



R.M.K. ENGINEERING COLLEGE

RSM NAGAR, KAVARAIPETTAI – 601 206

Affiliated to Anna University, Chennai / Approved by AICTE, New Delhi

Accredited by NBA / ISO 9001 : 2008 Certified



Electrowerkz

(BI-ANNUAL NEWSLETTER)

VOLUME-2 : ISSUE-2
DEC 2018 - JUNE 2019

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING



“Engineers like to solve problems. If there are no problems handy available, they will create their own problems.”

LAKSHMIKANTHAMMAL EDUCATIONAL TRUST

Plot No.2981, Z Block

1st Street, 13th main road

Anna Nagar, Chennai - 600 040

Tamil Nadu, India.

Phone 044 - 26211504, 26266046

DEPARTMENT

VISION

To Mould the Young Professionals into Creative and Successful Electrical Engineers to meet with the Global Technological Challenges

MISSION

- M1: To Provide World Class Facilities to Enhance Technical Expertise of Students.**
- M2: To Create Awareness in Cutting Edge Technologies to the Faculty through Continuous Improvement Programs.**
- M3: To Provide a Conducive Ambience for the Teaching –Learning Process.**
- M4: To Impart Industry Oriented Technical Skills and Equip Students to Meet with the Societal Developments.**
- M5: To Inculcate Ethical Values, Team Spirit, Leadership Quality and Flexibility in Budding Electrical Engineers.**

Shri.R.S.Munirathinam
Founder & Chairman

Smt. Manjula Munirathinam
Chairperson

Shri. R.M. Kishore
Vice- Chairman

Shri. R.Jothi Naidu
Director

Shri. Yalamanchi Pradeep
Secretary

Dr. Durgadevi Pradeep
Vice-Chairperson

STAFF CO-ORDINATORS

Dr. Y. Sukhi
Professor

Dr. T. Magesh
Professor

Ms. M. Perarasi
Assistant Professor



STUDENT CO-ORDINATORS

Giritharan.V.I
Final year, EEE

Mythili.C
Final year, EEE

Sunil Kumar.S
Third year, EEE

SaiCharan.V
Third year, EEE

Smt. Sowmiya Kishore
Management Trustee

Dr.Elwin Chandra Monie
Principal

Dr. K.Chandrasekaran
Dean

Dr.K.A.Mohamed Junaid
Vice-Principal

Dr.S.Pavai Madheswari
Academic Coordinator

Dr.Geetha Ramadas
HoD- EEE



Shri. R.S. MUNIRATHINAM
Founder - Chairman

FOUNDER'S MESSAGE

I am extremely happy in releasing the half-yearly newsletter, highlighting the activities of the college between December 2018 and June 2019. The laudable exercise of the students and staff of this Institution has already brought laurels in the name of National Best College Award for the year 2008 awarded by the ISTE. I congratulate the staff and students for this achievement. I wish that everyone continue their untiring efforts not only to retain this award but to grow to further high standards. I congratulate all the editorial members for releasing this newsletter.



Shri. R.M. KISHORE
Vice Chairman

VICE CHAIRMAN'S MESSAGE

I deem it a great honor to express my views in our college newsletter, which is an evidence of all the awards and accolades of staff and the student community. On this gracious occasion, I wish good luck to all those who have been responsible for bringing out this newsletter. This will surely be an inspiration and motivation for other students and staff to perform better and add on their contributions in the forthcoming issues. Congratulations to all the contributors.

PRINCIPAL'S MESSAGE



Dr. K. A. Mohamed Junaid
Principal

It is my pleasure in congratulating the editorial board on this pleasant occasion of releasing the newsletter for the period December 2018 to June 2019. It is great to find a considerable number of winners and participants in co-curricular and extracurricular activities which certainly prove that our staff and students are adequately equipped and possess necessary skill-sets to bring such laurels to the institution. I wish that this number may grow in the years to come. I am sure that publishing a newsletter of this sort containing the achievements of the wards will be a recognition to them and I wish them all the very best for future endeavours.

