ASSIST DEVICES 9

Cardiac pacemakers, DC Defibrillator, Dialyser, Ventilators, Magnetic Resonance Imaging Systems, Ultrasonic Imaging Systems.

UNIT IV PHYSICAL MEDICINE AND BIOTELEMETRY 9

Diathermies- Shortwave, ultrasonic and microwave type and their applications, Surgical Diathermy, Biotelemetry.

UNIT V RECENT TRENDS IN MEDICAL INSTRUMENTATION 9

Telemedicine, Insulin Pumps, Radio pill, Endomicroscopy, Brain machine interface, Lab on a chip.

TOTAL:45 PERIODS

OUTCOMES:

On successful completion of this course, the student should be able to:

- Know the human body electro- physiological parameters and recording of bio-potentials
- Comprehend the non-electrical physiological parameters and their measurement – body temperature, blood pressure, pulse, blood cell count, blood flow meter etc.
- Interpret the various assist devices used in the hospitals viz. pacemakers, defibrillators, dialyzers and ventilators
- Comprehend physical medicine methods eg. ultrasonic, shortwave, microwave surgical diathermies , and bio-telemetry principles and methods
- Know about recent trends in medical instrumentation

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AUTOMATIC MEDICAL DISPATCHER WITH DYNAMIC TELE MONITORING SYSTEM USING IOT IN RURAL ZONES

A PROJECT REPORT

Submitted by

SABARI GAYATHRI.A	**(731219106016)**
KEMPARAJ.K	**(731219106006)**
SURENDAR.P	**(731219106019)**

in partial fulfillment for the award of the degree of

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BONAFIDE CERTIFICATE

Certified that this project report **"AUTOMATIC MEDICAL DISPATCHER WITH DYNAMIC TELE MONITORING SYSTEM USING IOT IN RURAL ZONES"** is the bonafide work of

SABARI GAYATHRI.A **(731219106016)**

KEMPARAJ.K **(731219106006)**

SURENDAR.P **(731219106019)**

Who carried out the project work under my supervision.

SIGNATURE
Dr.C.MURUGESAN,M.E.,Ph.D.,
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SIGNATURE
Mrs.R.KOKILA,M.E., AP/ECE
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Submitted for the project Viva-Voce examination held on 18.05.2023

INTERNAL EXAMINER 18/5

EXTERNAL EXAMINER 18/5/23

PRINCIPAL
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ABSTRACT

In the EXISTING system, the dramatically increasing deployment of the Internet of Things (IOT), remote monitoring of health data to achieve intelligent healthcare has received great attention recently. In the PROPOSED system, Health chain, a large-scale health data privacy preserving scheme based on block chain technology, where health data are encrypted to conduct fine grained access control. In the modification, MODIFICATION part is our implementation. We deploy the Anytime Medical Counter in all the rural areas where people cannot get good / best doctor on track. We install Heart Beat, Temperature sensor; Ultrasonic sensor, load cell, Camera and Head phone are also connected to the Medical machine. Medical counter user and is monitor from the remote area. Doctor examines the Patient and prescribes the medicines and the Medicine Dispatcher will Dispatch the Medicines from the AMM machine to the user. User can send the request to the server to get the tablets intake timings.

KEYWORDS:MEDICAL ATM, ARDUINO UNO, INTERNET OF THINGS.

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CHAPTER 6

6. CONCLUSION

The early research is focused to assess how fast, effective programming system that can be designed & any interference that may interfere with the system. According to calculation, initial set up will cost very less compared to traditional approach and it will decrease with mass scale production. This system can be mobile with few modifications which can go remote villages for periodic health check-up of the stakeholders & in a nutshell this system has the potential to change the traditional architecture at the same time supporting it, if properly implemented. It is noted that doctor's business are mainly reputation worthy. (Patients are concentrated on one or two specific doctors). As the identity of doctor is not revealed, there is uniform distribution of patients towards doctors. It improves the traditional system where some good doctors are deprived of their earnings because of lack of reputation.

