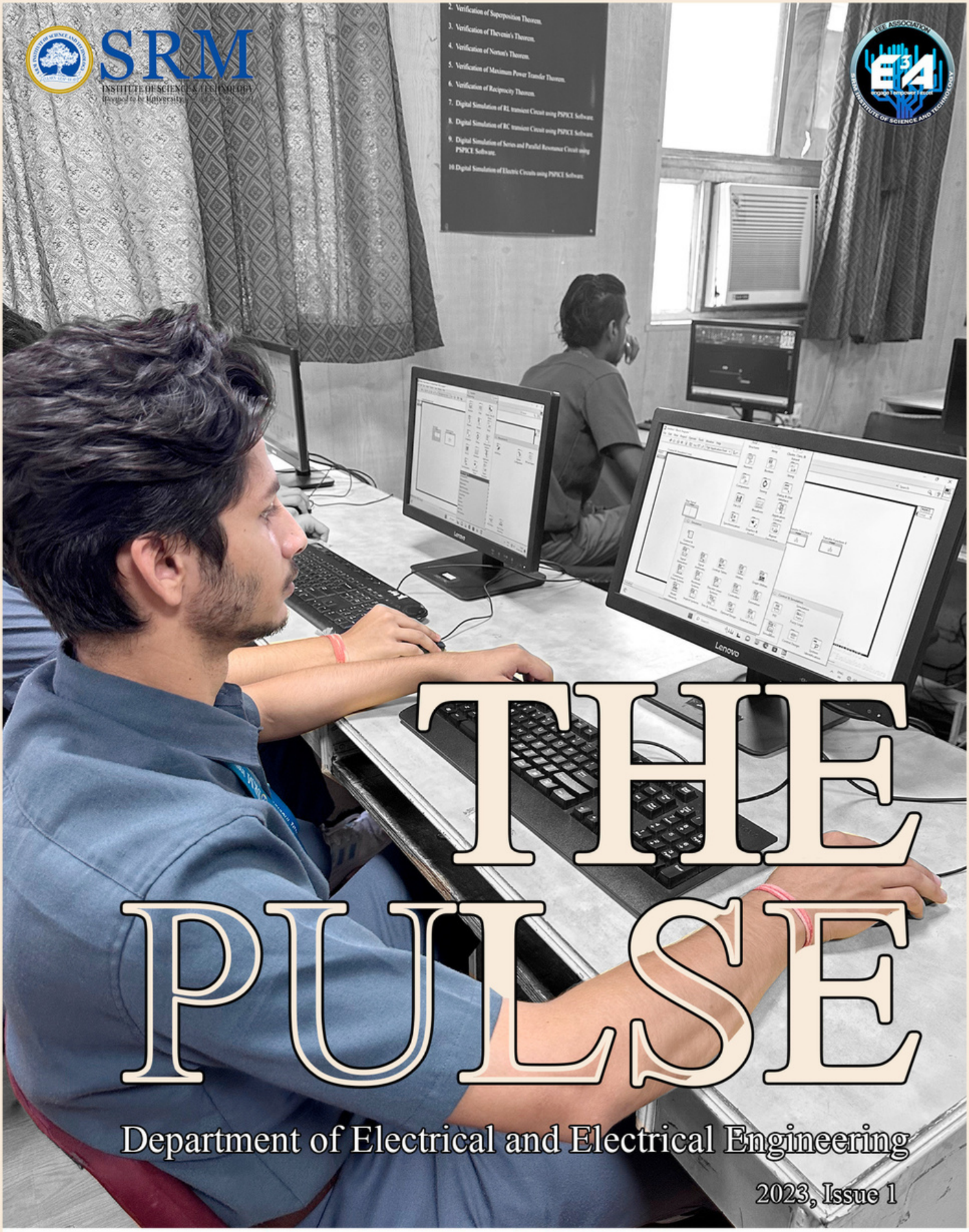
SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)




# THE PULSE

## Department of Electrical and Electrical Engineering

2023, Issue 1

NAAC A++

Category 1 with 12B Status

(2022) Ranked 19th University

(2023) World Ranking one among 41 Indian Universities

(2023) World Ranking one among 75 Indian Universities

(2021) Ranked 4th

(2023) World Ranking one among 14 Indian Universities

# CONTENTS

# HOD's Desk

**Dr.K.Vijayakumar**
HOD
*Electrical and Electronics Engineering*

Dear Readers,

I am excited to present my greetings and wishes in this issue of the Department's Newsletter. I whole heartily thank the faculties, students and the supports staffs of the EEE department whose efforts has helped for the consistent growth of the department in different perspectives. As we move forward, let us all look in to this New Year 2023 with positive thoughts andcontribute towards achieving excellence in academic and research avenues.

This newsletter "The Pulse" highlighting the activities, happening in the department keeps us motivated to move further with dedication in our work. It updates, express gratitude and outline our collective goals for the future. The EEE students continue to make is proud through their accomplishments and recognition in the global arena. Personally, I would like to urge the faculties to encourage the students to pursue their passions and aims for excellence in curricular, co-curricular and extra curricular activities.

Faculties' research publication, and patent filing, securing research grant's are the testaments to high actively research culture that exists in our department. The per faculty publication index is 2.2 for this year 2022. As we navigate, will encounter new collective effort will lead to continued success. Let us make this New Year another remarkable chapter in the journey of the department.

# Editorial Desk

Dr. PRADEEP V
Faculty Mentor

Dr. SURESH P
Faculty Mentor

DINESH KUMAR S
II Year, EEE

GIDEON STEVE B
I Year, EEE

AJAY AKSANTH J
II Year, EEE

NITHISH J
I Year, EEE

Dear Readers,

We are delighted to present the fourth issue of the first volume of THE PULSE, encapsulating the dynamic activities and noteworthy achievements of the students and faculty over the past three months (January 2023 - March 2023).

