


**ACADEMIC YEAR (2023-2024)**

	<b>J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY(AUTONOMOUS) T.N.PALAYAM(PO),GOBI(TK)-638506, ERODE(DT).</b>				Metric No 1.3.2	
S.No	Name of the course	course code	programme offering	Project work	Internship	Number of students

**(2023-2024) Regulation-2017**

1	Project Work	EE8811	ELECTRICAL AND ELECTRONICS ENGINEERING	✓	✓	2
2	Electric Energy Generation,Utilization and Conservation	EE8015	ELECTRICAL AND ELECTRONICS ENGINEERING	✓	✓	1
3	High Voltage Direct Current Transmission	EE8017	ELECTRICAL AND ELECTRONICS ENGINEERING	✓		
4	Transmission and Distribution	EE8402	ELECTRICAL AND ELECTRONICS ENGINEERING	✓	✓	1
5	Microprocessors and Microcontrollers	EE8551	ELECTRICAL AND ELECTRONICS ENGINEERING	✓		1
6	Power Electronics	EE8552	ELECTRICAL AND ELECTRONICS ENGINEERING	✓		
7	Solid state drives	EE8601	ELECTRICAL AND ELECTRONICS ENGINEERING		✓	1
8	Embedded systems	EE8691	ELECTRICAL AND ELECTRONICS ENGINEERING		✓	1
9	Power System Operation and Control	EE8702	ELECTRICAL AND ELECTRONICS ENGINEERING	✓	✓	1
10	Renewable Energy Systems	EE8703	ELECTRICAL AND ELECTRONICS ENGINEERING	✓	✓	1

**(2023-2024) Regulation-2021**

1	Protection and Switchgear	EE3601	ELECTRICAL AND ELECTRONICS ENGINEERING	✓	✓	12
2	Control Systems	EE3503	ELECTRICAL AND ELECTRONICS ENGINEERING	✓		14
3	Electrical Machines - II	EE3405	ELECTRICAL AND ELECTRONICS ENGINEERING		✓	13
4	Measurements and Instrumentation	EE3403	ELECTRICAL AND ELECTRONICS ENGINEERING	✓	✓	12
5	Linear Integrated Circuits	EE3402	ELECTRICAL AND ELECTRONICS ENGINEERING	✓		7
6	Electron Devices and Circuits	EC3301	ELECTRICAL AND ELECTRONICS ENGINEERING	✓	✓	7

  
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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**2023-2024**  
**IV EEE**

S.NO	REG.NO	STUDENT NAME	PROJECT WORK	INTERNSHIP
1	731220105002	DHINESH.P	✓	✓
2	731220105003	ISAKKIRAJA.P	✓	✓
3	731220105004	KIRUBASANKAR.C		✓
4	731220105005	MUKESH.S	✓	✓
5	731220105006	NAVEENKUMAR.G	✓	✓
6	731220105007	ROHAN.R	✓	✓
7	731220105009	SIVAGIRI.K	✓	✓
8	731220105011	THIRUMARAN DILEEBAN.S	✓	✓
9	731220105301	MAHESWARI.P	✓	✓
<b>III EEE</b>				
10	731221105001	BALAJI B		✓
11	731221105002	DEVI M		✓
12	731221105003	DHAYANITHI M		✓
13	731221105004	HARIHARAN S		✓
14	731221105006	JOTHI S		✓
15	731221105007	KARTHICK M		✓
16	731221105009	ROJA S		✓
17	731221105010	SANTHOSH M		✓

*[Signature]*  
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S.NO	REG.NO	STUDENT NAME	PROJECT WORK	INTERNSHIP
18	731221105011	SANJAY M V		✓
19	731221105012	SARANKUMAR A		✓
20	731221105013	SARAVANAN A		✓
21	731221105014	SATHISH P		✓
22	731221105015	VENKATESHWARAN J		✓
23	731221105301	AGIMISH K G		✓
24	731221105302	KARTHICK C		✓
25	731221105303	RANJITHA N		✓
26	731221105305	TAMIL SELVAN T		✓
<b>II EEE</b>				
27	731222105001	AKASH.R		✓
28	731222105002	DEEPIKA.E		✓
29	731222105003	ELANGO VAN.S		✓
30	731222105004	GOPIKA.N		✓
31	731222105005	KARTHIK.S		✓
32	731222105006	LOGESWARIE		✓
33	731222105007	MADHAN.M		✓

  
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S.NO	REG.NO	STUDENT NAME	PROJECT WORK	INTERNSHIP
34	731222105008	MANIKANDAN.M		✓
35	731222105009	MANIKANDAN.S		✓
36	731222105010	MEGANATHAN.P		✓
37	731222105011	MOUNISHWARAN.K		✓
38	731222105012	MUTHUKUMARAN .S		✓
39	731222105013	MYTHILI.M		✓
40	731222105014	NITHISH KUMAR.S		✓
41	731222105015	PARANJOTHI.P		✓
42	731222105016	PRAVEENKUMAR.V		✓
43	731222105017	RASU.R		✓
44	731222105018	RATHIPRIYA.I		✓
45	731222105019	RAVI.R		✓
46	731222105020	SANTHOSHKUMAR.M		✓
47	731222105021	SARANRAJ.G		✓
48	731222105022	SASIKUMAR.S		✓
49	731222105023	SENATHIPATHINATHAN.K		✓
50	731222105024	SIDDARAJI.S		✓

*[Handwritten Signature]*  
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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

S.NO	REG.NO	STUDENT NAME	PROJECT WORK	INTERNSHIP
51	731222105026	SRIKANTH.P		✓
52	731222105027	SURYA.S.K		✓
53	731222105028	SUTHARSAN .P		✓
54	731222105029	VASANTHAKUMAR.R		✓
55	731222105302	ANGAMUTHU.G		✓
56	731222105303	ANTONY BARATH.M		✓
57	731222105305	BHARANITHARAN.K		✓
58	731222105307	DHARUN.G		✓
59	731222105310	GOWRIPRASAD.D S		✓
60	731222105313	ILAMBARATH.S		✓
61	731222105314	KARTHI.M		✓
62	731222105316	KIRITHIKA.N		✓
63	731222105317	LAKSMANAN.K		✓
64	731222105319	MANIKANDAN.K		✓
65	731222105321	MUKILAN.B		✓
66	731222105322	NAGASUNDIARAMOORTHI.K		✓
67	731222105324	NIVETHIKA.G		✓

  
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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

S.NO	REG.NO	STUDENT NAME	PROJECT WORK	INTERNSHIP
68	731222105325	PADMANABAN.A		✓
69	731222105328	RAGUL.M V		✓
70	731222105329	RANJITHKUMAR.M		✓
71	731222105331	SARAN.S		✓
72	731222105333	SUBTHRA.P		✓
73	731222105336	SUSHMAKUMARI		✓
74	731222105337	VARSHINI.AP		✓

  
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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

S.No	Name of the Course that include experiential learning through Project Work/Internship/Field Visit
1	Project Work
2	Electric Energy Generation, Utilization and Conservation
3	High Voltage Direct Current Transmission
4	Transmission and Distribution
5	Microprocessors and Microcontrollers
6	Power Electronics
7	Solid state drives
8	Embedded systems
9	Power System Operation and Control
10	Renewable Energy Systems
11	Protection and Switchgear
12	Control Systems
13	Electrical Machines - II
14	Measurements and Instrumentation
15	Linear Integrated Circuits
16	Electron Devices and Circuits

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# PROJECT WORK



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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING  
UG PROJECT BATCH LIST (2023-24)**

BATCH NO	S.NO	REG. NO.	NAME	TITLE	SUPERVISOR
1	1	731220105003	P.ISAKKIRAJA	REMOVE PVC INSULATION FROM SUBMERSIBLE PUMP WINDING WIRE	Mr.T.S.THAMBIRAN, M.E
	2	731220105007	K.SIVAGIRI		
	3	731220105301	P.MAHESWARI		
2	4	731220105003	S.MUKESH	USAGE OF PAPER MILL SLUDGE FOR RENEWABLE AND SUSTAINABLE ENERGY	Mr.A.VIGNESHKUMAR, M.E
	5	731220105003	G.NAVEENKUMAR		
3	6	731220105002	DHINESH.P	TO DEVELOP A SMART TRANSPORTATION SYSTEM	Mr.S.M. PRANESH,M.E
	7	731220105007	ROHAN.R		
	8	731220105011	THIRUMARAN DILEEBAN.S		

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# SYLLABUS

EE8691

**EMBEDDED SYSTEMS**

L T P C  
3 0 0 3

**OBJECTIVES:**

To impart knowledge on the following Topics

- Building Blocks of Embedded System
- Various Embedded Development Strategies
- Bus Communication in processors, Input/output interfacing.
- Various processor scheduling algorithms.
- Basics of Real time operating system and example tutorials to discuss on one real time operating system tool.

**UNIT I INTRODUCTION TO EMBEDDED SYSTEMS 9**

Introduction to Embedded Systems –Structural units in Embedded processor , selection of processor & memory devices- DMA – Memory management methods-Timer and Counting devices, Watchdog Timer, Real Time Clock, In circuit emulator, Target Hardware Debugging.

**UNIT II EMBEDDED NETWORKING 9**

Embedded Networking: Introduction, I/O Device Ports & Buses– Serial Bus communication protocols RS232 standard – RS422 – RS 485 - CAN Bus -Serial Peripheral Interface (SPI) – Inter Integrated Circuits (I<sup>2</sup>C) –need for device drivers.

**UNIT III EMBEDDED FIRMWARE DEVELOPMENT ENVIRONMENT 9**

Embedded Product Development Life Cycle- objectives, different phases of EDLC, Modelling of EDLC; issues in Hardware-software Co-design, Data Flow Graph, state machine model, Sequential Program Model, concurrent Model, object oriented Model.

**UNIT IV RTOS BASED EMBEDDED SYSTEM DESIGN 9**

Introduction to basic concepts of RTOS- Task, process & threads, interrupt routines in RTOS, Multiprocessing and Multitasking, Preemptive and non-preemptive scheduling, Task communication shared memory, message passing-, Inter process Communication –synchronization between processes-semaphores, Mailbox, pipes, priority inversion, priority inheritance.

**UNIT V EMBEDDED SYSTEM APPLICATION AND DEVELOPMENT 9**

Case Study of Washing Machine- Automotive Application- Smart card System Application-ATM machine –Digital camera

**TOTAL : 45 PERIODS**

**OUTCOMES:**

- Ability to understand and analyze Embedded systems.
- Ability to suggest an embedded system for a given application.



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EE8015

**ELECTRIC ENERGY GENERATION, UTILIZATION AND**

L T P C  
3 0 0 3

**CONSERVATION**

**OBJECTIVES:**

To impart knowledge on the following Topics

- To study the generation, conservation of electrical power and energy efficient equipments.
- To understand the principle, design of illumination systems and energy efficiency lamps.
- To study the methods of industrial heating and welding.
- To understand the electric traction systems and their performance.

**UNIT I ILLUMINATION**

9

Importance of lighting – properties of good lighting scheme – laws of illumination – photometry -types of lamps – lighting calculations – basic design of illumination schemes for residential, commercial, street lighting, factory lighting and flood lighting – LED lighting and energy efficient lamps.

**UNIT II REFRIGERATION AND AIR CONDITIONING**

9

Refrigeration-Domestic refrigerator and water coolers - Air-Conditioning-Variou types of air-conditioning system and their applications, smart air conditioning units – Energy Efficient motors: Standard motor efficiency, need for efficient motors, Motor life cycle, Direct Savings and payback analysis, efficiency evaluation factor.

**UNIT III HEATING AND WELDING**

9

Role of electric heating for industrial applications – resistance heating – induction heating – dielectric heating - electric arc furnaces. Brief introduction to electric welding – welding generator, welding transformer and the characteristics.

**UNIT IV TRACTION**

9

Merits of electric traction – requirements of electric traction system – supply systems – mechanics of train movement – traction motors and control – braking – recent trends in electric traction.

**UNIT V DOMESTIC UTILIZATION OF ELECTRICAL ENERGY**

9

Domestic utilization of electrical energy – House wiring. Induction based appliances, Online and OFF line UPS, Batteries - Power quality aspects – nonlinear and domestic loads – Earthing – Domestic, Industrial and Substation.

**TOTAL : 45 PERIODS**

**OUTCOMES:**

- To understand the main aspects of generation, utilization and conservation.
- To identify an appropriate method of heating for any particular industrial application

  
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EE8703

**RENEWABLE ENERGY SYSTEMS**

L T P C  
3 0 0 3

**OBJECTIVES:**

To impart knowledge on the following Topics

- Awareness about renewable Energy Sources and technologies.
- Adequate inputs on a variety of issues in harnessing renewable Energy.
- Recognize current and possible future role of renewable energy sources.

**UNIT I RENEWABLE ENERGY (RE) SOURCES 9**

Environmental consequences of fossil fuel use, Importance of renewable sources of energy, Sustainable Design and development, Types of RE sources, Limitations of RE sources, Present Indian and international energy scenario of conventional and RE sources.

**UNIT II WIND ENERGY 9**

Power in the Wind – Types of Wind Power Plants(WPPs)–Components of WPPs- Working of WPPs- Siting of WPPs-Grid integration issues of WPPs.