6.1 FEATURE SCOPE

1. By implementing medical ATM, simple medical problems will be diagnosed with an easy reach. This system can be further improved to diagnose the health problem also. A central platform can be provided for patience to interact with specialists of fields through video conferencing i.e. to provide a health ATM service.

2. One more development is that to provide automated e-emergency diagonisation and pharmacy for patients which can be meant that at the health ATM, when a card being inserted the whole body of the user will be scanned and the problem will be identified and rectification suggestions will be given. If it is unable to identify, then a specialist will be connected through video conference.

Gmail

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com> Fri, Mar 3, 2023 at 10:45 AM
To: ETS ACADEMY Erode <etsacademyerode@gmail.com>

Sir,

On behalf of J.K.K.Munirajah College of Technology, we wish to request for permission to do Project Internship training at your company ETS Academy.

We wish to undertake our students Project Internship training at your company from 20.03.23 onwards upto two months to complete their project. As per the curriculum, the student needs to join a two month long internship and attain a certificate after satisfactory training. It will be a golden opportunity for the students as they will get to learn a lot of new things. We believe that your company will give relevant knowledge and training during this internship to complete their project.

The students K.Kemparaj, A.Sabarigayathri and P.Surendar are intend to participate in this Project Internship. Please allow our students to do an Internship at your company and meet your skilled employee. Thank you in advance.

With Regards,
HoD/ECE

ECE DEPARTMENT

ECLON WELCOMES U ALL..

INTERNSHIP.pdf
96K

ETS ACADEMY Erode <etsacademyerode@gmail.com> Sat, Mar 4, 2023 at 01:13 PM
To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Dear Sir,

We are delighted to accept the request of internship for your students with our company.
All the details in relation with the project and duties of the respective internee will be shared on the very first day of their internship with us. And once they have successfully completion of two months, all the internees will have to submit a detailed project report on their internship which will have details of their project and their roles. This report will mark completion of their internship and then the company will issue them an Internship Certificate.

Best Regards,
ETS ACADEMY Erode

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

CERTIFICATE

OF

Appreciation

12.05.2023

ETS Academy
TECHNOLOGY PROVIDES NEW ENERGY

THIS CERTIFICATE IS PROUDLY PRESENTED TO

K.KEMPARAJ

Dept Of ECE, J.K.K.Munirajah College Of Technology has successfully completed his internship on AUTOMATIC MEDICAL DISPATCHER WITH DYNAMIC TELE MONITORING SYSTEM USING IOT IN RURAL AREAS from 20.03.2023 to 12.05.2023 at ETS ACADEMY, ERODE.

MSME
MICRO, SMALL & MEDIUM ENTERPRISES

ETS Academy is registered under the:
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GOBI (Tk), ERODE (Dt).

CERTIFICATE

OF

Appreciation

12.05.2023

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TECHNOLOGY PROVIDES NEW ENERGY

THIS CERTIFICATE IS PROUDLY PRESENTED TO

A.SABARI GAYATHRI

Dept Of ECE, J.K.K.Munirajah College Of Technology has successfully completed his internship on AUTOMATIC MEDICAL DISPATCHER WITH DYNAMIC TELE MONITORING SYSTEM USING IOT IN RURAL AREAS from 20.03.2023 to 12.05.2023 at ETS ACADEMY, ERODE.

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T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

CERTIFICATE

OF

Appreciation

12.05.2023

ETS Academy
TECHNOLOGY PROVIDES NEW ENERGY

THIS CERTIFICATE IS PROUDLY PRESENTED TO

P.SURENDAR

Dept Of ECE, J.K.K.Munirajah College Of Technology has successfully completed his internship on AUTOMATIC MEDICAL DISPATCHER WITH DYNAMIC TELE MONITORING SYSTEM USING IOT IN RURAL AREAS from 20.03.2023 to 12.05.2023 at ETS ACADEMY, ERODE.