This magazine serves as a testament to the relentless dedication and excellence displayed by the students and faculty in various domains, including teaching, research, and other pivotal activities. Within these pages, a comprehensive overview of the contributions made by the members of the academic community is portrayed.

THE PULSE spotlights the myriad accomplishments of our department, showcasing achievements such as research article publications, successful grant acquisitions, fellowships, and advancements in patenting and intellectual property rights.

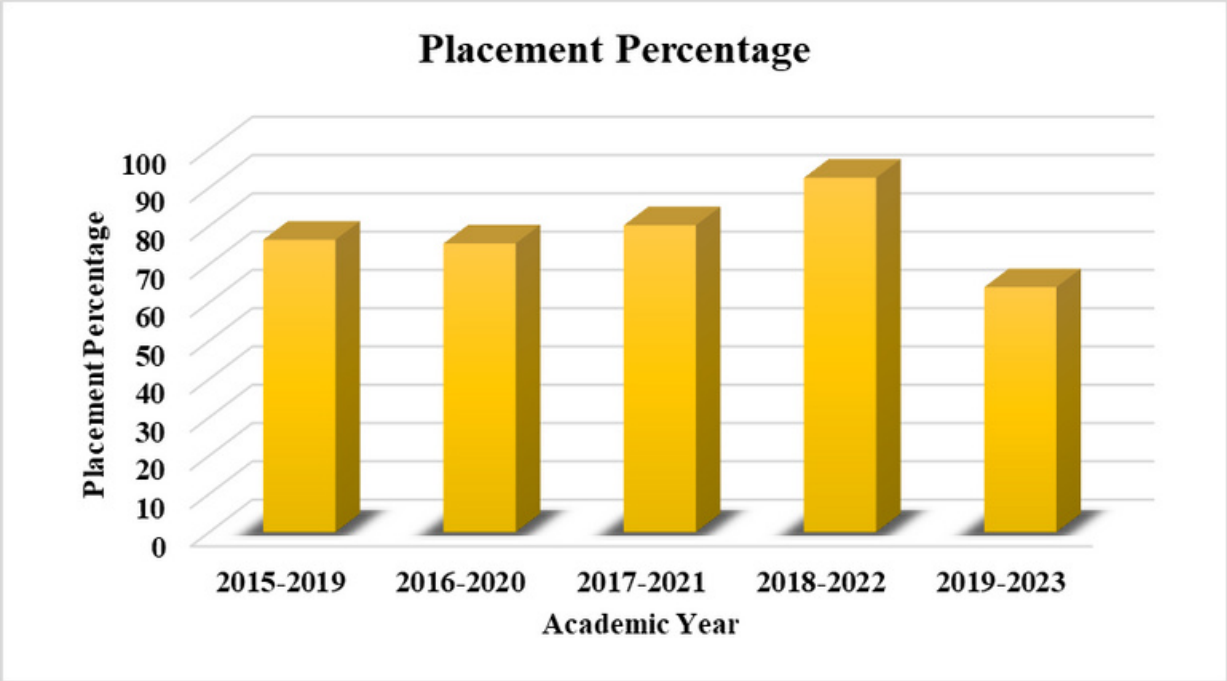
The team extend heartfelt gratitude to the Dean of the School of Electrical Engineering and the Head of the Department, along with the entire staff and student body of Electrical and Electronic Engineering department. The unwavering contributions and support have played a pivotal role in shaping the content and success of the magazine.

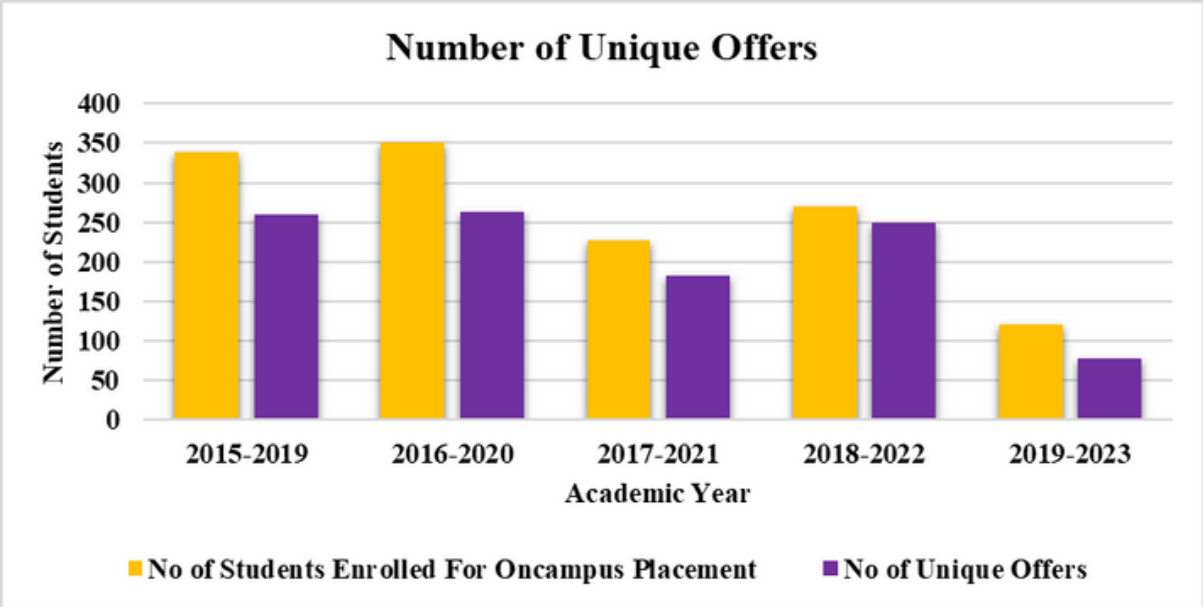
Thank you for your continued support, and we hope you enjoy this insightful journey through the vibrant tapestry of achievements within our academic community.

