

REDEFINITION

VOLUME 12 ISSUE 3
JAN 2024



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**FACULTY CHIEF EDITOR
DR. R. LEO**

"You can do anything you decide to do!"



**FACULTY EDITOR
DR. SAJJAN KUMAR**



**CHIEF STUDENT EDITOR
DEEPTI KARTHIKEYAN**

"There is a defiance in being a dreamer"



**CONTENT HEAD
RAJAMITHRA K**

"When it comes to writing, it's important not to hide the madness"

**DOCUMENTATION HEAD
KAVIASRI J**

"Simplicity is the ultimate sophistication"



**DESIGN HEAD
ARTHIKA N**

"You miss 100% of the shots you don't take!"



STUDENT REPRESENTATIVES

III - B

Sindhu S

II - A

Bhuvanesh

Dhanushram

Harini

Komal

II - A

Sudharshan

Supriya

Yogita

Prashant



Dr. V Rajini, HOD EEE

I am delighted to bring out the January '24 edition of REDEEM. This edition features the activities of the department, students and alumni interactions during the fourth quarter of 2023.

Our pre-final year student team with Smithaa M, Sangamithirai S, and T D Saraswathy as members have won first place in the National solar energy competition. They have won a cash prize of 2 lakhs. Congratulations to the winners!

Congratulations to S P Kishore and Sherina Joanna, who have won gold medals in Anna University interzone competitions.

The placement record is very impressive this time. This edition also covers the journey of a 2007 passed out alumnus, Mr. T N Seetha Raman, who is currently with the US Federal Government.

We hope and work to present more such engaging and interesting activities.

Happy new year to all the readers. The activities and life of most people remain confined in one way or the other to protection of health and expansion of wealth and power. People are also generally attentive to preventing wastage or loss of their materialistic resources and potential. The efforts to enhance prosperity and to prevent losses depend upon one's attitude, abilities, and circumstances. However, in one form or the other, the focus of all activities of life pertains to the materialistic or perceptible aspects only. The most important issue of channeling the invaluable resources of time and thought largely remains unnoticed. The loss or wastage of either of these 'invisible' resources is more deteriorating than diminishing of prosperity or any other worldly loss.

Among the two, use or misuse of the power of thinking has predominant effects. Disorder or perversion of thoughts leads to whimsical, immoral and abnormal behaviors. Ignorance or indifferent attitude towards continuous improvement in the quality and sagacity of thoughts and neglect of prevention of this 'eternal power' appears to be the major cause of the stagnation of progress or the backward status of life in larger part of the human population.

Even intellectually bright and active people sometimes do not care about what transformation in their attitude and way of thinking is required to enlighten their future with better possibilities of overall progress and culmination of their lives. Most people do not bother to note what minor changes in their thought process would mold their personality towards better performance and achievements.

They do not know which direction to focus the thoughts and how to reorient them creatively for specific purposes. Seed is the fundamental cause and tree is its manifestation. Optimistic and courageous attitude and progressive and reasoned thoughts are the seeds which sprout creative enthusiasm and boost one to endeavor for the shaping of a happier, brighter and excelling future.

Realization of this fact and consequent endeavors to sublimate transformation and amelioration of thoughts lays the foundation of productive and glorious future. Reflections of mind in the mirror of the world, feelings of cheerfulness, enjoyment, dejection or gloom largely depend upon the state of our mind and its emotional makeup. The same effect is reflected in our impression of an object or person as beautiful, unpleasant or abominable, etc. It is our own conviction or conditioning of mind which labels something as good or bad, soothing or irritating, suitable or useless etc. The illusive impressions created by our own mood, our own tendencies and convictions project someone or something as good or bad for us. Although everything created by the almighty has its own specificity, it is typical of human nature that creates false impressions about them as per its variable tendencies.

Thoughts are some kind of impulsive actions and reactions of the mental system. All the components inside the body – at the molecular, cellular or organ level, continuously remain active. Externally, the sense organs too are always busy in actions and perceptions of one kind or the other. The conscious system of mind in normal case remains constantly active throughout one's lifetime and its activity is what gives rise to the thought process. Thoughts could be meaningful, sound, creative, or could also be futile or baseless on the other hand. They could be derived from sound reasoning and logic or could be vague responses or arbitrary reactions of agile mind. Positive thoughts could lead to creative outcomes while negative or immoral thoughts could invite decline and fall of one's character and even nurture misdeeds in the society as a whole. The extreme levels of thoughts of either kind are usually intensive and induce specific streams of power which vibrate the setup of mind and manifest what is termed as thought power. Progress in any dimension of life proceeds with the consistent support of suitable thoughts. Cultivation of virtuous or destructive talents both depend on the nature of thoughts.

