


ACADEMIC YEAR (2023-2024)						
		J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY(AUTONOMOUS) T.N.PALAYAM(PO), GOBI(TK)-638506				Metric No 1.3.2
S.No	Name of the course	course code	programme offering	Contents mapping to		Number of students
				project work	internship	
(2023-2024) Regulations 2017						
1	Project Work	EC8811	Electronics and Communication Engineering	✓		5
2	Electronic Devices	EC8252	Electronics and Communication Engineering	✓	✓	5
3	Electronic Circuits- I	EC8351	Electronics and Communication Engineering	✓	✓	5
4	Linear Integrated Circuits	EC8453	Electronics and Communication Engineering	✓		5
5	Communication Networks	EC8551	Electronics and Communication Engineering	✓		5
6	Microprocessors and Microcontrollers	EC8691	Electronics and Communication Engineering	✓		5
7	Embedded and Real Time Systems	EC8791	Electronics and Communication Engineering	✓	✓	5
8	Ad hoc and Wireless Sensor Networks	EC8702	Electronics and Communication Engineering	✓		5
9	Satellite Communication	EC8094	Electronics and Communication Engineering	✓		5
(2023-2024) Regulations 2021						
10	Problem Solving and Python Programming	GE3151	Electronics and Communication Engineering		✓	3
11	Electronic Devices and Circuits	EC3353	Electronics and Communication Engineering		✓	20
12	Embedded Systems and IOT Design	ET3491	Electronics and Communication Engineering		✓	16
13	IoT Based Systems Design	CEC368	Electronics and Communication Engineering		✓	15
14	Communication Systems	EC3491	Electronics and Communication Engineering		✓	3



Principal

**J.K.K.Munirajah College of Technology
(Autonomous)
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Erode (Dt) - 638 506**



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(AUTONOMOUS)**

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Department of Electronics and Communication Engineering
ACADEMIC YEAR 2023-2024

S.NO	REGISTER NUMBER	STUDENT NAME	PROJECT WORK	INTERNSHIP
1	731220106002	KALYAN K	✓	✓
2	731220106004	KUDIYARASU P	✓	✓
3	731220106005	MUTHUKUMAR M	✓	✓
4	731220106007	SUGUNA DEVI M	✓	✓
5	731220106301	JANARTHANAN K	✓	✓
6	731221106007	NARMATHA M		✓
7	731221106008	RANJITH B		✓
8	731221106009	SAKTHISIVAN K		✓
9	731221106010	SANTHIYA Y		✓
10	731221106011	SATHASIVAN R		✓
11	731221106012	SHARMILA V		✓
12	731221106014	SUBASH K		✓
13	731221106015	VENEESWARI M		✓
14	731221106301	ARTHI V		✓
15	731221106302	SHARMILA V		✓
16	731221106303	SOUNDARIYA S		✓
17	731222106001	ABISHEK A		✓
18	731222106002	AMBIKA A		✓
19	731222106003	ARCHANA K		✓
20	731222106004	ARCHANA P		✓
21	731222106005	BALAJI S		✓
22	731222106006	DEVI U		✓
23	731222106008	DHARANI K S		✓
24	731222106010	DINESH S		✓
25	731222106011	HARIHARAN B		✓
26	731222106012	HARINI S		✓
27	731222106013	INDRAJITH A		✓
28	731222106015	JEEVA DEEPIKA S		✓
29	731222106016	LAVANYA M		✓
30	731222106017	MAGENDHRA K		✓

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S.NO	REGISTER NUMBER	STUDENT NAME	PROJECT WORK	INTERNSHIP
31	731222106018	NARMADHA N		✓
32	731222106019	NIVASH V		✓
33	731222106020	PAVADHARANI K		✓
34	731222106021	PRASANTH P		✓
35	731222106022	RAGAVAN S		✓
36	731222106025	RISHIKESAN R		✓
37	731222106026	RIYAS MOHAMMED M		✓
38	731222106027	ROGAN B		✓
39	731222106028	SANTHOSH E		✓
40	731222106030	SIVARANJANI G		✓
41	731222106034	THILAK M		✓
42	731222106035	VAISHNAVI A		✓
43	731222106036	VIGNESH V		✓
44	731222106037	VIJAYAKUMARI M		✓
45	731222106307	JEEVITHA P		✓
46	731222106311	LOGESHWARAN D		✓
47	731222106314	NIBILA SRI P		✓
48	731222106318	RAJESHKANNAN R		✓
49	731222106323	SIBIYON K		✓
50	731222106325	THAMARAISELVI A		✓
51	731222106328	VAIDEGI M		✓
52	731222106501	KAVIYARASU S		✓

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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	Communication Networks
6	Microprocessors and Microcontrollers
7	Embedded and Real Time Systems
8	Ad hoc and Wireless Sensor Networks
9	Satellite Communication
10	Problem Solving and Python Programming
11	Electronic Devices and Circuits
12	Embedded Systems and IOT Design
13	IoT Based Systems Design
14	Communication Systems

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PROJECT WORK

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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**INDUSTRY BASED GAS AND OIL
LEAKAGE DETECTION SYSTEM**



A PROJECT REPORT

Submitted by

MUTHUKUMAR M (731220106005)
SUGUNADEVI M (731220106007)
JANARTHANAN K (731220106301)

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,GOBI-638506

ANNA UNIVERSITY :: CHENNAI-600 025

MAY 2024

Principal

**J.K.K.Munirajah College of Technology
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Erode (Dt) - 638 506**

ANNA UNIVERSITY:: CHENNAI 600 025

BONAFIDE CERTIFICATE

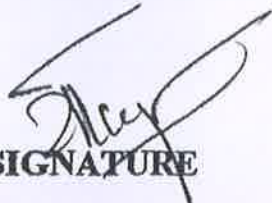
Certified that this project report on **"INDUSTRY BASED GAS AND OIL LEAKAGE DETECTION SYSTEM"** is the bonafide work of

MUTHUKUMAR M (731220106005)

SUGUNADEVI M (731220106007)

JANARTHANAN K (731220106301)

Who carried out the project work under my supervision.



SIGNATURE

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

PROFESSOR

HEAD OF THE DEPARTMENT

Department of Electronics &
Communication Engineering,
J.K.K. Munirajah College of
Technology,
T.N. Palayam.



SIGNATURE

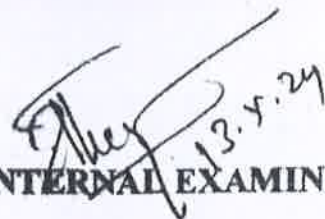
Mrs.U.SASIKALA,M.E,AP/ECE

ASSISTANT PROFESSOR

SUPERVISOR

Department of Electronics &
Communication Engineering,
J.K.K. Munirajah College of
Technology,
T.N. Palayam.

Submitted for the Viva-Voce examination held on 13.05.2024 (FN)



INTERNAL EXAMINER

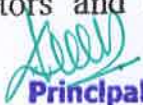


EXTERNAL EXAMINER

J.K.K.Munirajah College of Technology
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ABSTRACT

The oil and gas industry serves as a backbone to global energy demands, but it also poses significant environmental and safety challenges due to potential leaks in pipelines and storage facilities. Timely detection and mitigation of these leaks are paramount to prevent catastrophic incidents and minimize environmental impact. Traditional detection methods often fall short in terms of accuracy, efficiency, and scalability, necessitating the development of advanced technologies tailored to the unique requirements of industrial settings. This paper presents an innovative Gas and Oil Leakage Detection System (GOLDS) designed specifically for industrial applications. GOLDS integrates cutting-edge sensor technologies, data analytics, and machine learning algorithms to provide real-time monitoring and early detection of gas and oil leaks in industrial environments. The core components of the GOLDS system include: **Sensor Array: GOLDS employs a sophisticated array of sensors capable of detecting multiple gases and hydrocarbons with high sensitivity and selectivity.** These sensors are strategically deployed across the industrial facility, including pipelines, storage tanks, and processing units, to ensure comprehensive coverage. **Data Acquisition and Transmission: Sensor data is collected continuously and transmitted to a central control unit via wired or wireless communication protocols.** Advanced networking infrastructure ensures seamless data transmission and synchronization across multiple sensor nodes distributed throughout the facility. **Data Analytics and Machine Learning: The collected sensor data undergoes real-time analysis using advanced data analytics techniques and machine learning algorithms.** These algorithms leverage historical data, sensor fusion, and pattern recognition to identify abnormal gas and oil concentration levels indicative of potential leaks. **Alarm and Notification System: Upon detection of a leak or abnormal activity, the GOLDS system triggers an immediate alarm to alert operators and relevant stakeholders.**



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CHAPTER 7

CONCLUSION AND FUTURE SCOPE

7.1. CONCLUSION

In conclusion, the development and implementation of a gas and oil leakage detection system hold immense significance across various industries, particularly in sectors reliant on the safe operation of pipelines, storage facilities, and extraction sites. This advanced system, typically built on embedded technology and leveraging sophisticated algorithms, offers numerous benefits to industries dealing with volatile substances like gas and oil.

First and foremost, the deployment of a robust gas and oil leakage detection system significantly enhances safety standards within the industry. By swiftly identifying and pinpointing potential leaks or anomalies in pipelines and storage facilities, the system helps mitigate the risks associated with gas and oil spills, which can lead to environmental damage, health hazards, and financial losses. Moreover, the system's real-time monitoring capabilities enable prompt response measures, allowing operators to contain and address incidents swiftly, thereby minimizing their impact.

7.2. FUTURE SCOPE

Looking ahead, the future enhancement of gas and oil leakage detection systems in industries involves the integration of cutting-edge technologies and innovative approaches to further enhance safety, efficiency, and reliability. Here are several potential avenues for future improvement:

Incorporating AI and ML algorithms can empower leakage detection systems to analyze complex data patterns, identify subtle anomalies, and predict potential leaks with greater accuracy.



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Continuously learning from historical data and real-time inputs, these systems can adapt to evolving operating conditions and improve their detection capabilities over time.

Future systems can leverage advanced sensor technologies, such as distributed acoustic sensing (DAS), fiber optic sensors, and hyperspectral imaging, to enhance detection sensitivity and coverage. These sensors can offer greater precision, higher resolution, and the ability to detect leaks in challenging environments or over long distances, such as offshore pipelines or remote extraction sites.

Integrating IoT devices and networks into leakage detection systems can enable seamless connectivity and data exchange between sensors, control units, and monitoring stations. This IoT-enabled infrastructure facilitates real-time data collection, remote monitoring, and proactive maintenance, enhancing overall system efficiency and responsiveness.

Implementing blockchain technology can enhance the security, transparency, and traceability of data within leakage detection systems. By creating immutable records of sensor data, maintenance logs, and incident reports, blockchain ensures data integrity and facilitates regulatory compliance, auditability, and accountability across the supply chain.

Future systems can incorporate autonomous drones, unmanned aerial vehicles (UAVs), or robotic platforms equipped with sensors and cameras to perform routine inspections and maintenance tasks.