**UNIT III SOLAR PV AND THERMAL SYSTEMS 9**

Solar Radiation, Radiation Measurement, Solar Thermal Power Plant, Central Receiver Power Plants, Solar Ponds.- Thermal Energy storage system with PCM- Solar Photovoltaic systems : Basic Principle of SPV conversion – Types of PV Systems- Types of Solar Cells, Photovoltaic cell concepts: Cell, module, array ,PV Module I-V Characteristics, Efficiency & Quality of the Cell, series and parallel connections, maximum power point tracking, Applications.

**UNIT IV BIOMASS ENERGY 9**

Introduction-Bio mass resources –Energy from Bio mass: conversion processes- Biomass Cogeneration-Environmental Benefits. Geothermal Energy: Basics, Direct Use, Geothermal Electricity. Mini/micro hydro power: Classification of hydropower schemes, Classification of water turbine, Turbine theory, Essential components of hydroelectric system.

**UNIT V OTHER ENERGY SOURCES 9**

Tidal Energy: Energy from the tides, Barrage and Non Barrage Tidal power systems. Wave Energy: Energy from waves, wave power devices. Ocean Thermal Energy Conversion (OTEC)- Hydrogen Production and Storage- Fuel cell : Principle of working- various types -construction and applications. Energy Storage System- Hybrid Energy Systems.

**TOTAL : 45 PERIODS**

**OUTCOMES:**

- Ability to create awareness about renewable Energy Sources and technologies.
- Ability to get adequate inputs on a variety of issues in harnessing renewable Energy.



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# A SMART TRANSPORTATION SYSTEM FOR PUBLIC BY USING ARDUINO



## A PROJECT REPORT

*Submitted by*

**DHINESH.P**

(731220105002)

**ROHAN.R**

(731220105007)

**THIRUMARAN DILEEBAN**

(731220105011)

*In partial fulfillment for the award of the degree*

*Of*

**BACHELOR OF ENGINEERING**

**In**

**ELECTRICAL AND ELECTRONICS ENGINEERING**

**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY**

**T.N.PALAYAM, ERODE-638506**

**ANNA UNIVERSITY:CHENNAI-60002**

**MAY-2023**

**Principal**

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

# BONAFIDE CERTIFICATE

Certified that this project report "TO DEVELOP A SMART TRANSPORTATION SYSTEM" Is the bonafide work of "DHINESH.P (731220105002), ROHAN.R (731220105007) and THIRUMARAN DILEEBAN.S (731220105011)" who carried out the project work under my supervision. Certified further that to the best of my knowledge the work reported here in does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.



SIGNATURE

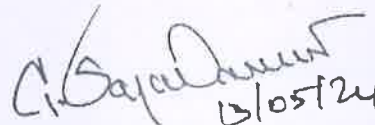
Mr.S.M.PRANESH.,ME.,

SUPERVISOR

ASSISTANT PROFESSOR

Department of Electrical and  
Electronics Engineering,  
JKK Munirajah College of Technology,  
T.N.Palayam  
Erode-638506

Submitted for the main Project viva-voce held on



SIGNATURE

Dr.C.SARAVANAN.,ME.,MISTE.,Ph.D.,

HEAD OF THE DEPARTMENT

PROFESSOR

Department of Electrical and  
Electronics Engineering,  
JKK Munirajah College of Technology,  
T.N.Palayam  
Erode-638506

..... 13.05.2024 (CFN) .....



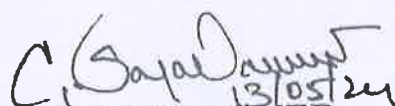
Principal

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INTERNAL EXAMINER



EXTERNAL EXAMINER

## ABSTRACT

In the context of smart transportation systems (STs) in smart cities, the use of applications that can help in case of critical conditions is a key point. Examples of critical conditions may be natural-disaster events such as earthquakes, hurricanes, floods, and man made ones such as terrorist attacks and toxic waste spills. Disaster events are often combined with the destruction of the local telecommunication infrastructure, if any, and this implies real problems to the rescue operations. The quick deployment of a telecommunication infrastructure is essential for emergency and safety operations as well as the rapid network reconfigurability, the availability of open source software, the efficient interoperability, and the scalability of the technological solutions. The topic is very hot and many research groups are focusing on these issues. Consequently, the deployment of a smart network is fundamental. It is needed to support both applications that can tolerate delays and applications requiring dedicated resources for real-time services such as traffic alert messages, and public safety messages. The guarantee of quality of service for such applications is a key requirement.



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The speed sensor is used for synchronizing the speed of multiple motors. The temperature sensor is used for industrial temperature control. PIR sensor is used for automatic door opening system and Ultrasonic sensor are used for distance measurement.

### **8.3.3 IR SENSOR APPLICATIONS**

IR sensors are used in various Sensor based projects and also in various electronic devices which measures the temperature that are discussed in the below.

#### **Radiation thermometers**

IR sensors are used in radiation thermometers to measure the temperature depend upon the temperature and the material of the object and these thermometers have some of the following features

- Measurement without direct contact with the object
- Faster response
- Easy pattern measurements

#### **Flame monitors**

These types of devices are used for detecting the light emitted from the flames and to monitor how the flames are burning. The Light emitted from flames extend from UV to IR region types. PbS, PbSe, Two-color detector, pyro electric detector are some of the commonly employed detector used in flame monitors.

#### **Gas analyzers**

IR sensors are used in gas analyzers which use absorption characteristics of gases in the IR region. Two types of methods are used to measure the density of gas such as dispersive and non dispersive.



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**Erode (Dt) - 638 506**



**REMOVE PVC INSULATION FROM  
SUBMERSIBLE PUMP WINDING WIRE**

**A PROJECT REPORT**

*Submitted by*

**ISAKKIRAJA.P** (731220105003)  
**SIVAKIRI.K** (731220105009)  
**MAHESWARI.P** (731220105301)

*In partial fulfillment for the award of the degree*

*Of*

**BACHELOR OF ENGINEERING**

*in*

**ELECTRICAL AND ELECTRONICS ENGINEERING**

**J.K.K.MUNIRAJAH COLLEGE OF TECHNOLOGY**

**T.N.PALAYAM, ERODE-638506**

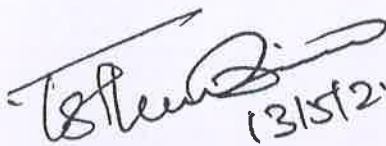
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**MAY-2024**

  
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Erode (Dt) - 638 506

# BONAFIDE CERTIFICATE

Certified that this project report "REMOVE PVC INSULATION FROM SUBMERSIBLE PUMP WINDING WIRE" is the bonafide work of "ISAKKIRAJA.P (731220105003), SIVAGIRI.K (731220105009) and MAHESWARI.P (731220105301)" who carried out the project work under my supervision. Certified further that to the best of my knowledge the work reported here in does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

  
13/05/24  
SIGNATURE

Mr. T.S. THAMBIRAN., ME.,

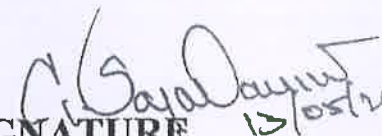
SUPERVISOR

ASSISTANT PROFESSOR

Department of Electrical and Electronics Engineering  
J.K.K. Munirajah College of Technology

T.N. Palayam

Erode - 638506

  
13/05/24  
SIGNATURE

Dr. C. SARAVANAN., ME., MISTE., Ph.D.,

HEAD OF THE DEPARTMENT


PROFESSOR


Department of Electrical and Electronics Engineering  
J.K.K. Munirajah College of Technology

T.N. Palayam

Erode - 638506

Submitted for the Project viva-voce held on... 13/05/2024 / FN

  
13/05/24  
INTERNAL EXAMINER

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

# CHAPTER 1

## INTRODUCTION

### 1.1 SUBMERSIBLE WINDING WIRE:

Submersible winding wires are used in various industries, including the marine industry. In any manufacturing setup, the usage of wires is extremely important, and one has to be careful in producing electrical appliances. Submersible winding wire can be used in extreme conditions where heavy-duty equipment is used for maximizing performance. Now you must be curious to know about the purpose of a winding wire. It is used to wire a device to pass electric current and charge simultaneously. It does so to ensure that no electric current or charge gets wasted during transportation. So, this was to give you an idea about the winding wires. If we talk about winding wires in a layman's language, they are used in the winding of electrical appliances, such as inductors, transformers, electric motors, loudspeakers, and headphones. They are also used in generators and hard drive head petitioners. Now let's talk about the submersible winding wire. These wires are known to get immersed in water; thus, it is highly preferred in the marine industry. A submersible winding wire is used in electrical devices and appliances that are used underwater.

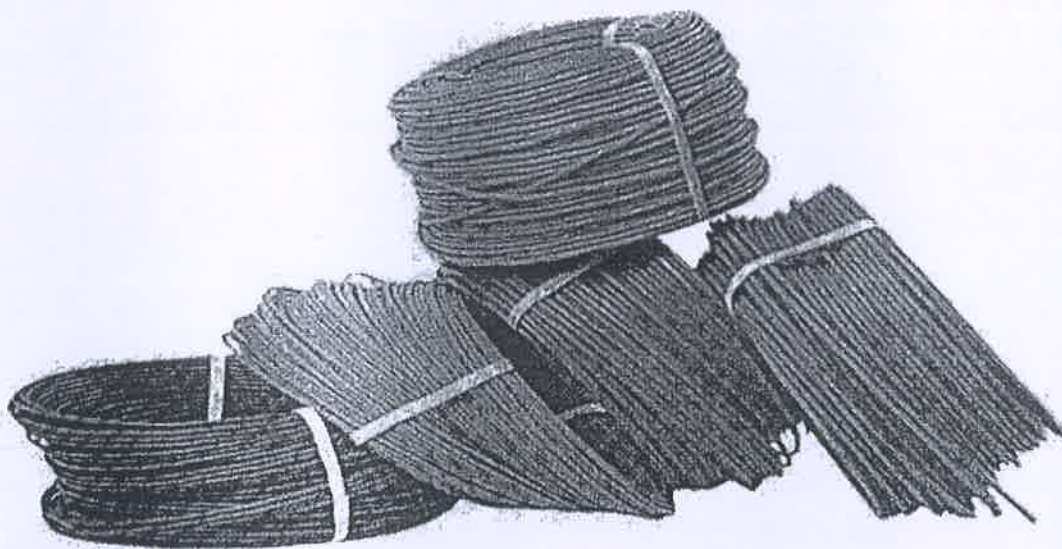


Fig 1.1 Submersible Winding Wire

## ABSTRACT

Tight assembly of stator windings with no insulation paper damage is a manufacturing challenge. We evaluate different sets of parts according to the following parameters: magnet wire thickness, stator slot smoothness, length of the straight magnet wire after the slot end, and type and amount of insulation cap at the end of the slot. These parameters have discrete values with small differences between them. The damage criterion is the decrease of the insulation paper breakdown voltage after assembly/disassembly of parts, assembled in a small set of designed experiments. Parameter values, i.e., levels at individual experiments are set by an orthogonal experiment matrix. Repetition of each experiment provides statistical significance. Data analysis shows that the additive model alone is not sufficient due to the high correlation of the parameters' influences. We extend the model to include inter parameter influences, which we model by adding a virtual parameter. The extended additive model generates parameter values that do not degrade the insulation paper breakdown voltage within the manufacturing process. Continue reading to discover a hassle-free method for "removing insulation from wire." Knowing how to correctly remove the insulating covering without damaging the wire is crucial. In this post, we're going to look at several tools and procedures for stripping cable from insulation in general.



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## CHAPTER 7

7

### CONCLUSION

Removing insulation paper from submersible winding wire is a delicate process that requires attention to safety and precision. In conclusion, it is essential to exercise caution and follow proper procedures to avoid damaging the wire or causing harm:

**SAFETY PRECAUTIONS:** Always wear appropriate protective gear such as gloves and goggles to prevent injury while handling electrical components.

**ASSESSMENT OF WIRE:** Before attempting to remove insulation paper, assess the condition of the wire carefully. Ensure there are no signs of damage or wear that could compromise its integrity.

**IDENTIFY INSULATION TYPE:** Determine the type of insulation paper used on the winding wire. Common types include Kraft paper, Nomex paper, or polyester film. This will help you choose the appropriate method for removal.

**SELECT REMOVAL METHOD:** Depending on the insulation type and condition, choose the most suitable method for removing the insulation paper. Options may include mechanical stripping, heat application, or chemical dissolution.

**MECHANICAL STRIPPING:** If the insulation paper is accessible and in good condition, carefully peel or scrapes it away using tools such as tweezers or a knife. Take care not to damage the underlying wire.

**HEAT APPLICATION:** For stubborn or adhesive-backed insulation paper, gentle application of heat using a heat gun or hot air blower can soften the adhesive, making it easier to remove. Use caution to avoid overheating the wire.



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**CHEMICAL DISSOLUTION:** In some cases, immersion in a solvent or chemical solution may be necessary to dissolve the adhesive or loosen the insulation paper. Ensure the chosen solvent is compatible with the wire insulation and follow safety guidelines for handling chemicals.

**CLEANUP AND INSPECTION:** After removing the insulation paper, carefully inspect the wire for any remaining residue or damage. Clean the wire surface thoroughly to remove any traces of adhesive or solvent.

**QUALITY ASSURANCE:** Once the insulation paper is removed, conduct a final inspection to ensure the wire is in good condition and ready for further processing or use.