Sincerely,
Team Newsletter.

# PLACEMENT RECORDS

(till mar 2023)



# TOP RECRUITERS

BOSCH
Invented for life

cognizant

Deloitte.

ATHER

EY
Building a better working world

Hewlett Packard Enterprise

HCLTech
Supercharging Progress™

L&T Infotech

L&T Technology Services

LatentView
Actionable Insights • Accurate Decisions

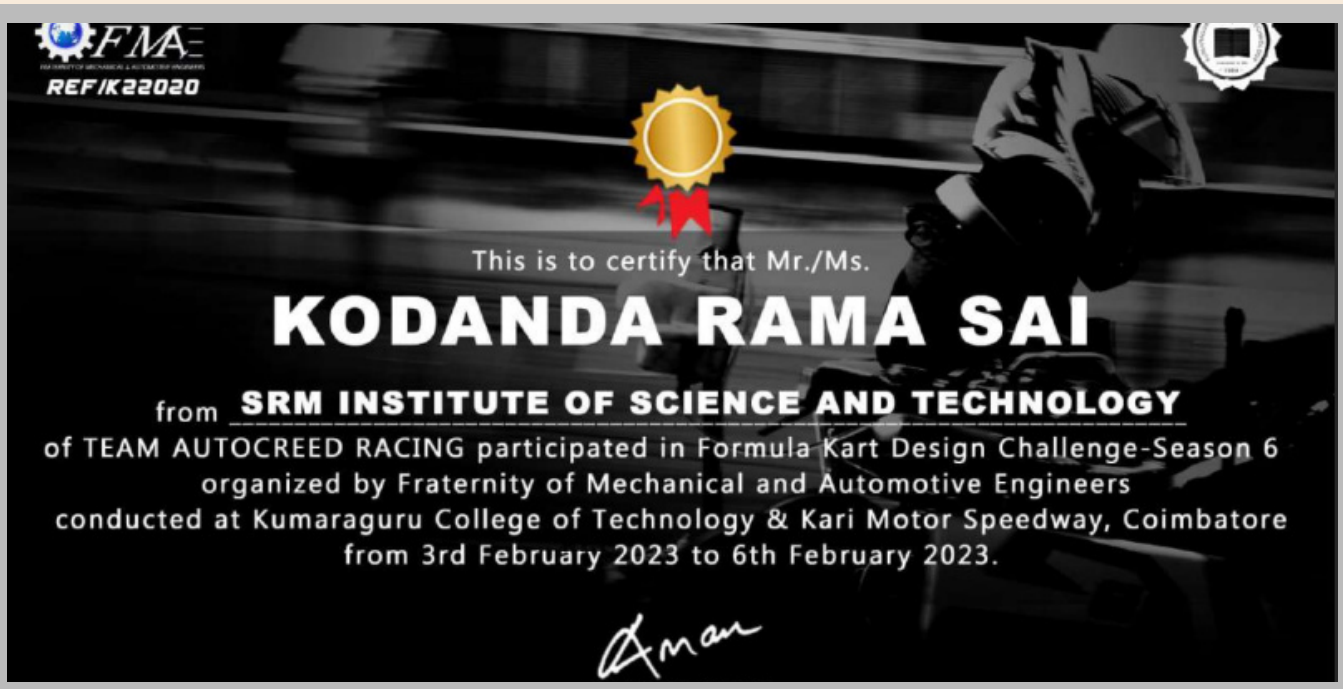
Tiger Analytics

LIGHT & WONDER™

TheMathCompany

NielsenIQ

# PARTICIPATIONS




**Akarsh Prasad,** second year student has participated in the "AI for the Oceans" organised by MTS students chapter, SRMIST on 04-03-2023.

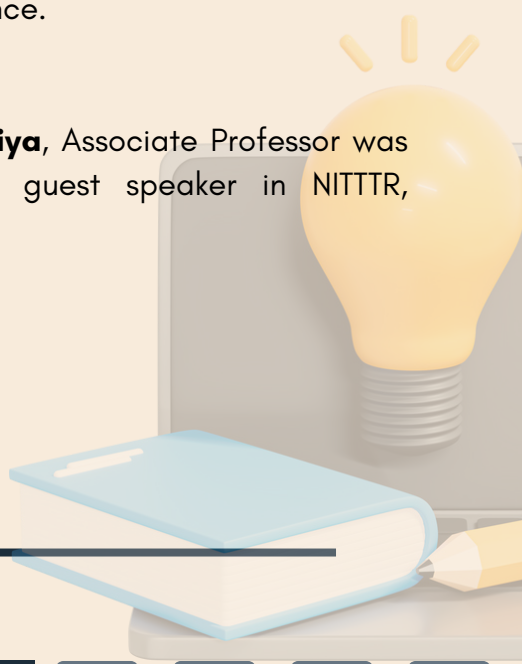
**Anwesh Dhar**, second year student has participated in the "Electric Mobility and Cloud Computing Technology" organised by SRMIST from 08-02-2023 to 09-02-2023.

**Kodanda Rama Sai**, second year student participated in Formula Kart Design Challenge - Season 6 at SRMIST from 03-02-2023 to 06-02-2023.