MSME
MICRO, SMALL & MEDIUM ENTERPRISES

ETS Academy is registered under the:
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Reg.no:TN07E0021273

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AICTE

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OF TECHNOLOGY
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GOBI (Tk), ERODE (Dt).

INTERNSHIP

EC8252 **ELECTRONIC DEVICES** L T P C
3 0 0 3

OBJECTIVES:

- To acquaint the students with the construction, theory and operation of the basic electronic devices such as PN junction diode, Bipolar and Field effect Transistors, Power control devices, LED, LCD and other Opto-electronic devices

UNIT I SEMICONDUCTOR DIODE 9

PN junction diode, Current equations, Energy Band diagram, Diffusion and drift current densities, forward and reverse bias characteristics, Transition and Diffusion Capacitances, Switching Characteristics, Breakdown in PN Junction Diodes.

UNIT II BIPOLAR JUNCTION TRANSISTORS 9

NPN -PNP -Operations-Early effect-Current equations – Input and Output characteristics of CE, CB, CC - Hybrid -π model - h-parameter model, Ebers Moll Model- Gummel Poon-model, Multi Emitter Transistor.

UNIT III FIELD EFFECT TRANSISTORS 9

JFETs – Drain and Transfer characteristics,-Current equations-Pinch off voltage and its significance-MOSFET- Characteristics- Threshold voltage -Channel length modulation, D- MOSFET, E-MOSFET- Characteristics – Comparison of MOSFET with JFET.

UNIT IV SPECIAL SEMICONDUCTOR DEVICES 9

Metal-Semiconductor Junction- MESFET, FINFET, PINFET, CNTFET, DUAL GATE MOSFET, Schottky barrier diode-Zener diode-Varactor diode –Tunnel diode- Gallium Arsenide device, LASER diode, LDR.

UNIT V POWER DEVICES AND DISPLAY DEVICES 9

UJT, SCR, Diac, Triac, Power BJT- Power MOSFET- DMOS-VMOS. LED, LCD, Photo transistor, Opto Coupler, Solar cell, CCD.

TOTAL : 45 PERIODS

OUTCOMES:

At the end of the course the students will be able to:

- Explain the V-I characteristic of diode, UJT and SCR
- Describe the equivalence circuits of transistors
- Operate the basic electronic devices such as PN junction diode, Bipolar and Field effect Transistors, Power control devices, LED, LCD and other Opto-electronic devices

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EC8351 **ELECTRONIC CIRCUITS I**

L	T	P	C
3	0	0	3

OBJECTIVES:

- To understand the methods of biasing transistors
- To design and analyze single stage and multistage amplifier circuits
- To analyze the frequency response of small signal amplifiers
- To design and analyze the regulated DC power supplies.
- To troubleshoot and fault analysis of power supplies.

UNIT I BIASING OF DISCRETE BJT, JFET AND MOSFET 9

BJT– Need for biasing - DC Load Line and Bias Point – DC analysis of Transistor circuits - Various biasing methods of BJT – Bias Circuit Design - Thermal stability - Stability factors - Bias compensation techniques using Diode, thermistor and sensistor – Biasing BJT Switching Circuits- JFET - DC Load Line and Bias Point - Various biasing methods of JFET - JFET Bias Circuit Design - MOSFET Biasing - Biasing FET Switching Circuits.

UNIT II BJT AMPLIFIERS 9

Small Signal Hybrid π equivalent circuit of BJT – Early effect - Analysis of CE, CC and CB amplifiers using Hybrid π equivalent circuits - AC Load Line Analysis- Darlington Amplifier - Bootstrap technique - Cascade, Cascode configurations - Differential amplifier, Basic BJT differential pair – Small signal analysis and CMRR.

UNIT III SINGLE STAGE FET, MOSFET AMPLIFIERS 9

Small Signal Hybrid π equivalent circuit of FET and MOSFET - Analysis of CS, CD and CG amplifiers using Hybrid π equivalent circuits - Basic FET differential pair- BiCMOS circuits.

