



NATIONAL ENGINEERING COLLEGE

(AN AUTONOMOUS INSTITUTION)

K.R.NAGAR, KOVILPATTI - 628503.



EEE NEWSLETTER

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

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STAFF ACTIVITIES/PUBLICATIONS/ACHIEVEMENTS**STAFF ACTIVITIES**

S.No.	Name of the Staff	Events/Guest Lecture	Topic/Event	Date	College/ Industry
1.	Dr. N. B. Prakash, Asso. Prof/EEE	GIAN Course	Introduction to Image based Modeling and Simulation in Musculoskeletal Biomechanics	22 nd – 26 th April 2019	Motilal Nehru National Institute of technology, Allahabad
2.	Dr.S.Senthil Kumar, AP(SG)/EEE	TEQIP III Sponsored One Week	Applied Soft Computing: Theory and Practice	22 nd – 28 th April 2019	PSG College of technology, Coimbatore
3.	Mr. P. Samuel Pakianathan AP/ EEE	AICTE Sponsored QIP Course	Hands-on approach to semiconductor device physics education	6 th – 10 th May 2019	Indian Institute of technology, Bombay
4	Mr. B. Vigneshwaran, AP/EEE	FDP Course	Empowering Teachers in 21 st Century skills Education	29 th – 3 rd May 2019	National Institute of Technology, Trichy
5	Ms.P.Jothsna Praveena, AP/EEE	Industry Know How		6 th – 10 th May 2019	NLC Tamilnadu Private Limited, Tuticorin

ACHIEVEMENTS

1. *Dr.M.Willjuice Iruthayarajan, Professor and Head/EEE* has been act as a jury in Nineteenth National level student's symposium, **SACOESIUM-2019** on 9.2.19 held at Dr Sivanthi Aditanar College of Engineering, Tiruchendur.
2. *Dr.M.Willjuice Iruthayarajan, Professor and Head/EEE* has been act as a resource person in a One-Day **National Level Workshop** - Application of Soft Computing Techniques in Electrical Engineering on 15th March 2019 held at University VOC college of Engineering, Anna University, Tuticorin campus.
3. *Dr.M.Ravindran, Asso. Prof.(SG)/EEE* has acted as a subject expert in Energy auditing at MSME, Dindigul on March 22, 2019.
4. *Dr. L. Kalaivani, Prof./EEE* has delivered the expert lecture in Workshop on '**OBE and its Implementation**' at Lakshmi Ammal Polytechnic College, Kovilpatti during May 23, 2019.

PUBLICATIONS

- ✓ Tamilselvi S, Baskar S, *Sivakumar T*, Anandapadmanaban L, "Evolutionary algorithm-based design optimization for right choice of transformer conductor material and stepped core", Electrical Engineering – Accepted for Publications – **Impact Factor: 1.29**.

- ✓ **Muniraj R, Sivaplanirajan M**, Jarin T, Boslin Prabhu SR, “Evakuation of various benchmark processes with appropriate controller design in Lab VIEW platform”, Journal of instrumentation, Vol. 14, Issue, 5, pp. 1-22, 2019 – **Impact factor** – 1.258.
- ✓ **Kannayeram G**, Manoharan PS, **Prakash NB, Sivakumar T**, Saravanan R, "Robust Optimal Tuning of UPFC Using Single Objective Optimization Algorithm", Advances in Electrical and Computer Technologies - Select Proceedings of ICAECT 2019, SVS College of Engineering, Coimbatore - Springer Conference 2019.

ONLINE CERTIFICATION

COURSERA

Mr.M.Bakruthen, AP/EEE

Course: i) **Natural Gas**

ii) **MATLAB Onramp**

University: **The State University, New York**

Mr. N. Sankar, AP/ EEE

Course: i) **Converter Circuits**

ii) **Programming for Everybody**

University: **Colorado**

NPTEL

Mr. N. Sankar, AP/ EEE

Course: **Electric Vehicles – Part - I**

Top 5% Elite + Silver

Dr.M.P.E.Rajamani, AP(SG)/EEE

Course: **Advance Power Electronics and Control**

Elite

Dr.S.Senthil Kumar AP(SG)/EEE

Course: **Advances in UHV Transmission and Distribution**

Successfully Completed

R & D ACTIVITIES

1. **Dr.R.Muniraj**, AP(SG)/EEE was completed his **Doctorate** in “*Tuning of Multi Objective Robust PID Controller using Evolutionary Computation techniques*”, on 12.04.2019 under the supervision of **Dr.M.Willjuice Iruthayarajan, Professor and Head/EEE**.
2. **Dr.S.Sumathi**, AP/EEE was completed her Doctorate in “*Investigation on Nanofluids for Performance Enhancement of Electrical Applications*”, on 01.04.2019 under the supervision of **Dr.P.Subburaj, Professor/EEE**.
3. Anna University, Chennai has approved **Dr. N.B.Prakash, Asso. Prof/EEE** as **supervisor for Research** under the faculty of Electrical and Engineering. His areas of specialization are **Image Processing, Embedded Systems and pollution performance of insulators**.

PATENTS FILED

1. Patent on “**Smart Theft Prevention System using GSM and Cloud**” filed by **Mr.B. Venkatasamy, AP/EEE**

DEPARTMENT ACTIVITIES

MINI PROJECT FORUM – EPROX '19

A Project Expo, “EPROX '19” has been organized by the Mini Project Forum of EEE department on **19th March 2019**. For every year, the project expo is being conducted by the mini project forum to enhance the practical skill of the student by making some application-oriented projects using simple electronic devices as well as microcontrollers. In this regard, practical hands-on sessions are conducted in the odd Saturdays 05.01.2019, 19-01-2019, 02-02-2019 and 02-03-2019 respectively for the second and third year EEE students. The sessions are guided by *Mr.B.Venkatasamy, AP/EEE, Mr. F.Antony Jeffery Vaz AP/EEE.*

In this project Expo, **40 Second Year students** and **61 Third Year students** have actively participated as **32 batches**. The students have demonstrated their projects to our Head of the Department *Dr.M.Willjuice Iruthayarajan*, Faculty members and the students of our department. A review committee has been framed for judging the projects. In this connection, the Valedictory function for the project expo was held on March 29th, 2019. The function is presided over by our Principal, *Dr.S.Shanmugavel* and distributed the prizes to the participants and prize winners. The following students have participated and bagged prizes in the expo.

S.No	Project Title	Reg. No	Students Name	Class
I Prize				
1.	Intelligent Information system for Railways by IOT	1713098	Selvadevi.H	2 nd Year EEE
		1713079	Pandeeswari.B	2 nd Year EEE
II Prize				
2.	Automatic Table Cleaning Robot	1613089	S.J.Shanmugavel	3 rd Year EEE
		1613095	P.Sivasankar	3 rd Year EEE
		1613098	L.Sivabalaji	3 rd Year EEE
3.	Self Balanced Robot using Arduino	1613091	J.Sheeba	3 rd Year EEE
		1613101	M.Sonia	3 rd Year EEE
		1613084	T.Salomiya Paulin	3 rd Year EEE
III Prize				
4.	IOT Based Smart Irrigation System using IOT	1613055	S.Meenakshi	3 rd Year EEE
		1613054	A.Meekakshi	3 rd Year EEE
		1613050	L.Malini	3 rd Year EEE
		1613042	S.Kowsalya	3 rd Year EEE
5.	Door Security System using IOT	1713056	Kavitha.A	2 nd Year EEE
		1713068	Menaga Devi.P	2 nd Year EEE
		1713003	Aiswarya.M	2 nd Year EEE

6.	Water level controller	1713106	G.Suba Shree	2 nd Year EEE
		1713105	J.Steffi Cranaff	2 nd Year EEE
		1713001	T.Aarthi	2 nd Year EEE
Participants				
7.	CNC plotter	1613087	R.Santhiya	3 rd Year EEE
		1613088	S.Saranya	3 rd Year EEE
		1613093	S.Sindhu	3 rd Year EEE
8.	Automatic Water level controller using arduino	1613076	A.Poorna Pushkala	3 rd Year EEE
		1613077	A.Priyadarshini	3 rd Year EEE
		1613410	V.Rama@Ramalakshmi	3 rd Year EEE
9.	Automatic Field Flow System	1613075	V.Poorani	3 rd Year EEE
		1613067	V.Nivedha	3 rd Year EEE
		1613068	M.Nivetha	3 rd Year EEE
10.	Fuel Tank Guard	1613002	B.Aarthy	3 rd Year EEE
		1613029	R.K.Gobiga	3 rd Year EEE
		1613017	M.Aswini	3 rd Year EEE
		1613010	P.Anukarthika	3 rd Year EEE
11.	Over Speed Monitoring System using Raspberry Pi	1613069	Nivetha.N	3 rd Year EEE
		1613071	Pavithra.S	3 rd Year EEE
		1613063	Mythile.A	3 rd Year EEE
12.	Railway Fault Detection System using GPS	1613044	K.Madhumitha	3 rd Year EEE
		1613046	M.Leela Nivashini	3 rd Year EEE
		1613049	T.Mahalakshmi	3 rd Year EEE
13.	Autonomous Fire Extinguishing Robot	1613031	Hemalaxmi.P	3 rd Year EEE
		1613032	Iswarya.V	3 rd Year EEE
14.	Radar System using Arduino	1613092	Shunmuga Sundaram K	3 rd Year EEE
		1613065	Naveen Kumar A.G	3 rd Year EEE
		1613081	Ranjith King Jimmson M	3 rd Year EEE
		1613096	Sivasorna Ram R	3 rd Year EEE
15.	Road Safety Solution for drunk and driven	1613115	M.Vavuniya	3 rd Year EEE
		1613118	P.Vigneshwari	3 rd Year EEE
		1613120	M.Vijayakumari	3 rd Year EEE
		1613122	B.Vinitha	3 rd Year EEE
16.	IR and Bluetooth Based Automation System	1613027	Gandhi Muthu.k	3 rd Year EEE
		1613006	Ajay Karthick.j	3 rd Year EEE
		1613012	Arun Gomathi	3 rd Year EEE
17.	Automatic Gardening System	1613090	S.Santhakumar	3 rd Year EEE
		1613085	S.Samivel Subash	3 rd Year EEE
		1613103	M.Subaraghavan	3 rd Year EEE
18.	Bike Security System using biometric sensor	1613413	Varatharajan.M	3 rd Year EEE
		1613403	Arockia Ranjith Kumar.S	3 rd Year EEE
		1613402	Ajith Kumar.T	3 rd Year EEE
		1613406	Gowthama Raj.M	3 rd Year EEE
19.	Temperature Controlled Fan	1613413	Varatharajan.M	3 rd Year EEE
		1613403	Arockia Ranjith Kumar.S	3 rd Year EEE
		1613402	Ajith Kumar.T	3 rd Year EEE