**Dr.R.Palanisamy,** Assistant Professor becomes an Editorial Board member in the International Journal of Applied Science and Engineering

**Dr.J.Preetha Roselyn,** Professor served MTS USA Sub committee member OTC ASIA conference.

**Dr.U.Sowmmiya**, Associate Professor was invited as a guest speaker in NITTTR, Chennai.



# FUNDED PROJECTS

**Project Title:** Product Development of Indigenous Cost-Effective High-Performance Electrical Vehicles Automotive Grade 40 kW PMSM and Controller
**PI: Dr. C. Bharatiraja**
**Co PI : Dr.K.Vijayakumar**
**Dr.K.M.Ravi Eswar**
**Funding Agency:** DST Technology Development Program
**Sanctioned Amount:** 55.33 Lakhs

Dr.K.Vijayakumar

**Project Title:** Design of Model Predictive Current Controlled Novel Bidirectional DC/DC Converter with Low Complexity, High Voltage Conversion Ratio and High Efficiency suitable for Energy Storage Device Integration with Three-Phase Grid Connected Inverter.
**PI: Dr.K.M.Ravi Eswar**
**Funding Agency:** SERB-SURE
**Sanctioned Amount:** 9.8 Lakhs

Dr. C.Bharatiraja

**Project Title:** IoT Enabled Smart Bidirectional Wireless Power Transfer System for Electric Vehicle-to-Home Applications
**PI: Dr.R.Narayanamoorthi**
**Funding agency:** SERI, SRMIST
**Sanctioned Amount:** 1.89 Lakhs

Dr.R.Narayanamoorthi

**Project Title:** IoT Based Authentication and Billing for Dynamic Wireless Electric Vehicle Charging System
**PI: Dr.R.Narayanamoorthi**
**Funding agency:** SERI, SRMIST
**Sanctioned Amount:** 1.53 Lakhs

Dr.K.M.Ravi Eswar

# PUBLICATIONS

A. Sivapriya et al., "Real-time hardware-in-loop based open circuit fault diagnosis and fault tolerant control approach for cascaded multilevel inverter using artificial neural network," Front. Energy Res., vol. 10, 2023, doi: 10.3389/fenrg.2022.1083662.

P. Sumathy, J. D. Navamani, A. Lavanya, J. Sathik, R. Zahira, and F. A. Essa, "PV Powered High Voltage Pulse Converter with Switching Cells for Food Processing Application," Energies, vol. 16, no. 2, 2023, doi: 10.3390/en16021010.

S. R. Ramalingam, C. S. Boopathi, S. Ramasamy, M. Ahsan, J. Haider, and M. Shahjalal, "A Single-Coil Multi-Tapped PDM-Based Induction Heating System for Domestic Applications," Electron., vol. 12, no. 2, 2023, doi: 10.3390/electronics12020404.

T. Mohandoss and F. Robert, "Investigation of Relay Electrical Contact Failure Using SEM and Surface Composition Extraction with EDS and XRD," Iran. J. Sci. Technol. - Trans. Electr. Eng., vol. 47, no. 3, 2023, doi: 10.1007/s40998-022-00586-2.

A. Venugopal and F. Robert, "A High Efficiency Isolated Bidirectional Reduced-Switch DC-DC Converter for Electric Vehicle Applications," in Lecture Notes in Electrical Engineering, 2023. doi: 10.1007/978-981-19-7728-2_5.

A. Venugopal and F. Robert, "Investigation on Losses with Various Emerging Core and Winding Materials in a High Frequency Planar Transformer," Period. Polytech. Electr. Eng. Comput. Sci., vol. 67, no. 2, 2023, doi: 10.3311/PPee.21054.

Y. V. Bhargava, R. Aravind, K. Noori, D. Gupta, S. Athikkal, and R. E. K. Meesala, "A Transformerless High Step up Dual Inductor Based DC-DC Converter for Fast Charging Application," in Lecture Notes in Electrical Engineering, 2023. doi: 10.1007/978-981-19-7728-2_4.

A. Patakamoori, R. R. Udumula, T. K. Nizami, and R. E. K. Meesala, "Comparative Analysis of Resonant Converter Topologies for Multiple Load Light Emitting Diode Applications," in Lecture Notes in Electrical Engineering, 2023. doi: 10.1007/978-981-19-7728-2_6.

A. Lavanya, J. Divya Navamani, A. Nihal, A. Narain, and Aashi, "Novel High Voltage Pulse Generator Structure for Water Treatment Applications," in Lecture Notes in Electrical Engineering, 2023. doi: 10.1007/978-981-19-7728-2_8.

J. Divya Navamani, A. Lavanya, Y. V. Bhargava, D. K. Gupta, and G. Singh, "Performance Assessment and Evaluation of a 52-kW Solar PV Plant in India," in Lecture Notes in Electrical Engineering, 2023. doi: 10.1007/978-981-19-6605-7_3.

G. Anbazhagan, D. Kim, and M. Maragatharajan, "IoT-Based Smart Energy Management in Hybrid Electric Vehicle Using Driving Pattern," IEEE Internet Things J., vol. 10, no. 21, 2023, doi: 10.1109/JIOT.2023.3246537.

P. K. Chittoor and C. Bharatiraja, "Building integrated photovoltaic powered wireless drone charging system," Sol. Energy, vol. 252, 2023, doi: 10.1016/j.solener.2023.01.056.

# PUBLICATIONS

P. Vishnuram et al., "A comprehensive review on EV power converter topologies charger types infrastructure and communication techniques," Front. Energy Res., vol. 11, 2023, doi: 10.3389/fenrg.2023.1103093.

S. T. J. Suthahar et al., "Experimental Investigations on the Performance of Thermosyphon Solar Flat Plate Collector using TiO2 Nanofluids," J. Nanomater., vol. 2023, 2023, doi: 10.1155/2023/6837264.

G. Palani, U. Sengamalai, P. Vishnuram, and B. Nastasi, "Challenges and Barriers of Wireless Charging Technologies for Electric Vehicles," Energies, vol. 16, no. 5. 2023. doi: 10.3390/en16052138.

P. Vishnuram, P. Suresh, R. Narayanamoorthi, K. Vijayakumar, and B. Nastasi, "Wireless Chargers for Electric Vehicle: A Systematic Review on Converter Topologies, Environmental Assessment, and Review Policy," Energies, vol. 16, no. 4. 2023. doi: 10.3390/en16041731.

E. Kannan et al., "A novel single phase grid connected solar photovoltaic system for state of charge estimation using recurrent neural networks," Energy Sources, Part A Recover. Util. Environ. Eff., vol. 45, no. 1, 2023, doi: 10.1080/15567036.2023.2172097.