These autonomous agents can access remote or hazardous locations, conduct thorough assessments, and execute preventive maintenance activities without human intervention, minimizing risk and downtime.


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AR and VR technologies can enhance training, simulation, and troubleshooting processes for operators and maintenance personnel.

Providing immersive, interactive experiences, these technologies enable users to visualize complex systems, simulate emergency scenarios, and practice response procedures in a safe and controlled environment.

Leveraging predictive analytics and digital twin models, leakage detection systems can forecast equipment failures, optimize maintenance schedules, and simulate "what-if" scenarios to assess the impact of potential leaks or operational changes. These predictive capabilities enable proactive decision-making and risk management, maximizing asset reliability and performance.

By embracing these future enhancements, industries can elevate the effectiveness and resilience of gas and oil leakage detection systems, ensuring the continued safe and sustainable operation of critical infrastructure in the face of evolving challenges and regulatory requirements.



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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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EC8702

AD HOC AND WIRELESS SENSOR NETWORKS

L T P C
3 0 0 3

OBJECTIVES:

The student should be made to:

- Learn Ad hoc network and Sensor Network fundamentals
- Understand the different routing protocols
- Have an in-depth knowledge on sensor network architecture and design issues
- Understand the transport layer and security issues possible in Ad hoc and Sensor networks
- Have an exposure to mote programming platforms and tools

UNIT I AD HOC NETWORKS – INTRODUCTION AND ROUTING PROTOCOLS 9

Elements of Ad hoc Wireless Networks, Issues in Ad hoc wireless networks, Example commercial applications of Ad hoc networking, Ad hoc wireless Internet, Issues in Designing a Routing Protocol for Ad Hoc Wireless Networks, Classifications of Routing Protocols, Table Driven Routing Protocols - Destination Sequenced Distance Vector (DSDV), On-Demand Routing protocols –Ad hoc On-Demand Distance Vector Routing (AODV).

UNIT II SENSOR NETWORKS – INTRODUCTION & ARCHITECTURES 9

Challenges for Wireless Sensor Networks, Enabling Technologies for Wireless Sensor Networks, WSN application examples, Single-Node Architecture - Hardware Components, Energy Consumption of Sensor Nodes, Network Architecture - Sensor Network Scenarios, Transceiver Design Considerations, Optimization Goals and Figures of Merit.

UNIT III WSN NETWORKING CONCEPTS AND PROTOCOLS 9

MAC Protocols for Wireless Sensor Networks, Low Duty Cycle Protocols And Wakeup Concepts - S-MAC, The Mediation Device Protocol, Contention based protocols - PAMAS, Schedule based protocols – LEACH, IEEE 802.15.4 MAC protocol, Routing Protocols- Energy Efficient Routing, Challenges and Issues in Transport layer protocol.

UNIT IV SENSOR NETWORK SECURITY 9

Network Security Requirements, Issues and Challenges in Security Provisioning, Network Security Attacks, Layer wise attacks in wireless sensor networks, possible solutions for jamming, tampering, black hole attack, flooding attack. Key Distribution and Management, Secure Routing – SPINS, reliability requirements in sensor networks.

UNIT V SENSOR NETWORK PLATFORMS AND TOOLS 9

Sensor Node Hardware – Berkeley Motes, Programming Challenges, Node-level software platforms – TinyOS, nesC, CONTIKIOS, Node-level Simulators – NS2 and its extension to sensor networks, COOJA, TOSSIM, Programming beyond individual nodes – State centric programming.

TOTAL:45 PERIODS

OUTCOMES:

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

- Know the basics of Ad hoc networks and Wireless Sensor Networks
- Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement
- Apply the knowledge to identify appropriate physical and MAC layer protocols
- Understand the transport layer and security issues possible in Ad hoc and sensor networks.
- Be familiar with the OS used in Wireless Sensor Networks and build basic modules

J.K.K.
Principal

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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 and command-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

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T.N.Palayam, Gobi (Tk),
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**AUTOMATIC STREET LIGHT WITH
FAULT INDICATOR USING IOT**



A PROJECT REPORT

Submitted by

KALYAN.K

(731220106002)

KUDIYARASU.P

(731220106004)

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

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MAY 2024


Principal
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ANNA UNIVERSITY :: CHENNAI-600 025

BONAFIDE CERTIFICATE

Certified that this project report "**AUTOMATIC STREET LIGHT WITH
FAULT INDICATOR USING IOT**" is the bonafide work of

KALYAN.K (731220106002)

KUDIYARASU.P (731220106004)

Who carried out the project work under my supervision.

SIGNATURE

SIGNATURE

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

Mrs.R.KOKILA,M.E,AP/ECE

HAED OF DEPARTMENT

SUPERVISOR

Department of Electronics
and Communication Engineering,
J.K.K.Munirajah College of
Technology,
T. N.Palayam.

Department of Electronics
and Communication Engineering
J.K.K.Munirajah college of
Technology,
T.N.Palayam.

Submitted for the project Viva-Voce examination held on 13.05.2024 [FN]

INTERNAL EXAMINER

EXTERNAL EXAMINER
Principal
J.K.K.Munirajah College of Technology
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ABSTRACT

The system consists power supply unit, lighting system, LDR (light dependent resistor), comparator, and a relay. The LDR is a light detecting resistor, which output voltage varies depends on the environmental light, it is connected with comparator for compare the reference voltage and input voltage, when the sun light is dark, the LDR sends low voltage to the comparator, so the reference voltage and LDR output voltage are not matched with each other, then the comparator triggers a high pulse from its output pin, this is given to the relay driver circuit for ON the street light. If the environmental light is in normal power the LDR output voltage will be equal to the reference voltage then the comparator triggers a low pulse to the relay driver circuit, so the street light will switch OFF by relay. And then any other time street light not working, information through EB office in IOT system.

KEYWORDS : LDR, ESP - 8266, INTERNET OF THINGS, RELAY.



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CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6. 1.Conclusion

Advancing urban lighting infrastructures through automated fault detection and precise location tracking offers significant benefits, including reduced energy waste, lower maintenance costs, and improved public safety. **Automatic Street Light Control System** is a simple yet powerful concept, which uses transistor as a switch. By using this system manual works are 100% removed. It automatically switches ON lights when the sunlight goes below the visible region of our eyes. This is done by a sensor called Light Dependent Resistor (LDR) which senses the light actually like our eyes. It automatically switches OFF lights whenever the sunlight comes, visible to our eyes. By using this system energy consumption is also reduced because nowadays the manually operated street lights are not switched off even the sunlight comes and also switched on earlier before sunset. In this project, no need of manual operation like ON time and OFF time setting. This project clearly demonstrates the working of transistor in saturation region and cut-off region. The working of relay is also known.

6.2. Future Scope

The paper discusses an IoT-based automated street light control system with fault detection. It uses LDR sensors to detect day and night and turn on/off the street lights.




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If any light is not functioning, a message is sent to the authorities via GSM.

We can save the energy for the future use and we can control the losses of power. It leads to sustainable growth. These smart lights will help cities reduce electricity costs, lower CO2 emissions, and improve maintenance. With auto-dimming, scheduling, and a host of other capabilities, cities could see a 50-75% reduction in energy costs via smart street lighting.


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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

Principal

**J.K.K.Munirajah College of Technology
(Autonomous)**

**T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506**

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 – α , f_β 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

Principal

**J.K.K.Munirajah College of Technology
(Autonomous)**

**T.N.Palayam, Gobi (T)
Erode (Dt) - 638 51**

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



Principal

**J.K.K. Munirajah College of Technology
(Autonomous)**

T.N. Palayam, Gobi (Tk)
Erode (Dt) - 638 51

OBJECTIVES:

The student should be made to:

- Understand the division of network functionalities into layers.
- Be familiar with the components required to build different types of networks
- Be exposed to the required functionality at each layer
- Learn the flow control and congestion control algorithms

UNIT I FUNDAMENTALS & LINK LAYER

9

Overview of Data Communications- Networks – Building Network and its types– Overview of Internet - Protocol Layering - OSI Mode – Physical Layer – Overview of Data and Signals - introduction to Data Link Layer - Link layer Addressing- Error Detection and Correction

UNIT II MEDIA ACCESS & INTERNETWORKING

9

Overview of Data link Control and Media access control - Ethernet (802.3) - Wireless LANs – Available Protocols – Bluetooth – Bluetooth Low Energy – WiFi – 6LowPAN–Zigbee - Network layer services – Packet Switching – IPV4 Address – Network layer protocols (IP, ICMP, Mobile IP)

UNIT III ROUTING

9

Routing - Unicast Routing – Algorithms – Protocols – Multicast Routing and its basics – Overview of Intradomain and interdomain protocols – Overview of IPv6 Addressing – Transition from IPv4 to IPv6

UNIT IV TRANSPORT LAYER

9

Introduction to Transport layer –Protocols- User Datagram Protocols (UDP) and Transmission Control Protocols (TCP) –Services – Features – TCP Connection – State Transition Diagram – Flow, Error and Congestion Control - Congestion avoidance (DECbit, RED) – QoS – Application requirements

UNIT V APPLICATION LAYER

9

Application Layer Paradigms – Client Server Programming – World Wide Web and HTTP - DNS- - Electronic Mail (SMTP, POP3, IMAP, MIME) – Introduction to Peer to Peer Networks – Need for Cryptography and Network Security – Firewalls.

TOTAL:45 PERIODS**OUTCOMES:**

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

- Identify the components required to build different types of networks
- Choose the required functionality at each layer for given application
- Identify solution for each functionality at each layer
- Trace the flow of information from one node to another node in the network

TEXT BOOK:

1. Behrouz A. Forouzan, "Data communication and Networking", Fifth Edition, Tata McGraw – Hill, 2013 (UNIT I –V)

REFERENCES

1. James F. Kurose, Keith W. Ross, "Computer Networking - A Top-Down Approach Featuring the Internet", Seventh Edition, Pearson Education, 2016.
2. Nader. F. Mir," Computer and Communication Networks", Pearson Prentice Hall Publishers, 2nd Edition, 2014.
3. Ying-Dar Lin, Ren-Hung Hwang, Fred Baker, "Computer Networks: An Open Source Approach", Mc Graw Hill Publisher, 2011.
4. Larry L. Peterson, Bruce S. Davie, "Computer Networks: A Systems Approach", Fifth Edition, Morgan Kaufmann Publishers, 2011.



INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Mon, Feb 19, 2024 at 11:12 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 04.03.24 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.Kalyan and P.Kudiyarasu 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
54K

power supplies <gbro@gmail.com>

Mon, Feb 19, 2024 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 04.03.2024 onwards.

Best Regards,
UPS




Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

UNIVERSAL POWER SUPPLIES

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

Phone: [099421 07795](tel:09942107795)

Website: www.gbro.in

Date: 30.04.2024

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the student **Mr. K.KALYAN (Reg. No: 731220106002)** 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 04.03.2024 to 30.04.2024.


He worked on the project titled "**AUTOMATIC STREET LIGHT WITH FAULT INDICATOR USING IOT**" under our guidance.