		1613406	Gowthama Raj.M	3 rd Year EEE
20.	GSM Based Fire Alarm system using Arduino	1613106	K.Subbiah kumar	3 rd Year EEE
		1613072	P.Pio	3 rd Year EEE
		1613097	G.Sivabalaji	3 rd Year EEE
		1613086	R.Sangeetha Shorubha	3 rd Year EEE
21.	Water Level Controller	1613094	M.Sinduja	3 rd Year EEE
		1613102	N.Sri Alamelu Mangai	3 rd Year EEE
		1613064	V.Nalla Selva Prakash	3 rd Year EEE
22.	Smart Helmet	1613082	A.Ravi Kumar	3 rd Year EEE
		1713027	S.Ganapathy Subramaniyan	2 nd Year EEE
23.	Fuel Tank Guard using Flow Sensor	1713071	S.S.Mohammed Ibrahim	2 nd Year EEE
		1713050	M.Kaliraj	2 nd Year EEE
24.	Smart Security system using Open CV	1713054	S.Karthikeyan	2 nd Year EEE
		1713044	D.Joel Praveen kumar	2 nd Year EEE
		1713050	M.Kaliraj	2 nd Year EEE
25.	Remote controlled home appliances	1713054	S.Karthikeyan	2 nd Year EEE
		1713044	D.Joel Praveen kumar	2 nd Year EEE
		1713095	R.Sanjai Rohan Singh	2 nd Year EEE
26.	Mini Inverter	1713112	S.Tamil Selvan	2 nd Year EEE
		1713113	M.Thirumalai Kumarasamy	2 nd Year EEE
		1713118	K.Vignesh	2 nd Year EEE
		1713083	Perumalsamy.A	2 nd Year EEE
27.	Voice Controlled Robot	1713083	Pon Ganesh.P	2 nd Year EEE
		1713096	Santhosh.K	2 nd Year EEE
		1713037	Harishkumar.A	2 nd Year EEE
28.	Automatic Street Light Controller using LDR	1713034	Gowthamam.G.M	2 nd Year EEE
		1713040	Jashva Sherin.J	2 nd Year EEE
		1713119	Vinith.A.N	2 nd Year EEE
		1713037	Harishkumar.A	2 nd Year EEE
29.	Automatic Washroom Light using Reed Switch	1713041	Jayaram.S	2 nd Year EEE
		1713026	Dinesh Kumar.M	2 nd Year EEE
		1713040	Jashva Sherin.J	2 nd Year EEE
30.	Accident information using GSM and GPS	1713413	Sreedhar.K.T	2 nd Year EEE
		1713414	Sukumar.T	2 nd Year EEE
31.	Automatic FAN LIGHT Controller using PIR	1713412	Ramar Ananth.P	2 nd Year EEE
		1713415	Vishnu.S	2 nd Year EEE
		1713410	Prince.A	2 nd Year EEE
		1713404	Karthikeyan.C	2 nd Year EEE
32.	Fire Extinguishing Robot	1713046	Joseph Francis.S	2 nd Year EEE
		1713043	Jeya Raman.T	2 nd Year EEE
		1713045	Jose Vishal.I	2 nd Year EEE

I PRIZE

Raspberry Pi Zero

II PRIZE

Node MCU Wi-Fi Development Board

III PRIZE

Bluetooth Module



MINI PROJECT FORUM - ACTIVITIES [2018-19]

ODD Semester 2018-19

Session 1 [30.06.2018]

MINI PROJECT Forum is functioning in EEE department for motivating students to do mini projects from III semester onwards. Around 180 students of EEE Department are members in the mini project forum of the Department.



In this connection, a hands on session was conducted on the topic of “**Hands on training on PCB designing and implementation**” by Mr.B.Venkatasamy, AP/EEE and Mr.F.Antony Jeffrey Vaz, AP/EEE at Microprocessor and Microcontroller Lab of EEE Department on **30-06-2018**. Around **25 students** of second year EEE was participated in the hands-on session. The Session is started with the fundamentals and basic circuits in electronics which is useful for doing projects and about the selection of a project. Then the preparation of Printed Circuit Board (PCB) for some simple circuits such as power supply unit, IR based switch, mini inverter has been discussed. For each batch of students, a simple project circuit has been given and they have completed the PCB of their circuits in the afternoon session. The Students are encouraged to do such type of mini projects continually by the support of this forum

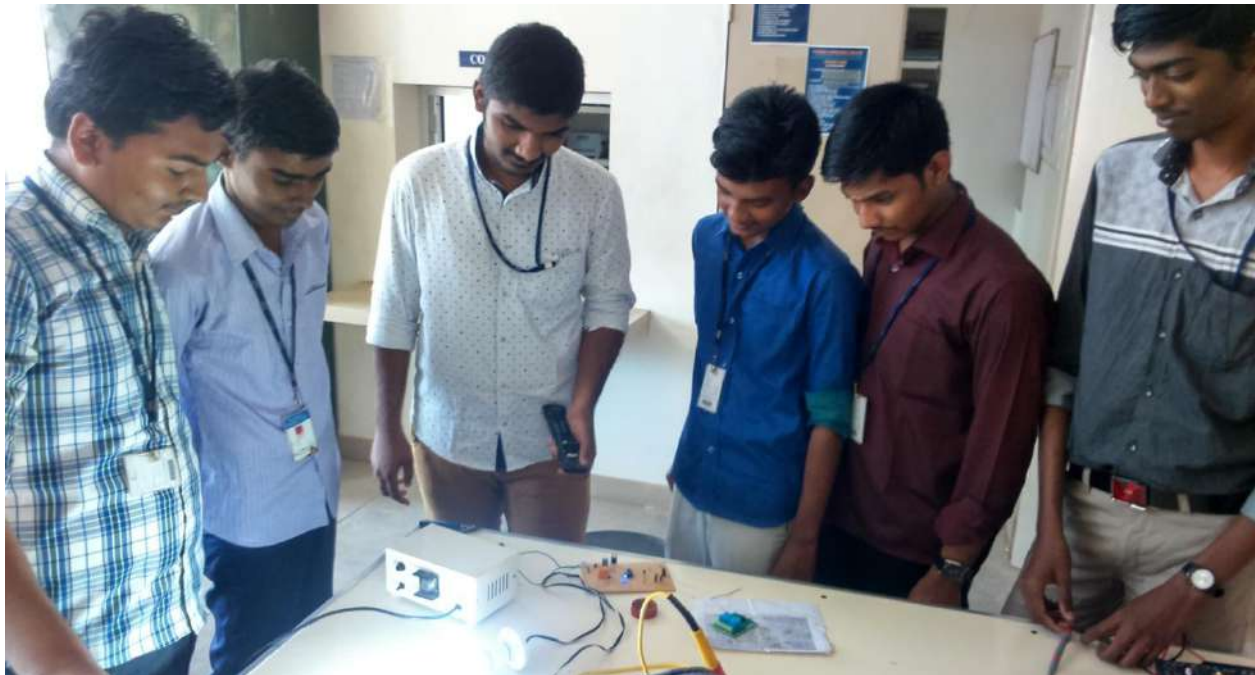
Session 2 [07.07.2018]

The **27 students** actively participated in hands on training on ‘making of simple mini projects’ conducted by the Mini Project Forum on **07-07-2018** at Microprocessor and Microcontroller Lab. The Students were trained on soldering practice and they soldered their own printed circuit boards and completed their circuit in morning session. Then in afternoon session, they finished PCB boards with wiring and rectified the faults and issues in the circuit boards and all the students experienced a hands-on training on error finding and rectification. The session was guided by Mr.B.Venkatasamy, AP/EEE and Mr.F.Antony Jeffrey Vaz AP/EEE.



Other Sessions

The students used to do mini projects during working Saturdays in the Microprocessor and Microcontroller lab of our department. A Simple Application Oriented projects has been assigned to the students those who are attended in the introduction sessions. The students completed the projects like automatic street light control, Mini inverter, Water level controller; IR based remote controlled electrical apparatus etc. on **21.07.2018, 04.08.2018 and 18.08.2018**. The students are motivated to do more innovative projects with their ideas. The session was guided by Mr.B.Venkatasamy, AP/EEE, Ms. K. Gowthami AP/EEE and Mr. F.Antony Jeffery Vaz AP/EEE.