G. Narayanan Pandurangan and K. Vijayakumar, "Dual-ground transformerless nine-level dynamic voltage boosting inverter topology," Int. J. Electron., 2023, doi: 10.1080/00207217.2023.2173808.

C. Jeeva, T. Porselvi, D. Karthikeyan, K. Suresh, B. Krithika, and S. Devadathan, "A Review on Electric Vehicle Adaptation: Challenges, Standards and Policy Options," in 3rd International Conference on Power, Energy, Control and Transmission Systems, ICPECTS 2022 - Proceedings, 2022. doi: 10.1109/ICPECTS56089.2022.10046743.

C. Bharatiraja, P. K. Chittoor, and Y. V. Bhargava, "An IoT based centralized smart locker using RFID technology," in AIP Conference Proceedings, 2023. doi: 10.1063/5.0101139.

S. Devadoss, P. Ramasamy, Amit, A. Agarwal, and S. Gupta, "Design of 15 level reduced switches inverter topology using multicarrier sinusoidal pulse width modulation," Telkomnika (Telecommunication Comput. Electron. Control., vol. 21, no. 1, 2023, doi: 10.12928/TELKOMNIKA.v21i1.24263.

B. Sinha, A. Adhikary, P. Nandini, V. Chakravartula, R. Narayanamoorthi, and S. Dhanalakshmi, "Design of a fiber-optic sensor with ultrahigh resolution for nitrogen dioxide detection based on gain-enhanced surface plasmon resonance," Results Opt., vol. 11, 2023, doi: 10.1016/j.rio.2023.100381.

R. E. K. Meesala, S. Athikkal, U. Ramanjaneya Reddy, and N. R. Kedika, "Enhanced Predictive Torque Control of Open Winding Permanent Magnet Synchronous Motor Drive with Common Mode Voltage Elimination," in Lecture Notes in Electrical Engineering, vol. 974, 2023. doi: 10.1007/978-981-19-7788-6_4.

W. H. Chen, Naveen C, P. K. Ghodke, A. K. Sharma, and P. Bobde, "Co-pyrolysis of lignocellulosic biomass with other carbonaceous materials: A review on advance technologies, synergistic effect, and future prospectus," Fuel, vol. 345, 2023, doi: 10.1016/j.fuel.2023.128177.

PUBLICATIONS

Y. Shanmugam et al., "Solar-powered five-leg inverter-driven quasi-dynamic charging for a slow-moving vehicle," Front. Energy Res., vol. 11, 2023, doi: 10.3389/fenrg.2023.1115262.

S. Panchanathan et al., "A Comprehensive Review of the Bidirectional Converter Topologies for the Vehicle-to-Grid System," Energies, vol. 16, no. 5. 2023. doi: 10.3390/en16052503.

D. S. Abraham et al., "Fuzzy-Based Efficient Control of DC Microgrid Configuration for PV-Energized EV Charging Station," Energies, vol. 16, no. 6, 2023, doi: 10.3390/en16062753.

H. Saini, T. Rama Rao, S. Saini, G. Anbazhagan, and V. Sharma, "Well-to-wheel performance of internal combustion engine vehicles and electric vehicles-study for future Indian market," Energy Sources, Part A Recover. Util. Environ. Eff., vol. 45, no. 1, 2023, doi: 10.1080/15567036.2023.2182844.

S. Veerapandiyan and V. Sugavanam, "On-Line Fault Identification, Location, and Seamless Service Restoration using Transfer Learning-Based Convolution Neural Network for Low-Voltage DC Microgrid," Electr. Power Components Syst., vol. 51, no. 8, 2023, doi: 10.1080/15325008.2023.2183997.

M. Deepak, G. Janaki, and C. Bharatiraja, "Critical Selection of Single Sided Slot In-Wheel Synchronous Motor Geometry for Low Power Electric Vehicle," in 10th IEEE International Conference on Power Electronics, Drives and Energy Systems, PEDES 2022, 2022. doi: 10.1109/PEDES56012.2022.10080792.

R. Aravind, S. Athikkal, R. E. K. Meesala, K. Jyotheeshwara Reddy, R. Dash, and V. Subburaj, "Dual Inductor Based Two Input Two Output DC-DC Converter and its Analysis for DC Microgrid Application," Distrib. Gener. Altern. Energy J., vol. 38, no. 3, 2023, doi: 10.13052/dgaej2156-3306.38310.

J. Vinoth, C. Bharatiraja, and R. E. Kodumur Meesala, "Elimination of Common Mode Voltage using Model Predictive Control of Five Phase Neutral Point Clamped Multi Level Inverter," in 10th IEEE International Conference on Power Electronics, Drives and Energy Systems, PEDES 2022, 2022. doi: 10.1109/PEDES56012.2022.10080495.

R. Mohan, J. P. Roselyn, and R. A. Uthra, "LSTM based artificial intelligence predictive maintenance technique for availability rate and OEE improvement in a TPM implementing plant through Industry 4.0 transformation," J. Qual. Maint. Eng., vol. 29, no. 4, 2023, doi: 10.1108/JQME-07-2022-0041.

C. Naveen, T. S. Selvakumar, T. P. Kumar, M. Premalatha, and K. Vasumathi, "Performance Investigation on Solar Air Heater with Optimized Parabolic Rib Geometry Based on Thermo-Hydraulic Performance," Appl. Sol. Energy (English Transl. Geliotekhnika), vol. 58, no. 4, 2022, doi: 10.3103/S0003701X2204012

# PUBLISHED

PATENTS

- **Dr.R.Narayanamoorthi** published patent title, "In-Motion Wireless Charging Systems And Methods For Electric Vehicle", Indian patent, Application Number: 202341016074A.