The intellect of an individual is free to decide its own ways. Change of attitude changes the impressions of mind and its perception of the world around.

Change of attitude can, in no time, transform the feelings of distress and animosity into the soothing sentiments of joy and love. As awaken souls, we should endeavor to change our attitude to see the good that dwells in everything of the world, everywhere in the universe. This would rouse the eternal flow of compassion and pure love and every object, every individual, every event would begin to appear before us as pleasant, affectionate, and part of our own expanded existence.

Dear Readers,

As we stand on the threshold of a brand-new year, the possibilities seem endless, and the promise of a fresh start beckons us forward. In this issue, we celebrate the spirit of new beginnings – a theme that resonates deeply with the essence of January.

The start of a new year is not just a flip of the calendar; it's an opportunity for renewal, growth, and transformation. It's a chance to reflect on the lessons of the past and harness that wisdom to navigate the uncharted waters of the future. As we bid farewell to the year gone by, we acknowledge the challenges, triumphs, and the resilience that has brought us to this moment.

As we embark on this new chapter, let us not forget the importance of resilience, adaptability, and the strength that comes from within. The year ahead may bring its own set of challenges, but with every challenge comes an opportunity for growth and self-discovery.

So, here's to a new beginning – a canvas waiting to be painted with the vibrant strokes of our aspirations. Let this year be a testament to our collective strength, a showcase of our ability to adapt, and a celebration of the beautiful journey that is life.

Wishing you a year filled with joy, success, and the courage to embrace the new beginnings that await you.

Warm Regards,
Deepti,
Chief Student Editor.

Research Activity

- Dr,V.Rajini, “Optimization of Switching Control and Microgrid Energy Management System with Alternate Arm Converter Based on Bacterial Foraging Algorithm” in "International Transactions on Electrical Energy Systems", an International Journal published by Hindawi, Volume 2023, Article ID 5585420, 35 pages, October 2023, DOI : <https://doi.org/10.1155/2023/5585420>, Impact factor 2.7 indexed in WOS
- Dr.R.Seyezhai, P/EEE, S.Harika, (Full-Time Research Scholar) and Dr.A.Jawahar, P/ECE, “Wide Boost Ratio in Quasi-Impedance Network Converter Using Switch Voltage Spike Reduction Technique” Rev. Roum. Sci. Techn.– Électrotechn. et Énerg. Vol. 68, 3, pp. 259–265, Bucharest, 2023. (AU Annexure-1 & WOS Indexed, Impact factor 0.88).
- Pandian P, Subramanian S, K.Usha , R Kannadasan, “Technological advancements toward smart energy management in smart cities”, in International Journal Energy Reports November 2023, Volume 10, pp 648, ISSN 2352-4847, DOI <https://doi.org/10.1016/j.egyr.2023.07.021>, Impact factor 4.937 indexed in WOS/TR/SD
- Anjana Ethirajan and R. Ramaprabha, “Extended Analysis of Non-Isolated Bidirectional High Gain Converter”, in International Journal Advances in Electrical and Computer Engineering November 2023, Volume 23, pp 89-98, ISSN Print ISSN: 1582-7445, Online ISSN: 1844-7600, DOI: 10.4316/AECE.2023.04010, Impact factor 1.07 indexed in WOS/TR/SD.
- A. Infantraj, M.Senthil Kumaran, “Evaluation and classification of stator turn-to-turn faults using electrical equivalent circuits for surface permanent magnet brushless direct current motors”, in International Journal of Power Electronics December 2023, Volume 23, pp 1703–1711, ISSN 1598 - 2092, DOI <https://doi.org/10.1007/s43236-023-00663-7>, Impact factor 1.13 indexed in WOS/TR/SD.
- R.Seyezhai and V.Vidhupriya, “A Comparative Study of Multistage Step-up Interleaved DC-DC Converter for Electric Mobility”, in International Journal Indian Journal of Natural Sciences, December 2023, Volume 14, pp. 64808-64816, ISSN 0976 – 0997, Impact factor 2.452 indexed in WOS/TR/SD.