EVEN Semester 2018-19

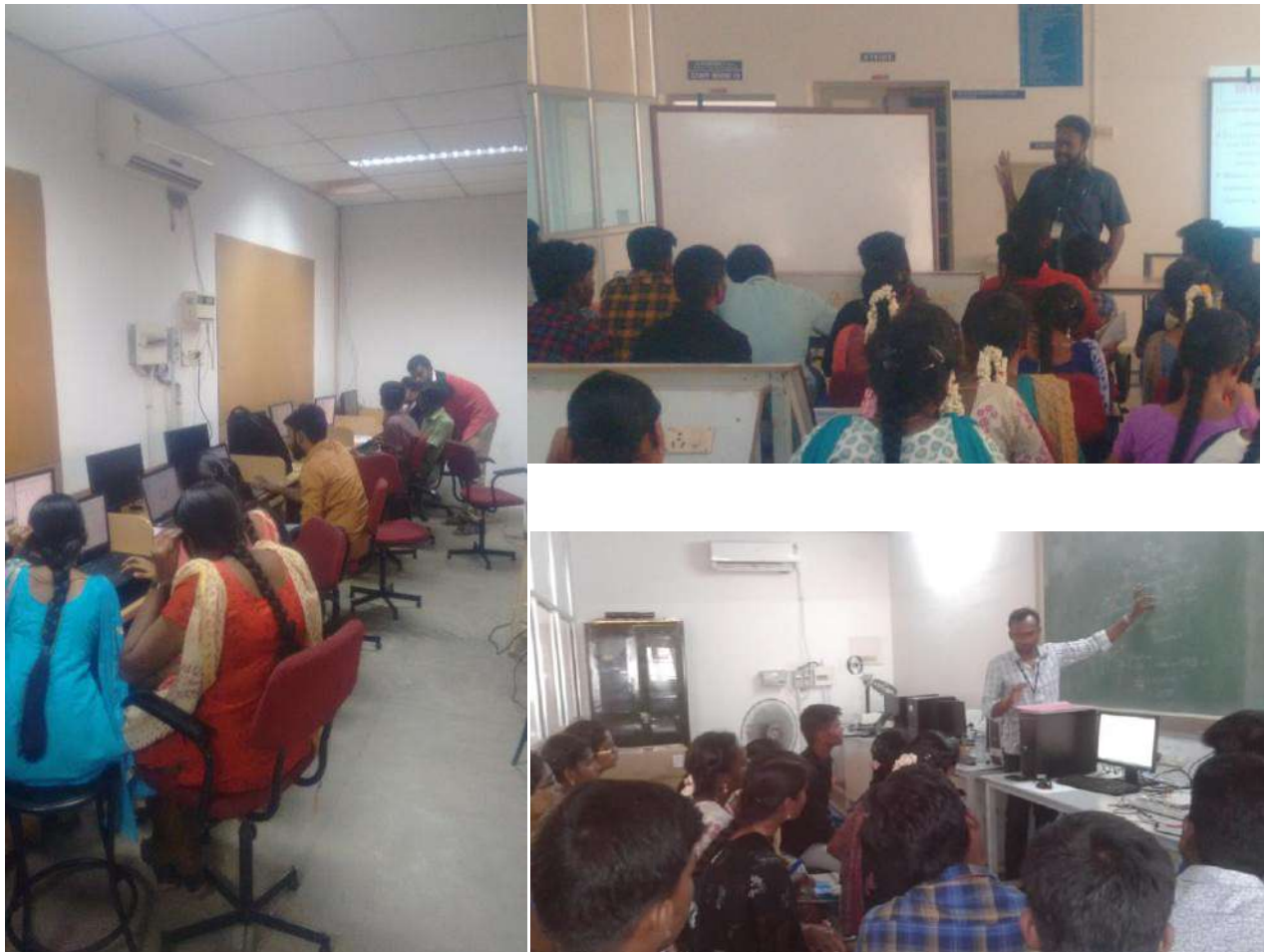
In every year, a **project Expo “EPROX”** is being conducted. The aim of this program is to enhance the practical skill of the student and to do real time application oriented projects using simple electronic components as well as microcontrollers. In the year of 2017-18 **41 Second Year, 68 Third Year and 3 Final Year students [31 Batches]** have actively participated in the Expo and the students have participated and bagged prizes in the expo. In 2016-18 **28 second year students and 46 third year student [28 batches]** have actively participated in the Expo and bagged prizes.

In 2018-19 it is planned to conduct EPROX 19 on 15-13-2019. In this regarding the students are involved in doing projects to present their project in the expo. Around 15 batches **[45 students]** involved in the practical session. The sessions are conducted in the odd Saturdays **05.01.2019, 19-01-2019, 02-02-2019 and 02-03-2019** respectively. The sessions are guided by **Mr.B.Venkatasamy, AP/EEE, Mr. F.Antony Jeffery Vaz AP/EEE.**



CONTROL AND INSTRUMENTATION – SPECIAL INTEREST GROUP (SIG)

EEE department Control and Instrumentation Special Interest Group (SIG) is conducting a short term course on the topic “*Performance analysis of linear control system in LabVIEW using ELVIS II+*” by *Dr.R.Muniraj AP(SG)/EEE, Mr.M.Sivapalanirajan AP/EEE and Mr.S.Abishek Final year* from 15/12/2018 to 08/03/2019 in EEE department for third year EEE students of C&I SIG.



The program focuses on the development of project idea based on labview and its interfacing facilities available in the control and instrumentation laboratory. It makes the students to engage in the development of control system ideas in labview in real time and the exercises are designed as per the requirement.

The detailed list of activities are listed in the table as follows,

DATE	TOPIC	RESOURCE PERSON	EXERCISES
15/12/18	Introduction to LabVIEW and its basics	Mr.R.Muniraj, Mr.M.Sivapalanirajan and Mr.S.Abishek	LabVIEW tool pallette, Examples for basic arithmetic and logical operations
29/12/18	Math script based LabVIEW	Mr.R.Muniraj and Mr.S.Abishek	Examples for feeding matlab files to be fed to the labview platform
5/1/19	Control and simulation tool box	Mr.M.Sivapalanirajan and Mr.S.Abishek	Examples on transfer function and state space model formulation in labview platform
19/1/19	Time response of the system	Mr.R.Muniraj, Mr.M.Sivapalanirajan and Mr.S.Abishek	Determining the time response of the given transfer function or state space model
23/1/19	Frequency response of the system	Mr.M.Sivapalanirajan and Mr.S.Abishek	Determining the frequency response of the given transfer function or state space model with bode plot
2/2/19	Introduction to ELVIS II+	Mr.M.Sivapalanirajan	Demonstration of the features of the ELVISII+ and tried simple experiments
12/2/19	Hardware interfacing of the system in using ELVIS II+	Mr.M.Sivapalanirajan	Temperature measurement and control of the boiler arrangement is implemented using ELVIS II+
16/2/19	Stability analysis of the system	Mr.R.Muniraj and Mr.S.Abishek	Determining the stability of the system using root locus and bode plot
6/3/19	Rotary inverted pendulum interfacing using ELVIS II+	Mr.M.Sivapalanirajan	Experimentation of rotary inverted pendulum model with basic understanding of the system interface.
8/3/19	Rotary inverted pendulum interfacing using ELVIS II+	Mr.M.Sivapalanirajan	LQR and pole placement based controller design and implementation in Rotary inverted pendulum interface.

GATE CORNER

MRS. P. JOTHSNA PRAVEENA *M.E.*,
ASSISTANT PROFESSOR
ELECTRICAL AND ELECTRONICS ENGINEERING

POWER ELECTRONICS FOR GATE EXAM: A NIGHTMARE FOR ALL ELECTRICAL ENGINEERS

Hi Students, I am writing this article to let you all know, preparation strategy for Power Electronics subject as most of the electrical engineers feel it as tough and tricky subject in GATE. The weightage of this subject in GATE exam generally varies between 8 to 10 marks. Students generally find questions from this topic difficult as the questions that are asked from this subject are not very trivial

How to Study Power Electronics and Get Good Marks

First of all be clear with the fact that in **power electronics** we have to deal with a few concepts only. In order to score good marks in Power Electronics and understand the concepts clearly, I strictly suggest you to own the following textbooks. PS Bimbhra and Power Electronics pdf notes which are available in **NPTEL website**.

Power Electronic Devices:

In this chapter, the first thing that you have to study is the concept of switches. Under this concept, you have to understand the concept of the ideal and practical switch. Also, you need to understand how to compute the losses in a switch such as Conduction Loss and Switching power Loss. Then you have to study the ideal characteristics of power electronic devices. This will enable you to understand how to determine the characteristics of the combination of multiple devices.

Then, you have to start from Power Diode and understand the concept of Reverse Recovery Characteristics which is further carried over to SCR as well. SCR is the most important topic in this chapter and first, you have to understand the construction and working of SCR and the role of the Gate signal. You also have to understand the characteristics of the device i.e the three modes: Forward Conduction Mode, reverse Blocking Mode and Forward Blocking Mode. You also have to study about terms associated with SCR such as Latching Current and Holding Current.

The other topics that you have to study include: Triggering methods of SCR, Protection Techniques employed in SCR and Series and Parallel Connection of SCR. The Triggering Circuits such as UJT circuit are not important from the GATE point of view.

In other devices, you have to get a basic idea about GTO, RCT, TRIAC, Power BJT, Power MOSFET, IGBT etc.

These topics are very well given in Power Electronics Book by PS Bimbhra.

Phase-Controlled Converters:

In rectifiers you have to study about both Single Phase and Three Phase Rectifiers. You have to be cautious in understanding the difference between Half-Wave, Full-Wave and Half-Controlled, Fully Controlled rectifiers. In Single Phase half wave rectifiers you have to study about the nature of different loads such as R-Load, RL-Load, L-Load, RE Load and RLE Load. Based on this you can understand how the output voltage waveform changes when the load on system is changed. In Single Phase full wave rectifier, if you study about Highly inductive Load and Purely Resistive Load then it would be sufficient. But make sure to cover both fully controlled and half controlled converter. Also, understand how to draw the waveforms so that if the circuit is modified in **GATE exam**, you can easily draw the waveform and derive the answer.