- **Dr.T.M.Thamizh Thentral, Dr.S.Usha and Dr.A.Geetha** published patent title, "Smart tire puncture identification and self healing system", Indian patent, Application Number: 202341012894.

- **Dr.D.Karthikeyan, Dr.K.Selvakumar, Dr.R.Palanisamy and Mr.D.Selvabharathi** published patent title, "Smart tire puncture identification and self healing system", Indian patent, Application Number: 202341012895.

# ONLINE COURSE

**Dr.C.Anuradha** completed an online course "Effective Engineering Teaching In Practice" in NPTEL from 1-1-2023 to 28-2-2023.

**Dr.R.Rajarajeswari** completed an online course "Emotional Intelligence" in NPTEL from 2-1-2023 to 30-3-2023.

**Dr.K.Subha Sharmini** completed an online course "Electronic Waste Management-Issues and Challenges" in NPTEL from 23-01-2023 to 17-02-2023.

**Dr.D.Suchitra** completed an online course "Fundamentals of Artificial Intelligence" in NPTEL from 23-01-2023 to 26-03-2023.

**Dr.D.Anitha** completed an online course "Emotional Intelligence" in NPTEL from 23-01-2023 to 26-03-2023.

**Dr.N.Kalaiarasi** completed an online course "Emotional Intelligence" in NPTEL from 23-01-2023 to 26-03-2023.

**Dr.R.Uthra** completed an online course "Emotional Intelligence" in NPTEL from 23-01-2023 to 26-03-2023.


Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

C ANURADHA

for successfully completing the course

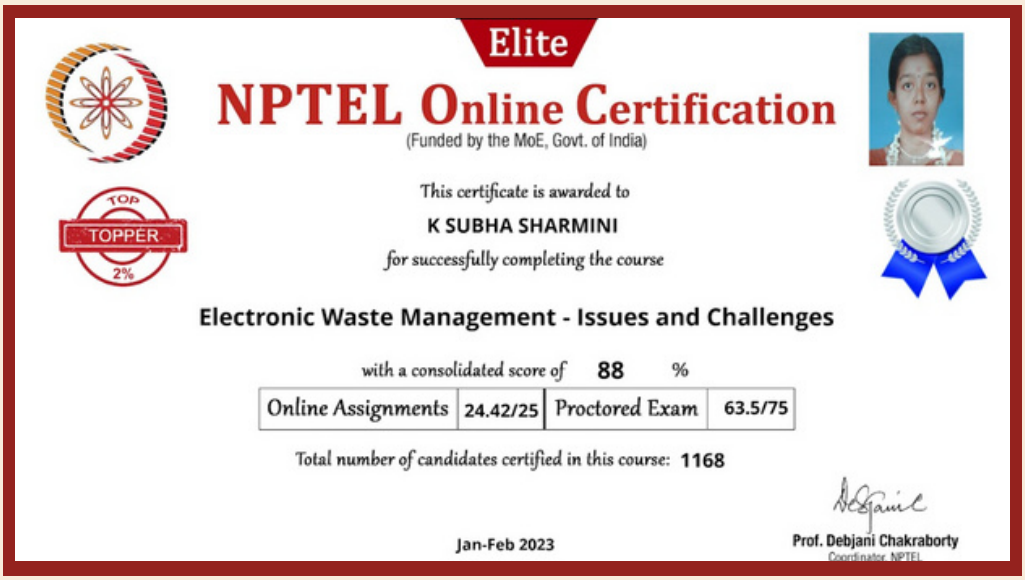
Effective Engineering Teaching in Practice

with a consolidated score of 71 %

| Online Assignments | 22.5/25 | Proctored Exam | 48.6/75 |
|---|---|---|---|

Total number of candidates certified in this course: 369

**Dr.D.Suchitra** completed an online course "Emotional Intelligence" in NPTEL from 23-01-2023 to 26-03-2023.


Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

K SUBHA SHARMINI

for successfully completing the course

Electronic Waste Management - Issues and Challenges

with a consolidated score of 88 %

| Online Assignments | 24.42/25 | Proctored Exam | 63.5/75 |
|---|---|---|---|

Total number of candidates certified in this course: 1168

Jan-Feb 2023

Prof. Debjani Chakraborty

Coordinator, NPTEL


## THE ELECTRICAL ENGINEERING CONCEPTS FOR SCHOOL STUDENTS

The Department of Electrical and Electronics Engineering in association with The Institution of Engineers(India), Innovation and Incubation Cell SRM IST and Directorate of Alumni Affairs jointly organized two days' workshop for school students on 21.01.2023 and 22.01.2023.Total of 14 school students have participated from Chengalpattu district with the total students count of 43.

Various technical sessions andhands on trainings are arranged for the benefit of school students. The first day session started with the Inauguration address coveringvarious domains of Engineering and roles by Dr.A.Dominic Savio. The next session on scope and importance of Electrical Engineeraddressed by Mr.Sudharsan, 2019 batch EEE department alumni.

# OUTREACH INITIATIVES

## SUSTAINABLE ENERGY FORADOPTED VILLAGE

An Awareness Program on Sustainable Energy was organized by jointly by the Department of EEE and SRMIST-Unnat Bharat Abhiyan wing at its one of the adopted villages, Patravakkam, Chengalpattu Dt. on 03.03.2023. This program was organized commemorating the World Sustainable Energy Days (WSED) from 28 February - 3 March 2023. The Panchayat Union Middle School (PUMS) students were involved in the social cause. The students were given the task of creating Waste to Wealth, where 41 students from Standard 3 to 8 actively participated.


The studentsenthusiastically displayed their projects and explained the importance of making wealth from waste and sustainable development amidst theglobal warming. The EEE UBA faculty coordinators Dr. Geetha and Dr. Usha assessed the projects and interacted with the kids. Dr. Sridhar,the coordinator for the Patravakkam adopted village SRMIST-UBA gave prizes to the best three projects.