HOD'S MESSAGE



Dr. Geetha Ramadas
HoD, EEE

Greetings and welcome to the maiden issue of the RMK Newsletter! A newsletter inspires and motivates students and staff alike, for it reminds them of the zeal that they had once to do something extraordinary. We were overwhelmed by the response that we received from the coordinators, heads of departments and faculty members of RMK in making this newsletter possible.

In this newsletter, we have reported significant achievements of the Departments, Staff and Students. Campus news and events, and the placement scenario have also been emphasized. I am glad to acknowledge the kind support that I received directly and indirectly, to bring out the newsletter on time.

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1. UNIVERSITY TOPPERS

(i) B.E RANK HOLDERS

| RANK HOLDER | CGPA | RANK |
|---|-------------|-------------|
| VISHALI S 111714105114 | 8.76 | 31st |
| SHYAM SHANKARAN R 111714105098 | 8.79 | 32nd |
| GAYATHRI M 111714105038 | 8.79 | 32nd |
| HARIHARAN P P 111714105046 | 8.79 | 33rd |
| SHRAVAN H 111714105096 | 8.77 | 34th |
| JAYA LEKSHIMI M 111714105049 | 8.67 | 44th |
| SIRISHA M V K 111714105099 | 8.63 | 48th |
| ABDUL RASHEED S 111714105003 | 8.62 | 49th |

(ii) ME PED RANK HOLDERS

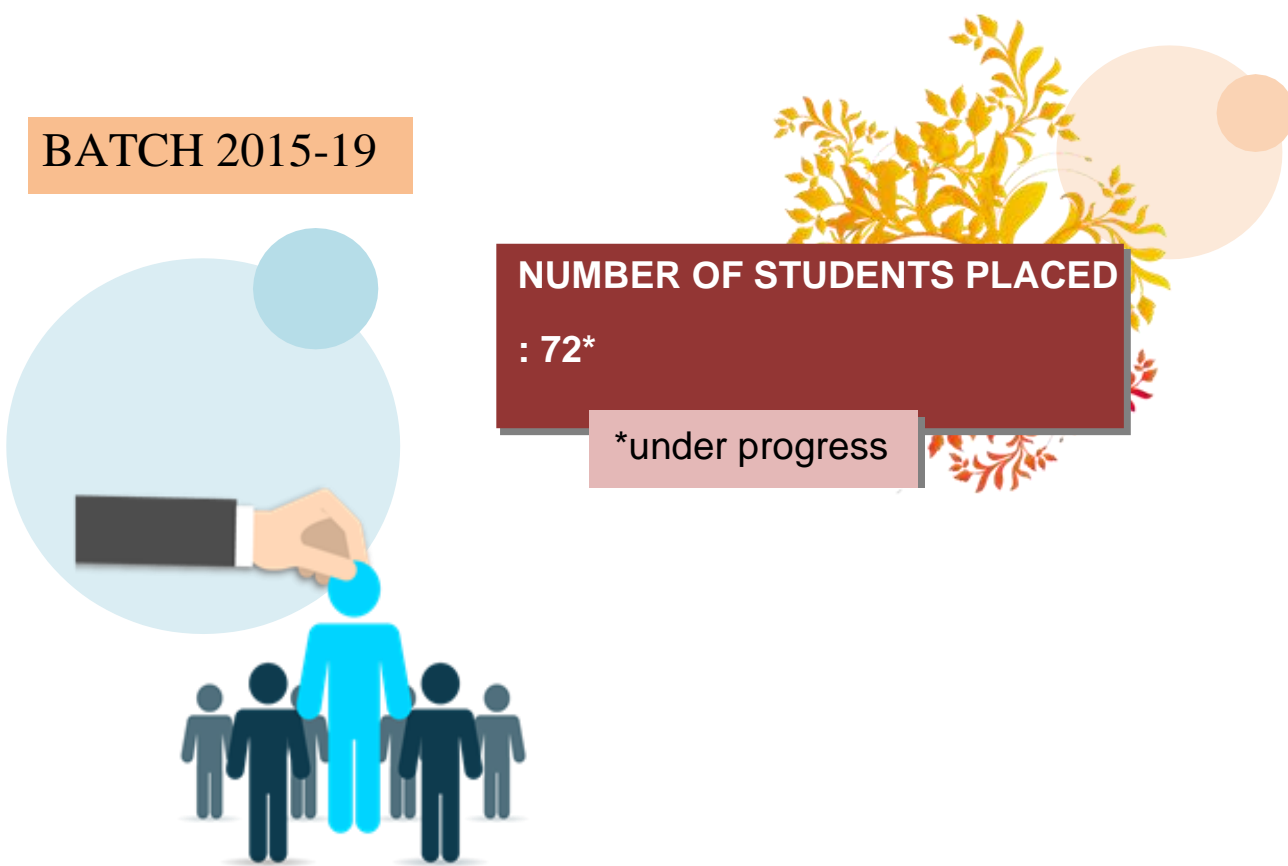
| RANK HOLDER | CGPA | RANK | PHOTO |
|--|-------------|-------------|---|
| LAVANYA V (ME-PED) 111716415002 | 9.09 | 2 |  |
| HINDU M (ME-PED) 111716105001 | 8.94 | 7 |  |