In case of three phase converters, you have to study about three phase half wave and three phase full wave converters and again you should focus only on two types of loads i.e. resistive Load and Highly Inductive load. Also, remember the concept of Discontinuous Conduction in three phase converters and understand the firing angle boundary between Continuous and Discontinuous Conduction.

For rectifier, Bimbhra is more than sufficient and one must be cautious about Fourier analysis of every rectifier. Understand the difference between ripple-free load and normal load. 90% of questions will be based on ripple-free load and in that case, if you have all the formulae on fingertips, you can fetch maximum marks. Coming to battery charging problems in rectifiers go through the NPTEL notes & few problems are also there in the textbook.

Choppers:

In Choppers, you need to understand the full operation of Step-Down Chopper and Buck Converter. There are three converters that are included in **GATE course** which are Buck Converter, Boost Converter, and Buck-Boost Converter. In all these three converters you need to understand the general methods of determining certain parameters such as Average Output Voltage, Average Inductor Current, Ripple In Inductor Current, Ripple in Load Voltage etc. These parameters are determined from the basic Network Analysis and concepts of Volt-Sec Balance and Ampere-sec Balance.

The next important concept that you have to study is the concept of Thyristor Commutation Techniques such as Class-A Commutation, Class-B Commutation or Current Commutation, Class-C or Complementary Commutation, Class-D or Voltage Commutation. It would be good if you can understand the working of Commutation Circuits and if it is not possible then you need to remember the expressions of Maximum Thyristor Current and the Circuit Turn-Off Time.

You can also study about different types of choppers such as Type-A Chopper Type-B chopper etc. The main focus of this chapter should be on solving more problems using the basic concepts rather than memorizing the expressions involved.

Inverters:

In the case of Inverters, you have to study about the Single Phase and Three phase Inverters. In single Phase Inverters you have to study about Half Bridge and Full Bridge Inverters. In each type of Inverter you have to understand, how the load current waveform gets affected. You can memorize the Fourier Series for the Output Voltage of each of these configurations.

In Three Phase Inverter, there are two conduction modes which are 120 degree and 180-degree conduction modes. In each of the modes, you should remember the RMS value of Phase Voltages, Line Voltages and RMS Values of their Fundamental Components. You can also take a look at the basic working of Current Source Inverter and its variation in Auto Sequential Commutated Inverter (ASCI).

Then comes the most important topic now a days which is Pulse Width Modulation (PWM). Earlier the most important PWM technique was Single Pulse Modulation (SPM), so you can memorize the RMS voltage output of this technique. Also, try and memorize the Fourier Series of Output Voltage of this technique as many questions have been asked on this in the past. The next modulation technique is Multiple Pulse Modulation (MPM) but questions have not been asked from it. Nowadays, the most popular technique is Sinusoidal Pulse Width Modulation (SPWM) and here you need to remember a basic expression for peak value of Fundamental component of Output Voltage.

GATE - Previous Years Question paper analysis (2014 – 17)**Marks for Each Topic from 85 Marks - Source: <http://www.careeraplus.in/Examplan>***Mr. N.Sankar, Assistant Professor/EEE*

Subject	Topics	Marks	Subject	Topics	Marks
Ele Cir	KCL, KVL & Phasor Cal	3.72	E&E Mea	Meas of Energy and Power	1.03
Ele Mac	Transformers	3.37	Ele Cir	Two-Port Networks	1.00
Eng Math	Linear Algebra	3.23	Ele Cir	Resonance	1.00
Eng Math	Calculus	2.92	Ana Cir	Diodes & Their Appl	0.97
Ele Mac	Three Phase Induction Motor	2.84	E&E Mea	CRO and Electr Meas	0.89
Ele Mac	Synchronous Machines	2.68	Pow Sys	Compen Tech & Vol Profile Con	0.88
Pow Ele	Phase Controlled Rectifiers	2.53	Dig Ele	Boolean Algebra & Min	0.81
Sig& Sys	Linear Time Invariant Systems	2.35	Eng Math	Numerical Method	0.81
Ele Mac	DC machines	2.23	Sig& Sys	Fourier Transform	0.75
Ele Cir	Trans & Steady State Res	1.91	Eng Math	Diffrential Equation	0.75
Ana Cir	Operational Amplifiers	1.80	Pow Ele	Miscellaneous	0.74
Pow Ele	Pow semi Devices & CommutTech	1.75	Con Sys	Design of Control Systems	0.66
Con Sys	Frequency Response Analysis	1.74	Pow Sys	Eco Pow Gen & Load Dispatch	0.65
Pow Sys	Fault Analysis	1.68	Dig Ele	Logic gates	0.62
Pow Ele	Inverters	1.65	Pow Sys	Dist Sys, Cabels & Insulators	0.61
Pow Sys	Perf of Trans Lines, Para & Corona	1.56	Dig Ele	Combinational Logic Circuits	0.57
Con Sys	State variable Analysis	1.55	Con Sys	Root Locus Techniques	0.56
Pow Ele	Choppers	1.47	Dig Ele	A/D and D/A Converters	0.53
Eng Math	Probablity and Statistics	1.43	Ana Cir	Oscis & Feedback Amp	0.47
Con Sys	Math Model of Phy Sys	1.36	E&E Mea	Meas of Resis and Pot	0.46
Con Sys	Concepts of Stability	1.36	Dig Ele	Logic Families	0.43
Pow Sys	Switch Gear and Protection	1.30	Pow Ele	Electrical Drives	0.41
E&E Mea	Galvan, Volt, & Ammeters	1.25	Eng Math	Transform Theory	0.37
Dig Ele	Sequential Logic Circuits	1.25	E&E Mea	AC Bridges	0.32
Pow Sys	Power System Stability	1.22	Pow Sys	High Voltage DV Transmission	0.31
Con Sys	Time Response Analysis	1.22	Ele Cir	Miscellaneous	0.30
Sig& Sys	Intro to CT & DT Signals	1.21	E&E Mea	Chara of Inst & Meas Sys	0.29
Pow Sys	Load Flow Studies	1.18	Con Sys	Feedback Char of Con Sys	0.28
Dig Ele	Microprocessors	1.15	Pow Sys	Generating Power Stations	0.23
Sig& Sys	Fourier Series	1.15	Ele Cir	Graph Theory	0.22
Sig& Sys	laplace Transform	1.15	E&E Mea	Instrument Transformers	0.21
Eng Math	Complex Variables	1.12	Pow Sys	Per Unit System	0.19
Ana Cir	BJT, FET, & Their Blast cir	1.11	Pow Sys	Power System Transients	0.19
Ele Mac	SPIM, Spec Pur machines	1.06	Ana Cir	Miscellaneous	0.18
Ele Cir	Network Theorems	1.04	Ana Cir	Small Sig Analysis	0.11
Sig& Sys	Z-Transform	1.03			

STUDENT ARTICLES

GREEN ENERGY ELECTRICAL POWER CONVERTER

Engineering researchers at the University of Arkansas have invented a novel electrical power converter system that simultaneously accepts power from a variety of energy sources and converts it for use in the electrical grid system. The availability and use of renewable energy sources, such as solar, geothermal and wind, and their associated harvesting systems increase the need for new power converters that can efficiently convert diverse energy sources to work across modern electrical grid systems. Current renewable energy conversion systems are bulky, inefficient and struggle to accept multiple inputs from diverse sources. But this system has the ability to convert electrical input from a single source without sacrificing efficiency. Because different harvesting methods produce varying levels of direct current, researchers Joseph Carr and Juan Balda invented a system that could consolidate these inputs into a stable alternating current. Using a multiple square-wave-input design, the system converts energy from different sources without the use of specialized transformers. The system could be used to replace the large transformers currently used in renewable energy networks. Furthermore, it could provide a simplified alternative to the current multiphase system, reducing the costs of development and maintenance. The researchers' high-frequency matrix converter addresses these shortcomings. Its simplified control system uses power converters to allow connection of a variety of power sources to a small, high-frequency transformer. Then, using a high-frequency matrix converter, it produces stable electricity ready to be supplied to the electrical grid system.



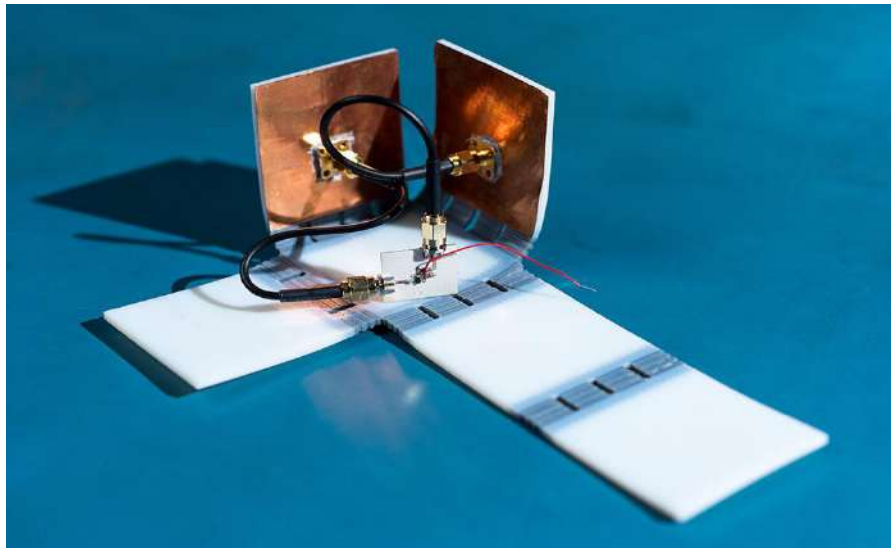
The second innovation is the introduction of a zero voltage switching concept – an observer circuit and a feedback controller enable the power converter to switch at zero voltage depending on operating points. This reduces the switching losses, especially at light load conditions and increases the conversion efficiency remarkably. With this improvement, the

internal heat dissipation is minimized to a level where passive cooling concepts are now suitable for the considered application. The entire setup becomes more compact, robust and reliable. Another possibility to scale down the dimensions of the DC/AC power converter is to increase the switching frequencies to a range of a few 100 kHz. As a result, the size of all space consuming inductors reduces in the same way as switching frequencies increase.