UNIT IV FREQUENCY RESPONSE OF AMPLIFIERS 9

Amplifier frequency response – Frequency response of transistor amplifiers with circuit capacitors – BJT frequency response – short circuit current gain - cut off frequency – fα, fβ and unity gain bandwidth – Miller effect - frequency response of FET - High frequency analysis of CE and MOSFET CS amplifier - Transistor Switching Times.

UNIT V POWER SUPPLIES AND ELECTRONIC DEVICE TESTING 9

Linear mode power supply - Rectifiers - Filters - Half-Wave Rectifier Power Supply - Full-Wave Rectifier Power Supply - Voltage regulators: Voltage regulation - Linear series, shunt and switching Voltage Regulators - Over voltage protection - BJT and MOSFET – Switched mode power supply (SMPS) - Power Supply Performance and Testing - Troubleshooting and Fault Analysis, Design of Regulated DC Power Supply.

TOTAL: 45 PERIODS

OUTCOMES:

After studying this course, the student should be able to:

- Acquire knowledge of Frequency response characteristics of BJT and FET amplifiers
- Analyze the performance of small signal BJT and FET amplifiers - single stage and multi stage amplifiers
- Apply the knowledge gained in the design of Electronic circuits

INCREASING EFFICIENCY AND LIFETIME OF E-VEHICLE BATTERY SYSTEM

A PROJECT REPORT

Submitted by

JAGADEESHKUMAR.G (731219106004)

SATHYAPRIYA.K (731219106018)

ROHINI.M (731219106015)

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING IN ELECTRONICS AND COMMUNICATION ENGINEERING

J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY

T.N.PALAYAM – 638506

ANNA UNIVERSITY:: CHENNAI-600 025

MAY 2023

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

ANNA UNIVERSITY :: CHENNAI-600 025

BONAFIDE CERTIFICATE

Certified that this project report **"INCREASING EFFICIENCY AND LIFETIME OF E-VEHICLE BATTERY SYSTEM"** is the bonafide work of

JAGADEESHKUMAR.G (731219106004)

SATHYAPRIYA.K (731219106018)

ROHINI.M (731219106015)

Who carried out the project work under my supervision.

SIGNATURE	SIGNATURE
Dr.C.MURUGESAN,M.E.,Ph.D.,	**Mrs.N.GOMATHI,M.E.,**
HAED OF DEPARTMENT	**AP/ECE/SUPERVISOR**
Department of Electronics	Department of Electronics
and Communication Engineering	and Communication Engineering
JKK Munirajah College of Technology	JKK Munirajah college of Technology
T.N.Palayam.	T.N.Palayam.

Submitted for the project Viva-Voce examination held on 18.05.2023-FN

INTERNAL EXAMINER

EXTERNAL EXAMINER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

ABSTRACT

This paper examines and optimizes parameters that affecting of the air cooling of a Lithium-Ion (Li-Ion) battery,used in Electric Vehicles (EVs). A battery pack containing 150 cylindrical type Li-Ion battery cells in a PVC casing is investigated. An equal number of tubes are used in the pack as a medium to cool the battery by using a fan when the vehicle is stationary or with ambient air when in motion.The parameters affecting the air cooling of battery are studied and optimized by considering their practical constraints. The objective function and Number of Transfer Unit (NTU) are developed. Finally, a genetic algorithm method is employed to optimize the battery used in EV. Adding peltier module to the fan to reduce the heating of the battery in EVs,and monitoring the battery status such as voltage, charging and temperature in realtime by using ESP32 .The Measurement and graphical reperesentation is send to the INTERNET OF THINGS (IoT) ,We can see this in realtime by Thingspeak platform (cloud). By using this method we can increase the lifetime and efficiency of the Battery

KEYWORDS : ELECTRIC VEHICLE, BATTERY, ESP32, INTERNET OF THINGS, THINGSPEAK

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OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