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

For



Electronics R & D Manufacturing
Universal Power Supplies


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


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (T.N.)
Erode (Dt) - 638

Regd.Office: Varanapuram, Bhavani, Tamil Nadu 638301

Phone: [099421 07795](tel:09942107795) Website: www.gbro.in

UNIVERSAL POWER SUPPLIES

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

Phone: 099421 07795

Website: www.gbro.in

Date: 30.04.2024

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the student **Mr. P.KUDIYARASU (Reg. No: 731220106004)** 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 04.03.2024 to 30.04.2024.

He worked on the project titled "**AUTOMATIC STREET LIGHT WITH FAULT INDICATOR USING IOT**" under our guidance.

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

For



Electronics R & D Manufacturing
Universal Power Supplies

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

Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk)
Erode (Dt) - 638 501

Regd.Office: Varanapuram, Bhavani, Tamil Nadu 638301

Phone: 099421 07795 Website: www.gbro.in

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 EMBEDDED SYSTEM 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

Principal

**J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506**



INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>
To: samcore <info@samcomm.com>

Fri, Jun 23, 2023 at 11:43 AM

Sir,

On behalf of J.K.K.Munirajah College of Technology, we wish to request for permission to do Internship training at your company **samcore solutions**.

We wish to undertake our students an **Internship** at your company from first week of July 2023 upto two weeks to acquire practical knowledge. Our academic curriculum focuses on engaging students in practical experiences to observe the implementation of what they are studied in college. We believe that your company will give relevant knowledge during this Internship.

The students from Final year ECE are intend to participate in this **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
13K

samcore <info@samcomm.com>
To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Fri, Jun 23, 2023 at 02:33 PM

Sir,

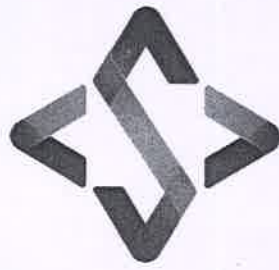
Yes, with pleasure we accept your internship invitation.

Further Details

Contact us : 9843207599

Regards,
Samcore Solutions


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



**SAMCORE
SOLUTION**

CERTIFICATE OF INTERNSHIP

This is to certify that Mr. / Ms. /

KUDIYARASU P

Student of BE-ECE, JKK MUNIRAJAH COLLEGE OF TECHNOLOGY


has completed the Internship Program on INTERNET OF THINGS

for the period from 03.07.2023 to 12.07.2023.

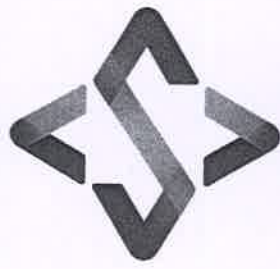
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#16, 2nd Floor, Rangaa Complex
Chatram Bus Stand, Trichy - 620002
9843207599. www.samcoresolution.in




Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

C. Anand
HEAD



**SAMCORE
SOLUTION**

CERTIFICATE OF INTERNSHIP

This is to certify that Mr. / Ms. /

MUTHU KUMAR M

Student of BE-ECE, JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

has completed the Internship Program on INTERNET OF THINGS

for the period from 03.07.2023 to 19.07.2023.

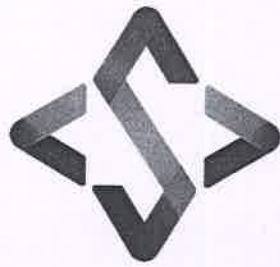
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(Autonomous)
T.N. Palayam, Gobi (Tk),
Erode (Dt) - 638 506

C. A. P. Jeyaraj
HEAD



**SAMCORE
SOLUTION**

CERTIFICATE OF INTERNSHIP

This is to certify that Mr. / Ms. /

SUGUNADEVI M

Student of BE -ECE, JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

has completed the Internship Program on INTERNET OF THINGS

for the period from 03.07.2023 to 12.07.2023.

CERT. NO.: 2023/07730

#16, 2nd Floor, Rangaa Complex
Chatram Bus Stand, Trichy - 620002
9843207599. www.samcoresolution.in



Principal

J.K.K.Munirajah College of Technology
(Autonomous)

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Erode (Dt) - 638 506

C. A. Prasad
HEAD

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CERTIFICATE OF INTERNSHIP

CERTIFICATE NUMBER CBTINE182005230701

This certificate is awarded to **Mr/Ms. K.JANARTHANAN**, for the successful completion of **Internship in Embedded Systems** at **CodeBind Technologies, Chennai** from **19th July 2023** to **28th July 2023**.

During the course of the internship **Mr/Ms. K.JANARTHANAN**, exhibited an enthusiastic attitude for learning in addition to being quite industrious and dependable.

We are extremely satisfied with the candidate's performance and would like to wish them very success in their future endeavors.


Training Co-Ordinator




Issuing Authority
Principal

J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



INTERNSHIP

COURSE OBJECTIVES :

- To give a comprehensive exposure to all types of devices and circuits constructed with discrete components. This helps to develop a strong basis for building linear and digital integrated circuits
- To analyze the frequency response of small signal amplifiers
- To design and analyze single stage and multistage amplifier circuits
- To study about feedback amplifiers and oscillators principles
- To understand the analysis and design of multi vibrators

UNIT I SEMICONDUCTOR DEVICES

9

PN junction diode, Zener diode, BJT, MOSFET, UJT –structure, operation and V-I characteristics, diffusion and transition capacitance - Rectifiers – Half Wave and Full Wave Rectifier, Zener as regulator

UNIT II AMPLIFIERS

9

Load line, operating point, biasing methods for BJT and MOSFET, BJT small signal model – Analysis of CE, CB, CC amplifiers- Gain and frequency response –MOSFET small signal model– Analysis of CS, CG and Source follower – Gain and frequency response- High frequency analysis.

UNIT III MULTISTAGE AMPLIFIERS AND DIFFERENTIAL AMPLIFIER

9

Cascode amplifier, Differential amplifier – Common mode and Difference mode analysis – MOSFET input stages – tuned amplifiers – Gain and frequency response – Neutralization methods.

UNIT IV FEEDBACK AMPLIFIERS AND OSCILLATORS

9

Advantages of negative feedback – Voltage / Current, Series, Shunt feedback Amplifiers – positive feedback–Condition for oscillations, phase shift – Wien bridge, Hartley, Colpitts and Crystal oscillators.

UNIT V POWER AMPLIFIERS AND DC/DC CONVERTERS

9

Power amplifiers- class A-Class B-Class AB-Class C-Power MOSFET-Temperature Effect- Class AB Power amplifier using MOSFET –DC/DC convertors – Buck, Boost, Buck-Boost analysis and design.

TOTAL: 45 PERIODS**COURSE OUTCOMES :**

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

- CO1: Explain the structure and working operation of basic electronic devices.
 CO2: Design and analyze amplifiers.
 CO3: Analyze frequency response of BJT and MOSFET amplifiers
 CO4: Design and analyze feedback amplifiers and oscillator principles.
 CO5: Design and analyze power amplifiers and supply circuits

TEXT BOOKS :

1. David A. Bell, "Electronic Devices and Circuits", Oxford Higher Education press, 5 th Edition, 2010.
2. Robert L. Boylestad and Louis Nasheresky, "Electronic Devices and Circuit Theory", 10th Edition, Pearson Education / PHI, 2008.
3. Adel .S. Sedra, Kenneth C. Smith, "Micro Electronic Circuits", Oxford University Press, 7 th Edition, 2014.

Principal

J.K.K.Munirajah College of Technology
 (Autonomous)
 T.N.Palayam, Gobi (Tk),
 Erode (Dt) - 638 506



INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>
To: Inno Mektronic <innomektronic@gmail.com>

Wed, Jul 5, 2023 at 10:43 AM

Sir,

On behalf of J.K.K.Munirajah College of Technology, we wish to request for permission to do **Internship** at your company **INNOMEKTRONIC**. Our college is reputed at providing quality education in the various courses.

We wish to undertake our students an **Internship** at your company from 17.07.2023 to 21.07.2023 to acquire practical knowledge. Our academic curriculum focuses on engaging students in practical experiences to observe the implementation of what they are studied in college. We believe that your company will give relevant knowledge during this visit.

The students M.Narmatha, B.Ranjith, K.Sakthisivan, R.Sathasivan, V.sharmila, K.subash, and M.Veneeswari, are intend to participate in this **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..

 **NAME LIST.docx**
88K

Inno Mektronic <innomektronic@gmail.com>
To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>


Thu, Jul 6, 2023 at 04:25 PM

*Congratulations! It is with great pleasure that we welcome your students to join **as intern** at our **INNOMEKTRONIC** in coimbatore.
If you have any queries of require any further information, please do not hesitate to contact the human resources department.
May we take this opportunity of wishing you a successful association with **INNOMEKTRONIC**.*

WITH REGARDS

INNO MEKTRONIC

COIMBATORE


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



INNO MEKTRONIC
THE E.M.S. COMPANY



CERTIFICATE OF INTERNSHIP

This Internship certificate is proudly awarded to

M.NARMATHA (REG NO:731221106007)

For her outstanding completion of the Internship program at the firm **INNOMEKTRONIC(The EMS COMPANY)** under the guidance of Mrs.Mangai from 17.07.2023 to 21.07.2023. She is found to be Hardworking, Sincere and diligent. We wish her all the best for future.

CEO

M.NANDHA GOPAL

PROGRAM MANAGER

M.LOGAMANGAI

INNO MEKTRONIC
No. 12, Maruthi Nagar,
Avarampalayam, Coimbatore-641006
Tamilnadu, India.
GSTIN: 33AAGF10431B1Z8

No .12, Maruthi Nagar(Near Shoba Nagar) Avarampalayam,Coimbatore-641006, Tamilnadu, India.
Tel:0422-4530232, Mobile: 95855 30232, www.innomektronic.com, E-mail : innomektronic@gmail.com

J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



INNO MEKTRONIC
THE E.M.S. COMPANY



CERTIFICATE OF INTERNSHIP

This Internship certificate is proudly awarded to

RANJITH (REG NO:731221106008)

For his outstanding completion of the **Internship** program at the firm **INNOMEKTRONIC(The EMS COMPANY)** under the guidance of Mrs.Mangai from 17.07.2023 to 21.07.2023. He is found to be Hardworking, Sincere and diligent. We wish him all the best for future.

CEO
M.NANDHA GOPAL

PROGRAM MANAGER
M.LOGAMANGAI

INNO MEKTRONIC
No. 12, Maruthi Nagar,
Avarampalayam, Coimbatore-641006
Tamilnadu, India.
GSTIN: 33AAGFI0431B1Z8

Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



INNO MEKTRONIC
THE E.M.S. COMPANY



CERTIFICATE OF INTERNSHIP

This Internship certificate is proudly awarded to

K.SAKTHISIVAN (REG NO:731221106009)

For his outstanding completion of the **Internship** program at the firm **INNOMEKTRONIC(The EMS COMPANY)** under the guidance of Mrs.Mangai from 17.07.2023 to 21.07.2023. He is found to be Hardworking, Sincere and diligent. We wish him all the best for future.