- *Mr. M.Kaliraj, Third Year A*

RECYCLING RADIO WAVES

Researchers led by Manos Tentzeris have developed an electromagnetic energy harvester that can collect enough ambient energy from the radio frequency (RF) spectrum to operate devices for the Internet of Things (IoT), smart skin and smart city sensors, and wearable electronics. Harvesting radio waves is not brand new, but previous efforts have been limited to short-range systems located within meters of the energy source, explained Tentzeris, a professor in Georgia Tech's School of Electrical and Computer Engineering. His team is the first to demonstrate long-range energy harvesting as far as seven miles from a source.



The researchers unveiled their technology in 2012, harvesting tens of microwatts from a single UHF television channel. Since then, they've dramatically increased capabilities to collect energy from multiple TV channels, Wi-Fi, cellular, and handheld electronic devices, enabling the system to harvest power in the order of milliwatts. Hallmarks of the technology include:

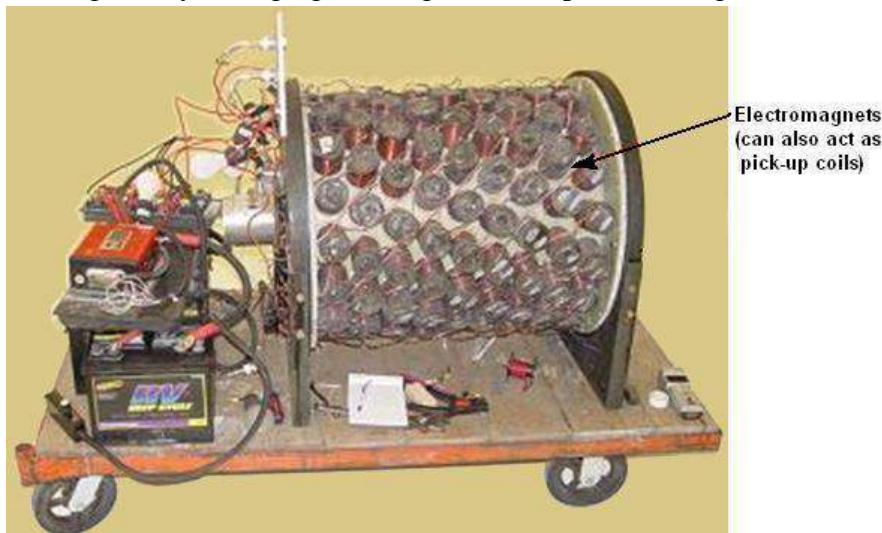
- Ultra-wideband antennas that can receive a variety of signals in different frequency ranges.
- Unique charge pumps that optimize charging for arbitrary loads and ambient RF power levels.
- Antennas and circuitry, 3-D inkjet-printed on paper, plastic, fabric, or organic materials that are flexible enough to wrap around any surface. (The technology uses principles from origami paper-folding to create "smart" shape-changing complex structures that reconfigure themselves in

response to incoming electromagnetic signals).The researchers have recently adapted the harvester to work with other energy-harvesting devices, creating an intelligent system that probes the environment and chooses the best source of ambient energy to collect. What's more, it combines different forms of energy, such as kinetic and solar, or electromagnetic and vibration. Although some work remains to scale the printing process, commercialization of the National Science Foundation-supported research could happen within two years.

- *Mr.T.Jeya Raman, Third Year A*

FREE ENERGY MAGNET MOTOR

A free energy magnet motor uses its natural properties such as attraction and repulsion of the magnet poles to create a perpetual motion which can be harnessed to do a useful work. The permanent magnets have invisible and continuous power where it can attract the iron or another specific kind of metal with the energy flow which allows the permanent magnet to defy the gravity for years. Therefore, it is believed that the free energy can be extracted from the permanent magnets by arranging the magnets in a special configuration.



Similar to the solar panel does not put effort into producing electricity, the power of a magnet flows from the environment and not from the magnet. The electrical pulse which creates the magnet aligns the atoms inside the iron and creates a magnetic “dipole” which has the same effect that the electrical “dipole” of a battery does. It polarizes the quantum environment surrounding it and causes great streams of energy flow around itself. This is the reason that magnet can attract the iron or another specific kind of metal with the energy flow that we so called “magnetism”. This energy flow allows the magnet to defy the gravity for years on end. This property of magnet is believed that have the capabilities to create an indefinite source of energy. Through the concept of the natural polarity of the magnetic poles that the like poles attract each other, unlike poles repel each other. The natural repulsion or the repelling characteristics of magnetic waves creates a perpetual motion that is being harnessed by the magnetic devices.

Efficiency of the device can be further increased by changing the design of the motor and positioning magnets in a way where the motor can run easily. The electrical energy that can be generated out of such a system seems to be created out of no fuel at all and that is stumbling everybody. So far, all we know is that to generate electricity, we need some sort of a source, rays of the sun, kinetic energy from flowing water, or at least some fuel to be burnt so that the turbines can move and generate electricity. But the magnetic motor challenges this notion and tells us that all you need is an arrangement of magnets to put the motor in motion and generate electricity.

- *Mr.D.Joelpraveenkumar, Third Year A*

TECHNICAL ARTICLE – STAFF MEMBERS

*Mr.M. Gengaraj, M.E.,
Assistant Professor
Electrical and Electronics Engineering*

RECENT TRENDS IN INDUSTRIAL DRIVES

Electric drives are used in large numbers in many industrial environments to perform a wide array of tasks and functions such as turning shafts or driving pumps and fans. Depending on the mission profile and control technique, various types of motors including universal, brushed or brushless DC motors as well as single-phase and three-phase induction motors can be used. The performance of the overall electro-mechanical system made by the motor and the associated driving circuitry – commonly referred to as a drive or inverter – depends on the motor control technique as it is a decisive factor in enabling accurate speed, torque and position control.

This drive system is widely used in large number of industrial and domestic applications like factories, transportation systems, textile mills, fans, pumps, motors, robots etc. Drives are employed as prime movers for diesel or petrol engines, gas or steam turbines, hydraulic motors and electric motors. Now coming to the history of electrical drives, this was first designed in Russia in the year 1838 by B.S.Iakobi, when he tested a DC electric motor supplied from a storage battery and propelled a boat. However, the industrial adaptation occurred after many years as around 1870. Today almost everywhere the application of electric drives is seen.

It has been over 180 years since the first electrical drive was invented, nevertheless, a continuous increase in the number of solutions related to the transfer of motion using various types of electrical machines can be observed. In order to save and conserve the electrical energy used in industrial installations, the market of electrical drives with speed regulation is constantly being developed. These industrial drives are featured by particular specialized functions for various industry sectors. The needs and requirements faced by electrical drives are different in military or mining industry and still different in the case of precise industry applications.

The following are the vital three emerging trends driving the global electric drives according to the industrial automation,

- Regulation on energy efficiency
- Increasing demand for Internet of Things (IoT)
- Promising demand for sensor-less drives

Regulation on Energy efficiency:

Various energy regulation policies have been formulated by governments around the world to promote the use of energy-efficient product. The standards that have been imposed and

incentives that are being provided by governments are pushing for the increased adoption of energy-efficient drives into existing systems.

Demand for IoT

In today's world, most of the electronic devices which have access to the internet are interconnected and capable of exchanging data, which is broadly termed as the internet of things (IoT). Also, customers of the industrial electric drives are dependent upon expert judgment for maintenance and service, which vendors are capitalizing on. Industries are using IoT to provide the real-time performance of the machine to consumers, and a user-friendly platform for the customers to obtain timely information for the maintenance of electric drives.

Emerging demand for sensor-less drives

During the forecast period, the sensor-less drive is another major trend, which is expected to accelerate the adoption of electric drives. Electric drives are mostly operated through a microcontroller-based device, and all the smart robots have sensors and respond to the transmitter for signals. Though, the growing requirements for remote control at field locations have led to the introduction of sensor-less drives.

In addition, as drives are being integrated more and more in systems, communication links to higher level computer networks are essential to support commissioning, initialization, diagnostics and higher level process control. Consequently, the main drive components consist of an electro-mechanical energy converter (typically an electro-magnetic machine or actuator), a power electronic electrical-to-electrical power converter and an embedded digital control unit. The digital control unit directly controls the power electronic semiconductor switches of the power electronic converter. To this end not only suitable control hardware, sensors, high-speed digital logic devices and processors are needed but also suitable control algorithms. From this perspective, drive technology is a fairly modern development.

More intelligent drive controllers which takes away the trouble of initialization and optimization of the drive performance. More diagnostic tools will be integrated in the drive as sensors at the system level can be avoided. High-speed field bus systems are already common place to transfer all data which can be extracted from a drive system. More drives will link to the Internet the same way as web cameras do today.