CHAPTER 06

CONCLUSION

6.1 CONCLUSION

In this paper, a Li-ion battery was designed to be positioned in front of the vehicle dash panel. Longitudinal tubes were designed in a battery pack that provides a medium to pass the ambient air through the battery pack. The heat transfer model was developed for the design and an objective function was introduced, involving the NTU and variables of cooling, tube diameters, air velocity, as well as their limits. The genetic algorithm was utilized to optimize the objective function for decision variables within desired boundaries. The results show that the optimum value of NTU is obtained when tube diameters are at their upper limit and the air velocity is about 2.6 m/s for this specific design Proposed has been the miniaturized wireless EV charger with a new high power-factor drive and natural cooling structure that incorporates the simple quasi-resonant singleended inverter.

This type of wireless resonant EV charger can efficiently operate under zero voltage switching (ZVS). The low-cost small-size high power-factor drive method has been discussed. In the new high power-factor driven wireless EV charger with a non-smoothing pulsating voltage fed inverter, ripple compon components are absorbed in EV battery at thefinal stage of the system. Described has been a design ohigh-density power implementation with a new naturalcooling construction. The volume and weight of converter has been extremely decreased and solve the problem of power factor and cooling.

Gmail

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com> Mon, Jan 30, 2023 at 10:12 AM
To: power supplies <gbro@gmail.com>

Sir,

On behalf of J.K.K.Munirajah College of Technology, we wish to request for permission to do Project Internship training at your company Universal Power supplies.

We wish to undertake our students a Project Internship training at your company from 06.02.23 onwards upto two months to complete their project. As per the curriculum, the student needs to join a two month long internship and attain a certificate after satisfactory training. It will be a golden opportunity for the students as they will get to learn a lot of new things. We believe that your company will give relevant knowledge and training during this internship to complete their project.

The students G.Jagadeesh Kumar, K.Sathya Priya and M.Rohini are intend to participate in this Project Internship. Please allow our students to do Project Internship at your company and meet your skilled employee. Thank you in advance.

With Regards,
HoD/ECE

ECE DEPARTMENT

ECLON WELCOMES U ALL..

INTERNSHIP.pdf
543K

power supplies <gbro@gmail.com> Mon, Jan 30, 2023 at 03:15 PM
To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Dear Sir,
With great pleasure we welcome the listed students from your attached letter, to do project internship training in our company from 06.02.2023 onwards.

Best Regards,
UPS

UNIVERSAL POWER SUPPLIES

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

UNIVERSAL POWER SUPPLIES

Department of R & D Centre,
Varanapuram, Bhavani, Tamil Nadu 638301

Phone: 099421 07795
Website: www.gbro.in

Date: 31.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the student **Mr. G.JAGADEESH KUMAR (Reg. No: 731219106004)** Department of Electronics and Communication Engineering Final Year from J.K.K Munirajah College of Technology, T.N.Palayam, Gobi, has satisfactorily completed his Internship during the period of 06.02.2023 to 31.03.2023.

He worked on the project titled **"INCREASING EFFICIENCY AND LIFETIME OF E-VEHICLE BATTERY SYSTEM"** under our guidance.

During the above mentioned period his conduct and behavior remains good, We wish him all the best for future.

For

Project Manager
UNIVERSAL POWER SUPPLIES
Opp. Bhavani G.H.,
Bhavani - 638 301.
Contact : 88833 96669

Electronics R & D Manufacturing
Universal Power Supplies

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

UNIVERSAL POWER SUPPLIES

Department of R & D Centre,
Varanapuram, Bhavani, Tamil Nadu 638301

Phone: 099421 07795
Website: www.gbro.in

Date: 31.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the student **Ms. K.SATHYA PRIYA (Reg. No: 731219106018)** Department of Electronics and Communication Engineering Final Year from J.K.K Munirajah College of Technology, T.N.Palayam, Gobi, has satisfactorily completed her Internship during the period of 06.02.2023 to 31.03.2023.

She worked on the project titled **"INCREASING EFFICIENCY AND LIFETIME OF E-VEHICLE BATTERY SYSTEM"** under our guidance.