- R.Seyezhai and B.Lakshmi Prabha, “Design and Development of Modified Hybrid Resonant Converter with Valley fill for LED Lighting”, in International Journal Advances in Electrical and Computer Engineering December 2023, Volume 23, pp.15-22, ISSN 1582-7445, 10.4316/AECE.2023.04002, Impact factor 0.8, Indexed in WOS/TR/SD.
- R.Seyezhai and A.BharathiSankar, M.Someswaran, M.Abhinandan, “Piezoelectric driven self-powered super capacitor for wearable device applications”, in Materials Today Proceedings December 2023, pp.1-7, ISSN;2214-7853, <https://doi.org/10.1016/j.matpr.2023.09.102>, Impact Factor :2.59, Indexed in Scopus.
- R.Seyezhai and M.Sridha, “Lifetime Prediction of Single-Stage LED Driver Circuit Using Bayesian Belief Network”, in International Journal Rev. Roum. Sci. Techn. –Électrotechn. et Énerg, December 2023, Volume 68, pp.351-356, ISSN: 0035-4066, <https://doi.org/10.59277/RRST-EE.2023.4.5>, Impact factor 0.7 indexed in WOS/TR/SD.
- R. Ramaprabha and Gokularaman S R, “Realization of Boost Zeta Converter for PV Applications”, in IEEE - 3rd International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems (ICSES - 2023) conducted by St. Joseph's Institute of Technology, Semmanchery, Chennai in St. Joseph's Institute of Technology, Semmanchery, Chennai on 15/12/2023.
- Karthika M and Balaji M, ‘Design and Performance Evaluation of 12/8 Hybrid Excitation of Switched Reluctance Motor for Electric Three-Wheeler’ in 3rd International Conference on Innovative Mechanisms for Industry Applications conducted byDayananda Sagar College of Engineering,Bangalore in India on 22/12/2023.
- Dr.R.Seyezhai & Dr.A.Bharathi Sankar, “Development of Eco-Friendly Solar PV Based DC-DC Triple Lift Luo Power Converter for Water Pumping Applications” in Fourth International Conference on Innovations in Power & Advanced Computing Technologies, i-PACT 2023 conducted by VIT University, Vellore &Universiti Malaya, Malaysia in Online/India on 08/12/2023.

- Dr.R.Seyezhai & E.Maheswari, “Analysis and Realization of a Manitoba Converter for Portable Medical Devices in 3rd International Conference on Innovative Computing, Intelligent Communication and Smart Electrical Systems” (ICSES -2023), IEEE conducted by St. Joseph’s Institute of Technology (Autonomous), Chennai, Tamil Nadu, in physical mode on 15/12/2023.
- Dr. Rajesh Panda, Bijay Das, Subhasish Deb, Arup Kumar Goswami, Prashant Kumar Tiwari, “Probabilistic Modeling of Plug-in Electric Vehicles Charging Demand and Charging Cost Minimization”, in IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE 2023) during 17 - 20 December 2023 held at Hotel Hyacinth, Trivandrum, Kerala, India organized by IA/IE/PELS Joint Chapter Kerala.
- Dr.Rajesh Panda, Sushree Samikshya Pattanaik, Prashant Kumar Tiwari, “Forecasting of Market Power using LSTM in day-ahead market”, in IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE 2023) during 17 - 20 December 2023 held at Hotel Hyacinth, Trivandrum, Kerala, India organized by IA/IE/PELS Joint Chapter Kerala.

Project News

- Dr. V. Durgadevi (PI) & Dr. R. Ramaprabha (Co-PI) obtained an Internal funded project titled Development of effective AI models for automatic fault detection in PV power plants on 01/12/2023 from the funding agency SSNCE for a duration of 3 Years for a funding amount of 3.85 lakhs Rupees.
- PI - Prof.Subhabrata Sen (PI, SNIoE) Prof. R. Seyezhai (Co-PI, SSN) and Mr. Debajit Maiti (Member, SNIoE), applied for an funded project titled Electro-photochemical flow reaction to functionalize N-heterocyclic/acyclic systems utilizing carbene anion radical on 30/12/2023 to the funding agency SNF Inter Institution Collaboration grants for a duration of 2 years for a funding amount of 40 lakh Rupees.
- PI - Dr.V.Rajini (PI- SSN), Dr.V.Tamilselvi (Co-PI, SSN) and Dr. K B Sundharakumar (CO PI- SNUC), applied for a funded project titled “Learning Assisted Fault Management system for preventive and corrective maintenance of PV systems with heterogenous faults under uncertainties “on 30/12/2023 to the funding agency SNF Inter Institution Collaboration grants for a duration of 3 years for a funding amount of 40 lakh Rupees.