CEO

M.NANDHA GOPAL

PROGRAM MANAGER

M.LOGAMANGAI

INNO MEKTRONIC

No. 12, Maruthi Nagar,
Avarampalayam, Coimbatore-641006
Tamilnadu, India.
GSTIN: 33AAGFI0431B1Z8

Principal

J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk).
Erode (Dt) - 638 500



INNO MEKTRONIC
THE E.M.S. COMPANY



CERTIFICATE OF INTERNSHIP

This Internship certificate is proudly awarded to

R.SATHASIVAN (REG NO:731221106011)

For his outstanding completion of the **Internship** program at the firm **INNOMEKTRONIC(The EMS COMPANY)** under the guidance of Mrs.Mangai from 17.07.2023 to 21.07.2023. He is found to be Hardworking, Sincere and diligent. We wish him all the best for future.

CEO
M.NANDHA GOPAL

PROGRAM MANAGER
M.LOGAMANGAI

INNO MEKTRONIC
No. 12, Maruthi Nagar,
Avarampalayam, Coimbatore-641006
Tamilnadu, India.
GSTIN: 33AAGFI0431B1Z8

Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



INNO MEKTRONIC
THE E.M.S. COMPANY



CERTIFICATE OF INTERNSHIP

This Internship certificate is proudly awarded to

V.SHARMILA (REG NO:731221106012)

For her outstanding completion of the **Internship** program at the firm **INNOMEKTRONIC(The EMS COMPANY)** under the guidance of Mrs.Mangai from 17.07.2023 to 21.07.2023. She is found to be Hardworking, Sincere and diligent. We wish her all the best for future.

CEO
M.NANDHA GOPAL

PROGRAM MANAGER

M.LOGAMANGAI
Principal

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Erode (Dt) - 638 5



INNO MEKTRONIC
THE E.M.S. COMPANY



CERTIFICATE OF INTERNSHIP

This Internship certificate is proudly awarded to

K.SUBASH (REG NO:731221106014)

For his outstanding completion of the **Internship** program at the firm **INNOMEKTRONIC(The EMS COMPANY)** under the guidance of Mrs.Mangai from 17.07.2023 to 21.07.2023. He is found to be Hardworking, Sincere and diligent. We wish him all the best for future.

CEO
M.NANDHA GOPAL

PROGRAM MANAGER
M.LOGAMANGAI

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Tamilnadu, India.
GSTIN: 33AAGFI0431B1Z8

Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Go!
Erode (Dt) - 6



INNO MEKTRONIC
THE E.M.S. COMPANY



CERTIFICATE OF INTERNSHIP

This Internship certificate is proudly awarded to

M.VENEE SWARI (REG NO:731221106015)

For her outstanding completion of the Internship program at the firm **INNOMEKTRONIC(The EMS COMPANY)** under the guidance of Mrs.Mangai from 17.07.2023 to 21.07.2023. She is found to be Hardworking, Sincere and diligent. We wish her all the best for future.

CEO
M.NANDHA GOPAL

PROGRAM MANAGER
M.LOGAMANGAI

INNO MEKTRONIC
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GSTIN: 33AAGFI0431B1Z8

Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

**INTERNSHIP REQUISITION**

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>
To: salzer <salzer2@salzergroup.com>

Thu, Feb 22, 2024 at 10:15 AM


Sir,

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

We wish to undertake our students an **Internship** at your company from first week of march 2024 upto one week to acquire practical knowledge. Our academic curriculum focuses on engaging students in practical experiences to observe the implementation of what they are studied in college. We believe that your company will give relevant knowledge during this Internship.

The students from second year ECE are intend to participate in this **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**
76K**salzer** <salzer2@salzergroup.com>

Thu, Feb 22, 2024 at 04:30 PM

To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Sir,

We're thrilled to welcome your students for an **internship** at our company! This is an incredible chance to learn, grow, and gain practical experience while working with our creative and passionate team. Your students will explore cutting-edge technologies and trends, guided by our expert trainers, making this a truly rewarding opportunity.

With Regards


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

salzer



SALZER ELECTRONICS LTD., UNIT - II
Chinnamadampalayam,
COIMBATORE - 641019. INDIA.
Tel : +91 4254 - 277200
+91 98946 81110
E-mail : salzer2@salzergroup.com
Web : www.salzergroup.com
CIN : L03210TZ1985PLC001535

PER/ INTERNSHIP /2023-2024

06. 03.2024

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **MS.DEVI .U.** student of **J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY GOBICHETTIPALAYAM** studying in Second year B.E **Electronics And Communication Engineering** has successfully completed her **Internship** for a period 01.03.2024 To 06.03.2024 on all working days.


During this period Of her Internship with us, we found her conduct and character to be good. We wish her a successful future.

For SALZER ELECTRONICS LIMITED – UNIT II,

S.KARTHIK

ASST. MANAGER – HR.




Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk)
Erode (Dt) - 638



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CIN : L03210TZ1985PLC001535

PER/ INTERNSHIP /2023-2024

06. 03.2024

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **MS.DHARANI .K.S.** student of **J.K.K.M.COLLEGE OF TECHNOLOGY GOBICHETTIPALAYAM** studying in Second year B.E **Electronics And Communication Engineering** has successfully completed her Internship for a period 01.03.2024 To 06.03.2024 on all working days.

During this period Of her **Internship** with us, we found her conduct and character to be good. We wish her a successful future.

For SALZER ELECTRONICS LIMITED - UNIT II,

S.KARTHIK

ASST. MANAGER - HR.



Kalyan

Principal

**J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506**

salzer



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Web : www.salzergroup.com

CIN : L03210TZ1985PLC001535

PER/ INTERNSHIP /2023-2024


06. 03.2024

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **MS.HARINI.S.** student of **J.K.K.M.COLLEGE OF TECHNOLOGY GOBICHETTIPALAYAM** studying in Second year B.E **Electronics And Communication Engineering** has successfully completed her Internship for a period 01.03.2024 To 06.03.2024 on all working days.

During this period Of her **Internship** with us, we found her conduct and character to be good. We wish her a successful future.

For SALZER ELECTRONICS LIMITED – UNIT II,


S.KARTHIK

ASST. MANAGER – HR.





Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode-(Dt) - 638 50⁶

salzer



SALZER ELECTRONICS LTD., UNIT - II
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CIN : L03210TZ1985PLC001535

PER/ INTERNSHIP /2023-2024


06. 03.2024

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **MS.LAVANYA .M.** student of **J.K.K.M.COLLEGE OF TECHNOLOGY GOBICHETTIPALAYAM** studying in Second year B.E **Electronics And Communication Engineering** has successfully completed her Internship for a period 01.03.2024 To 06.03.2024 on all working days.

During this period Of her **Internship** with us, we found her conduct and character to be good. We wish her a successful future.

For SALZER ELECTRONICS LIMITED – UNIT II,


S. KARTHIK

ASST. MANAGER – HR.





Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk).
Erode (Dt) - 638 506

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CIN : L03210TZ1985PLC001535

PER/ INTERNSHIP /2023-2024

06. 03.2024

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr.RIYAS MOHAMMED .M.** student of **J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY GOBICHETTIPALAYAM** studying in Second year B.E **Electronics And Communication Engineering** has successfully completed his Internship for a period 01.03.2024 To 06.03.2024 on all working days.

During this period Of his **Internship** with us, we found his conduct and character to be good. We wish him a successful future.

For SALZER ELECTRONICS LIMITED – UNIT II,


S.KARTHIK

ASST. MANAGER – HR.




Principal

J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (TK),
Erode (Dt) - 638 506

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CIN : L03210TZ1985PLC001535

PER/ INTERNSHIP /2023-2024

06. 03.2024

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr.THILAK .M.** student of **J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY GOBICHETTIPALAYAM** studying in Second year B.E **Electronics And Communication Engineering** has successfully completed his Internship for a period 01.03.2024 To 06.03.2024 on all working days.

During this period Of his **Internship** with us, we found his conduct and character to be good. We wish him a successful future.

For SALZER ELECTRONICS LIMITED - UNIT II,

S.KARTHIK

ASST. MANAGER - HR.



Principal
J.K.K.Munirajah College of Technology
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T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

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CIN : L03210TZ1985PLC001535

PER/ INTERNSHIP /2023-2024

06. 03.2024

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **MS.VIJAYAKUMARI .M.** student of **J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY GOBICHETTIPALAYAM** studying in Second year B.E **Electronics And Communication Engineering** has successfully completed her Internship for a period 01.03.2024 To 06.03.2024 on all working days.

During this period Of her **Internship** with us, we found her conduct and character to be good. We wish her a successful future.

For SALZER ELECTRONICS LIMITED – UNIT II,


S.KARTHIK

ASST. MANAGER – HR.




Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

COURSE OBJECTIVES:

- To introduce Analog Modulation Schemes
- To impart knowledge in random process
- To study various Digital techniques
- To introduce the importance of sampling & quantization
- To impart knowledge in demodulation techniques
- To enhance the class room teaching using smart connectivity instruments

UNIT I	AMPLITUDE MODULATION	9
Review of signals and systems, Time and Frequency domain representation of signals, Principles of Amplitude Modulation Systems- DSB, SSB and VSB modulations. Angle Modulation, Representation of FM and PM signals, Spectral characteristics of angle modulated signals. SSB Generation – Filter and Phase Shift Methods, VSB Generation – Filter Method, Hilbert Transform, Pre-envelope & complex envelope AM techniques, Superhetrodyne Receiver.		
UNIT II	RANDOM PROCESS & SAMPLING	9
Review of probability and random process. Gaussian and white noise characteristics, Noise in amplitude modulation systems, Noise in Frequency modulation systems. Pre-emphasis and De-emphasis, Threshold effect in angle modulation. Low pass sampling – Aliasing- Signal Reconstruction-Quantization - Uniform & non-uniform quantization - quantization noise - Nyquist criterion- Logarithmic Companding –PAM, PPM, PWM, PCM – TDM, FDM		
UNIT III	DIGITAL TECHNIQUES	9
Pulse modulation Differential pulse code modulation. Delta modulation, Noise considerations in PCM,, Digital Multiplexers, Channel coding theorem - Linear Block codes - Hamming codes - Cyclic codes - Convolutional codes - Viterbi Decoder		
UNIT IV	DIGITAL MODULATION SCHEME	9
Geometric Representation of signals - Generation, detection, IQ representation, PSD & BER of Coherent BPSK, BFSK, & QPSK - QAM - Carrier Synchronization - Structure of Non-coherent Receivers Synchronization and Carrier Recovery for Digital modulation, Spectrum Analysis – Occupied bandwidth – Adjacent channel power, EVM, Principle of DPSK		
UNIT V	DEMODULATION TECHNIQUES	9
Elements of Detection Theory, Optimum detection of signals in noise, Coherent communication with waveforms- Probability of Error evaluations. Baseband Pulse Transmission- Inter symbol Interference, Optimum demodulation of digital signals over band-limited channels.		