During the above mentioned period her conduct and behavior remains good, We wish her all the best for future.

For

Project Manager
UNIVERSAL POWER SUPPLIES
Opp. Bhavani G.H.,
Bhavani - 638 301.
Contact : 88833 96669

Electronics R & D Manufacturing
Universal Power Supplies

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
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GOBI (Tk), ERODE (Dt).

UNIVERSAL POWER SUPPLIES

Department of R & D Centre,
Varanapuram, Bhavani, Tamil Nadu 638301

Phone: 099421 07795
Website: www.gbro.in

Date: 31.03.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the student **Ms. M.ROHINI (Reg. No:731219106015)** Department of Electronics and Communication Engineering Final Year from J.K.K Munirajah College of Technology, T.N.Palayam, Gobi, has satisfactorily completed her Internship during the period of 06.02.2023 to 31.03.2023.

She worked on the project titled **"INCREASING EFFICIENCY AND LIFETIME OF E-VEHICLE BATTERY SYSTEM"** under our guidance.

During the above mentioned period her conduct and behavior remains good, We wish her all the best for future.

For

Project Manager
UNIVERSAL POWER SUPPLIES
Opp. Bhavani G.H.,
Bhavani - 638 301.
Contact : 88833 96669

Electronics R & D Manufacturing
Universal Power Supplies

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

INTERNSHIP

EC8453 **LINEAR INTEGRATED CIRCUITS**

L	T	P	C
3	0	0	3

OBJECTIVES :

- To introduce the basic building blocks of linear integrated circuits
- To learn the linear and non-linear applications of operational amplifiers
- To introduce the theory and applications of analog multipliers and PLL
- To learn the theory of ADC and DAC
- To introduce the concepts of waveform generation and introduce some special function ICs

UNIT I BASICS OF OPERATIONAL AMPLIFIERS **9**

Current mirror and current sources, Current sources as active loads, Voltage sources, Voltage References, BJT Differential amplifier with active loads, Basic information about op-amps – Ideal Operational Amplifier - General operational amplifier stages -and internal circuit diagrams of IC 741, DC and AC performance characteristics, slew rate, Open and closed loop configurations – JFET Operational Amplifiers – LF155 and TL082.

UNIT II APPLICATIONS OF OPERATIONAL AMPLIFIERS **9**

Sign Changer, Scale Changer, Phase Shift Circuits, Voltage Follower, V-to-I and I-to-V converters, adder, subtractor, Instrumentation amplifier, Integrator, Differentiator, Logarithmic amplifier, Antilogarithmic amplifier, Comparators, Schmitt trigger, Precision rectifier, peak detector, clipper and clamper, Low-pass, high-pass and band-pass Butterworth filters.

UNIT III ANALOG MULTIPLIER AND PLL **9**

Analog Multiplier using Emitter Coupled Transistor Pair - Gilbert Multiplier cell – Variable transconductance technique, analog multiplier ICs and their applications, Operation of the basic PLL, Closed loop analysis, Voltage controlled oscillator, Monolithic PLL IC 565, application of PLL for AM detection, FM detection, FSK modulation and demodulation and Frequency synthesizing and clock synchronisation.

UNIT IV ANALOG TO DIGITAL AND DIGITAL TO ANALOG CONVERTERS **9**

Analog and Digital Data Conversions, D/A converter – specifications - weighted resistor type, R-2R Ladder type, Voltage Mode and Current-Mode *R - 2R* Ladder types - switches for D/A converters, high speed sample-and-hold circuits, A/D Converters – specifications - Flash type - Successive Approximation type - Single Slope type – Dual Slope type - A/D Converter using Voltage-to-Time Conversion - Over-sampling A/D Converters, Sigma – Delta converters.