**DISPOSE OF WASTE PROPERLY:** Dispose of any removed insulation paper and cleaning materials according to local regulations for hazardous waste disposal



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**USAGE OF PAPER MILL SLUDGE FOR  
RENEWABLE AND SUSTAINABLE  
ENERGY**

**PROJECT REPORT**

*Submitted by*

**MUKESH S** (731220105005)

**NAVEENKUMAR G** (731220105006)

*In partial fulfillment for the award of the degree*

**BACHELOR OF ENGINEERING**

*in*

**ELECTRICAL AND ELECTRONICS ENGINEERING**

**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY**

**T.N.PALAYAM, ERODE-638506**


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**MAY-2024**

# BONAFIDECERTIFICATE

Certified that this project report “USAGE OF PAPER MILL SLUDGE FOR RENEWABLE AND SUSTAINABLE ENERGY” is the bonafide work of “MUKESH S (731220105005), and NAVEENKUMAR G (731220105301)” who carried out the project work under my supervision. Certified further that to the best of my knowledge the work reported here in does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

  
13/05/24

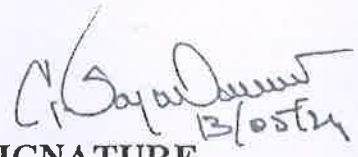
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Submitted for the Project viva-voce held on ..... 13/05/2024 .....

  
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## ABSTRACT

Paper mill sludge, a byproduct of the paper manufacturing process, poses significant challenges for the industry in terms of disposal and environmental impact. However, this seemingly burdensome waste stream harbors untapped potential as a renewable energy resource. This paper presents a comprehensive review of the utilization of paper mill sludge in renewable and sustainable energy applications. By examining the characteristics of paper mill sludge, its composition, and the challenges associated with its management, this study highlights the feasibility and benefits of harnessing this material for energy generation. Various conversion technologies, including anaerobic digestion, hydrolysis, and classification, are evaluated for their efficacy in extracting energy from paper mill sludge while minimizing environmental impact. Additionally, the economic and environmental implications of integrating paper mill sludge into the renewable energy landscape are explored, emphasizing the potential for cost savings, greenhouse gas emissions reduction, and resource efficiency. Through strategic partnerships, technological innovation, and policy support, the sustainable utilization of paper mill sludge for energy production can be realized, contributing to the transition towards a low-carbon economy and fostering circularity within the paper industry. This paper serves as a comprehensive resource for researchers, policymakers, and industry stakeholders interested in unlocking the renewable potential of paper mill sludge while advancing sustainability goals.


# CHAPTER 1

## 1 INTRODUCTION

In the pursuit of a sustainable future, the imperative to utilize renewable energy sources has become increasingly paramount. Amidst this endeavor, unconventional avenues for energy generation are being explored with fervor. One such promising yet underexplored resource is paper mill sludge – a byproduct of the paper manufacturing process.

Paper mill sludge, often regarded as waste, presents a dual challenge for the industry: efficient disposal and environmental sustainability. However, within this challenge lies a hidden opportunity – the latent energy content encapsulated within the sludge. With innovative approaches, this seemingly burdensome byproduct can be transformed into a valuable resource for renewable energy production. This paper seeks to explore the untapped potential of paper mill sludge as a renewable energy source. By delving into the characteristics of paper mill sludge, its composition, and the challenges associated with its disposal, we aim to underscore the feasibility and sustainability of harnessing this material for energy generation. The utilization of paper mill sludge for energy production aligns with the principles of circular economy and resource efficiency. Rather than relegating it to landfills or incineration, converting paper mill sludge into energy not only mitigates waste management concerns but also contributes to the reduction of greenhouse gas emissions, thus addressing the pressing issue of climate change. Moreover, the integration of paper mill sludge into the renewable energy landscape presents a multifaceted solution. By leveraging technologies such as anaerobic digestion, hydrolysis, or classification, the organic components of the sludge can be converted into biogas, bio-oil, or syn gas, respectively.

These energy products can then be utilized for heat and power generation, thus displacing fossil fuels and further bolstering the transition towards a low-carbon economy. In light of the foregoing, this paper endeavors to shed light on the transformative potential of paper mill sludge as a renewable and sustainable energy source.

  
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# CHAPTER 7


## CONCLUSION

The utilization of paper mill sludge in renewable and sustainable energy applications represents a compelling avenue for addressing pressing environmental and energy challenges while fostering economic prosperity. Throughout this paper, we have explored the multifaceted role of paper mill sludge as a valuable resource in the transition towards a low-carbon economy. By examining the characteristics of paper mill sludge and the challenges associated with its disposal, we have underscored the need for innovative solutions to unlock its renewable energy potential. Through various conversion technologies such as anaerobic digestion, hydrolysis, classification, and combustion, we can effectively harness the energy embedded within paper mill sludge while mitigating environmental impact.

The integration of paper mill sludge into renewable energy systems offers numerous benefits. From reducing reliance on finite fossil fuel reserves to mitigating greenhouse gas emissions and alleviating pressure on landfills, the sustainable utilization of paper mill sludge contributes to broader sustainability objectives. However, realizing the full potential of paper mill sludge in renewable energy applications requires concerted efforts from policymakers, industry stakeholders, and research communities. Continued investment in research and development is essential to improve conversion efficiencies, optimize process economics, and mitigate environmental risks associated with energy recovery from paper mill sludge.

Moreover, supportive policy frameworks and regulatory incentives can incentive investment in paper mill sludge-to-energy projects, thereby accelerating the adoption of sustainable practices within the paper industry and beyond.

In conclusion, the utilization of paper mill sludge in renewable and sustainable energy represents a win-win scenario, offering environmental, economic, and social benefits. By embracing innovation, collaboration, and holistic thinking, we can harness the latent energy potential of paper mill sludge to pave the way towards a more resilient, equitable, and sustainable energy future.

  
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# INTERNSHIP



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Accredited by NAAC with "A" grade

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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING  
INTERNSHIP / INPLANT TRAINING  
II YEAR (2023-2024)**

SL. NO	STUDENT NAME	COMPANY NAME	DURATION	LOCATION
1	DEEPIKA.E	LANSA INFORMATION PVT,LTD	01.07.2023 TO 10.07.2023	COIMBATORE
2	AKASH.R			
3	LOGESWARLE			
4	MEGANATHAN.P			
5	KARTHIK.S			
6	ELANGO VAN.S			
7	NITHISH KUMAR.S			
8	MANIKANDAN.M			
9	MADHAN.M			
10	GOPIKA.N			
11	SARANRAJ.G			
12	MUTHUKUMARAN .S			
13	RASU.R			
14	MANIKANDAN.S			

**Principal**

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SL. NO	STUDENT NAME	COMPANY NAME	DURATION	LOCATION
15	SENATHIPATHINATHA N.K			
16	PRAVEENKUMAR.V			
17	MYTHILM			
18	ANGAMUTHU.G			
19	RAVI.R			
20	SANTHOSHKUMAR.M			
21	SASIKUMAR.S	MAXCADD	03.07.2023 TO 12.07.2023	COIMBATORE
22	SRIKANTH.P			
23	PARANJOTHI.P			
24	SIDDARAJI.S			
25	MOUNISHWARAN.K			
26	SURYA.S.K			
27	DHARUN.G			

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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

SL. NO	STUDENT NAME	COMPANY NAME	DURATION	LOCATION
28	KIRITHIKA.N	TECHNOLOGICS GLOBAL PVT LTD	01.07.2023 TO 10.07.2023	BENGALURU
29	RATHIPRIYA.I			
30	ANTONY BARATH.M			
31	BHARANITHARAN.K			
32	SUTHARSAN .P			
33	NIVETHIKA.G			
34	SARAN.S			
35	MUKILAN.B			
36	VASANTHAKUMAR.R			
37	LAKSMANAN.K			
38	MANIKANDAN.K			
39	KARTHI.M			
40	NAGASUNDHARAMOO RTHI.K			

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SL. NO	STUDENT NAME	COMPANY NAME	DURATION	LOCATION
41	GOWRIPRASAD.D S	CALIBER EMBEDDED TECHNOLOGIES PVT LIMITED	01.07.2023 TO 10.07.2023	SALEM
42	SUSHMAKUMARI			
43	VARSHINI.A.P			
44	RANJITHKUMAR.M			
45	ILAMBARATH.S			
46	SUBTHRA.P			
47	PADMANABAN.A			
48	RAGUL.M V			

**Principal**

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# SYLLABUS

**COURSE OBJECTIVES:**

To make the students to familiarize with various representations of systems.

- To make the students to analyze the stability of linear systems in the time domain and frequency
- Domain. To make the students to analyze the stability of linear systems in the frequency domain
- To make the students to design compensator based on the time and frequency domain
- Specifications. To develop linear models: mainly state variable model and Transfer function model

**UNIT I MODELING OF LINEAR TIME INVARIANT SYSTEM (LTIV)****9**

Control system: Open loop and Closed loop – Feedback control system characteristics – First principle modeling: Mechanical, Electrical and Electromechanical systems – Transfer function representations: Block diagram and Signal flow graph.

**UNIT II TIME DOMAIN ANALYSIS****9**

Standard test inputs – Time response – Time domain specifications – Stability analysis: Concept of stability – Routh Hurwitz stability criterion – Root locus: Construction and Interpretation. Effect of adding poles and zeros

**UNIT III FREQUENCY DOMAIN ANALYSIS****9**

Bode plot, Polar plot and Nyquist plot: – Frequency domain specifications Introduction to closed loop Frequency Response. Effect of adding lag and lead compensators.

**UNIT IV STATE VARIABLE ANALYSIS****9**

State variable formulation – Non uniqueness of state space model – State transition matrix – Eigen values – Eigen vectors - Free and forced responses for Time Invariant and Time Varying Systems – Controllability – Observability


**UNIT V DESIGN OF FEED BACK CONTROL SYSTEM****9**

Design specifications – Lead, Lag and Lag-lead compensators using Root locus and Bode plot techniques –PID controller - Design using reaction curve and Ziegler-Nichols technique- PID control in State Feedback form.

**TOTAL: 45 PERIODS****COURSE OUTCOMES:** Upon the successful completion of the course, students will be able to:

CO1: Represent simple systems in transfer function and state variable forms.

CO2: Analyze simple systems in time domain.

  
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Gmail - Fwd: Industrial visit - reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Mon 19 Jun 2023 at 11.40 am

**From:** C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>  
**Date:** Mon 19 Jun 2023 at 11.40 am  
**Subject:** Internship - reg  
**To:** MANAGING DIRECTOR<[mohammed.fayaz@gmail.com](mailto:mohammed.fayaz@gmail.com)>

Dear SIR ,

I am requesting to be joining your TECHNOLOGICS GLOBAL PVT LTD. The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students: 13 NO's)

Sincerely,

Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

**Principal**  
J.K.K.Munirajah College of Technology  
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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit - reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Wed, 21 Jun 2023 at 12:25PM

From: MANAGING DIRECTOR<mohammed.fayaz@gmail.com>  
Date: Wed 21 Jun 2023 at 12.25 PM  
Subject: Internship - reg  
To: C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>

Dear Hod,

We are pleased to offer you an internship program with TECHNOLOGICS GLOBAL PVT LTD for a period from 1<sup>st</sup> July 2023 to 10<sup>th</sup> July 2023. You should note that any information and data collected from you during the course of your internship should be kept confidential at all times. We appreciate your interest in our company.

With Regards,

MD

TECHNOLOGICS GLOBAL PVT LTD

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



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Date: 10.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Ms. KIRITHIKA.N** (731222105316), 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023)** **Internship** Training in **“TECHNOLOGIES GLOBAL PVT LTD”**.

During this tenure **Mr. KIRITHIKA.N** has involved in her work with dedication. We found her pretty and active in whatever the task we have given her. She is a confident person, punctual, hardworking and inquisitive.

We wish her all the best for his future endeavors.

**MANAGING DIRECTOR**

**(Mr. Mohamed Fayaz)**

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



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Date: 10.07.2023

TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Ms. RATHIPRIYA.I (731222105018)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023) Internship Training in "TECHNOLOGIES GLOBAL PVT LTD"**.

During this tenure **Ms. RATHIPRIYA.I** has involved in her work with dedication. We found her pretty and active in whatever the task we have given her. She is a confident person, punctual, hardworking and inquisitive.

We wish her all the best for his future endeavors.

MANAGING DIRECTOR

(Mr. Mohamed Fayaz)

Principal

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Erode (Dt) - 638 506



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Date: 10.07.2023

TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. ANTONY BARATH.M** (731222105303), 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days** (01.07.2023 to 10.07.2023) **Internship Training** in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. ANTONY BARATH.M** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

**MANAGING DIRECTOR**

(Mr. Mohamed Fayaz)

**Principal**

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Erode (Dt) - 638 506**



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Date: 10.07.2023

TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. BHARANITHARAN.K** (731222105305), 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023) Internship Training** in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. BHARANITHARAN.K** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

MANAGING DIRECTOR

(Mr. Mohamed Fayaz)

Principal

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Erede (Dt) - 638 506



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Date: 10.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Mr. SUTHARSAN .P (731222105028)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023) Internship Training** in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. SUTHARSAN .P** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

**MANAGING DIRECTOR**

**(Mr. Mohamed Fayaz)**

**Principal**

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T.N.Palayam, Gobi (Tk),  
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TECHNOLOGICS

# TECHNOLOGICS



Date: 10.07.2023

TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Ms. NIVETHIKA.G (731222105324)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023) Internship Training** in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Ms. NIVETHIKA.G** has involved in her work with dedication. We found her pretty and active in whatever the task we have given her. She is a confident person, punctual, hardworking and inquisitive.