2. TRAINING & PLACEMENTS

BATCH 2015-19

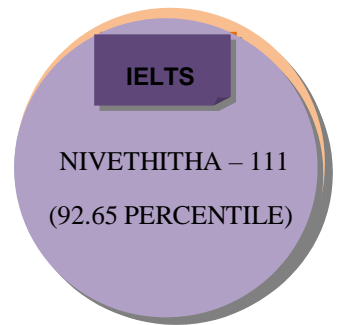
NUMBER OF STUDENTS PLACED : 72*

***under progress**



(i) CAMPUS RECRUITMENT

| SI No | Company | No of Students |
|-------|------------------------------------|----------------|
| 1. | CTS | 16 |
| 2. | E&Y | 1 |
| 3. | HCL | 1 |
| 4. | Infosys | 8 |
| 5. | Just Dial | 2 |
| 6. | KPIT | 12 |
| 7. | L&T InfoTech | 1 |
| 8. | Mindtree | 1 |
| 9. | Mphasis | 1 |
| 10. | Outsourcing Incorporation Japan | 2 |
| 11. | Soliton Technologies | 3 |
| 12. | TATA Elxsi | 5 |
| 13. | TCS | 2 |
| 14. | VVDN | 2 |
| 15. | WIPRO | 2 |
| 16. | ZOHO | 2 |
| 17. | ZOHO (Internship) | 1 |



NUMBER OF STUDENTS OPTED FOR HIGHER STUDIES: 23
NUMBER OF STUDENTS APPEARED FOR THE GATE : 52

Student's Speech

"I was selected in KPIT Sparkle Technologies in a drive held at PCCOE, Pune, and Maharashtra on 22nd Feb, 2019 of KPIT. Totally, there were 4 Rounds. First round was written test, Questions related to Aptitude, Reasoning, English and SQL. My department and the Management have given me a good Support in getting placed in KPIT Company. Our Beloved HOD has given me Small tips for the Placement. By making us to attend many Mock Interviews Counselor gave me Wonderful Suggestions for my improvement and talked with my Parents and helped a lot in getting placed in KPIT".