TOTAL: 45 PERIODS**COURSE OUTCOMES:**

At the end of the course students will be able to

- CO1: Gain knowledge in amplitude modulation techniques
 CO2: Understand the concepts of Random Process to the design of communication systems
 CO3: Gain knowledge in digital techniques
 CO4: Gain knowledge in sampling and quantization
 CO5: Understand the importance of demodulation techniques


Principal

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 Erode (Dt) - 638 506



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BHARAT SANCHAR NIGAM LIMITED

(भारत सरकार का उद्यम)
(A Govt. of India Enterprise)

सेलम एस.एस.ए

SALEM SSA

प्रशिक्षण प्रमाण पत्र

Certificate No. 2023 /

IV / 18

COURSE CERTIFICATE

This is to certify that

Mr./Ms. V. ARTHI

studying II YEAR BE (ECE) in

J K K M COLLEGE OF TECHNOLOGY,

T.N. PALAYAM, GOBI. has

undergone training in FUNDAMENTALS OF TELECOMMUNICATIONS

conducted by BSNL Salem for one week / 5 days

from 17.07.2023 to 21.07.2023.

Salem - 636 007

Date : 21.07.2023.

सहायक-महाप्रबंधक (प्रशा)

Asst. General Manager (Admn / HR),

कार्या. महाप्रबंधक, भासनिलि, सेलम

O/o. General Manager, BSNL, Salem

[Signature]
Principal

J.K.K.Munirajah College of Technology
(Autonomous)

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



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BHARAT SANCHAR NIGAM LIMITED

(भारत सरकार का उद्यम)
(A Govt. of India Enterprise)

सेलम एस.एस.ए

SALEM SSA

प्रशिक्षण प्रमाण पत्र

Certificate No. 2023

IV / 19

COURSE CERTIFICATE

This is to certify that

Mr./Ms. V. SHARMIKA

studying II YEAR BECECE in

J.K.K.M COLLEGE OF TECHNOLOGY

T.N. PALAYAM, GOBI has

undergone training in FUNDAMENTALS OF TELECOMMUNICATIONS

conducted by BSNL Salem for one week / 5 days

from 17.07.2023 to 21.07.2023.

Salem - 636 007

Date : 21.07.2023.

सहायक महामन्त्रबंधक (प्रशा)

Asst. General Manager (Admn / HR),

कार्या. महाप्रबंधक, भासनिलि, सेलम

O/o. General Manager, BSNL, Salem

[Signature]

Principal

J.K.K.Munirajah College of Technology
(Autonomous)

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



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(भारत सरकार का उद्यम)

(A Govt. of India Enterprise)

सेलम एस.एस.ए

SALEM SSA

प्रशिक्षण प्रमाण पत्र

Certificate No. 2023/

IV / 17

COURSE CERTIFICATE

This is to certify that

Mr./Ms. S. SOUNDARJYA.

studying I YEAR BE (ECE) in

J.K.K.M COLLEGE OF TECHNOLOGY,

T.N. PALAYAM, GOBI. has

undergone training in FUNDAMENTALS OF TELECOMMUNICATIONS

conducted by BSNL Salem for one week / 5 days

from 17.07.2023 to 21.07.2023.

Salem - 636 007

Date : 21.07.2023.


सहायक महाप्रबंधक (प्रशा)

Asst. General Manager (Admn / HR),

कार्या. महाप्रबंधक,  सेलम

O/o. General Manager, BSNL, Salem

Principal

J.K.K. Munirajah College of Technology
(Autonomous)

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

COURSE OBJECTIVES :

- Learn the architecture and features of 8051.
- Study the design process of an embedded system.
- Understand the real – time processing in an embedded system.
- Learn the architecture and design flow of IoT.
- Build an IoT based system.

UNIT I 8051 MICROCONTROLLER

9

Microcontrollers for an Embedded System – 8051 – Architecture – Addressing Modes – Instruction Set – Program and Data Memory – Stacks – Interrupts – Timers/Counters – Serial Ports – Programming.

UNIT II EMBEDDED SYSTEMS

9

Embedded System Design Process – Model Train Controller – ARM Processor – Instruction Set Preliminaries – CPU – Programming Input and Output – Supervisor Mode – Exceptions and Trap – Models for programs – Assembly, Linking and Loading – Compilation Techniques – Program Level Performance Analysis.

UNIT III PROCESSES AND OPERATING SYSTEMS

9

Structure of a real – time system – Task Assignment and Scheduling – Multiple Tasks and Multiple Processes – Multirate Systems – Pre-emptive real – time Operating systems – Priority based scheduling – Interprocess Communication Mechanisms – Distributed Embedded Systems – MPSoCs and Shared Memory Multiprocessors – Design Example – Audio Player, Engine Control Unit and Video Accelerator.

UNIT IV IOT ARCHITECTURE AND PROTOCOLS

9

Internet – of – Things – Physical Design, Logical Design – IoT Enabling Technologies – Domain Specific IoTs – IoT and M2M – IoT System Management with NETCONF – YANG – IoT Platform Design – Methodology – IoT Reference Model – Domain Model – Communication Model – IoT Reference Architecture – IoT Protocols - MQTT, XMPP, Modbus, CANBUS and BACNet.

UNIT V IOT SYSTEM DESIGN

9

Basic building blocks of an IoT device – Raspberry Pi – Board – Linux on Raspberry Pi – Interfaces – Programming with Python – Case Studies: Home Automation, Smart Cities, Environment and Agriculture.

PRACTICAL EXERCISES

45 PERIODS

30 PERIODS

Experiments using 8051.

1. Programming Arithmetic and Logical Operations in 8051.
2. Generation of Square waveform using 8051.
3. Programming using On – Chip ports in 8051.
4. Programming using Serial Ports in 8051.
5. Design of a Digital Clock using Timers/Counters in 8051.

Experiments using ARM

Interfacing ADC and DAC

Blinking of LEDs and LCD

Interfacing keyboard and Stepper Motor.

Principal

**J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506**

Miniprojects for IoT
 Garbage Segregator and Bin Level Indicator
 Colour based Product Sorting
 Image Processing based Fire Detection
 Vehicle Number Plate Detection
 Smart Lock System

TOTAL: 60 PERIODS

COURSE OUTCOMES:

- CO1: Explain the architecture and features of 8051.
- CO2: Develop a model of an embedded system.
- CO3: List the concepts of real time operating systems.
- CO4: Learn the architecture and protocols of IoT.
- CO5: Design an IoT based system for any application.

TEXTBOOKS :

1. Mohammed Ali Mazidi, Janice Gillispie Mazidi, Rolin D.McKinlay, The 8051 Microcontroller and Embedded Systems Using Assembly and C, Second Edition, Pearson Education, 2008.(Unit – I)
2. Marilyn Wolf, Computers as Components – Principles of Embedded Computing System Design, Third Edition, Morgan Kaufmann, 2012.(Unit – II,III)
3. Arshdeep Bahga, Vijay Madisetti, Internet – of- Things – A Hands on Approach, Universities Press, 2015.(Unit – IV,V)

REFERENCES :

1. Mayur Ramgir, Internet – of – Things, Architecture, Implementation and Security, First Edition, Pearson Education, 2020.
2. Lyla B.Das, Embedded Systems: An Integrated Approach, Pearson Education 2013.
3. Jane.W.S .Liu, Real – Time Systems, Pearson Education, 2003.

CO's-PO's & PSO's MAPPING

C	PO	PO	PO	PO	PO	PO	PO	PO	PO	PO1	PO1	PO1	PSO	PSO	PSO
1	3	3	3	2	2	-	-	-	-	-	-	-	3	2	1
2	3	3	3	2	2	-	-	-	-	-	-	-	3	2	1
3	3	3	2	2	2	-	-	-	-	-	-	-	2	1	1
4	3	3	2	2	2	-	-	-	-	-	-	-	3	3	2
5	3	3	3	3	3	-	-	-	-	-	-	-	3	3	2
C	3	3	2.6	2.2	2.2	-	-	-	-	-	-	-	2.8	2.2	1.4

1 - low, 2 - medium, 3 - high, '-' - no correlation


Principal
J.K.K.Munirajah College of Technology
 (Autonomous)
 T.N.Palayam, Gobi (Tk),
 Erode (Dt) - 638 506



INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>
To: odugaatech <odugaatech@gmail.com>

Thu, Feb 22, 2024 at 10:05 AM

Sir,

On behalf of J.K.K.Munirajah College of Technology, we wish to request for permission to do Internship training at your company Odugaatech Pvt. Ltd.


We wish to undertake our students an Internship at your company from first week of march 2024 upto one week to acquire practical knowledge. Our academic curriculum focuses on engaging students in practical experiences to observe the implementation of what they are studied in college. We believe that your company will give relevant knowledge during this Internship.

The students from second year ECE are intend to participate in this 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
99K

odugaatech <odugaatech@gmail.com >

Thu, Feb 22, 2024 at 03:13 PM

To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Dear Sir,

We are pleased to offer your students the opportunity to intern with our company. As interns, they will gain valuable insights and hands-on experience while collaborating with our talented team of trainers, who approach real-world challenges with passion and creativity. This internship promises to be a rewarding and enriching experience, providing your students with exposure to the latest trends and technologies and expert guidance throughout their tenure.

Best Regards




Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

Certificate NO: ODU24/IN/2852

Odugaatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS
CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. ABESHEK . A

From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

department of BE ECE

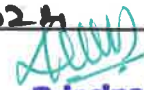
has successfully completed the INTERNSHIP PROGRAM in

EMBEDDED SYSTEM

Duration : 5/3/2024 to: 8/3/2024



Executive Director


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

Associate Director

Odugaatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS

CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. BALAJI. S

From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY


department of B.E ELE

has successfully completed the INTERNSHIP PROGRAM in

EMBEDDED SYSTEM

Duration : 5/3/2024 to : 8/3/2024


Executive Director


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam Gobi (Tk),
Erode (Dt) - 638 506
Associate Director

Odugaatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS

CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. MAGENDHRA. K

From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

department of BE ECE

has successfully completed the INTERNSHIP PROGRAM in

EMBEDDED SYSTEM

Duration : 5/3/2024 to : 8/2/2024

Suohan.
Executive Director

[Signature]
Principal
J.K.K. Munirajah College of Technology,
(Autonomous)
TALPADA, Erode (Tk),
Erode (Dt) - 638 506
Associate Director

Certificate NO: ODU24.TN.2848

Odugaatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS

CERTIFICATE OF COMPLETION

This Certificate is presented to

Mr./Ms/Mrs. PRASANTH . P


From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

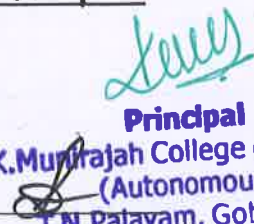
department of BE ECE

has successfully completed the INTERNSHIP PROGRAM in

EMBEDDED SYSTEM

Duration : 5/3/2024 to: 8/3/2024


Executive Director


Principal
J.K.K. Munirajah College of Technology
(Autonomous)
T.N. Palayam, Gobi (Tk),
Associate Director 68 506

Certificate NO: ODU242N2&S7

Odugaatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS

CERTIFICATE OF COMPLETION

This Certificate is presented to

Mr./Ms/Mrs. RAGAVAN . S

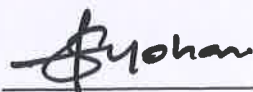
From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

department of BE ECE


has successfully completed the INTERNSHIP PROGRAM in

EMBEDDED SYSTEM

Duration : 5/3/2024 to : 8/3/2024



Executive Director


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Associate Director

Certificate NO: DDU24IN2858

Odugatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS
CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. R. RISHIKESAN

From J.K.K MUNIRAJAH COLLEGE OF TECHNOLOGY


department of BE ECE

has successfully completed the INTERNSHIP PROGRAM in

IoT

Duration : 05/03/2024 to: 08/03/2024


Executive Director


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N. Narayam, Gobi (Tk)
Erode (Dt) - 638
Associate Director

Certificate NO: ADU24.TM28.58

Odugaatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS

CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. ROGAN . B

From JKK MUNEBAJAH COLLEGE OF TECHNOLOGY

department of BE ECE

has successfully completed the INTERNSHIP PROGRAM in

EMBEDDED SYSTEM

Duration : 5/3/2024 to : 8/3/2024

Suohan.