STUDENTS ACHIEVEMENTS**CLASS RANK HOLDERS**

S. No.	Year	Rank	Name of the Student
1.	IV Year	I Rank	Tamilarasi. P
2.		II Rank	Maragathalakshmi. M
3.		III Rank	Bala Abhirami.S
4.	III Year	I Rank	S.Sindhu Muhila
5.		II Rank	N.Rishika
6.		III Rank	M.Ani Nithusha
7.	II Year	I Rank	M. Vavuniya
8.		II Rank	S. Saranya
9.		III Rank	T.Mahalakshmi
10.		III Rank	R.Santhiya
11.	I Year	I Rank	H.Selvadevi
12.		II Rank	S.Joseph Francis
13.		II Rank	S.S.Mohamed Ibrahim
14.		II Rank	S.T.Bala Akalya
15.		III Rank	T.Lavanya Narayani

BEST VOLUNTEERS

S.No.	Name of the Award	Year / Branch	Name of the Student
1.	Best IE (I) Students Chapter Volunteer	IV EEE	Ms.K.Vishnu Priya
2.	Best NSS (Unit I) Volunteer	III EEE	Siva Sankar.P
3.	Best NSS (Unit II) Volunteer	III EEE	Logeswarabalan.S
4.	Best RRC Volunteer	IV EEE	Selvakumar T
5.	Best YRC Volunteer	IV EEE	Visvanath.G
6.	Best Fine Arts Volunteer	IV EEE	Ms.Reshma Priyadarshini.S
7.	Best Quiz Club Volunteer	IV EEE	R.Aravindhan

ACHIEVEMENTS

S. No.	Name of the Student	Event	Prize/Award
1	Surya Kumar C.V	NCC - CATC Camp	Best Senior
2	Ramkumar.P	NCC - IUC RDC Camp	Selected for Camp
3	Vasanth.V	NCC - IUC RDC Camp	
4	Ramkumar.P	NCC - IGC RDC Camp	Troop Commander & Quarter Guard Drill
5	S.A.Ashfeeq Mohamed and A.Mahadevan	National level technical symposium	II Prize
6	R.Balaji	Decathlon - Zone – 18 Men Athletic meet	III Prize
7	V.Vasanth	Javelin - Zone – 18 Men Athletic meet	III Prize
8	B. Pooraja	International conference on intelligent sustainable systems	Best Paper Award
9	Perumal Samy and M. Parthasarathy	Paper Presentation at GCE, Tirunelveli	I Prize
10	S. Vishnu and P. Ramar Ananth	Symposium activities (Electric Circuit Simplification) at GCE, Tirunelveli	I Prize
11	K.T. Sreedhar and T. Sukumar	Symposium activities (Electric Circuit Simplification) at GCE, Tirunelveli	II Prize
12	T. Sukumar	Snapshot at GCE, Tirunelveli	II Prize
13	V.Padmavathi	Zonal Ball Badminton Match at UVOC, Tuiticorin	Runner
14	K. Vishnu Priya	Throw ball – Trophy – Einstein College of Engineering, Tirunelveli	Runner
15	Deepika Rajam & A. Priya Dharshini	Chess – Zonal – KIT, Kirshnankovil	III Prize
16	M. Nivetha, U. Anisha Subhasree and K. Swetha	Basket Ball – Zonal – PSN CET, Tirunelveli	III Prize
17	V.Padmavathi	Ball Badminton - CM trophy at Tuiticorin	III Prize

SPORTS DAY – STUDENTS ACTIVITIES

S.No	Runner (Red House)	Dept			
1	Cladwin annan	III EEE			
Chess					
S.No	Runner (Red House)	Dept			
1	D.Sudharsan	II EEE			
Kabaddi					
S.No	Winner (Red House)	Dept	S.No	Runner (Yellow House)	Dept
1	Selvakumar	III EEE	1	B.Sonaikumar	III EEE
2	A.Ravikumar	III EEE	2	G.Manibharathi	III EEE
			3	Ramkumar	II EEE
			4	S.Krishnan	IV EEE
Volley ball					
S.No	Winner (Green House)	Dept	S.No	Runner (Blue House)	Dept
1	S.Murugan	IV EEE	1	Venkat Raman	III EEE
2	J.Vincent Denis	III EEE	2		
3	D.Vishnu Moorthi	IV EEE	3		
Hand ball					
S.No	Winner (Green House)	Dept	S.No	Runner (Blue House)	Dept
1	D.Vishnumoorthi	IV EEE	1	S.Kaushik	III EEE
2	J.Vincent Denis	III EEE	2	K.Logeshwara balan	III EEE
			3	N.Palani Rajan	III EIE
			4	S.Dhanush	III EEE
			5	S.Vigneshwaran	III EEE
Basket ball					
S.No	Winner (Green House)	Dept	S.No	Runner (Yellow House)	Dept
1	D.Vishnu Moorthy	IV EEE	1	Nagaaravindh .B	IV EEE
2	T.Vigneshwaran	III EEE	2	S.Satheeskumar	IV EEE
3	V.T.Vasanthakumar	IV EEE	3	S.Gopalakrishnan	IV EEE
			4	S.Krishnan	IV EEE
Cricket					
S.No	Winner (Green House)	Dept	S.No	Runner (Blue House)	Dept
1	S.Murugan	IV EEE	1	K.Karthick	II EEE
2	Kalyan Kumar	III EEE	2	S.Kaushik	III EEE
3	V.T.Vasanthakumar	IV EEE	3		
Hockey					
S.No	Winner (Blue House)	Dept	S.No	Runner (Yellow House)	Dept
1	S.Kaushik	III EEE	1	S.Krishnan	IV EEE
2	A.Venkadaramanan	III EEE	2	R.Balaji	IV EEE
3	S.Vigneshwaran	III EEE	3	V.Vasanth	III EEE
4	M.Velmanikandan	II EEE	4	M.KAбилan	II EEE
5	M.Dinesh Kumar	II EEE			
Football					

S.No	Winner (Red House)	Dept	S.No	Runner (Yellow House)	Dept
1	R.Robinson	III EEE	1	Vasanth	III EEE
2	S.Manikanda prabhu	IV EEE			
3	K.Sathees Kumar	III EEE			
4	A.Ravikumar	II EEE			
5	Cladwin Annan	III EEE			
Throw Ball					
S.No	Winner (Lotus House)	Dept	S.No	Runner (Rose House)	Dept
1	M. Aarthilakshmi	III EEE		K. Vishnu Priya	IV EEE
2	S. Thanga Adhi Lakshmi	IV EEE		M. Sugasini	IV EEE
3	C. Shibana	IV EEE			
Basket Ball					
S.No	Winner (Jasmine House)	Dept	S.No	Runner (Daisy House)	Dept
1	K. Swetha	II EEE	1	U. Anisha Subhashree	II EEE
			2	V. Deepikarajam	IV EEE
			3	S. Jamunadevi	IV EEE
			4	M. Nivetha	III EEE
Ball Badminton					
S.No	Winner (Jasmine House)	Dept	S.No	Runner (Daisy House)	Dept
1	V. Padmavathi	IV EEE	1	P. Kavitha	IV EEE
			2	M. Nivetha	III EEE
Volley Ball					
S.No	Winner (Lotus House)	Dept			
1	S. Meenakshi	III EEE			
2	M. Aarthilakshmi	III EEE			
3	T. Kayalvizhi	IV EEE			
Badminton					
S.No	Winner (Lotus House)	Dept	S.No	Runner (Daisy House)	Dept
1	M. Maheswari	II EEE	1	M. Nivetha	III EEE
Chess					
S.No	Winner (Lotus House)	Dept	S.No	Runner (Jasmine House)	Dept
1	A. Priyadarshini	III EEE			
2	M. Aarthilakshmi	III EEE			
Table Tennis					
S.No	Runner (Lotus House)	Dept	S.No	Third (Daisy House)	Dept
1	S. Meenakshi	III EEE	1	S. Kowsalya	III EEE
Shot-put					
S.No	Third	Dept			
1	M. Aarthilakshmi	III EEE			
Javelin Throw					
S.No	Winner	Dept	Prize		
1	M. Nivetha	III EEE	Second		
2	S. Saranya	III EEE	Third		

STUDENTS PARTICIPATIONS

Sl. No	Dept / Club	Name of the student	Event	Date	Organizer of the event
1	Sports	J.Kalyankumar	Cricket Match	01.09.2018	FX Engineering College, Tirunelveli
2	Sports	S.Jeyaram	Zone – 18 Men Volleyball Tournament	28.08.2018 to 29.08.2018	V.V.College of Engineering in Tissayanvillai
3	Sports	R.Karthick	Zone – 18 Men Volleyball Tournament	28.08.2018 to 29.08.2018	V.V.College of Engineering in Tissayanvillai
4	Sports	M.Aarthi Lakshmi	Zone – 18 women Volleyball Tournament	24.08.2018 to 25.08.2018	St.MotherTherasa Engineering college, Vagaikulam
5	Sports	S.Meenakshi	Zone – 18 women Volleyball Tournament	24.08.2018 to 25.08.2018	St.MotherTherasa Engineering college, Vagaikulam
6	Sports	V.Padmavathy	Woman Ball Badminton	13.08.2018 to 14.08.2018	Lakshmi Mills Hr.sec.School, Kovilpatti.
7	Sports	U.AnishaSubhasree	Zone-18 Woman Basket Ball Tournament	17.08.2018 to 18.08.2018	PSN college of Engineering & Technology, Melathadiyoor
8	Sports	M.Nivetha	Zone-18 Woman Basket Ball Tournament	17.08.2018 to 18.08.2018	PSN college of Engineering & Technology, Melathadiyoor
9	Sports	K.Swetha	Zone-18 Woman Basket Ball Tournament	17.08.2018 to 18.08.2018	PSN college of Engineering & Technology, Melathadiyoor
10	Sports	V.DeepikaRajam	Zone-18 Woman Chess Tournament	16.08.2018 to 17.08.2018	Kalasalingam Institute of Technology, Krishnankovil
11	Sports	A.Priyadharshini	Zone-18 Woman Chess Tournament	16.08.2018 to 17.08.2018	Kalasalingam Institute of Technology, Krishnankovil
12	Sports	K.Logeswarabalan	Zone-18 Men Handball Tournament	25.09.2018 to 26.09.2018	Dr.SivanthiAditanar Engineering college, Tiruchendur
13	Sports	S.Kaushik	Zone-18 Men Handball Tournament	25.09.2018 to 26.09.2018	Dr.SivanthiAditanar Engineering college, Tiruchendur