**N V
SRIKANTH
11171510506
5
4th year EEE.**

FACULTY FDP

| | | | |
|------------------------|-------------------------------------|------------------------|--|
| M.VIMALA | ENERGY OPTIMIZATION IN DATA CENTRES | 05/Feb/19 05/Feb/19 | IIT MADRAS |
| <u>Mr.Fayaz Ahamed</u> | SEMINAR ON IoT | 24/Dec/18 24/Dec/18 | R.M.D.ENGINEERING COLLEGE |
| <u>Ms.Vimala</u> | SEMINAR ON IoT | 24/Dec/18 24/Dec/18 | R.M.D.ENGINEERING COLLEGE |
| <u>Ms.Karthika.V</u> | SEMINAR ON IoT | 24/Dec/18 24/Dec/18 | R.M.D.ENGINEERING COLLEGE |
| <u>M.S.Kavitha</u> | SEMINAR ON IoT | 24/Dec/18 24/Dec/18 | R.M.D.ENGINEERING COLLEGE |
| M.PERARASI | Workshop on Internet of Things | 03/Dec/18 07/Dec/18 | National Institute of Technical Teachers Training and Research |
| E.ELAKKIA | Digital in Manufacturing | | Cognizant |

STUDENTS TRAINING

| | | | | | |
|-----------|----------|-----------------------------|---------------------------|-------------|-----|
| 2016-2020 | III YEAR | Motivational speech | R.M.K.Engineering college | 05/Mar/2019 | 126 |
| 2017-2021 | II YEAR | PERSONAL SKILLS DEVELOPMENT | BEC | 16/Feb/2019 | 139 |
| 2016-2020 | III YEAR | APTITUDE TRAINING PROGRAM | SMART TRAINING | 14/Feb/2019 | 126 |
| 2017-2021 | II YEAR | PERSONAL SKILLS DEVELOPMENT | SMART TRAINING | 05/Feb/2019 | 139 |

FACULTY PUBLICATIONS

1. **Dr.S.Anita, Dr.C.Chellamuthu, DrY.Sukhi** Simplified Design of Permanent Magnet Synchronous Generator for Gas Turbine Application *Journal Of Electrical Engineering* (SCOPUS, ROAD) 2018.

2. **M.S.Kavitha** An optimized algorithm for FPGA architecture oriented IOT applications *Cognitive Systems Research* (Scopus and Science Citation) 2018

ACHIEVEMENTS



STUDENTS'



Ms.A.Varshinee, Third year,EEE received IEI TISLA Best Student Academic Award for the year 2017-18.



M.s.K.S Nivethitha of final year student received Best Student during the academic year 2017-2018 for her outstanding performance from Dr.Kalam Educational Trust, Coimbatore on 12-5-2018.



Ms.S.DeepthiPooja, Ms.R.Dipshika, III Year EEE Students won second prize in Cognizant's The Big Idea 2018 held on 26-10.2018



Ms.P.Mythili, K.S Nivethitha and V.Pandiselvi of EEE, final Year students received ICT Academy Student Innovator award with cash prize of Rs 10000 at 'Innovate Youth Summit' held at Jeppiar Engineering college on 09-01-2019



Ms.S.DeepthiPooja, Ms. R.Dipshika, Ms.R.Harini and Ms.Y.A.Aafrin, III Year EEE guided by Ms. L Annie Isabella, Assistant Professor/EEE, are shortlisted for the grand finale of ACCENTURE INNOVATION CHALLENGE 2018 , held on 24.10.18.

FACULTYS'



Dr. Y.SUKHI,Professor,/EEE, received the Best Faculty Advisor Award from the Institution of Engineers, (INDIA) for Tiruvallur Local centre.



Department of Electrical and Electronics Engineering received IEI Best Chapter Award TISLA 2018, Presented by The Institution of Engineers (India), Thiruvallur Local centre.



AUTOMOTIVE ELECTRONICS

KPIT

EMBEDDED SYSTEMS



FACTORY AUTOMATION



ROBOTICS AND EMBEDDED SYSTEMS

@yantra

“These centers are equipped with all latest devices of Industrial standards for enabling the students’ skill to understand their application in real time process.” These Centers also provides the placement assistance for the students in their respective domain.”

C language training, various seminars and guest lectures.



Guest lectures and trainings in ES domain.