Executive Director

[Signature]
Principal
J.K.K.Muniyiah College of Technology
(Autonomous)
Associate Director,
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

Certificate NO: ODUGATECH/2024/2853

Odugatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS
CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. SANTHOSH . E

From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

department of BE ECE

has successfully completed the INTERNSHIP PROGRAM in

EMBEDDED SYSTEM

Duration : 5/3/2024 to : 8/3/2024

Suohan.
Executive Director

[Signature]
Principal
J.K.K. Munirajah College of Technology
(Autonomous)
T.N. Palayam, Gobi (Tk),
Erode (Dt) - 638 506
Associate Director

Certificate NO: ODU24.TN.2152

Odugatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS
CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. VIGNESH . V

From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

department of BE ECE

has successfully completed the INTERNSHIP PROGRAM in

EMBEDDED SYSTEM

Duration : 5/3/2024 to: 8/3/2024

[Signature]

Executive Director

[Signature]
Principal

J.K.K.Munirajah College of Technology
(Autonomous)

T.N.Palayam, Gobi (Tk),

Erode (Dt) - 638 506

Associate Director

Certificate NO: ODUGA.IN.20.95

Odugatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS
CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. DINESH. S

From JKK MUNIRAJAM COLLEGE OF TECHNOLOGY

department of B.E ECE - II

has successfully completed the INTERNSHIP PROGRAM in

IOT

Duration : 04.03.2024 to: 08.03.2024


Executive Director


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Associate Director
Erode (T) 638 506

Certificate NO: DDU24JN2068

Odugaatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS
CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. HARIHARAN B

From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

department of B.E ECE -II

has successfully completed the INTERNSHIP PROGRAM in

IoT

Duration : 04.03.2024 to: 08.03.2024

Executive Director

Principal
J.K.K.Munirajah College of Technology
(Autonomous)
Associate Director
I.N.Palayam, Gobi (Tk),
Tirupur (Dt) - 638 506

Certificate NO: ODU24IN2857

Odugatech Pvt. Ltd
INNOVATION THE SIGN OF SUCCESS
CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. INDRAJITH. A

From J.K.K MUNIRAJAH COLLEGE OF TECHNOLOGY

department of BE ECE


has successfully completed the INTERNSHIP PROGRAM in

IOT

Duration : 04/03/2024 to: 08/03/2024



Executive Director


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
Associate Director,
Erode (Dt) - 638 506

Certificate NO: ODU242N2882

Odugatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS

CERTIFICATE OF COMPLETION



This Certificate is presented to

Mr./Ms/Mrs. NARMATHA . N

From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

department of BE ECE

has successfully completed the INTERNSHIP PROGRAM in

IOT

Duration : 04/03/2024 to : 08/03/2024


Executive Director


Principal
J.K.K. Munirajah College of Technology
(Autonomous)
Th. Palayam, Gobi (TK),
Erode (Dt) - 638 506
Associate Director

Certificate NO: DDU24.TN.2881

Odugaatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS

CERTIFICATE OF COMPLETION

This Certificate is presented to

Mr./Ms/Mrs. PAVADHARANI. K

From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

department of BE ECE

has successfully completed the INTERNSHIP PROGRAM in

IOT

Duration : 04/03/2024 to: 08/03/2024


Executive Director


Principal
J.K.K. Munirajah College of Technology
(Autonomous)
P.N. Palayam, Gobi (Tk),
Erode (Dt) - 638 506
Associate Director

Certificate NO: ~~ODU24TN2883~~

Odugaatech Pvt. Ltd

INNOVATION THE SIGN OF SUCCESS

CERTIFICATE OF COMPLETION

This Certificate is presented to

Mr./Ms/Mrs. VAISHNAVI A

From JKK MUNIRAJAH COLLEGE OF TECHNOLOGY

department of BE ECE

has successfully completed the INTERNSHIP PROGRAM in

IOT

Duration : 04/03/2024 to: 08/03/2024



Executive Director



Principal

J.K.K.Munirajah College of Technology
(Autonomous)

K.N. Palayam, Gobi (Tk),

Erode (Dt) - 638 506

Associate Director

COURSE OBJECTIVES:

- . To understand the basics of algorithmic problem solving.
- . To learn to solve problems using Python conditionals and loops.
- . To define Python functions and use function calls to solve problems.
- . To use Python data structures - lists, tuples, dictionaries to represent complex data.
- . To do input/output with files in Python.

UNIT I COMPUTATIONAL THINKING AND PROBLEM SOLVING 9

Fundamentals of Computing – Identification of Computational Problems -Algorithms, building blocks of algorithms (statements, state, control flow, functions), notation (pseudo code, flow chart, programming language), algorithmic problem solving, simple strategies for developing algorithms (iteration, recursion). Illustrative problems: find minimum in a list, insert a card in a list of sorted cards, guess an integer number in a range, Towers of Hanoi.

UNIT II DATA TYPES, EXPRESSIONS, STATEMENTS 9

Python interpreter and interactive mode,debugging; values and types: int, float, boolean, string, and list; variables, expressions, statements, tuple assignment, precedence of operators, comments; Illustrative programs: exchange the values of two variables, circulate the values of n variables, distance between two points.

UNIT III CONTROL FLOW, FUNCTIONS, STRINGS 9

Conditionals: Boolean values and operators, conditional (if), alternative (if-else), chained conditional (if-elif-else); Iteration: state, while, for, break, continue, pass; Fruitful functions: return values, parameters, local and global scope, function composition, recursion; Strings: string slices, immutability, string functions and methods, string module; Lists as arrays. Illustrative programs: square root, gcd, exponentiation, sum an array of numbers, linear search, binary search.

UNIT IV LISTS, TUPLES, DICTIONARIES 9


Lists: list operations, list slices, list methods, list loop, mutability, aliasing, cloning lists, list parameters; Tuples: tuple assignment, tuple as return value; Dictionaries: operations and methods; advanced list processing - list comprehension; Illustrative programs: simple sorting, histogram, Students marks statement, Retail bill preparation.

UNIT V FILES, MODULES, PACKAGES 9

Files and exceptions: text files, reading and writing files, format operator; command line arguments, errors and exceptions, handling exceptions, modules, packages; Illustrative programs: word count, copy file, Voter's age validation, Marks range validation (0-100).

TOTAL : 45 PERIODS**COURSE OUTCOMES:**

- Upon completion of the course, students will be able to
- CO1: Develop algorithmic solutions to simple computational problems.
 - CO2: Develop and execute simple Python programs.
 - CO3: Write simple Python programs using conditionals and loops for solving problems.
 - CO4: Decompose a Python program into functions.
 - CO5: Represent compound data using Python lists, tuples, dictionaries etc.
 - CO6: Read and write data from/to files in Python programs.


Principal
J.K.K. Munirajah College of Technology
(Autonomous)
T.N. Palayam, Gobi (Tk),
Erode (Dt) - 638 506



ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>
To: ETS ACADEMY Erode <etsacademyerode@gmail.com>

Tue, Feb 20, 2024 at 09:45 AM


Sir,

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

We wish to undertake our students an **Internship** at your company from 05.03.2024 to 09.03.2024 to acquire practical knowledge. Our academic curriculum focuses on engaging students in practical experiences to observe the implementation of what they are studied in college. We believe that your company will give relevant knowledge during this visit.

The students A.Ambika, K.Archana and P.Archana are intend to participate in this **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**
59K**ETS ACADEMY Erode** <etsacademyerode@gmail.com>
To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Tue, Feb 20, 2024 at 05:15 PM

Dear Sir,

We are delighted to accept the request of **internship** for your students with our company. Students after completing their internship, all the students, will have to submit a detailed report on their internship. This report will mark completion of their internship and then the company will issue them an Internship Certificate.

Best Regards,
ETS ACADEMY Erode


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

CERTIFICATE

OF

Appreciation



DATE : 11.03.2024



THIS IS TO CERTIFY THAT A.AMBIKA (731222106002)
II-YEAR DEPARTMENT OF B.E (ELECTRICALS AND ELECTRONICS ENGINEERING)
FROM JKK MUNRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
PYTHON
AT ETS ACADEMY, ERODE
FROM 05-03-2024 TO 09.03.2024



MSME
MICRO, SMALL & MEDIUM ENTERPRISES
सूक्ष्म, लघु एवं मध्यम उद्यम

ETS Academy is registered under the:
Ministry of MSME Govt. of India
Reg. No. : TN07E0021273



CERTIFICATE ID : A0037657

Authorised Signature



AICTE INTERNSHIP

CERTIFICATE

OF

Appreciation



DATE : 11.03.2024

THIS IS TO CERTIFY THAT K.ARCHANA (731222106003)
II-YEAR DEPARTMENT OF B.E (ELECTRICALS AND ELECTRONICS ENGINEERING)
FROM JKK MUNRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
PYTHON

AT ETS ACADEMY, ERODE

FROM 05-03-2024 TO 09.03.2024



MSME
MICRO, SMALL & MEDIUM ENTERPRISES
सुलभ, सत्य एवं मजबूत उद्योग

ETS Academy is registered under the:
Ministry of MSME Govt. of India
Reg. No. : TN07E0021273



CERTIFICATE ID : A0037655

Authorised Signature



Skill India
कोशल भारत - कुशल भारत



Microsoft
Registered Microsoft Partner

PMKVY
PRADHAN MANTRI KAUSHAL VIKAS YOJANA

Principal
J.K.K. Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506
AICTE INTERNSHI

CERTIFICATE

OF

Appreciation

DATE : 11.03.2024



THIS IS TO CERTIFY THAT P.ARCHANA (731222106004)
II-YEAR DEPARTMENT OF B.E (ELECTRICALS AND ELECTRONICS ENGINEERING)
FROM JKK MUNRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
PYTHON

AT ETS ACADEMY, ERODE

FROM 05-03-2024 TO 09.03.2024



ETS Academy is registered under the:
Ministry of MSME Govt. of India
Reg. No. : TN07E0021273

CERTIFICATE ID : A0037656

Authorised Signature



J.K.K. Munirajah College of Technology
(Autonomous) Res. SSC
TN, Palayam, (DSSCOM),
Erode (Dt) - 638 506



AICTE INTERNSHIP

COURSE OBJECTIVES:

- To understand the basics of IoT.
- To get knowledge about the various services provided by IoT.
- To familiarize themselves with various communication techniques and networking.
- To know the implementation of IoT with different tools.
- To understand the various applications in IoT.