UNIT V WAVEFORM GENERATORS AND SPECIAL FUNCTION ICS **9**

Sine-wave generators, Multivibrators and Triangular wave generator, Saw-tooth wave generator, ICL8038 function generator, Timer IC 555, IC Voltage regulators – Three terminal fixed and adjustable voltage regulators - IC 723 general purpose regulator - Monolithic switching regulator, Low Drop – Out(LDO) Regulators - Switched capacitor filter IC MF10, Frequency to Voltage and Voltage to Frequency converters, Audio Power amplifier, Video Amplifier, Isolation Amplifier, Opto-couplers and fibre optic IC.

TOTAL:45 PERIODS

OUTCOMES:

Upon completion of the course, the student should be able to:

- Design linear and non linear applications of OP – AMPS
- Design applications using analog multiplier and PLL
- Design ADC and DAC using OP – AMPS
- Generate waveforms using OP – AMP Circuits
- Analyze special function ICs

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JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

DESIGN AND IMPLEMENTATION OF ANTI-THEFT IN ATM CENTRE USING HYBRID INTERNET OF THINGS

A PROJECT REPORT

Submitted by

MOHAN.K	**(731219106009)**
MATHANKUMAR.M	**(731219106008)**
NARMATHA.M	**(731219106012)**

in partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING IN ELECTRONICS AND COMMUNICATION ENGINEERING

J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY
T.N.PALAYAM – 638506

ANNA UNIVERSITY:: CHENNAI-600 025

MAY 2023

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

ANNA UNIVERSITY :: CHENNAI-600 025

BONAFIDE CERTIFICATE

Certified that this project report **"DESIGN AND IMPLEMENTATION OF ANTI-THEFT IN ATM CENTRE USING HYBRID INTERNET OF THINGS"** is the bonafide work of

MOHAN.K **(731219106009)**

MATHANKUMAR.M **(731219106008)**

NARMATHA.M **(731219106012)**

Who carried out the project work under my supervision.

SIGNATURE

Dr.C.MURUGESAN,M.E.,Ph.D.,
HAED OF DEPARTMENT
Department of Electronics
and Communication Engineering
JKK Munirajah College of
Technology
T. N.Palayam.

SIGNATURE

Mrs.U.SASIKALA,M.E.,AP/ECE
SUPERVISOR
Department of Electronics
and Communication Engineering
JKK Munirajah college of
Technology
T.N.Palayam.

Submitted for the project Viva-Voce examination held on 18/05/2023 (FN)

INTERNAL EXAMINER

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

18/5/23
EXTERNAL EXAMINER

ABSTRACT

Automated Teller Machine (ATM) centre is a main tool for electronic Banking (e-Banking). It enables the banking services anytime and any where. This project deals with prevention of ATM theft from robbery. Present ATM centers have prevention not enough. so overcome the drawback found in existing technology in our society. When ever robbery occurs, Vibration sensor is used here which senses vibration produced from ATM machine, temperature sensor is used here which senses more temperature, ultrasonic sensor is used here which senses distance. This system uses Hybrid Internet of Things (HIoT) based embedded system, to process real time data collected using the sensors. Once the vibration is sensed the beep sound will occur from the buzzer. DC Motor is used for closing the door of ATM. Then Spraying pump is used to spray the chloroform. Real Time Clock (RTC) used to capture the robber occur time and send the robbery occur time with the message to the nearby police station and corresponding bank through the GSM.

KEYWORDS : ATM, ARDUINO UNO, HYBRID INTERNET OF THINGS .

CHAPTER 6

CONCLUSION AND FUTURE WORK

6. 1.CONCLUSION

The proposed IoT-based ATM security system with door locking is a novel system that can provide enhanced security to ATMs while decreasing the operational costs. The system is built on the principles of Internet of Things, allowing the ATM to be monitored and monitored remotely. The system also makes use of door locking technology to provide an additional layer of security. With this system, the ATM can be securely monitored and controlled, providing a safer and more secure environment. Additionally, the system can also be used to detect any unauthorized activity, allowing for prompt action by the authorities. Thus, this system serves as an effective solution for providing enhanced security to ATMs.