We wish her all the best for his future endeavors.

MANAGING DIRECTOR

(Mr. Mohamed Fayaz)

Principal

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



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# TECHNOLOGICS



Date: 10.07.2023

TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. SARAN.S** (731222105331), 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023) Internship Training in "TECHNOLOGIES GLOBAL PVT LTD"**.

During this tenure **Mr. SARAN.S** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

MANAGING DIRECTOR

(Mr. Mohamed Fayaz)

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



TECHNOLOGICS

# TECHNOLOGICS



ISO9001:2008

Date: 10.07.2023

TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. MUKILAN.B (731222105321)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023) Internship Training** in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. MUKILAN.B** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

MANAGING DIRECTOR

(Mr. Mohamed Fayaz)

Principal  
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Erode (Dt) - 638 506



TECHNOLOGICS

# TECHNOLOGICS



Date: 10.07.2023

TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. VASANTHAKUMAR.R (731222105029)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023)** Internship Training in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. VASANTHAKUMAR.R** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

MANAGING DIRECTOR

(Mr. Mohamed Fayaz)

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



TECHNOLOGICS

# TECHNOLOGICS



Date: 10.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Mr. LAKSMANAN.K (731222105317)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed 10 days (**01.07.2023 to 10.07.2023**) Internship Training in **“TECHNOLOGIES GLOBAL PVT LTD”**.

During this tenure **Mr. LAKSMANAN.K** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

**MANAGING DIRECTOR**

(Mr. Mohamed Fayaz)

**Principal**

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



TECHNOLOGICS

# TECHNOLOGICS



Date: 10.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Mr. MANIKANDAN.K (731222105319)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023)** Internship Training in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. MANIKANDAN.K** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

**MANAGING DIRECTOR**

**(Mr. Mohamed Fayaz)**

**Principal**

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



TECHNOLOGICS

# TECHNOLOGICS



Date: 10.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Mr. KARTHIM (731222105314)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023) Internship Training** in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. KARTHIM** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

**MANAGING DIRECTOR**

**(Mr. Mohamed Fayaz)**

**Principal**

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



TECHNOLOGICS

# TECHNOLOGICS



Date: 10.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Mr. NAGASUNDHARAMOORTHI.K (731222105322)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam has successfully completed **10 days (01.07.2023 to 10.07.2023)** Internship Training in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. NAGASUNDHARAMOORTHI.K** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

**MANAGING DIRECTOR**

**(Mr. Mohamed Fayaz)**

**Principal**

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

# SYLLABUS

**COURSE OBJECTIVES:**

- To understand the structure of basic electronic devices.
- To be exposed to active and passive circuit elements.
- To familiarize the operation and applications of transistor like BJT and FET.
- To explore the characteristics of amplifier gain and frequency response.
- To learn the required functionality of positive and negative feedback systems.

**UNIT I PN JUNCTION DEVICES 9**

PN junction diode –structure, operation and V-I characteristics, diffusion and transition capacitance – Clipping & Clamping circuits - Rectifiers – Half Wave and Full Wave Rectifier– Display devices- LED, Laser diodes, Zener diode characteristics- Zener diode Reverse characteristics – Zener diode as regulator.

**UNIT II TRANSISTORS AND THYRISTORS 9**

BJT, JFET, MOSFET- structure, operation, characteristics and Biasing UJT, Thyristors and IGBT - Structure and characteristics.

**UNIT III AMPLIFIERS 9**

BJT small signal model – Analysis of CE, CB, CC amplifiers- Gain and frequency response –MOSFET small signal model– Analysis of CS and Source follower – Gain and frequency response- High frequency analysis.

**UNIT IV MULTISTAGE AMPLIFIERS AND DIFFERENTIAL AMPLIFIER 9**

BIMOS cascade amplifier, Differential amplifier – Common mode and Difference mode analysis – FET input stages – Single tuned amplifiers – Gain and frequency response – Neutralization methods, power amplifiers –Types (Qualitative analysis).

**UNIT V FEEDBACK AMPLIFIERS AND OSCILLATORS 9**

Advantages of negative feedback – voltage / current, series, Shunt feedback –positive feedback – Condition for oscillations, phase shift – Wien bridge, Hartley, Colpitts and Crystal oscillators.

**TOTAL: 45 PERIODS**

**COURSE OUTCOMS:**

Upon successful completion of the course, the students will be able to:

- CO1: Explain the structure and operation of PN junction devices (diode, Zener diode, LED and Laser diode)
- CO2: Design clipper, clamper, half wave and full wave rectifier, regulator circuits using PNjunction diodes

**Principal**

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

**COURSE OBJECTIVES:**

To impart knowledge on the following Topics

- Construction and performance of salient and non – salient type synchronous generators.
- Principle of operation and performance of synchronous motor.
- Construction, principle of operation and performance of induction machines.
- Starting and speed control of three-phase induction motors.
- Construction, principle of operation and performance of single phase induction motors and special machines.

**UNIT I SYNCHRONOUS GENERATOR**

9

Constructional details – Types of rotors –winding factors- EMF equation – Synchronous reactance – Armature reaction – Phasor diagrams of non-salient pole synchronous generator connected to infinite bus--Synchronizing and parallel operation – Synchronizing torque -Change of excitation and mechanical input- Voltage regulation – EMF, MMF, ZPF and A.S.A method – steady state power-angle characteristics– Two reaction theory –slip test -short circuit transients - Capability Curves.

**UNIT II SYNCHRONOUS MOTOR**

9

Principle of operation – Torque equation – Operation on infinite bus bars - V and Inverted V curves – Power input and power developed equations – Starting methods – Current loci for constant power input, constant excitation and constant power Developed-Hunting – natural frequency of oscillations – damper windings- synchronous condenser.

**UNIT III THREE PHASE INDUCTION MOTOR**

9

Constructional details – Types of rotors – Principle of operation – Slip –cogging and crawling-Equivalent circuit – Torque-Slip characteristics - Condition for maximum torque – Losses and efficiency – Load test - No load and blocked rotor tests - Circle diagram – Separation of losses – Double cage induction motors –Induction generators – Synchronous induction motor.

**UNIT IV STARTING AND SPEED CONTROL OF THREE PHASE INDUCTION MOTOR**

9

Need for starting – Types of starters – DOL, Rotor resistance, Autotransformer and Star delta starters – Speed control – Voltage control, Frequency control and pole changing – Cascaded Connection-V/f control – Slip power recovery Scheme-Braking of three phase induction motor: Plugging, dynamic braking and regenerative braking.

**UNIT V SINGLE PHASE INDUCTION MOTORS AND SPECIAL MACHINES**

9


Constructional details of single phase induction motor – Double field revolving theory and operation – Equivalent circuit – No load and blocked rotor test – Performance analysis – Starting methods of single-phase induction motors – Capacitor-start capacitor run Induction motor- Shaded pole induction motor - Linear induction motor – Repulsion motor - Hysteresis motor - AC series motor- Servo motors- Stepper motors - introduction to magnetic levitation systems.

**TOTAL: 45 PERIODS****COURSE OUTCOMES:**

Upon the successful completion of the course, students will have the:

CO1: Ability to understand the construction and working principle of Synchronous generator

CO2: Ability to understand the construction and working principle of Synchronous Motor.

  
Principal  
J.K.K.Munirajah College of Technology  
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**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

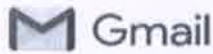
Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**



**Internship**

1 message

Mon 26 Jun 2023 at 10.40 am

**From:** C SARAVANAN <[hodeeee@jkkmct.edu.in](mailto:hodeeee@jkkmct.edu.in)>  
**Date:** Mon 26 Jun 2023 at 11.10 am  
**Subject:** Internship - reg  
**To:** MANAGING DIRECTOR <[parthiban@calibertech.net](mailto:parthiban@calibertech.net)>

Dear SIR ,

I am requesting to be joining your **CALIBER EMBEDDED TECHNOLOGIES PVT LTD.** The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students Name: 1. GOWRIPRASAD.D S, 2. SUSHMAKUMARI, 3. VARSHINI.A.P, 4. RANJITHKUMAR.M, 5. ILAMBARATH.S, 6. SUBTHRA.P, 7. PADMANABAN.A, 8. RAGUL.M V)

Sincerely,

Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**



**Internship**

1 message

Fri, 30 2023 at 7.05PM

From: MANAGING DIRECTOR<parthiban@calibertech.net>  
Date: Fri 30 2023 at 7.05 PM  
Subject: Internship - reg  
To: C SARAVANAN <hodeee@ikkmct.edu.in>

Dear Sir,

On behalf of the **Caliber Embedded Technologies Pvt Ltd** Coimbatore, we would like to notify you of this opportunity for an internship. On your acceptance of this offer, you can continue an internship with the company on from 01.07.2023 to 10.07.2023. We assure you that the details of your particulars we have collected during your program should be saved in our covert privately. We appreciate your interest in our company.

With Regards,  
MANAGING DIRECTOR  
CALIBER EMBEDDED TECHNOLOGIES PVT LTD

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



**Caliber**

**CALIBER EMBEDDED  
TECHNOLOGIES PVT LIMITED**

---

**Date: 10.07.2023**

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Ms. VARSHINI.A.P (731222105337)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam, Gobi Taluk, Erode-Dt has successfully completed **10 days (01.07.2023 to 10.07.2023)** Internship Training in "**CALIBER EMBEDDED TECHNOLOGIES PVT LTD**".

During this tenure her conduct was found to be GOOD.

We wish all success in his future endeavors.

**Managing Director**

**(Mrs. M. Vimala Devi)**

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



## CALIBER EMBEDDED TECHNOLOGIES PVT LIMITED

Date: 10.07.2023

### TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. RANJITHKUMAR.M (731222105329)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam, Gobi Taluk, Erode-Dt has successfully completed **10 days (01.07.2023 to 10.07.2023)** Internship Training in "**CALIBER EMBEDDED TECHNOLOGIES PVT LTD**".

During this tenure his conduct was found to be GOOD.

We wish all success in his future endeavors.

Managing Director

A handwritten signature in black ink, appearing to read 'M. Vimala Devi'.

(Mrs. M. Vimala Devi)

A handwritten signature in green ink, appearing to read 'S. Srinivasan'.

Principal

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

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



## CALIBER EMBEDDED TECHNOLOGIES PVT LIMITED

---

Date: 10.07.2023

### TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. ILAMBARATH.S (731222105313)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam, Gobi Taluk, Erode-Dt has successfully completed 10 days (01.07.2023 to 10.07.2023) Internship Training in "**CALIBER EMBEDDED TECHNOLOGIES PVT LTD**".

During this tenure his conduct was found to be GOOD.

We wish all success in his future endeavors.

Managing Director

A handwritten signature in black ink, appearing to read "M. Vimala Devi".

(Mrs. M. Vimala Devi)

A handwritten signature in blue ink, appearing to read "J.K.K. Munirajah".

Principal

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



Caliber

## CALIBER EMBEDDED TECHNOLOGIES PVT LIMITED

Date: 10.07.2023

### TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Ms. SUBTHRA.P (731222105333)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam, Gobi Taluk, Erode-Dt has successfully completed 10 days (**01.07.2023 to 10.07.2023**) Internship Training in "**CALIBER EMBEDDED TECHNOLOGIES PVT LTD**".

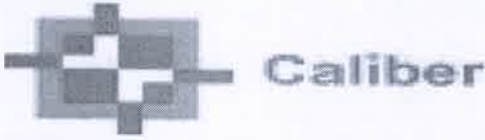
During this tenure her conduct was found to be GOOD.

We wish all success in his future endeavors.

Managing Director

(Mrs. M. Vimala Devi)

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



## CALIBER EMBEDDED TECHNOLOGIES PVT LIMITED

Date: 10.07.2023

### TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. PADMANABAN. A (731222105325)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam, Gobi Taluk, Erode-Dt has successfully completed **10 days (01.07.2023 to 10.07.2023)** Internship Training in "**CALIBER EMBEDDED TECHNOLOGIES PVT LTD**".

During this tenure his conduct was found to be GOOD.

We wish all success in his future endeavors.

Managing Director

A handwritten signature in black ink, appearing to read 'M. Vimala Devi'.

(Mrs. M. Vimala Devi)

A handwritten signature in blue ink, appearing to read 'S. S. Srinivasan'.

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



## CALIBER EMBEDDED TECHNOLOGIES PVT LIMITED

Date: 10.07.2023

### TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. GOWRIPRASAD.D S (731222105310)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam, Gobi Taluk, Erode-Dt has successfully completed **10 days (01.07.2023 to 10.07.2023)** Internship Training in "**CALIBER EMBEDDED TECHNOLOGIES PVT LTD**".

During this tenure his conduct was found to be GOOD.

We wish all success in his future endeavors.

Managing Director

A handwritten signature in black ink, appearing to read "M. Vimala Devi".

(Mrs. M. Vimala Devi)

A handwritten signature in blue ink, appearing to read "K. K. K. Munirajah".

Prindpal

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

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



## CALIBER EMBEDDED TECHNOLOGIES PVT LIMITED

---

Date: 10.07.2023

### TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Ms. SUSHMAKUMARI (731222105336)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam, Gobi Taluk, Erode-Dt has successfully completed **10 days (01.07.2023 to 10.07.2023)** Internship Training in "**CALIBER EMBEDDED TECHNOLOGIES PVT LTD**".