AUTOMOTIVE ELECTRONICS

EMBEDDED SYSTEMS

ELECTRONICS

**Training program on
PLC and its application**



FACTORY AUTOMATION

**Foundation level
training on ES and
robotics**



**ROBOTICS AND
EMBEDDED SYSTEMS**

STUDENTS ARTICLE



1. Electricity was introduced to Ethiopia in 1896 after Emperor Menelik II ordered two newly invented electric chairs as a form of humane capital punishment and realized they were useless in his country without electricity.
2. Albertville, France's electricity is powered by Beaufort cheese. Since whey is unnecessary to make Beaufort cheese, bacteria is added to the whey. This transforms the whey into biogas. This gas is then fed through an engine which heats water to 90°C (194°F) to generate 2800 MWh/yr of electricity.
3. In 1746, Jean-Antoine Nollet conducted an experiment in which 200 monks formed a circle (1.6 km in circumference) and were linked by iron wire. He then had electricity pass through them which shocked all the monks simultaneously. He concluded that the speed of electricity was very high.
4. Huge amounts of renewable energy can be stored over a long period of time by using Pumped Storage Hydropower, where water is pumped up a hill with renewable electricity then sent back down the hill to generate on demand clean electricity at up to 80% efficiency.
5. In 1963, Quebec government bought out all the private power companies and nationalized electricity. Today, 96% of Quebec's power is from hydroelectricity, and it has some of the cheapest electricity rates in North America while earning billions in revenue.

AnnaDurai/IVEEE

INVENTIONS IN RECENT TIMES...

Green Energy Electrical Power Converter:

Once you collect energy, converting it for use in the electrical system is an essential next step. A new power converter developer in the Department of Electrical Engineering at the University of Arkansas will now make it easier for users of renewable energy to shunt excess energy into the power grid. This has the potential to make rooftop solar initiatives much easier and to further incentivize homeowners to pursue energy efficient technology.

Smart Electrical Grids:

As energy systems become more complex and energy sources become more diverse, smart grids are growing in importance worldwide. Smart grids integrate innovative electrical technology at multiple levels to improve flow control, detect malfunctions, and automate service delivery. With end-to-end communication between power plants, distribution sites, and the end user's electrical point-of-presence, it becomes possible to raise efficiency and reduce costs.

Virtual Reality:

Virtual reality draws on multiple disciplines, but in terms of providing a sensory experience that maps effectively to 'real-life,' electrical engineering is crucial. The earliest VR technologies consisted of a headset with gloves as an input device, rendering the user mostly stationary. Positional tracking is now making VR more interactive, but the market has yet to develop a solution using a complete array of sensors.

Eye Tracking Technology:

As many consumers develop an adversarial relationship to conventional digital advertising, eye tracking becomes more essential not only to deliver commercial messages, but to better understand what information is of greatest interest. As it has matured, eye tracking technology has grown into an important frontier in accessibility for the disabled, allowing technology access through eye movement. Sensitive electronic sensors are the basis of virtually all eye tracking.

Wireless Wearable Tech:

The idea of the 'Personal Area Network' has been around in computing science for a long time, but it's only now becoming a practical reality. Devices now can operate on a smaller scale than ever and interface seamlessly with the wider environment. Wearable devices have been developed to authenticate access to vehicles and machinery, improve reading comprehension while engaged in exercise, and provide communications information without the use of a phone.

Sunil Kumar. /Third Year EEE

TECHNICAL CONTENTS

ELECTRIC VEHICLE

The Release of the 2017 Chevrolet Bolt

The release of the much anticipated [2017 Chevrolet Bolt](#) is proving to be a game changer in the world of electric vehicles. This vehicle falls in the middle when it comes to balancing performance with price. The car retails for approximately \$29,995 after applicable federal tax credits. As for range, it is able to travel an impressive 238 miles on a fully charged battery. This is a huge increase compared to the 83-mile travel range offered by the Volkswagen e-Golf without a drastic price jump. The Volkswagen e-Golf sells for \$21,495 after applicable incentives. The range is slightly less than the 315 miles offered by the Tesla S P100D model. However, the enormous \$118,500 price tag of this model is simply out of reach for many American consumers. This careful balance of performance and price is why the Chevrolet Bolt may finally push electric vehicle use into mainstream life. While being budget friendly, the Chevrolet Bolt is still loaded with premium features. For instance, options like heated seats, Bose sound system, and rear camera mirror can be added to any base vehicle purchase. This ensures it will be a great fit for buyers who do not want to sacrifice luxury for performance.