14	Sports	H.Karthikeyan	Zone-18 Men Handball Tournament	25.09.2018 to 26.09.2018	Dr.SivanthiAditanar Engineering college, Tiruchendur
15	Sports	S.Karthirvelmari	Zone-18 Men Kabaddi Tournament	22.09.2018 to 23.09.2018	Einstein Engineering college, Seethaparanallur
16	Sports	G.Manibharathi	Zone-18 Men Kabaddi Tournament	22.09.2018 to 23.09.2018	Einstein Engineering college, Seethaparanallur
17	Sports	R.Robinson	Zone-18 Men Kabaddi Tournament	22.09.2018 to 23.09.2018	Einstein Engineering college, Seethaparanallur
18	Sports	B.Sonaikumar	Zone-18 Men Kabaddi Tournament	22.09.2018 to 23.09.2018	Einstein Engineering college, Seethaparanallur
19	Sports	A.Nagaraj	TCPL Men Cricket Tournament	24.09.2018 to 27.09.2018	Ponjesly Engineering college, Nagarkovil
20	Sports	P.Kannan	TCPL Men Cricket Tournament	24.09.2018 to 27.09.2018	Ponjesly Engineering college, Nagarkovil
21	Sports	J.Kalyankumar	TCPL Men Cricket Tournament	24.09.2018 to 27.09.2018	Ponjesly Engineering college, Nagarkovil
22	Sports	A.Nagaraj	Zone – 18 Men Cricket Tournament	17.09.2018 to 20.09.2018	MepcoScelenk Engineering college, Sivakasi
23	Sports	P.Kannan	Zone – 18 Men Cricket Tournament	17.09.2018 to 20.09.2018	MepcoScelenk Engineering college, Sivakasi
24	Sports	J.Kalyankumar	Zone – 18 Men Cricket Tournament	17.09.2018 to 20.09.2018	MepcoScelenk Engineering college, Sivakasi
25	Sports	S.Vigneshwaran	Zone-18 Men Basketball Tournament	05.09.2018 to 06.09.2018	National Engineering college, Kovilpatti
26	Sports	V.T.Vasanthakumar	Zone – 18 Men Football Tournament	07.09.2018 to 09.09.2018	Scad College of Engineering, Cheranmahadevi
27	Sports	J.Vincent Dennis	Zone – 18 Men Football Tournament	07.09.2018 to 09.09.2018	Scad College of Engineering, Cheranmahadevi
28	Sports	R.Ganesh Prabu	Zone – 18 Men Football Tournament	07.09.2018 to 09.09.2018	Scad College of Engineering, Cheranmahadevi
29	Sports	T.Ram Mohan	Zone – 18 Men Football Tournament	07.09.2018 to 09.09.2018	Scad College of Engineering, Cheranmahadevi
30	Sports	M.Dinesh Kumar	Zone – 18 Men Football	07.09.2018 to 09.09.2018	Scad College of Engineering,

			Tournament		Cheranmahadevi
31	Sports	V.Padmavathi	Zone-18 Women Ball Badminton Match	11.09.2018 to 12.09.2018	VOC College of Engineering, Tuticorin
32	Sports	S.Sivakumar	Zone – 18 Men Athletic meet	27.09.2018 to 29.08.2018	Mepco Schlenk Engineering college
33	Sports	D.Vishnumoorthy	Zone – 18 Men Athletic meet	27.09.2018 to 29.08.2018	Mepco Schlenk Engineering college
34	Sports	R.Balaji	Zone – 18 Men Athletic meet	27.09.2018 to 29.08.2018	Mepco Schlenk Engineering college
35	Sports	M.Dinesh Kumar	Zone – 18 Men Athletic meet	27.09.2018 to 29.08.2018	Mepco Schlenk Engineering college
36	Sports	V.Vasanth	Zone – 18 Men Athletic meet	27.09.2018 to 29.08.2018	Mepco Schlenk Engineering college
37	Sports	S.Vishnu	Zone – 18 Men Athletic meet	27.09.2018 to 29.08.2018	Mepco Schlenk Engineering college
38	Sports	M.Kabilan	Zone – 18 Men Athletic meet	27.09.2018 to 29.08.2018	Mepco Schlenk Engineering college
39	Sports	A.Kailash	Zone – 18 Men Athletic meet	27.09.2018 to 29.08.2018	Mepco Schlenk Engineering college
40	Sports	M.Ramkumar	Zone – 18 Men Athletic meet	27.09.2018 to 29.08.2018	Mepco Schlenk Engineering college
41	Quiz	P.Ramkumar	Quiz competition	29.08.2018	Holy cross college, Nagerkovil
42	Quiz	M.Ranjith King Jimson	Quiz competition	29.08.2018	Holy cross college, Nagerkovil
43	Quiz	S.Samuel Subash	Quiz competition	29.08.2018	Holy cross college, Nagerkovil
44	Quiz	K.Shunmuga Sundaram	Quiz competition	29.08.2018	Holy cross college, Nagerkovil
45	EEE	B.Mahalakshmi	Paper Presentation	02.08.2018	K.Ramakrishna College of Engineering, Trichy
46	EEE	C.Shibana	Paper Presentation	02.08.2018	K.Ramakrishna College of Engineering, Trichy
47	EEE	M.Rajashree	Paper Presentation	02.08.2018	K.Ramakrishna College of Engineering, Trichy
48	EEE	V.Ramya	Paper Presentation	02.08.2018	K.Ramakrishna College of Engineering, Trichy
49	EEE	S.Thanga Adhi Lakshmi	Paper Presentation	02.08.2018	K.Ramakrishna College of Engineering, Trichy
50	EEE	K.VishnuPirya	Paper Presentation	02.08.2018	K.Ramakrishna College of

					Engineering, Trichy
51	EEE	A.MariaJoevin	Workshop on Arduino for beginners (NET-2018)	18.08.2018	IIT Madras, Research Park, Chennai
52	EEE	R.MuthuGanesh	Workshop on Arduino for beginners (NET-2018)	18.08.2018	IIT Madras, Research Park, Chennai
53	EEE	M.Parthasarathy	Workshop on Arduino for beginners (NET-2018)	18.08.2018	IIT Madras, Research Park, Chennai
54	EEE	A.PerumalSamy	Workshop on Arduino for beginners (NET-2018)	18.08.2018	IIT Madras, Research Park, Chennai
55	EEE	P.Pon Ganesh	Workshop on Arduino for beginners (NET-2018)	18.08.2018	IIT Madras, Research Park, Chennai
56	EEE	K.Santhosh	Workshop on Arduino for beginners (NET-2018)	18.08.2018	IIT Madras, Research Park, Chennai
57	EEE	C.Gurunathan	IOT Workshop	21.07.2018	Pantech Solutions, Madurai
58	EEE	P.Gurusubramanian	IOT Workshop	21.07.2018	Pantech Solutions, Madurai
59	EEE	S.Karthirvel Mari	IOT Workshop	21.07.2018	Pantech Solutions, Madurai
60	EEE	P.Kannan	IOT Workshop	21.07.2018	Pantech Solutions, Madurai
61	EEE	P.MohamedSafeek	IOT Workshop	21.07.2018	Pantech Solutions, Madurai
62	EEE	S.Murugan	IOT Workshop	21.07.2018	Pantech Solutions, Madurai
63	EEE	S.Govinda Prasad	MadurAI - Hackathon	25.08.2018 & 26.08.2018	HCL Campus, Madurai
64	EEE	P.Vignesh	MadurAI - Hackathon	25.08.2018 & 26.08.2018	HCL Campus, Madurai
65	ISOI	K.Adchaya	Techquest	10/09/2018 to 11/09/2018	National Engineering College, Kovilpatti
66	ISOI	S.T.Balaakalya	Techquest	10/09/2018 to 11/09/2018	National Engineering College, Kovilpatti
67	EEE	K.ChermaJeya	Paper Presentation	11.09.2018 to 12.09.2018	Karpagam Institute of Technology, Coimbatore.