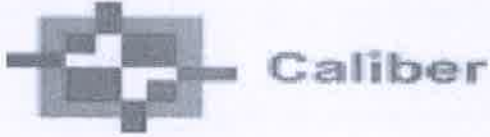
During this tenure her conduct was found to be GOOD.

We wish all success in his future endeavors.

Managing Director

(Mrs. M. Vimala Devi)

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



## CALIBER EMBEDDED TECHNOLOGIES PVT LIMITED

Date: 10.07.2023

### TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. RAGUL.M V (731222105328)**, 2<sup>nd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N.Palayam, Gobi Taluk, Erode-Dt has successfully completed **10 days (01.07.2023 to 10.07.2023)** Internship Training in **"CALIBER EMBEDDED TECHNOLOGIES PVT LTD"**.

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We wish all success in his future endeavors.

Managing Director

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(Mrs. M. Vimala Devi)

A handwritten signature in blue ink, appearing to read "K. K. K. Munirajah".

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

# SYLLABUS

**EE3402****LINEAR INTEGRATED CIRCUITS**

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**COURSE OBJECTIVES:**

To impart knowledge on the following topics

- Signal analysis using Op-amp based circuits.
- Applications of Op-amp.
- Functional blocks and the applications of special ICs like Timers, PLL circuits, regulator Circuits.
- IC fabrication procedure.

**UNIT I IC FABRICATION**

9

IC classification, fundamental of monolithic IC technology, epitaxial growth, masking and etching, diffusion of impurities. Realisation of monolithic ICs and packaging. Fabrication of diodes, capacitance, resistance, FETs and PV Cell.

**UNIT II CHARACTERISTICS OF OPAMP**

9

Ideal OP-AMP characteristics, DC characteristics, AC characteristics, differential amplifier; frequency response of OP-AMP; Voltage-shunt feedback and inverting amplifier - Voltage series feedback: and Non-Inverting Amplifier - Basic applications of op-amp -, summer, differentiator and Integrator-V/I & I/V converters.

**UNIT III APPLICATIONS OF OPAMP**

9

Instrumentation amplifier and its applications for transducer Bridge, Log and Antilog Amplifiers- Analog multiplier & Divider, first and second order active filters, comparators, multi vibrators, waveform generators, clippers, clampers, peak detector, S/H circuit, D/A converter (R- 2R ladder and weighted resistor types), A/D converters using OP-AMPs.

**UNIT IV SPECIAL ICs**

9

Functional block, characteristics of 555 Timer and its PWM application - IC-566 voltage controlled oscillator IC; 565-phase locked loop IC, AD633 Analog multiplier ICs.

**UNIT V APPLICATION ICs**

9

AD623 Instrumentation Amplifier and its application as load cell weight measurement - IC voltage regulators -LM78XX, LM79XX; Fixed voltage regulators its application as Linear power supply - LM317, 723 Variability voltage regulators, switching regulator- SMPS - ICL 8038 function generator IC.

**TOTAL :45 PERIODS****COURSE OUTCOMES:**

Upon successful completion of the course, the students will be able to:

CO1 Explain monolithic IC fabrication process

CO2 Explain the fabrication of diodes, capacitance, resistance, FETs and PV Cell.

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



Date: 12.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Mr. PRAVEENKUMAR.V (Reg No. 731222105016)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed his industrial training from 03.07.2023 to 12.07.2023. During the period of his internship programme with us he was found punctual and hardworking.

We wish him every success in life

For MaxCADD

Authorized signature

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

**Date: 12.07.2023****TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Ms. MYTHILIM (Reg No. 731222105013)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed her industrial training from **03.07.2023 to 12.07.2023**. During the period of her internship programme with us she was found punctual and hardworking.

We wish her every success in life

For MaxCADD

Authorized signature

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



Date: 12.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Mr. ANGAMUTHU.G (Reg No. 731222105302)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed his industrial training from 03.07.2023 to 12.07.2023. During the period of his internship programme with us he was found punctual and hardworking.

We wish him every success in life

For MaxCADD

Authorized signature

**Principal**

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

Head Office Address:

Dev Regnant, 1 st floor, No.409 C, Crosscut Road, Gandhipuram, Coimbatore-12

Mobile no : 9952414532 Tel no : 0422 4204532



Date: 12.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

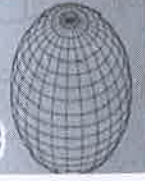
This is to certify that **Mr. RAVI.R (Reg No. 731222105019)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed his **industrial training from 03.07.2023 to 12.07.2023**. During the period of his internship programme with us he was found punctual and hardworking.

We wish him every success in life

For MaxCADD

Authorized signature

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



Date: 12.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Mr. SANTHOSHKUMAR.M (Reg No. 731222105020)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed his industrial training from 03.07.2023 to 12.07.2023. During the period of his internship programme with us he was found punctual and hardworking.

We wish him every success in life

For MaxCADD

Authorized signature

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



Date: 12.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Mr. SASIKUMAR.S (Reg No. 731222105022)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed his industrial training from 03.07.2023 to 12.07.2023. During the period of his internship programme with us he was found punctual and hardworking.

We wish him every success in life

For MaxCADD

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Date: 12.07.2023

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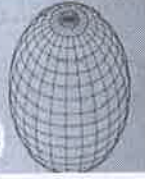
This is to certify that **Mr. SRIKANTH.P (Reg No. 731222105026)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed his industrial training from 03.07.2023 to 12.07.2023. During the period of his internship programme with us he was found punctual and hardworking.

We wish him every success in life

For MaxCADD

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**Erode (Dt) - 638 506**

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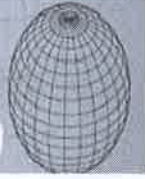
This is to certify that **Ms.PARANJOTHI.P (Reg No. 731222105015)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed her industrial training from **03.07.2023 to 12.07.2023**. During the period of her internship programme with us she was found punctual and hardworking.

We wish her every success in life

For MaxCADD

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**Erode (Dt) - 638 506**



Date: 12.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Ms. SIDDARAJI.S (Reg No. 731222105024)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed her industrial training from 03.07.2023 to 12.07.2023. During the period of her internship programme with us she was found punctual and hardworking.

We wish her every success in life

For MaxCADD

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Mobile no : 9952414532 Tel no : 0422 4204532

**Date: 12.07.2023****TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Mr. MOUNISHWARAN.K (Reg No. 731222105011)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed his industrial training from 03.07.2023 to 12.07.2023. During the period of his internship programme with us he was found punctual and hardworking.

We wish him every success in life

For MaxCADD

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**Principal**

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



Date: 12.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Mr. SURYA.S.K (Reg No. 731222105027)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed his industrial training from 03.07.2023 to 12.07.2023. During the period of his internship programme with us he was found punctual and hardworking.

We wish him every success in life

For MaxCADD

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**Erode (Dt) - 638 506**

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Mobile no : 9952414532 Tel no : 0422 4204532



Date: 12.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is to certify that **Mr. DHARUN.G (Reg No. 731222105307)**, II YEAR, B.E Electrical and Electronics Engineering has successfully completed his **industrial training from 03.07.2023 to 12.07.2023**. During the period of his internship programme with us he was found punctual and hardworking.

We wish him every success in life

For MaxCADD

Authorized signature

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**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
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Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**



**Internship**

1 message

Tue 13 Nov 2023 at 11.48 am

**From:** C SARAVANAN <[hodeeee@jkkmct.edu.in](mailto:hodeeee@jkkmct.edu.in)>  
**Date:** Tue 13 Nov 2023 at 11.48 am  
**Subject:** Internship - reg  
**To:** HR LANSIA <[info@lansainformatic.com](mailto:info@lansainformatic.com)>

Dear SIR ,

I am requesting to be joining your **Lansa Information Pvt Ltd.** The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students-14no)

Sincerely,

Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

**Principal**

**J.K.K.Munirajah College of Technology  
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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**



**Internship**

1 message

Fri, 16 JUN 2023 at 6.00PM

From: HR LANSА <info@lansainformatic.com>  
Date: Fri 16 JUN 2023 at 6.00 PM  
Subject: Internship - reg  
To: C SARAVANAN <hodeeee@jkkmct.edu.in>

Dear Sir,

On behalf of the **Lansa Information Pvt Ltd** Coimbatore, we would like to notify you of this opportunity for an internship. On your acceptance of this offer, you can continue an internship with the company on from **01.07.2023 to 10.07.2023**. We assure you that the details of your particulars we have collected during your program should be saved in our covert privately. We appreciate your interest in our company.

With Regards,  
HR,  
LANSА INFORMATION PVT LTD,  
COIMBATORE.

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



# Lansa Information Pvt Ltd

SOFTWARE DEVELOPMENT/WEBSITE DEVELOPMENT/MOBILE APPS DEVELOPMENT  
CORPORATE TRAINING & RESEARCH  
AS ISO 9001-2000 Certified Company

## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. DEEPIKA.E** Second year bearing Reg no. 731222105002 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from **01.07.2023 to 10.07.2023** at **Lansa Information Pvt Ltd**. During the training period, her initiative and behavior was found to be good.

We wish her a best of luck in the future endeavors of life.

FOR LANSIA INFORMATION PVT LTD

AUTHORIZED SIGNATORY

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

5<sup>th</sup> St, Cross cut road Gandhipuram, Coimbatore, Tamilnadu 641012  
Website: [www.lansainformatics.com](http://www.lansainformatics.com) Email ID: [info@lansainformatics.com](mailto:info@lansainformatics.com)  
Landline: 0422-4204373 Mobile: +919095395333



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## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

### TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. AKASH.R Second year bearing Reg no. 731222105001 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at LansA Information Pvt Ltd. During the training period, his initiative and behavior was found to be good.

We wish his a best of luck in the future endeavors of life.

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ASISO9001-2000CertifiedCompany

## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. MEGANATHAN.P** Second year bearing Reg no. 731222105010 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at **Lansa Information Pvt Ltd**. During the training period, his initiative and behavior was found to be good. We wish his a best of luck in the future endeavors of life.

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5<sup>th</sup> St, Cross cut road Gandhipuram, Coimbatore, Tamilnadu 641012  
Website: [www.lansainformatics.com](http://www.lansainformatics.com) Email ID: [info@lansainformatics.com](mailto:info@lansainformatics.com)  
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CORPORATETRAINING&RESEARCH  
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## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

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This is to certify that **Mr. KARTHIK.S** Second year bearing Reg no. 731222105005 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at **Lansa Information Pvt Ltd**. During the training period, his initiative and behavior was found to be good.

We wish his a best of luck in the future endeavors of life.

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**Erode (Dt) - 638 506**



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## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. ELANGO VAN.S Second year bearing Reg no. 731222105003 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at Lansa Information Pvt Ltd. During the training period, his initiative and behavior was found to be good. We wish his a best of luck in the future endeavors of life.

FOR LANSA INFORMATION PVT LTD

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CORPORATETRAINING&RESEARCH  
ASISO9001-2000CertifiedCompany

## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. LOGESWARI.E** Second year bearing Reg no. 731222105006 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at **Lansa Information Pvt Ltd.** During the training period, her initiative and behavior was found to be good.

We wish her a best of luck in the future endeavors of life.

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Erode (Dt) - 638 506



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ASISO9001-2000CertifiedCompany

## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

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This is to certify that **Mr. NITHISH KUMAR.S** Second year bearing Reg no. 731222105014 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the **internship training period from 01.07.2023 to 10.07.2023** at Lansa Information Pvt Ltd. During the training period, his initiative and behavior was found to be good. We wish his a best of luck in the future endeavors of life.

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CORPORATE TRAINING & RESEARCH  
ASISO 9001-2000 Certified Company

## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. MANIKANDAN.M** Second year bearing Reg no. 731222105008 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at **Lansa Information Pvt Ltd**. During the training period, his initiative and behavior was found to be good. We wish his a best of luck in the future endeavors of life.

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## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

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This is to certify that **Mr. MADHAN.M** Second year bearing Reg no. 731222105007 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from **01.07.2023 to 10.07.2023** at **Lansa Information Pvt Ltd**. During the training period, his initiative and behavior was found to be good.

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CORPORATE TRAINING & RESEARCH  
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## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. GOPIKA.N Second year bearing Reg no. 731222105004 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at Lansa Information Pvt Ltd. During the training period, her initiative and behavior was found to be good.

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DATE: 10/07/2023

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This is to certify that **Mr. SARANRAJ.G** Second year bearing Reg no. 731222105007 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at **Lansa Information Pvt Ltd.** During the training period, his initiative and behavior was found to be good. We wish his a best of luck in the future endeavors of life.

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DATE: 10/07/2023

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This is to certify that Mr. MUTHUKUMARAN .S Second year bearing Reg no. 731222105012 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at Lansa Information Pvt Ltd. During the training period, his initiative and behavior was found to be good.

We wish his a best of luck in the future endeavors of life.

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## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. RASU.R Second year bearing Reg no. 731222105017 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at Lansa Information Pvt Ltd. During the training period, his initiative and behavior was found to be good.

We wish his a best of luck in the future endeavors of life.

FOR LANSAINFORMATION PVT LTD

AUTHORIZED SIGNATORY

Principal  
J.K.K.Munirajah College of Techno-  
(Autonomous)

T.N.Palayam, 689111  
Erode (Dt) 638 56.