6.2. FUTURE WORK

- Expansion of the system to include other security measures such as facial recognition, voice recognition, and motion sensors.
- Developing a user-friendly interface for users to interact with the system.
- Integrating the system with other ATM security systems to increase its effectiveness.

Gmail

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com> Wed, Jan 4, 2023 at 10:50 AM
To: Pragati Circuits <pragaticbe@yahoo.in>

Sir,

On behalf of J.K.K.Munirajah College of Technology, we wish to request for permission to do Project Internship training at your company **Pragati Hi Tech Circuits**.

We wish to undertake our students a Project Internship training at your company from 20.03.23 onwards upto two months to complete their project. As per the curriculum, the student needs to join a two month long internship and attain a certificate after satisfactory training. It will be a golden opportunity for the students as they will get to learn a lot of new things. We believe that your company will give relevant knowledge and training during this internship to complete their project.

The students K.Mohan, M.Mathankumar, and M.Narmatha are intend to participate in this Project Internship. Please allow our students to do Project Internship at your company and meet your skilled employee. Thank you in advance.

Thank you in advance.

With Regards,
HoD/ECE

ECE DEPARTMENT

ECLON WELCOMES U ALL..

Internship.pdf
238K

Pragati Circuits <pragaticbe@yahoo.in> Thu, Jan 5, 2023 at 03:05 PM
To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Sir,

I am pleased to accept the following students K.Mohan, M.Mathankumar and M.Narmatha to do project internship training in our company from 20.03.23 onwards upto their Project completion. The students are asked to complete their project with allotted trainee and gain their knowledge to improve their career.

With Warm Regards,
PRAGATI HI-TECH CIRCUITS

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Pragati Hi-Tech Circuits

Mfrs. :- Printed Circuit Boards, Single & Double Side

TIN No : 33692202194

Site No. : 6, Ayyappa Nagar, Lakshmi Puram
Chinnavedampatti, Coimbatore - 641 006
Phone : 2665235 Cell : 98430-32679
E-mail : pragatipcb@yahoo.in

DATE : 12.05.2023

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that **Mr. Mohan K** of **B.E Electronics and Communication Engineering – II Year from J.K.K.Munirajah College of Technology, T.N.Palayam** has done Project Internship **"DESIGN AND IMPLEMENTATION OF ANTI-THEFT IN ATM CENTRE USING HYBRID INTERNET OF THINGS" for a period from 20th March to 12th May 2023.**

He was regular in his attendance and performance was good.

For PRAGATI HI TECH CIRCUITS

Proprietor

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

Pragati Hi-Tech Circuits

Mfrs. :- Printed Circuit Boards, Single & Double Side

TIN No : 33692202194

Site No. : 6, Ayyappa Nagar, Lakshmi Puram
Chinnavedampatti, Coimbatore - 641 006
Phone : 2665235 Cell : 98430-32679
E-mail : pragatipcb@yahoo.in

DATE : 12.05.2023

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that Mr. Mathankumar M of B.E Electronics and Communication Engineering – II Year from J.K.K.Munirajah College of Technology, T.N.Palayam has done Project Internship "DESIGN AND IMPLEMENTATION OF ANTI-THEFT IN ATM CENTRE USING HYBRID INTERNET OF THINGS" for a period from 20th March to 12th May 2023.

He was regular in his attendance and performance was good.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

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DATE : 12.05.2023

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that **Ms. Narmatha M of B.E Electronics and Communication Engineering – II Year from J.K.K.Munirajah College of Technology, T.N.Palayam** has done Project Internship **"DESIGN AND IMPLEMENTATION OF ANTI-THEFT IN ATM CENTRE USING HYBRID INTERNET OF THINGS" for a period from 20th March to 12th May 2023.**

She was regular in her attendance and performance was good.

PRINCIPAL
JKK MUNIRAJAH COLLEGE
OF TECHNOLOGY
T.N. PALAYAM (Po)-638 506.
GOBI (Tk), ERODE (Dt).

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