Hurdles Remain For Widespread Electric Car Use

Even with a lot of electric vehicle advancements, there are still many hurdles that remain for the technology. One of the hurdles many owners must face is the warranty period of the electric car's battery. Many times this warranty is less than that of the rest of the parts and equipment of the vehicle. Another major hurdle that remains is the lack of charging stations. This limits electric vehicle use to mainly in town trips and other local errands. Until charging stations become widespread, electric vehicle use will still be severely limited. Fortunately, there are places that are working to develop a solution to this problem. The [WestSmart EV Project](#) is a prime example. With a grant from the U.S. Department of Energy, the project aims to set up a network of charging stations over 1,500 miles spanning three different states. It will include a network of fast chargers along specific mile markers of the interstate for electric vehicle owners to use.

The Future of Electric Vehicle Use

Thanks to advancements in electric vehicle technology and infrastructure we can expect electric vehicle use to continue to grow. While it is true that electric vehicle charging stations are very limited, the amount of charging stations are continuing to expand nationally. As for battery pack efficiency, researchers are actively working on solutions that increase their capacity while also decreasing production costs. This will continue to help decrease vehicle costs while improving vehicle travel range. In addition to charging station expansion, there will need to be advancements in public transit options to provide last mile transportation to and from existing charging stations. Once this last feat is completed electric vehicle use can truly become widespread for businesses and private use alike.

V.Saicharan/Final Year EEE

Automatic parking System

An **automated (car) parking system** (APS) is a mechanical system designed to minimize the area and/or volume required for parking cars. Like a multi story parking, an APS provides parking for cars on multiple levels stacked vertically to maximize the number of parking spaces while minimizing land usage. The APS, however, utilizes a mechanical system to transport cars to and from parking spaces (rather than the driver) in order to eliminate much of the space wasted in a multi-story parking garage. While a multi-story parking garage is similar to multiple parking lots stacked vertically, an APS is more similar to an automated storage and retrieval system for cars. The partnermoster (shown animated at the right) is an example of one of the earliest and most common types of APS.

APS are also generically known by a variety of other names, including: *automated parking facility* (APF), *automated vehicle storage and retrieval system* (AVSRS), *car parking system*, *mechanical parking*, and *robotic parking garage*.

All APS take advantage of a common concept to decrease the area of parking spaces - removing the driver and passengers from the car before it is parked. With either fully automated or semi-automated APS, the car is driven up to an entry point to the APS and the driver and passengers exit the car. The car is then moved automatically or semi-automatically (with some attendant action required) to its parking space.

The space-saving provided by the APS, compared to the multi-story parking garage, is derived primarily from a significant reduction in space not directly related to the parking of the car:

- Parking space width and depth (and distances between parking spaces) are dramatically reduced since no allowance need be made for driving the car into the parking space or for the opening of car doors (for drivers and passengers)
- No driving lanes or ramps are needed to drive the car to/from the entrance/exit to a parking space
- Ceiling height is minimized since there is no pedestrian traffic (drivers and passengers) in the parking area, and
- No walkways, stairways or elevators are needed to accommodate pedestrians in the parking area.

With the elimination of ramps, driving lanes, pedestrians and the reduction in ceiling heights, the APS requires substantially less structural material than the multi-story parking garage. Many APS utilize a steel framework (some use thin concrete slabs) rather than the monolithic concrete design of the multi-story parking garage. These factors contribute to an overall volume reduction and further space savings for the APS