5<sup>th</sup> St,Cross cut road Gandhipuram,Coimbatore,Tam  
Website: [www.lansainformatics.com](http://www.lansainformatics.com)EmailID:info@lansainformatics.com  
Landline: 0422-4204373Mobile:+919095395333



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## INTERNSHIP CERTIFICATE

DATE: 10/07/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr. MANIKANDAN.S Second year bearing Reg no. 731222105009 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 01.07.2023 to 10.07.2023 at Lansa Information Pvt Ltd. During the training period, his initiative and behavior was found to be good.

We wish his a best of luck in the future endeavors of life.

FOR LANSIA INFORMATION PVT LTD

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ASISO9001-2000CertifiedCompany

## INTERNSHIP CERTIFICATE

DATE: 20/12/2020

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Ms. MAGESHWARI K** Second year bearing Reg no. 731219105013 in Electrical and Electronics Engineering student of J.K.K.Munirajah college of Technology has successfully completed the internship training period from 07.12.2020 to 20.12.2020 at **Lansa Information Pvt Ltd**. During the training period, his initiative and behavior was found to be good.

We wish him a best of luck in the future endeavors of life.

FOR LANS A INFORMATION PVT LTD

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**Principal**  
**J.K.K.Munirajah College of Technology**  
**(Autonomous)**  
**T.N.Palayam, Goh'**  
**Erode (Dt) - 63'**



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## INTERNSHIP CERTIFICATE

DATE: 20/12/2020

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. MURALITHARAN P** Second year bearing Reg no. 731219105014 in Electrical and Electronics Engineering student of J.K.K. Munirajah college of Technology has successfully completed the internship training period from 07.12.2020 to 20.12.2020 at **Lansa Information Pvt Ltd**. During the training period, his initiative and behavior was found to be good. We wish him a best of luck in the future endeavors of life.

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AUTHORIZED SIGNATORY

**J.K.K. Munirajah College of Technology**  
(Autonomous)  
T.N. Palayam, Gobi (Tk)  
Erode (Dt) - 638 50

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5<sup>th</sup> St, Cross cut road Gandhipuram, Coimbatore, Tamilnadu 641012  
Website: [www.lansainformatics.com](http://www.lansainformatics.com) Email ID: [info@lansainformatics.com](mailto:info@lansainformatics.com)  
Landline: 0422-4204373 Mobile: +919095395333

# SYLLABUS

**COURSE OBJECTIVES:**

To make the students to familiarize with various representations of systems.

- To make the students to analyze the stability of linear systems in the time domain and frequency
- Domain. To make the students to analyze the stability of linear systems in the frequency domain
- To make the students to design compensator based on the time and frequency domain
- Specifications. To develop linear models: mainly state variable model and Transfer function model

**UNIT I MODELING OF LINEAR TIME INVARIANT SYSTEM (LTIV)****9**

Control system: Open loop and Closed loop – Feedback control system characteristics – First principle modeling: Mechanical, Electrical and Electromechanical systems – Transfer function representations: Block diagram and Signal flow graph.

**UNIT II TIME DOMAIN ANALYSIS****9**

Standard test inputs – Time response – Time domain specifications – Stability analysis: Concept of stability – Routh Hurwitz stability criterion – Root locus: Construction and Interpretation. Effect of adding poles and zeros

**UNIT III FREQUENCY DOMAIN ANALYSIS****9**

Bode plot, Polar plot and Nyquist plot: – Frequency domain specifications Introduction to closed loop Frequency Response. Effect of adding lag and lead compensators.

**UNIT IV STATE VARIABLE ANALYSIS****9**

State variable formulation – Non uniqueness of state space model – State transition matrix – Eigen values – Eigen vectors - Free and forced responses for Time Invariant and Time Varying Systems – Controllability – Observability


**UNIT V DESIGN OF FEED BACK CONTROL SYSTEM****9**

Design specifications – Lead, Lag and Lag-lead compensators using Root locus and Bode plot techniques –PID controller - Design using reaction curve and Ziegler-Nichols technique- PID control in State Feedback form.

**TOTAL: 45 PERIODS**

**COURSE OUTCOMES:** Upon the successful completion of the course, students will be able to:  
CO1: Represent simple systems in transfer function and state variable forms.

CO2: Analyze simple systems in time domain.

  
**Principal**  
**J.K.K.Munirajah College of Technology**  
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**T.N.Palayam, Gobi (Tk),**  
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# INTERNSHIP



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.


Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING  
INTERNSHIP / INPLANT TRAINING  
III YEAR (2023-2024)**

SL. NO	STUDENT NAME	COMPANY NAME	DURATION	LOCATION
1	BALAJI B	SPAC STARCH PRODUCTS (INDIA) PRIVATE LIMITED	03.07.2023 TO 10.07.2023	ANTHIYUR
2	DHAYANITHI M			
3	HARIHARAN S			
4	KARTHICK C			
5	SANTHOSH M			
6	SARANKUMAR A			
7	DEVI M	CSM CONTROLS & ELECTRICALS	03.07.2023 TO 10.07.2023	COIMBATORE
8	JOTHI S			
9	KARTHICK M			
10	ROJA S			
11	RANJITHA N			
12	SANJAY M V			
13	SARAVANAN A			
14	VENKATESHWARAN J			

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



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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

SL. NO	STUDENT NAME	COMPANY NAME	DURATION	LOCATION
15	AGIMISH K G	R.I.E.T TECHNICAL INSTITUTE	01.07.2023 TO 07.07.2023	THE NILGIRIS
16	SATHISH P	AQUA SUB ENGINEERING	05.07.2023 TO 20.07.2023	AMBUR
17	TAMIL SELVAN T	TECHNOLOGICS GLOBAL PVT LTD	01.07.2023 TO 22.07.2023	BENGALURU

**Principal**

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit - reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Sat 01 July 2023 at 12:30 pm

**From:** C SARAVANAN <[hodeeee@jkkmct.edu.in](mailto:hodeeee@jkkmct.edu.in)>  
**Date:** Sat 01 July 2023 at 12:30 pm  
**Subject:** Internship - reg  
**To:** HR-EXECUTIVE<[aquasub@vsnl.com](mailto:aquasub@vsnl.com)>


Dear SIR ,

I am requesting to be joining your **AQUA SUB ENGINEERING**. The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students name: SATHISH P)

Sincerely,

Head Of The Department –(EEE).  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

  
**Principal**  
**J.K.K.Munirajah College of Technology**  
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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message


Mon, 03 Jun 2023 at 9:15 AM

From: HR-EXECUTIVE<[aquasub@vsnl.com](mailto:aquasub@vsnl.com)>  
Date: Mon 01 July 2023 at 9:15 AM  
Subject: Internship - reg  
To: C SARAVANAN <[hodeeee@jkkmct.edu.in](mailto:hodeeee@jkkmct.edu.in)>

Dear Hod,

We are pleased to offer you an internship program with **AQUA SUB ENGINEERING** for a period from 5<sup>th</sup> July 2023 to 20<sup>th</sup> July 2023. You should note that any information and data collected from you during the course of your internship should be kept confidential at all times. We appreciate your interest in our company.

With Regards,  
HR-EXECUTIVE  
AQUA SUB ENGINEERING

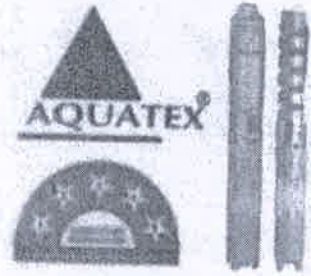
  
**Principal**  
**J.K.K. Munirajah College of Technology**  
**(Autonomous)**  
**T.N. Palayam, Gobi (Tk),**  
**Erode (Dt) - 638 506**



04174-243302

Cell: 94434 29710, 98434 44233

**AQUASUB ENGINEERING  
AQUAPUMP INDUSTRIES**



**GUNA Electricals & HARDWARES**  
# 17, K.P.R. Complex, M.C. Road, AMBUR.

Date.....

## **INPLANT TRAINING COMPLETION**

### **CERTIFICATE**

This is certify that **Mr.P.SATHISH/731221105014** Studying in **J.K.K MUNIRAJAH COLLEGE OF TECHNOLOGY** Doing **B.E(EEE)**, has completed him Inplant Training at **GUNA ELECRITICALS & HARDWARES, AMBUR** From **05-07-2023** to **20-07-2023** with exemplary performance

We wish him success in his future endeavours,

For GUNA ELECRITICALS & HARDWARES  
**For GUNA ELECTRICALS & HARDWARES**

*[Handwritten Signature]*  
**Proprietor**

*[Handwritten Signature]*

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



# J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY (AUTONOMOUS)

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## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



### Internship

1 message

Mon 19 Jun 2023 at 02.39 pm

From: C SARAVANAN <[hodeeee@jkkmct.edu.in](mailto:hodeeee@jkkmct.edu.in)>  
Date: Mon 19 Jun 2023 at 02.39 pm  
Subject: Internship - reg  
To: TRAINING HEAD<[csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)>

Dear SIR ,

I am requesting to be joining your **CSM CONTROLS & ELECTRICALS**. The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students name: 1. DEVI M, 2. JOTHI S, 3. KARTHICK M, 4. ROJA S, 5. RANJITHA N, 6. SANJAY M V, 7. SARAVANAN A, 8. VENKATESHWARAN J)

Sincerely,

Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

  
**Principal**  
**J.K.K.Munirajah College of Technology**  
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<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Thu, 22 Jun 2023 at 03:09PM

From: TRAINING HEAD<[csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)>

Date: Thu 22 Jun 2023 at 03:09 PM

Subject: Internship - reg

To: C SARAVANAN <[hodeeee@jkkmct.edu.in](mailto:hodeeee@jkkmct.edu.in)>

Dear Hod,

We are pleased to offer you an internship program with **CSM CONTROLS & ELECTRICALS** for a period from 3<sup>rd</sup> July 2023 to 10<sup>th</sup> July 2023. You should note that any information and data collected from you during the course of your internship should be kept confidential at all times. We appreciate your interest in our company.

With Regards,  
TRAINING HEAD  
CSM CONTROLS & ELECTRICALS

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

**CSM CONTROLS AND ELECTRICALS**

41, T. T. S. STREET, DHALIYUR,  
COIMBATORE - 641 109

GSTIN : 33CALPM1026M1ZO

MAIL ID : [csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)

**CERTIFICATE**

This is to Certify that **A.SARAVANAN** Reg No :731221105013 is **III-year-B.E..**  
Electrical and Electronics Engineering, of **J. K. K. MUNIRAJAH COLLEGE OF TECHNOLOGY,**  
Erode has under gone Internship Training in **CSM CONTROLS AND ELECTRICALS,**  
Coimbatore.

**Internship Training Details areas Furnished Below:**

- 1.Type of Training Imparted : **INTERNSHIP TRAINING**
- 2.Peroid of Institutional Training : **03.07.2023 to 10.07.2023**
- 3.Allotment of Department : **FACTORY**
- 4.Conduct&Character : **GOOD**
- 5.Performance during Training : **GOOD**
- 6.Attendance during Training : **REGULAR**



Mr. Vijay

Training Head



Principal

J.K.K.Munirajah College of Technology,  
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T.N.Palayam, Gobi (Tk),  
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41, T.T.S Street, Dhaliyur Post, Coimbatore - 641109.  
Mobile: 86110557832

**CSM CONTROLS AND ELECTRICALS**

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COIMBATORE - 641 109

GSTIN : 33CALPM1026M1ZO


MAIL ID : [csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)

**CERTIFICATE**

This is to Certify that **J.VENGATESHWAREN** Reg No :731221105015 is III-year-B.E.. Electrical and Electronics Engineering, of J.K. K. MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode has under gone Internship Training in CSM CONTROLS AND ELECTRICALS, Coimbatore.


**Internship Training Detailsareas Furnished Below:**

- 1.Type of Training Imparted : **INTERNSHIP TRAINING**
- 2.Peroid of Institutional Training :03.07.2023 to 10.07.2023
- 3.Allotment of Department : **FACTORY**
- 4.Conduct&Character : **GOOD**
- 5.Performance during Training : **GOOD**
- 6.Attendance during Training : **REGULAR**

  
Mr. Vijay

Training Head



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

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Mobile:8610557832

**CSM CONTROLS AND ELECTRICALS**  
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COIMBATORE - 641 109  
GSTIN : 33CALPM1026M1ZO  
MAIL ID : [csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)

**CERTIFICATE**

This is to Certify that **S.ROJA** Reg No :7312211050009 is III-year-B.E.. Electrical and Electronics Engineering, of J.K. K. MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode has under gone Internship Training in CSM.CONTROLS AND ELECTRICALS, Coimbatore.


**Internship Training Detailsareas Furnished Below:**

- 1.Type of Training Imparted : **INTERNSHIP TRAINING**
- 2.Peroid of Institutional Training : **03.07.2023 to 10.07.2023**
- 3.Allotment of Department : **FACTORY**
- 4.Conduct&Character : **GOOD**
- 5.Performance during Training : **GOOD**
- 6.Attendance during Training : **REGULAR**

  
Mr. Vijay

Training Head



  
Principal  
J.K.K.Munirajah College of Technology  
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**CSM CONTROLS AND ELECTRICALS**

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COIMBATORE - 641 109

GSTIN : 33CALPM1026M1ZO

MAIL ID : [csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)

**CERTIFICATE**

This is to Certify that **M.SANJAY** Reg No :731221105010 is III-year-B.E.. Electrical and Electronics Engineering, of J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode has under gone Internship Training in CSM CONTROLS AND ELECTRICALS, Coimbatore.