## Tamilnadu smart and advanced manufacturing centre

The Department of Electrical and Electronics Engineering, SRM Institute of Science and Technology (SRMIST), Kattankulathur organized an industrial visit to TANSAM, Tidel Park Chennai. The main objective of this industrial visit was to educate the students on the rapid prototyping, advanced manufacturing process resulting in smart production. Students were accompanied by the faculty of members of Electrical and electronics engineering.

This Industrial visit facilitated the students to witness the advancement in technology ofmanufacturing, artificial intelligent tools for smart process control and awareness on the advanced courses and training handled byTANSAM. A Demo on 3D Metal Printer, Augmented Reality was fecilitated by TANSAM.

# INDUSTRIAL VISIT

## Integral Coach Factory

An Industrial visit (IV) to Integral Coach Factory (ICF), Perambur, Chennai was organized by IEI students chapter, Department of Electrical and Electronics Engineering, SRM Institute of Science and Technology under Institution of Engineers (India), Kattankulathur on 3-03-2023.

The students were guided by an ICF Team Member in the enormous factory of the ICF with many Units and Sub-Units where the coaches are built. First, the students were taken to the workshop where the AC coaches are built.

A 3-Tier AC coach was under construction when the students visited, during which they learnt the technical aspects of those coaches. Next on, they were taken to the section where the coaches for the sub-urban local trains are built, which have simple construction compared to the other coaches. Finally, the students were escorted to the most awaited Vande Bharat Section which manufactures the premium top tier coaches of the flagship Vande Bharat trains

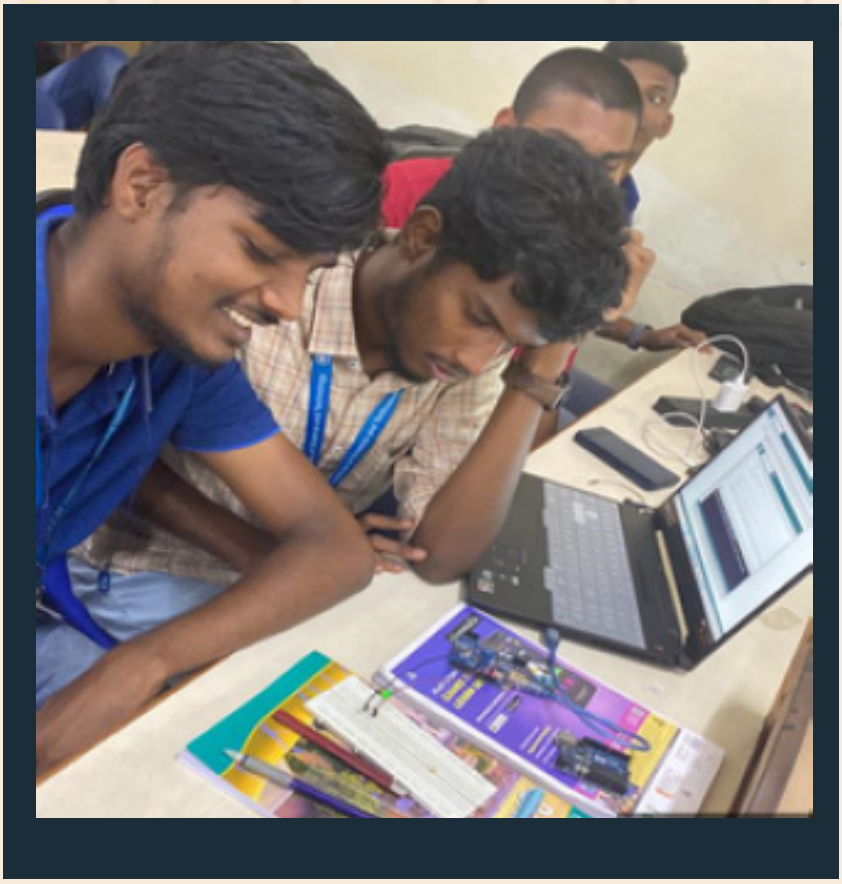

## Field Trip to Vedanthangal

A Field trip to Vedanthangal was organized by the Studentcounselling cell, Department of Electrical and ElectronicsEngineering, SRM institute of science and technology, Kattankulathur.This field trip was well received by students and they felt class roomlearning gets enhanced when connected with real world. Dr. A.Geetha, and Dr. D. Karthikeyan, the Faculty coordinators of thestudent counselling cell of EEE organized the whole event

## Guest lecture on “Arm yourself for your future”

To inspire and encourage students to achieve their goals and improve their performance, the Institution of Engineers (India), Kattankulathur Local Centre and Department of Electrical and Electronics Engineering, SRM Institute of Science and Technology, has organised an event "Arm yourself for your future" on 28th February2023.

The event began with a brief introduction by the IE(I) SRM EEE FacultyAdvisor Dr.C.Balaji, who welcomed the attendees. The guest speaker,Mr. Karthik Ravichandran, AP, Department of Criminology, AM Jaincollege, Chennai, then took the stage and shared his valuable insights onstaying motivated and achieving success.