68	EEE	P.Eswari Prabha	Paper Presentation	11.09.2018 to 12.09.2018	Karpagam Institute of Technology,Coimbatore.
69	EEE	M.LeelaNivashini	Paper Presentation	11.09.2018 to 12.09.2018	Karpagam Institute of Technology,Coimbatore.
70	EEE	K.Madhumitha	Paper Presentation	11.09.2018 to 12.09.2018	Karpagam Institute of Technology,Coimbatore.
71	EEE	S.Sindhu	Paper Presentation	11.09.2018 to 12.09.2018	Karpagam Institute of Technology,Coimbatore.
72	EEE	S.A.Ashfeeq Mohamed	Paper Presentation	11.09.2018 to 12.09.2018	Karpagam Institute of Technology,Coimbatore.
73	EEE	A.Mahadevan	Paper Presentation	11.09.2018 to 12.09.2018	Karpagam Institute of Technology,Coimbatore.
74	EEE	S.LakshmiBrindha	Paper Presentation	06.09.2018	JP college of Engineering, Tenkasi
75	EEE	K.Vishnu Priya	Paper Presentation	06.09.2018	JP college of Engineering, Tenkasi
76	Sports	J.Kalyankumar	District level Cricket Match – Under 23 Cricket Team	11.02.2019 to 21.02.2019	GCE, Tirunelveli
77	EEE	S.Meenakshi	IEEE – IOT workshop	02.02.2019	National Engineering College, Kovilpatti
78	EEE	A.PoornaPushkala	IEEE – IOT workshop	02.02.2019	National Engineering College, Kovilpatti
79	EEE	A.Priyadharshini	IEEE – IOT workshop	02.02.2019	National Engineering College, Kovilpatti
80	EEE	A.G.Naveen Kumar	IEEE – IOT workshop	02.02.2019	National Engineering College, Kovilpatti
81	EEE	M.Ranjith King Jimson	IEEE – IOT workshop	02.02.2019	National Engineering College, Kovilpatti
82	EEE	M.Pandaravel Kannan	IEEE – IOT workshop	02.02.2019	National Engineering College, Kovilpatti
83	EEE	K.Shunmuga Sundaram	IEEE – IOT workshop	02.02.2019	National Engineering College, Kovilpatti
84	EEE	R.SivaSornaram	IEEE – IOT workshop	02.02.2019	National Engineering College, Kovilpatti
85	EEE	R.Pitchai Kumar Arun	IOT Workshop	02.02.2019	Madras Institute of Technology, Chennai
86	EEE	A.Mahadevan	IOT Workshop	02.02.2019	Madras Institute of Technology, Chennai
87	EEE	S.Manikumar	IOT Workshop	02.02.2019	Madras Institute of Technology, Chennai
88	EEE	T.Aarthi	Image Processing and Gesture Controlled Robotics Workshop	15.02.2019 to 16.02.2019	NIT, Trichy
89	EEE	G.Suba Shree	Image Processing	15.02.2019 to	NIT, Trichy

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92	EEE	H.Selvadevi	Image Processing and Gesture Controlled Robotics Workshop	15.02.2019 to 16.02.2019	NIT, Trichy
93	Sports	C.Rethish Kumar	Einstein Sports League 2019 Men Football Tournament	01.02.2019 to 03.02.2019	Einstein college of Engineering, Seethaparpanallur
94	Sports	J.Vincent Dennis	Einstein Sports League 2019 Men Football Tournament	01.02.2019 to 03.02.2019	Einstein college of Engineering, Seethaparpanallur
95	Sports	M.Dinesh Kumar	Einstein Sports League 2019 Men Football Tournament	01.02.2019 to 03.02.2019	Einstein college of Engineering, Seethaparpanallur
96	Sports	T.Ram Mohan	Einstein Sports League 2019 Men Football Tournament	01.02.2019 to 03.02.2019	Einstein college of Engineering, Seethaparpanallur
97	EEE	M.Aswini	Workshop	25.01.2019	Madras Institute of Technology, Chennai
98	EEE	V.Poorani	Workshop	25.01.2019	Madras Institute of Technology, Chennai
99	EEE	P.Anukarthika	Workshop	25.01.2019	Madras Institute of Technology, Chennai
100	EEE	V.Nivedha	Workshop	25.01.2019	Madras Institute of Technology, Chennai
101	EEE	R.K.Gobiga	Workshop	25.01.2019	Madras Institute of Technology, Chennai
102	Sports	V.Padmavathi	CM Trophy Ball Badminton Match	30.01.2019	SDAT Stadium, Tuticorin
103	EEE	D.AngelinAnitha	Workshop	31.01.2019 to 01.02.2019	Madras Institute of Technology, Chennai
104	EEE	V.AnishaSubashree	Workshop	31.01.2019 to 01.02.2019	Madras Institute of Technology, Chennai
105	EEE	P.Surya Ambika	Workshop	31.01.2019 to 01.02.2019	Madras Institute of Technology, Chennai
106	EEE	K.Swetha	Workshop	31.01.2019 to 01.02.2019	Madras Institute of Technology, Chennai

107	EEE	S.Praveen Kumar	Paper Presentation	25.01.2019	PSR College, Sivaksai
108	EEE	C.Mugesh	Paper Presentation	25.01.2019	PSR College, Sivaksai
109	EEE	A.Venkadaramanan	Paper Presentation	25.01.2019	PSR College, Sivaksai
110	EEE	J.Vincent Dennis	Paper Presentation	25.01.2019	PSR College, Sivaksai
111	EEE	M.Srinivasan	Training Programme	21.01.2019 to 25.01.2019	Nissi Engineering Solution Pvt. Ltd., Chennai
112	EEE	D.Sudharsan	Training Programme	21.01.2019 to 25.01.2019	Nissi Engineering Solution Pvt. Ltd., Chennai
113	EEE	E.Veeraputhiran	Training Programme	21.01.2019 to 25.01.2019	Nissi Engineering Solution Pvt. Ltd., Chennai
114	EEE	B.Surendaran	Training Programme	21.01.2019 to 25.01.2019	Nissi Engineering Solution Pvt. Ltd., Chennai
115	EEE	Perumal Samy and M. Parthasarathy	Paper Presentation	March 2019	GCE, Tirunelveli
116	EEE	S. Vishnu and P. Ramar Ananth	Symposium activities (Electric Circuit Simplification)	March 2019	GCE, Tirunelveli
117	EEE	K.T. Sreedhar and T. Sukumar	Symposium activities (Electric Circuit Simplification)	March 2019	GCE, Tirunelveli
118	EEE	T. Sukumar	Snapshot	March 2019	GCE, Tirunelveli

STUDENTS PUBLICATIONS

S.No	NAME	PAPER NAME	CONFERENCE NAME	DATE	PLACE
1	Mr.K.Kumar B.Uma G.Sindhuga P.Sathya Gomathy	Smart MOP	National conference on computer, Electrical and Electronics Engineering (NC ² E ² '19)	March 1 2019	P.S.R.R College of Engineering for Women, Sivakasi
2	Dr.N.B.Prakash A.Kalirajan S.Kathirvel mari P.Mohamed Safeek S.Murugan	Smart vehicle system	International conference on recent trends in Engineering, Technology and Management (ICRTETM)-2019	18 th March 2019	PSN college of Engineering and Technology, Tirunelveli
3	Mr.T.Sivakumar A.Aasha A.Jothi Meena	Control Monitoring and Protection of Conveyor system using PLC	5 th International Conference on Latest Trends in Science, Engineering and Technology	March 22 and 23 2019	Karpagam Institute of Technology, Coimbatore
4	Mr.F.Antony Jeffrey Vaz K.Kanika S.Priyadharsini V.Padmavathi R.Nishanti	Intelligent Battery Power Optimizer for IOT devices	IEEE International Conference on recent advances in Energy efficient Computing and Communication	March 7 and 8 2019	St.Xavier's Catholic College of Engineering, Nagercoil
5	Ms.A.M.Diffni Gomez M.Rajashree C,Shibana V.Ramya S.Thanga Adhi Lakshmi	Influence of Bubbles on different dielectric fluids under AC voltages- Experimental study	7th International Conference on Contemporary Engineering and Technology	March 9 and 10 2019	Prince Shri Venkateswara Padmavathy Engineering College, Chennai
6	Mrs.K.Gowthami D.Vishnumoorthi C.Vikram S.Sivakumar K.Seenivasaragul	Design of an isolated Boost Converter with coupled inductor for electric vehicle application	International Conference on Advanced Computing and Communication systems	March 15 and 16 2019	Sri Eshwar College of Engineering, Coimbatore
7	Ms.S.Balakiruthiha P.Guru Subramanian P.Kannan G.Ajay Krishnan K.Mariraj	Priority based Embedded energy management system with IOT using Raspberry Pi	5 th International Conference on Latest Trends in Science, Engineering and Technology (ICLTSET ' 19)	March 22 and 23 2019	Karpagam Institute of Technology, Coimbatore
8	Mr.P.Samuel Pakianathan Dr.R.V.Maheswari	Improving the performance of Vegetable oil with	5 th International Conference on Latest Trends in Science,	March 22 and 23 2019	Karpagam Institute of Technology,

	S.Syed Mohideen Batcha R.Raguraman A.Sundararajan G.Rajesh	Antioxidants for transformer application	Engineering and Technology (ICLTSET ‘ 19)		Coimbatore
9	Dr.M.P.E.Rajamani K.Vishnu Priya K.Shenbagadevi S.Reshma Priyadharsini O.Chitra	Smart Dustbin using Raspberry Pi	5 th International Conference on Latest Trends in Science, Engineering and Technology (ICLTSET ‘ 19)	March 22 and 23 2019	Karpagam Institute of Technology, Coimbatore
10	Dr.M.P.E.Rajamani R.Anandhi M.AniNitusha D.R.Divya	Smart street light using cloud computation	5 th International Conference on Latest Trends in Science, Engineering and Technology (ICLTSET ‘ 19)	March 22 and 23 2019	Karpagam Institute of Technology, Coimbatore
11	Mr.M.Gengaraj R.Nandhini N.Navitha S.Jamunadevi	THD Analysis of Induction Motor using Multi level inverter based on PWM techniques	8th National conference on recent trends in Electrical, Electronics, Communication and Computing technologies (NCRTE ² C ² T-2K19)	March 15 2019	P.S.R.R College of Engineering for Women, Sivakasi
12	M. Sivapalanirajan, R. Aravindhhan, M. Kartheeswaran, S. Ariharan, N. Prasanna Venketeshan.	Microcontroller Based Low Cost Robotic Arm For Rehabilitation Of Patients With Set Back In Arm Movement	International Conference on computer networks and inventive communication technologies – ICCNCT’19	May 23 rd – 24 th 2019	RVS Technical campus coimbatore

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