**Internship Training Details areas Furnished Below:**

- 1.Type of Training Imparted : **INTERNSHIP TRAINING**
- 2.Peroid of Institutional Training : 03.07.2023 to 10.07.2023
- 3.Allotment of Department : **FACTORY**
- 4.Conduct&Character : **GOOD**
- 5.Performance during Training : **GOOD**
- 6.Attendance during Training : **REGULAR**

  
Mr. Vijay

Training Head





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

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Mobile: 86110557832

**CSM CONTROLS AND ELECTRICALS**

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COIMBATORE - 641 109

GSTIN : 33CALPM1026MIZO

MAIL ID : [csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)

**CERTIFICATE**

This is to Certify that **N.RANJITHA** Reg No :731221105303 is III-year-B.E..  
Electrical and Electronics Engineering, of J.K. K. MUNIRAJAH COLLEGE OF TECHNOLOGY,  
Erode has under gone Internship Training in CSM CONTROLS AND ELECTRICALS,  
Coimbatore.


**Internship Training Details areas Furnished Below:**

- 1.Type of Training Imparted : **INTERNSHIP TRAINING**
- 2.Peroid of Institutional Training :03.07.2023 to 10.07.2023
- 3.Allotment of Department : **FACTORY**
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- 5.Performance during Training : **GOOD**
- 6.Attendance during Training : **REGULAR**

  
Mr. Vijay

Training Head



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

**CSM CONTROLS AND ELECTRICALS**  
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Mobile: 86110557832

## CSM CONTROLS AND ELECTRICALS

41, T. T. S. STREET, DHALIYUR,  
COIMBATORE - 641 109

GSTIN : 33CALPM1026M1ZO

MAIL ID : [csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)

### CERTIFICATE

This is to Certify that **M.KARTHIK** Reg No :731221105007 is III-year-B.E..  
Electrical and Electronics Engineering, of J. K. K. MUNIRAJAH COLLEGE OF TECHNOLOGY,  
Erode has under gone Internship Training in CSM CONTROLS AND ELECTRICALS,  
Coimbatore.


### Internship Training Details areas Furnished Below:

- 1.Type of Training Imparted : **INTERNSHIP TRAINING**
- 2.Peroid of Institutional Training :03.07.2023 to 10.07.2023
- 3.Allotment of Department : **FACTORY**
- 4.Conduct&Character : **GOOD**
- 5.Performance during Training : **GOOD**
- 6.Attendance during Training : **REGULAR**

  
Mr. Vijay

Training Head



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

CSM CONTROLS AND ELECTRICALS  
41, T. T. S Street, Dhaliyur Post, Coimbatore - 641109.  
Mobile: 861055782

**CSM CONTROLS AND ELECTRICALS**

41, T. T. S. STREET, DHALIYUR,  
COIMBATORE - 641 109

GSTIN : 33CALPM1026M1Z0

MAIL ID : [csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)

**CERTIFICATE**

This is to Certify that **S.JOTHI Reg.No:731221105006** is III-year-B.E..  
Electrical and Electronics Engineering, of **J.K.K.MUNIRAJAH COLLEGE OF  
TECHNOLGY, ERODE** has under gone Internship Training in **CSM CONTROLS  
AND ELECTICALS**, Coimbatore.

**Internship Training Details are as Furnished Below:**

1. Type of Training Imparted : **INTERNSHIP TRAINING**
2. Period of Institutional Training : **03.07.2023 to 10.07.2023**
3. Allotment of Department : **FACTORY**
4. Conduct & Character : **GOOD**
5. Performance during Training : **GOOD**
6. Attendance during Training : **REGULAR**

  
Mr. Vijay

Training Head





Principal

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Erode (Dt) - 638 506

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COIMBATORE - 641 109

GSTIN : 33CALPM1026M1ZO

MAIL ID : [csmcontrolsandelectricals@gmail.com](mailto:csmcontrolsandelectricals@gmail.com)

**CERTIFICATE**

This is to Certify that M DEVI Reg No :731221105002 is III-year-B.E.. Electrical and Electronics Engineering, of J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY, Erode has under gone Internship Training in CSM CONTROLS AND ELECTRICALS, Coimbatore.


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Mr. Vijay

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Mobile: 8610557832

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit - reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Tue 20 Jun 2023 at 10.49 am

From: C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>  
Date: Tue 20 Jun 2023 at 10.49 am  
Subject: Internship - reg  
To: EXECUTIVE<[info@spacstrach.com](mailto:info@spacstrach.com)>

Dear SIR ,

I am requesting to be joining your **SPAC STARCH PRODUCTS (INDIA) PRIVATE LIMITED**. The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students name: 1. **BALAJI B**, 2. **DHAYANITHI M**, 3. **HARIHARAN S**, 4. **KARTHICK C**, 5. **SANTHOSH M**, 6. **SARANKUMAR A**)

Sincerely,

Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

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



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



## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



### Internship

1 message

Wed, 21 Jun 2023 at 4.05PM

From: EXECUTIVE<[info@spacstrach.com](mailto:info@spacstrach.com)>  
Date: Wed 21 Jun 2023 at 4.05 PM  
Subject: Internship - reg  
To: C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>

Dear Hod,

We are pleased to offer you an internship program with SPAC STARCH PRODUCTS (INDIA) PRIVATE LIMITED for a period from 3<sup>rd</sup> July 2023 to 10<sup>th</sup> July 2023. You should note that any information and data collected from you during the course of your internship should be kept confidential at all times. We appreciate your interest in our company.

With Regards,

EXECUTIVE & ADMINISTRATION  
SPAC STARCH PRODUCTS (INDIA) PRIVATE LIMITED

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

10.07.2023

**In Plant Training Certificate**

This is to certify that **Mr.B.BALAJI Reg No 731221105001** is III-Year- B.E.,  
(Electrical and Electronics Engineering) J.K.K MUNIRAJAH COLLEGE OF  
TECHNOLOGY , Erode-638506. Had successfully completed him "In Plant Training  
from 03.07.2023 to 10.07.2023.

For SPAC Starch Products India Private Limited

Executive & Administration

10.07.2023.



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



**SPAC Starch Products (India) Private Limited**  
*Manufacturer of Starch & Derivatives of Tapioca & Maize Products*

10.07.2023

**In Plant Training Certificate**

This is to certify that **Mr.M.DHAYANITHI Reg No 731221105003** is III-Year- B.E.,  
(Electrical and Electronics Engineering) **J.K.K MUNIRAJAH COLLEGE OF  
TECHNOLOGY , Erode-638506.** Had **successfully completed** him "In Plant Training  
from 03.07.2023 to 10.07.2023.

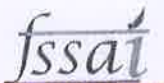
For SPAC Starch Products India Private Limited

Executive & Administration

10.07.2023.



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



10.07.2023

**In Plant Training Certificate**

This is to certify that **Mr.S.HARIHARAN** Reg No **731221105004** is III-Year- B.E.,

(Electrical and Electronics Engineering) J.K.K MUNIRAJAH COLLEGE OF

TECHNOLOGY , Erode-638506. Had successfully completed him "In Plant Training


from **03.07.2023** to **10.07.2023**.

For SPAC Starch Products India Private Limited

  
Executive & Administration

10.07.2023.



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

10.07.2023

**In Plant Training Certificate**

This is to certify that **Mr.C.KARTHICK Reg No 731221105302** is III-Year- B.E.,  
(Electrical and Electronics Engineering) **J.K.K MUNIRAJAH COLLEGE OF  
TECHNOLOGY , Erode-638506**. Had successfully completed him "In Plant Training  
from **03.07.2023 to 10.07.2023**.

For SPAC Starch Products India Private Limited

  
Executive & Administration

10.07.2023.





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

10.07.2023

**In Plant Training Certificate**

This is to certify that **Mr.M.SANTHOSH Reg No 731221105011** is III-Year- B.E.,  
(Electrical and Electronics Engineering) J.K.K MUNIRAJAH COLLEGE OF  
TECHNOLOGY , Erode-638506. Had successfully completed him "In Plant Training  
from 03.07.2023 to 10.07.2023.

For SPAC Starch Products India Private Limited

  
Executive & Administration

10.07.2023.





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

10.07.2023

**In Plant Training Certificate**

This is to certify that **Mr.A.SARANKUMAR Reg No 731221105012** is III-Year- B.E.,  
(Electrical and Electronics Engineering) **J.K.K MUNIRAJAH COLLEGE OF  
TECHNOLOGY**, Erode-638506. Had successfully completed him "In Plant Training  
from 03.07.2023 to 10.07.2023.

For SPAC Starch Products India Private Limited

Executive & Administration

10.07.2023.



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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Mon 19 Jun 2023 at 10.40 am

**From:** C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>  
**Date:** Mon 19 Jun 2023 at 10.40 am  
**Subject:** Internship - reg  
**To:** MANAGING DIRECTOR<[mohammed.fayaz@gmail.com](mailto:mohammed.fayaz@gmail.com)>

Dear SIR ,

I am requesting to be joining your **TECHNOLOGICS GLOBAL PVT LTD.** The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students name: **TAMIL SELVAN T**)

Sincerely,

Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit - reg

<https://mail.google.com/mail/u/0/?ik=6034a9b1dc&view=pt&search=all...>



**Internship**

1 message

Mon, 26 Jun 2023 at 10.25AM

From: MANAGING DIRECTOR<mohammed.fayaz@gmail.com>

Date: Mon 26 Jun 2023 at 10.25 AM

Subject: Internship - reg

To: C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>


Dear Hod,

We are pleased to offer you an internship program with **TECHNOLOGICS GLOBAL PVT LTD** for a period from 1<sup>st</sup> July 2023 to 22<sup>nd</sup> July 2023. You should note that any information and data collected from you during the course of your internship should be kept confidential at all times. We appreciate your interest in our company.

With Regards,

MD

TECHNOLOGICS GLOBAL PVT LTD

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



TECHNOLOGICS

# TECHNOLOGICS



Date: 22.07.2023

TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. TAMIL SELVAN T**, 3<sup>rd</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam has successfully completed 22 days (01.07.2023 to 22.07.2023) Internship Training in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. TAMIL SELVAN T** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

MANAGING DIRECTOR

(Mr. Mohamed Fayaz)

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Sat 17 Jun 2023 at 09.30 am


**From:** C SARAVANAN <[hodees@ikkmt.edu.in](mailto:hodees@ikkmt.edu.in)>  
**Date:** Sat 17 Jun 2023 at 09.30 am  
**Subject:** Internship - reg  
**To:** PRINCIPAL<[riettechinstitution@gmail.com](mailto:riettechinstitution@gmail.com)>

Dear SIR ,

I am requesting to be joining your **R.I.E.T TECHNICAL INSTTTUTE**. The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students name: **AGIMISH K G**)

Sincerely,  
Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message


Fri, 23 Jun 2023 at 2.09PM

**From:** PRINCIPAL<[riettechinstitution@gmail.com](mailto:riettechinstitution@gmail.com)>  
**Date:** Fri 23 Jun 2023 at 2.09 PM  
**Subject:** Internship - reg  
**To:** C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>

Dear Hod,

We are pleased to offer you an internship program with **R.I.E.T TECHNICAL INSTTTUTE** for a period from 01.07.2023 to 07.07 2023. You should note that any information and data collected from you during the course of your internship should be kept confidential at all times. We appreciate your interest in our company.

With Regards,  
PRINCIPAL  
R.I.E.T TECHNICAL INSTTTUTE

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

# R.I.E.T

## TECHNICAL INSTITUTE

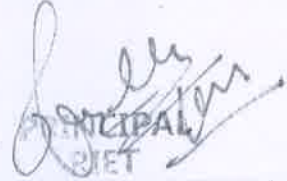
Near Fathima Girls Higher secondary School Gudalur The Nilgirs - 643212


Date .....

### TO WHOMSOEVER IT MAY CONCERN

This is to certify that **AGIMISH. K .G** son of George, residing at 11/74-A3A, Chalivayal, Nandhatty Post, Gudalur Gudalur Taluk, The Nilgiris. Tamilnadu State, and he was completed as a **ELECTRICAL WORK Training** from 01-07-2023 to 07-07-2023. During this period he is honest and hardworking with high standards. His character and conduct is good.

We wish to him all the best in his future.