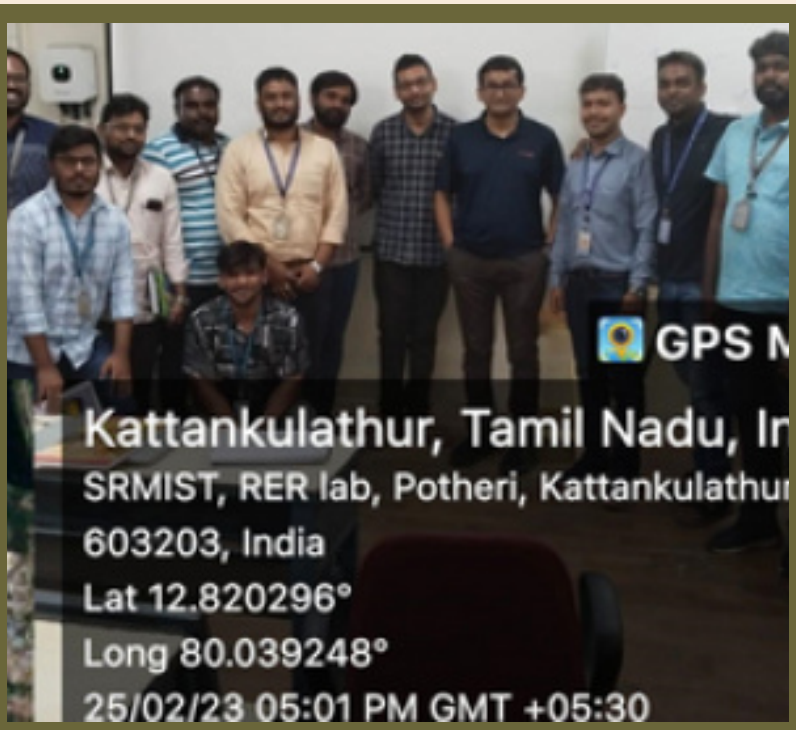
## A Weekly Lecture on IoT Basis

As a part of the Internet of Things (IoT)-Alliance club activities, a training session was organized for its student members on “Hands-on Training on Controlling frequency of LED and Controlling the LDR sensor” on 9th February, 2023. The senior members of the club trained the juniors and shared their experience and expertise. This training was very useful to the beginners who have interest in IoT and its applications to Electrical Engineering. Nearly 53 students participated and got benefitted. The faculty coordinator Dr. Geetha ensured each student’s active participation and involvement in the training.

## Faculty Development Program on “Electrical Vehicles Motors and Drives: Design, Analysis and Validation”

The FDP was conducted in a hybrid mode, combining both online and in-person sessions to cater to the diverse needs and preferences of participants. The program took place from the 20th to the 25th of the month, with the initial three days (20th to 22nd) being conducted in an online format. This online segment allowed participants to engage with the content remotely, promoting accessibility and flexibility.

The subsequent three days (23rd to 25th) of the FDP were held in-person at the E-mobility Research Centre (EMRC) LAB, specifically in Room 402 of the Electrical Science Block. This hands-on experience in the laboratory environment aimed to provide participants with practical insights and real-world exposure to the concepts discussed in the online sessions.




## Workshop on "Analysis and Real time Control of Power Converters: A hands-on Approach

The workshop held on 25th February, 2023 was sponsored by Technology Innovation Hub on Autonomous Navigation (TiHAN), IIT Hyderabad. Dr. Sumit Pramanick, Faculty of Electrical Engineering, IIT Delhi was the resource person. Dr. Phani Teja, Assistant Professor, gave the welcome address and greeted the speaker with a bouquet. Dr. Sumit Pramanick, Department of Electrical Engineering, IIT Delhi(Resource Person) in his presentation covered three important facets of developing a dc-dc converter for particular application like battery charging.

## Electric Mobility and Cloud Computing Technology


Electric Mobility and Cloud Computing Technology a national level two day workshop saw 84 participants. The workshop was coordinated by Dr.R.Rajarajeswari Assistant professor of EEE and Dr. D Suchitra Associate Professor of EEE. The event was sponsored by DST-PURSE Government of India. The workshop was inaugurated by the Chief Guest Dr.M.P.Prasad, President Agnito Insights Chennai, along with the guests of honour Mr.Navaneeth Despande, IoT specialist, Bosch Pvt Ltd Bangalore, Mr.G.Leela Mohan Rao, Senior Software engineer, Bosch Pvt Ltd Bangalore and Mr.Prakash Suman, Co-founder, Sri Vidhyu, Eco Tech India Pvt Ltd. Day one was inaugurated with lighting of kuthuvizhaku followed by welcome address and introduction of chief guest by Dr.D.Suchitra.

The Inagurual address was given by Mr.M.P.Prasad on the title 'The Challenges and Future of Electric Vehicle

# அறிவோம் தமிழ்

*(Arivom Tamil)*

**எண்பொருள வாகச் செலச்சொல்லித் தான்பிறர்வாய்**
**நுண்பொருள் காண்ப தறிவு**

**குறள் 424#**

Explanation

தான் சொல்லுவன எளிய பொருளை யுடையனவாகப் பதியுமாறு சொல்லி, தான் பிறரிடம் கேட்பவற்றின் நுட்பமானப் பொருளையும் ஆராய்ந்து காண்பது அறிவாகும்.

To speak so as that the meaning may easily enter the mind of the hearer, and to discern the subtlest thought which may lie hidden in the words of others, this is wisdom.

दूसरों से वे जो कह रहे हैं उसका सरल अर्थ रि कॉ र्ड करने के लि ए कहना और जो वे दूसरों से पूछ रहे हैं उसके सूक्ष्म अर्थ की जां च करना ज्ञा न है।

അവർ പറയു ന്നതി ന്റെ ലളി തമാ യ അർത്ഥം രേ ഖപ്പെ ടു ത്താ നും മറ്റു ള്ളവരോ ട് ചോ ദി ക്കു ന്നതി ന്റെ സൂ ക്ഷ്മമാ യ അർത്ഥം പരി ശോ ധി ക്കാ നും മറ്റു ള്ളവരോ ട് ആവശ്യ പ്പെ ടു ന്നത് അറി വാ ണ്.

వారు చెప్పే దాని యొక్క సాధారణ అర్థాన్ని రికార్డ్ చేయమని ఇతరు లను అడగడం మరియు వారు ఇతరు లను అడిగే దాని యొక్క సూ క్ష్మ మైన అర్థాన్ని పరిశీలిం చడం జ్ఞానం .

*For Feedback, Copyright and Suggestions :*
*newsletter.eee.srmist.ktr@gmail.com*