UNIT I INTRODUCTION TO INTERNET OF THINGS

9

Rise of the machines – Evolution of IoT – Web 3.0 view of IoT – Definition and characteristics of IoT – IoT Enabling Technologies – IoT Architecture – Fog, Edge and Cloud in IoT – Functional blocks of an IoT ecosystem – Sensors, Actuators, Smart Objects and Connecting Smart Objects – IoT levels and deployment templates – A panoramic view of IoT applications.

UNIT II MIDDLEWARE AND PROTOCOLS OF IOT

9

Middleware technologies for IoT system (IoT Ecosystem Overview – Horizontal Architecture Approach for IoT Systems – SOA based IoT Middleware) Middleware architecture of RFID, WSN, SCADA, M2M – Interoperability challenges of IoT-Protocols for RFID, WSN, SCADA, M2M- Zigbee, KNX, BACNet, MODBUS - Challenges Introduced by 5G in IoT Middleware (Technological Requirements of 5G Systems - Perspectives and a Middleware Approach Toward 5G (COMPaaS Middleware) – Resource management in IoT.

UNIT III COMMUNICATION AND NETWORKING

9

IoT Access Technologies: Physical and MAC layers, topology and Security of IEEE 802.15.4, 802.15.4g, 802.15.4e, 1901.2a, 802.11ah and LoRaWAN – Network Layer: IP versions, Constrained Nodes and Constrained Networks – Optimizing IP for IoT: From 6LoWPAN to 6Lo, Routing over Low Power and Lossy Networks – Application Transport Methods: Supervisory Control and Data Acquisition – Application Layer Protocols: CoAP and MQTT- Data aggregation & dissemination.

UNIT IV IOT IMPLEMENTATION TOOLS

9

Introduction to Python, Introduction to different IoT tools, Developing applications through IoT tools, Developing sensor based application through embedded system platform, Implementing IoT concepts with python, Implementation of IoT with Raspberry Pi.

UNIT V APPLICATIONS AND CASE STUDIES:

9

Home automations - Smart cities – Environment – Energy – Retail – Logistics – Agriculture – Industry - Health and life style – Case study.

TOTAL: 45 PERIODS**COURSE OUTCOMES:**

Upon completion of this course, the students will be able to

CO1: Articulate the main concepts, key technologies, strength and limitations of IoT.

CO2: Identify the architecture, infrastructure models of IoT.

CO3: Analyze the networking and how the sensors are communicated in IoT.

CO4: Analyze and design different models for IoT implementation.

CO5: Identify and design the new models for market strategic interaction.


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Thu, Feb 22, 2024 at 11:15 AM

To: nxtlogic <info@nxtlogic.com>


Sir,

On behalf of J.K.K.Munirajah College of Technology, we wish to request for permission to do Internship training at your company nxtlogic Software solutions.

We wish to undertake our students an Internship at your company from last week of feb 2024 upto two weeks to acquire practical knowledge. Our academic curriculum focuses on engaging students in practical experiences to observe the implementation of what they are studied in college. We believe that your company will give relevant knowledge during this Internship.

The students from second year ECE are intend to participate in this 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

nxtlogic <info@nxtlogic.com>

Fri, Feb 23, 2024 at 05:30 PM

To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Sir,

We are happy to announce internship opportunities for your students! This program offers a chance to work alongside passionate professionals, explore advanced technologies, and gain practical experience that will shape their careers.

With Regards



Nxtlogic
SOFTWARE SOLUTIONS



Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

Date: 12/03/2024

Place: Coimbatore

TO WHOM SO EVER IT MAY CONCERN

This is to certify **Ms. JEEVA DEEPIKA.S (RegNo: 731222106015)**
Second year **B.E ELECTRONICS AND COMMUNICATION**
ENGINEERING student from **“J.K.K MUNIRAJAH COLLEGE OF**
TECHNOLOGY” Coimbatore has successfully completed her internship
entitled **“ASP.NET – FULL STACK & INTERNET OF THINGS”** from our
esteemed organization. The internship training duration is from **Feb 27th** to
March 12th.

Her performance and conduct were found to be very good.

During this period, she was sincere and regular in attending all the faces of
internship.



Principal

J.K.K.Munirajah College of Technology
(Autonomous)

Nxtlogic Software Solutions, Palayam, Gobi (Tk),
Software Developing & Consulting, Pundarikottai (Dt) - 638 506

Date: 12/03/2024

Place: Coimbatore

TO WHOM SO EVER IT MAY CONCERN

This is to certify Ms. SIVARANJANI.G (RegNo: 731222106030)
Second year **B.E ELECTRONICS AND COMMUNICATION**
ENGINEERING student from “**J.K.K MUNIRAJAH COLLEGE OF**
TECHNOLOGY” Coimbatore has successfully completed her internship
entitled “**ASP.NET – FULL STACK & INTERNET OF THINGS**” from our
esteemed organization. The internship training duration is from **Feb 27th** to
March 12th.

Her performance and conduct were found to be very good.

During this period, she was sincere and regular in attending all the faces of
internship.



Principal

**J.K.K.Munirajah College of Technology
(Autonomous)**

Nxtlogic Software Solutions T.N.Palayam, Gobi (Tk),
Software Developing & Consulting Erode (Dt) - 638 506

Date: 12/03/2024

Place: Coimbatore

TO WHOM SO EVER IT MAY CONCERN

This is to certify Ms. NIBILA SRI.P (RegNo: 731222106314) Second year **B.E ELECTRONICS AND COMMUNICATION ENGINEERING** student from "**J.K.K MUNIRAJAH COLLEGE OF TECHNOLOGY**" Coimbatore has successfully completed her internship entitled "**ASP.NET – FULL STACK & INTERNET OF THINGS**" from our esteemed organization. The internship training duration is from **Feb 27th to March 12th**.

Her performance and conduct were found to be very good.

During this period, she was sincere and regular in attending all the faces of internship.



[Handwritten signature]

Principal

**J.K.K.Munirajah College of Technology
(Autonomous)**

**T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506**

**Nxtlogic Software Solutions
Software Developing & Consulting**

Date: 12/03/2024

Place: Coimbatore

TO WHOM SO EVER IT MAY CONCERN

This is to certify **Mr. KAVIYARASU S. (RegNo: 731222106501)**
Second year **B.E ELECTRONICS AND COMMUNICATION**
ENGINEERING student from **“J.K.K MUNIRAJAH COLLEGE OF**
TECHNOLOGY” Coimbatore has successfully completed his internship
entitled **“ASP.NET – FULLSTACK & INTERNET OF THINGS”** from our
esteemed organization. The internship training duration is from **Feb 27th** to
March 12th.

His performance and conduct were found to be very good.

During this period, he was sincere and regular in attending all the faces of
internship.



[Handwritten Signature]

Principal

**J.K.K.Munirajah College of Technology
(Autonomous)**

**Nxtlogic Software Solutions
Software Developing & Consulting**

**T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506**



DLK

Career Development

CERTIFICATE OF COMPLETION

This is to certify that

MR. NIVASH V (REG NO: 731222106019)

has Successfully Completed

Internship / ~~Inplant~~ training in INTERNET OF THINGS from 04/03/24 to 08/03/24

During the training period the performance of the trainee was found to be excellent.

Congratulations on your hard work! keep shining!



Jayalakshmi S
Vice president



INTERNSHIP REQUISITION

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>
To: Pragati Circuits <pragaticbe@yahoo.in>

Wed, Feb 21, 2024 at 09:12 AM

Sir,


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

We wish to undertake our students an Internship training at your company from 01.03.2024 to 09.03.2024 to acquire practical knowledge. Our academic curriculum focuses on engaging students in practical experiences to observe the implementation of what they studied in college. We believe that your company will give relevant knowledge during this visit.

A group of students from second year ECE are intend to participate in this Internship training. Please allow our students to do an Internship training at your company and meet your skilled employee.

Thank you in advance.

With Regards,
HoD/ECE

ECE DEPARTMENT**ECLON WELCOMES U ALL..** Internship.pdf
268K

Pragati Circuits <pragaticbe@yahoo.in>
To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Thu, Feb 22, 2024 at 02:35 PM

Sir,

I am pleased to accept the above mentioned students to do internship in our company from 01.03.2024 onwards to gain their knowledge.

With Warm Regards,
PRAGATI HI-TECH CIRCUITS


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

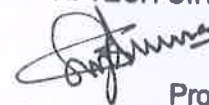
DATE : 09.03.2024

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that Ms. Jeevitha P of B.E Electronics and Communication Engineering – II Year from J.K.K.Munirajah College of Technology, T.N.Palayam has done Internship for a period from 1st Mar to 9th Mar 2024.

She was regular in her attendance and performance was good.

For PRAGATI HI TECH CIRCUITS



Proprietor



Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

DATE : 09.03.2024

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that **Mr. Logeshwaran D** of **B.E Electronics and Communication Engineering – II Year** from **J.K.K.Munirajah College of Technology, T.N.Palayam** has done **Internship** for a period from **1st Mar to 9th Mar 2024**.

He was regular in his attendance and performance was good.

For PRAGATI HI TECH CIRCUITS



Proprietor



Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

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 : 09.03.2024

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that Mr. Rajeshkannan R of B.E Electronics and Communication Engineering – II Year from J.K.K.Munirajah College of Technology, T.N.Palayam has done **Internship** for a period from 1st Mar to 9th Mar 2024.

He was regular in his attendance and performance was good.

For PRAGATI HI TECH CIRCUITS



Proprietor



Principal

J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

DATE : 09.03.2024

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that Mr. Sibiyon K of B.E Electronics and Communication Engineering – II Year from J.K.K.Munirajah College of Technology, T.N.Palayam has done Internship for a period from 1st Mar to 9th Mar 2024.

He was regular in his attendance and performance was good.

For PRAGATI HI TECH CIRCUITS



Proprietor



Principal

J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

DATE : 09.03.2024

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that Ms. Thamaraiselvi A of B.E Electronics and Communication Engineering – II Year from J.K.K.Munirajah College of Technology, T.N.Palayam has done Internship for a period from 1st Mar to 9th Mar 2024.