  
PRINCIPAL  
RIET  
TECHNICAL INSTITUTE  
GUDALUR

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

**INTERNSHIP / INPLANT TRAINING**

**FINAL YEAR (2023-2024)**

SL. NO	STUDENT NAME	COMPANY NAME	DURATION	LOCATION
1	DHINESH.P	SAKTHI SUGARS LTD	05.07.2023 TO 19.07.2023	BHAVANI
2	MUKESH.S			
3	ROHAN.R			
4	THIRUMARAN DILEEBAN.S			
5	NAVEENKUMAR.G	SRI VISHNU ELECTRICALS	01.07.2023 TO 22.07.2023	VIRUDHUNAGAR
6	SIVAGIRI.K	TECHNOLOGICS GLOBAL PVT LTD	01.07.2023 TO 22.07.2023	BENGALURU
7	ISAKKIRAJA.P			
8	KIRUBASANKAR.C			
9	MAHESWARI.P			

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Tue 20 Jun 2023 at 11.48 am

**From:** C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>  
**Date:** Tue 20 Jun 2023 at 11.48 am  
**Subject:** Internship - reg  
**To:** DEPUTY GENERAL MANAGER<[hrdu1@sakthisugars.com](mailto:hrdu1@sakthisugars.com)>

Dear SIR ,

I am requesting to be joining your **SAKTHI SUGARS LTD.** The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students name: 1. **DHINESH.P.**, 2. **MUKESH.S.**, 3. **ROHAN.R.**, 4. **THIRUMARAN DILEEBAN.S**)

Sincerely,

Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Thu, 22 Jun 2023 at 5.03PM


From: DEPUTY GENERAL MANAGER<[hrdu1@sakthisugars.com](mailto:hrdu1@sakthisugars.com)>  
Date: Thu 22 Jun 2023 at 5.03 PM  
Subject: Internship - reg  
To: C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>

Dear Hod,

We are pleased to offer you an internship program with SAKTHI SUGARS LTD for a period from 5<sup>th</sup> July 2023 to 19<sup>th</sup> July 2023. You should note that any information and data collected from you during the course of your internship should be kept confidential at all times. We appreciate your interest in our company.

With Regards,

DY GENERAL MANAGER  
SAKTHI SUGARS LTD

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



# Sakthi Sugars Limited

Regd. Office & Factory : Sakthinagar - 638 315, Bhavani Taluk, Erode Dist., Tamilnadu.

Phone : (04256) 246241 - 246244, 246341 - 246344. Fax : 04256 - 246442

E-mail : hrdu1@sakthisugars.com

Admn/20/ 2913 /2023  
19<sup>th</sup> August 2023

## TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr. THIRUMARAN DILEEBAN S** (Registration No.731220105011) FINAL YEAR, B.E., (ELECTRICAL AND ELECTRONICS ENGINEERING) student of J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY, GOBI TALUK, ERODE DISTRICT, has undergone **INTERNSHIP TRAINING** in our organization from 05.07.2023 to 19.07.2023 as a partial fulfillment of his course study.

During the above period, his conduct was found to be **GOOD**.

We wish all success in his future endeavors.

For SAKTHI SUGARS LIMITED




  
(N. MOHANKUMAR)

DY. GENERAL MANAGER – HR & ADMN

Head Office : 180, Race Course Road, Post Box No. 3775, Coimbatore -641 018. Phone : 2221551, 95422 4322 222

Grams : "SUGARKING" Fax : 2220574, 5322488 E - mail : info@sakthisugars.com

Please visit us at : www.sakthisugars.com

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



# Sakthi Sugars Limited

Regd. Office & Factory : Sakthinagar - 638 315, Bhavani Taluk, Erode Dist., Tamilnadu.  
Phone : (04256) 246241 - 246244, 246341 - 246344. Fax : 04256 - 246442  
E-mail : hrdu1@sakthisugars.com

Admn/20/ 29/2/2023  
19<sup>th</sup> August 2023

## TO WHOM SO EVER IT MAY CONCERN

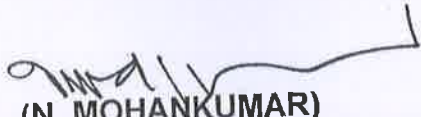
This is to certify that **Mr.DHINESH P** (Registration No.731220105002) FINAL YEAR, B.E., (ELECTRICAL AND ELECTRONICS ENGINEERING) student of J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY, GOBI TALUK, ERODE DISTRICT, has undergone **INTERNSHIP TRAINING** in our organization from **05.07.2023** to **19.07.2023** as a partial fulfillment of his course study.

During the above period, his conduct was found to be **GOOD**.

We wish all success in his future endeavors.



For SAKTHI SUGARS LIMITED

  
(N. MOHANKUMAR)  
DY. GENERAL MANAGER – HR & ADMN

Head Office : 180, Race Course Road, Post Box No. 3775, Coimbatore -641 018. Phone : 2221551, 95422 4322 222  
Grams : "SUGARKING" Fax : 2220574, 5322488 E - mail : info@sakthisugars.com  
Please visit us at : www.sakthisugars.com

  
Principal  
J.K.K. Munirajah College of Techn  
(Autonomous)  
T.N. Palayam, Gobi (Tk)  
Erode (Dt), 638 315



# Sakthi Sugars Limited

Regd. Office & Factory : Sakthinagar - 638 315, Bhavani Taluk, Erode Dist., Tamilnadu.

Phone : (04256) 246241 - 246244, 246341 - 246344. Fax : 04256 - 246442

E-mail : hrdu1@sakthisugars.com

Admn/20/ 2914 /2023  
19<sup>th</sup> August 2023

## TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr.MUKESH S** (Registration No.731220105005) FINAL YEAR, B.E., (ELECTRICAL AND ELECTRONICS ENGINEERING) student of J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY, GOBI TALUK, ERODE DISTRICT, has undergone **INTERNSHIP TRAINING** in our organization from **05.07.2023** to **19.07.2023** as a partial fulfillment of his course study.

During the above period, his conduct was found to be **GOOD**.

We wish all success in his future endeavors.

For SAKTHI SUGARS LIMITED



  
(N. MOHANKUMAR)

DY. GENERAL MANAGER - HR & ADMN

Head Office : 180, Race Course Road, Post Box No. 3775, Coimbatore -641 018. Phone : 2221551, 954224322-222

Grams : "SUGARKING" Fax : 2220574, 5322488 E - mail : info@sakthisugars.com

Please visit us at : www.sakthisugars.com

  
**Principal**  
**J.K.K.Munirajah College of Technology**  
(Autonomous)  
T.N. Palayam, Gobi (TL)



# Sakthi Sugars Limited

Regd. Office & Factory : Sakthinagar - 638 315, Bhavani Taluk, Erode Dist., Tamilnadu.

Phone : (04256) 246241 - 246244, 246341 - 246344. Fax : 04256 - 246442

E-mail : hrdu1@sakthisugars.com

Admn/20/ 29/1 /2023  
19<sup>th</sup> August 2023

## TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mr.ROHAN R** (Registration No.731220105007) FINAL YEAR, B.E., (ELECTRICAL AND ELECTRONICS ENGINEERING) student of J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY, GOBI TALUK, ERODE DISTRICT, has undergone **INTERNSHIP TRAINING** in our organization from **05.07.2023** to **19.07.2023** as a partial fulfillment of his course study.

During the above period, his conduct was found to be **GOOD**.

We wish all success in his future endeavors.



For SAKTHI SUGARS LIMITED

  
(N. MOHANKUMAR)

DY. GENERAL MANAGER – HR & ADMN

Head Office : 180, Race Course Road, Post Box No. 3775, Coimbatore -641 018. Phone : 2221551, 95422 4322 222

Grams : "SUGARKING" Fax : 2220574, 5322488 E - mail : info@sakthisugars.com

Please visit us at : www.sakthisugars.com

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9b7dc&view=pt&search=all...>



**Internship**

1 message


**From:** MANAGER<[srivishnuelectricals1998@gmail.com](mailto:srivishnuelectricals1998@gmail.com)>  
**Date:** Fri 23 Jun 2023 at 3.03 PM  
**Subject:** Internship - reg  
**To:** C SARAVANAN <[hodeeee@jkkmct.edu.in](mailto:hodeeee@jkkmct.edu.in)>

Fri, 23 Jun 2023 at 3.03PM

Dear Hod,

We are pleased to offer you an internship program with **SRI VISHNU ELECTRICALS** for a period from 5<sup>th</sup> July 2023 to 19<sup>th</sup> July 2023. You should note that any information and data collected from you during the course of your internship should be kept confidential at all times. We appreciate your interest in our company.

With Regards,  
MANAGER  
SRI VISHNU ELECTRICALS

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Accredited by NAAC with "A" grade

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Wed 21 Jun 2023 at 09:58 am

**From:** C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>  
**Date:** Wed 21 Jun 2023 at 09:58 am  
**Subject:** Internship - reg  
**To:** MANAGER<[srivishnuelectricals1998@gmail.com](mailto:srivishnuelectricals1998@gmail.com)>


Dear SIR ,

I am requesting to be joining your **SRI VISHNU ELECTRICALS**. The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students name: NAVEENKUMAR.G)

Sincerely,

Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

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



# SRI VISHNU ELECTRICALS

Engineers & Contractors  
104A-2, Rajapalayam Main Road,  
Samusigapuram - 626 102.  
Virudhunagar Dist., Tamilnadu.

Cell: 98941 95729  
89031 36219

GSTNO: 33ASBPM3323K1ZZ

Date: 22-07-2023

## TO WHOM IT MAY CONCERN

This is certified that **Mr.NAVEENKUMAR.G** (Reg.no: 731220105006) III year, B.E , Electrical & Electronics Engineering student of J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY, GOBI TALUK , ERODE DISTRICT , has undergone **INPLANT TRAINING** in our firm from 01.07.2023 to 22.07.2023 as knowledge gain put out from pursuing technology and current scenario on industrial electrical utilities and power transition.

During the above period, he has upheld enthusiasm on relating to his field study and obeying of our firm safety policy from date first to an end.

*We wish him the best luck and happiness in his future endeavours*

Proprietor of Sri Vishnu Electricals

Signature

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



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**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfde&view=pt&search=all...>



**Internship**

1 message

Mon 19 Jun 2023 at 10.40 am

**From:** C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>  
**Date:** Mon 19 Jun 2023 at 10.40 am  
**Subject:** Internship - reg  
**To:** MANAGING DIRECTOR<[mohammed.fayaz@gmail.com](mailto:mohammed.fayaz@gmail.com)>


Dear SIR ,

I am requesting to be joining your TECHNOLOGICS GLOBAL PVT LTD. The requirements are exactly what I have prepared for and hoped to do. I feel confident that I can make a significant contribution to your organization while at the same time learning from your staff.

Additionally, I shall complete all insurance forms for the new intern orientation. I look forward to working with you and your fine team. I appreciate your confidence in me and providing the chance to work with and observe your outstanding staff. (Students name: 1. SIVAGIRI.K, 2. ISAKKIRAJA.P, 3. KIRUBASANKAR.C, 4. MAHESWARI.P )

Sincerely,

Head Of The Department –(EEE),  
JKK Munirajah College of Technology,  
T.N.Palayam, Erode-638506, Tamilnadu.

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



**J.K.K. MUNIRAJAH COLLEGE OF TECHNOLOGY  
(AUTONOMOUS)**

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



**DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING**

Gmail - Fwd: Industrial visit – reg

<https://mail.google.com/mail/u/0?ik=6034a9bfdc&view=pt&search=all...>



**Internship**

1 message

Fri, 23 Jun 2023 at 3.35PM

From: MANAGING DIRECTOR<mohammed.fayaz@gmail.com>

Date: Fri 23 Jun 2023 at 3.35 PM

Subject: Internship - reg

To: C SARAVANAN <[hodeee@jkkmct.edu.in](mailto:hodeee@jkkmct.edu.in)>


Dear Hod,

We are pleased to offer you an internship program with **TECHNOLOGICS GLOBAL PVT LTD** for a period from 1<sup>st</sup> July 2023 to 22<sup>nd</sup> July 2023. You should note that any information and data collected from you during the course of your internship should be kept confidential at all times. We appreciate your interest in our company.

With Regards,

MD

TECHNOLOGICS GLOBAL PVT LTD

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



TECHNOLOGICS

# TECHNOLOGICS



Date: 22.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Mr. SIVAGIRI.K**, 4<sup>th</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam has successfully completed 22 days (01.07.2023 to 22.07.2023) Internship Training in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. SIVAGIRI.K** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

**MANAGING DIRECTOR**

(Mr. Mohamed Fayaz)



TECHNOLOGICS

# TECHNOLOGICS



Date: 22.07.2023

TO WHOM SO EVER IT MAY CONCERN

This is so certify that **Mr. ISAKKIRAJA.P**, 4<sup>th</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam has successfully completed 22 days (01.07.2023 to 22.07.2023) Internship Training in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. ISAKKIRAJA.P** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

MANAGING DIRECTOR

(Mr. Mohamed Fayaz)



TECHNOLOGICS

# TECHNOLOGICS



Date: 22.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Mr. KIRUBASANKAR.C**, 4<sup>th</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam has successfully completed 22 days (01.07.2023 to 22.07.2023) Internship Training in “**TECHNOLOGIES GLOBAL PVT LTD**”.

During this tenure **Mr. KIRUBASANKAR.C** has involved in his work with dedication. We found him pretty and active in whatever the task we have given him. He is a confident person, punctual, hardworking and inquisitive.

We wish him all the best for his future endeavors.

MANAGING DIRECTOR

(Mr. Mohamed Fayaz)



TECHNOLOGICS

# TECHNOLOGICS



Date: 22.07.2023

**TO WHOM SO EVER IT MAY CONCERN**

This is so certify that **Ms. MAHESWARI.P**, 4<sup>th</sup> Year B.E Electrical and Electronics Engineering in J.K.K. Munirajah College of Technology, T.N. Palayam has successfully completed 22 days (01.07.2023 to 22.07.2023) Internship Training in “**TECHNOLOGICS GLOBAL PVT LTD**”.

During this tenure **Ms. MAHESWARI.P** has involved in her work with dedication. We found her pretty and active in whatever the task we have given her. She is a confident person, punctual, hardworking and inquisitive.

We wish her all the best for his future endeavors.

**MANAGING DIRECTOR**

(Mr. Mohamed Fayaz)