She was regular in her attendance and performance was good.

For PRAGATI HI TECH CIRCUITS



Proprietor



Principal

J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

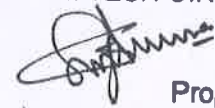
DATE : 09.03.2024

INTERNSHIP COMPLETION CERTIFICATE

This is to certify that Ms. Vaidegi M of B.E Electronics and Communication Engineering – II Year from J.K.K.Munirajah College of Technology, T.N.Palayam has done Internship for a period from 1st Mar to 9th Mar 2024.

She was regular in her attendance and performance was good.

For PRAGATI HI TECH CIRCUITS



Proprietor



Principal
J.K.K.Munirajah College of Technology,
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

**INTERNSHIP REQUISITION**

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Thu, Jan 4, 2024 at 11:43 AM

To: emglitz <info@emglitz.com>


Sir,

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

We wish to undertake our students an **Internship** at your company from second week of Jan 2024 upto two weeks to acquire practical knowledge. Our academic curriculum focuses on engaging students in practical experiences to observe the implementation of what they are studied in college. We believe that your company will give relevant knowledge during this Internship.

The students from Third year ECE are intend to participate in this 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
113K

emglitz <info@emglitz.com>

Fri, Jan 5, 2024 at 02:33 PM


To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Sir,

We are happy to extend **internship opportunities** to your students. As interns, they will work with our skilled team, gain practical experience, and learn about the latest technologies. This opportunity will help them develop their skills and prepare for their future careers.

Regards,

Emglitz Technologies


Prindpal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



EMGLITZ TECHNOLOGIES

Certificate of Internship Completion

This is to certify that NARMATHA.M
from J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY pursuing
B.E - ECE has successfully
completed the internship in the field of INTERNET OF THINGS from
12. 01. 2024 to 25.01.2024 in our organization.
Throughout the **INTERNSHIP** program with us, He/She had been
exposed to different processes and was found punctual,
hardworking and inquisitive.


Trainer

EMGLITZ TECHNOLOGIES
G. K. Sundaram Street,
Saibaba Colony, Coimbatore.
Ph: 0422 - 4561208


Program Co-ordinator


(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



EMGLITZ TECHNOLOGIES

Certificate of Internship Completion

This is to certify that RANJITH.B
from J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY pursuing
B.E. ECE has successfully
completed the internship in the field of INTERNET OF THINGS from
12.01.2024 to 25.01.2024 in our organization.
Throughout the **INTERNSHIP** program with us, He/She had been
exposed to different processes and was found punctual,
hardworking and inquisitive.


Trainer

EMGLITZ TECHNOLOGIES
G. K. Sundaram Street,
Saibaba Colony, Coimbatore.
Ph: 0422-4962208

Program co-ordinator


J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



EMGLITZ TECHNOLOGIES

Certificate of Internship Completion

This is to certify that SATHASIVAN.R
from J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY, pursuing
B.E.ECE has successfully
completed the internship in the field of INTERNET OF THINGS from
12.01.2024 to 25.01.2024 in our organization.
Throughout the **INTERNSHIP** program with us, He/She had been
exposed to different processes and was found punctual,
hardworking and inquisitive.


Trainer

EMGLITZ TECHNOLOGIES
G. K. Sundaram Street,
Saibaba Colony, Coimbatore.
Ph: 0422 - 4962208


Program co-ordinator

Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506



EMGLITZ TECHNOLOGIES

Certificate of Internship Completion

This is to certify that SUBASH.K
from J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY, pursuing
B.E. ECE has successfully
completed the internship in the field of INTERNET OF THINGS from
12.01.2024 to 25.01.2024 in our organization.
Throughout the **INTERNSHIP** program with us, He/She had been
exposed to different processes and was found punctual,
hardworking and inquisitive.


Trainer

EMGLITZ TECHNOLOGIES
G. K. Sundaram Street,
Saibaba Colony, Coimbatore.
Ph: 0422 - 1962208


Program co-ordinator

**INTERNSHIP REQUISITION**

2 messages

ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>
To: ETS ACADEMY Erode <etsacademyerode@gmail.com>

Mon, Jan 8, 2024 at 10:10 AM

Sir,

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

We wish to undertake our students an Internship at your company from 22.01.2024 to 27.01.2024 to acquire practical knowledge. Our academic curriculum focuses on engaging students in practical experiences to observe the implementation of what they are studied in college. We believe that your company will give relevant knowledge during this visit.

The students K.Sakthisivan, Y.santhiya, V.sharmila, M.Veneeswari, V.Arthi, V.sharmila and S.Soundariya are intend to participate in this 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**
98K**ETS ACADEMY Erode** <etsacademyerode@gmail.com>
To: ELECTRONICS COMMUNICATION <jkkmctece2013@gmail.com>

Tue, Jan 9, 2024 at 11:15 AM

Dear Sir,

We are delighted to accept the request of internship for your students with our company. Students after completing their internship, all the students, will have to submit a detailed report on their internship. This report will mark completion of their internship and then the company will issue them an Internship Certificate.

Best Regards,
ETS ACADEMY Erode


Principal
J.K.K.Munirajah College of Technology
(Autonomous)
T.N.Palayam, Gobi (Tk),
Erode (Dt) - 638 506

CERTIFICATE

OF

Appreciation



DATE : 26.01.2024

THIS IS TO CERTIFY THAT SAKTHI SIVAN K (731221106009)
III-YEAR DEPARTMENT OF B.E (ELECTRONICS AND COMMUNICATION ENGINEERING)
FROM JKK MUNIRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
EMBEDDED SYSTEM
AT ETS ACADEMY, ERODE
FROM 22-01-2024 TO 27.01.2024



ETS Academy is registered under the:
Ministry of MSME Govt. of India
Reg. No.: TN07E0021273



CERTIFICATE ID : A0037484

Authorised Signature



J. K. K. Munirajah College of Technology
(Erode)

Erode (Dt) - 636 006

CERTIFICATE

OF

Appreciation

DATE : 26.01.2024



THIS IS TO CERTIFY THAT SANTIYA Y (731221106010)
III-YEAR DEPARTMENT OF B.E (ELECTRONICS AND COMMUNICATION ENGINEERING)
FROM JKK MUNIRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
EMBEDDED SYSTEM
AT ETS ACADEMY, ERODE
FROM 22-01-2024 TO 27.01.2024



MSME
MICRO, SMALL & MEDIUM ENTERPRISES
सुलभ, सघु एवं मज्जम उद्यम

ETS Academy is registered under the:

Ministry of MSME Govt. of India

Reg. No. : TN07E0021273



CERTIFICATE ID : A0037485

Authorised Signature



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Microsoft
Registered Microsoft Partner

PMKVY
PRADHAN MANTRI KAUSHAL VIKAS YOJANA

PIINDIASSC
NASSCOM



J.K.K. Munirajah College of Tech
(Autonomous)
T.N. Palayam, Gobi (TK)
638 506
AICTE INTERNSHIP

CERTIFICATE

OF

Appreciation

DATE : 26.01.2024



THIS IS TO CERTIFY THAT SHARMILA V (731221106012)
III-YEAR DEPARTMENT OF B.E (ELECTRONICS AND COMMUNICATION ENGINEERING)
FROM JKK MUNIRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
EMBEDDED SYSTEM
AT ETS ACADEMY, ERODE
FROM 22-01-2024 TO 27.01.2024



MSME
MICRO, SMALL & MEDIUM ENTERPRISES
सुलभ, सशु, एवं श्रम्यग चयन

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



CERTIFICATE ID : A0037483

Authorised Signature



Skill India
कौशल भारत - कुशल भारत



Microsoft
Registered Microsoft Partner

PMKVY
PRADHAN MANTRI KAUSHAL VIKAS YOJANA



IT - ITeS SSC
NASSCOM

Principal



J.K.K. Munirajah College of Technology
(Autonomous)

CERTIFICATE

OF

Appreciation



DATE : 26.01.2024



THIS IS TO CERTIFY THAT VENEESWARI M (731221106015)
III-YEAR DEPARTMENT OF B.E (ELECTRONICS AND COMMUNICATION ENGINEERING)
FROM JKK MUNIRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
EMBEDDED SYSTEM
AT ETS ACADEMY, ERODE
FROM 22-01-2024 TO 27.01.2024



MSME
MICRO, SMALL & MEDIUM ENTERPRISES
सूक्ष्म, लघु एवं मध्यम उद्यम

ETS Academy is registered under the:

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Reg. No. : TN07E0021273



CERTIFICATE ID : A0037482

Authorised Signature



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कौशल भारत - कुशल भारत



Microsoft
Registered Microsoft Partner

PMKVY
PRADHAN MANTRI KAUSHAL KAUSHAL KAUSHAL

IT - ITes SSC
NASSCOM
Principal



AICTE INTERNSHIP

J.K.K. Munirajah College of Technology
(Autonomous)
Gobi (Tk)

CERTIFICATE

OF

Appreciation

DATE : 26.01.2024



THIS IS TO CERTIFY THAT ARTHI V (731221106301)
III-YEAR DEPARTMENT OF B.E (ELECTRONICS AND COMMUNICATION ENGINEERING)
FROM JKK MUNIRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
EMBEDDED SYSTEM
AT ETS ACADEMY, ERODE
FROM 22-01-2024 TO 27.01.2024



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Reg. No. : TN07E0021273



CERTIFICATE ID : A0037481

Authorised Signature



Principal
J.K.K. Munirajah College of Technology
(Autonomous)

056 566

CERTIFICATE

OF

Appreciation

DATE : 26.01.2024



THIS IS TO CERTIFY THAT SHARMILA V (731221106302)
III-YEAR DEPARTMENT OF B.E (ELECTRONICS AND COMMUNICATION ENGINEERING)
FROM JKK MUNIRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
EMBEDDED SYSTEM
AT ETS ACADEMY, ERODE
FROM 22-01-2024 TO 27.01.2024



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Reg. No. : TN07E0021273



CERTIFICATE ID : A0037479

Authorised Signature



Handwritten signature
Principal
J.K.K. Munirajah College of Technology
(Autonomous)
T.N. Palayam, Gobi (Tk)



CERTIFICATE

OF

Appreciation



DATE : 26.01.2024



THIS IS TO CERTIFY THAT SOUNDARIYA S (731221106303)
III-YEAR DEPARTMENT OF B.E (ELECTRONICS AND COMMUNICATION ENGINEERING)
FROM JKK MUNIRAJAH COLLEGE OF TECHNOLOGY
HAS SUCCESSFULLY COMPLETED THE INTERNSHIP IN
EMBEDDED SYSTEM
AT ETS ACADEMY, ERODE
FROM 22-01-2024 TO 27.01.2024



ETS Academy is registered under the:
Ministry of MSME Govt. of India
Reg. No. : TN07E0021273



CERTIFICATE ID : A0037480

Authorised Signature



Principal
JKK Munirajah College
(Autonomous)
T.N. Palayam, Govt. ITes-SSC
WASSCOM



AICTE INTERNSHIP