- A. Harish, M. Karthic Thangam, A. Muthukumar (IV year) & R. B. Alagar Karthick (II Year) obtained an internal funded project titled Implementation of Adjustable Gain Three Port Converter Microgrid System under the supervision of Dr. R. Ramaprabha on 05/12/2023 funded by SSNCE.
- Aathiswari.M, Aswin.S & Deepika.M (III year) obtained an internal funded project titled Implementation of Non-Isolated Single-Phased Quadratic Switched Boost Inverter with Step-Up Inversion Capability under the supervision of Dr. R. Ramaprabha on 05/12/2023 funded by SSNCE.
- Rajamithra K, Renuka B & Rashmika V (III year) obtained an internal funded project titled Development of Soldier Vest for Enhanced Military Performance and Safety under the supervision of Dr. R. Ramaprabha on 05/12/2023 funded by SSNCE.

Events Attended

- Dr.R.Leo attended 2 Day Workshop titled Blockchain Assisted Secure Cyber physical system organized by SNU,Chennai at Chennai on 01/12/2023.
- Dr.R.Ramaprabha attended 4 Day Lecture Series Webinar Series on "DC Microgrids - Significance, Technical Challenges, Opportunities and Outlook" conducted by CENTRE FOR SMART GRID TECHNOLOGIES, VIT-Chennai, from 01.00 PM to 02.30 PM. organized by VIT, Chennai at Online on 03/11/2023.
- Dr.R.Arun attended 5 Day Workshop titled 5 days STTP on AI and ROS organized by IIIT-DM, Kanchipuram at IIIT-DM, Kanchipuram on 11/12/2023.

Events Conducted

- Dr. V. Rajini, Head/EEE, Dr. R. Seyezhai, Prof./EEE, Dr. R. Ramaprabha, ASSP/EEE and Dr. M. Balaji, ASSP/EEE conducted a Workshop organized by the EEE department & PELS titled “Simulation of Power Converters using MATLAB/SIMULINK” Oct 11 – 12, 2023 at Microprocessor Lab on 11/10/2023.
- Dr. R. Seyezhai, Prof./EEE, Dr. R. Ramaprabha, ASSP/EEE and Dr. M. Balaji, ASSP/EEE conducted a Workshop organized by the EEE department & SSN-IIC titled SSN-IIC and Department of EEE organizes a Workshop on, "Entrepreneurship and Innovation as Career opportunity" on Nov 16, 2023.
- Dr.R. Rengaraj, Dr.M. Senthil Kumaran, Dr.K. Murugesan, Dr.G.R. Venkatakrisnan organized a Workshop titled Application of Control & Instrumentation using STM32 at EEE Seminar Hall on 09/11/2023.

Industrial Collaboration

- Dr.V.Rajini, Professor & Head/EEE, has received consultancy grant for Product Development in Technology demonstrator for BLDC/PMSM Drive for an amount of Rs.8 lakhs for a period of 0.5 years in the area of Power electronics and drives on 20/10/2023.
- Dr.R.Seyezhai, P/EEE had a discussion with C-Technologies, Chennai regarding the progress of consultancy work in online mode on 25/11/2023.
- Dr. R. Ramaprabha conducted a meeting with Sustainability and Energy Practitioners Association (SEPA) on 31.10.2023 at EEE HoD room.
- Dr.R.Seyezhai, P/EEE was awarded the Naneri Best Teacher Award for the contributions to teaching & Research jointly by the Tamil Literary club on 08/11/2023, Madurai and Arunachala Educational Group and the event was organized by Acharya Group of Institutions at Pondicherry.

FACULTY ACTIVITIES

- Dr. R. Seyezhai, Dr. R. Ramaprabha & Dr. M. Balaji discussed the potential research areas with Dr. Paramasivam, General Manager – R & D, ESAB India Limited on 07. 11.2023. They also visited the different sections of ESAB including R &D to explore the happenings there with the help of Mr. Ganesh, Senior Manager – Maintenance / Projects Regional EHS Head, ESAB India Limited.
- Ms.B.LakshmiPrabha, Full time Research Scholar, under the guidance of Dr.R.Seyezhai, P/EEE presented the poster during the SSN Doctorate Day 2023 and won the cash prize for the Best Poster Presentation on 14/11/2023.
- Ms.S.Devi, Full time Research Scholar, under the guidance of Dr.R.Seyezhai, P/EEE presented her work in poster session during the SSN Doctrates scholars day on 07.09.2023
- Two UG batches (Ms.Manasa & Deepthi, III Year EEE, Smithaa. S,S. Sai Likhitha Tejaswini, Sriharini. K & Saimugil. R, III Year EEE, B) under the guidance of Dr.R.Seyezhai, P/EEE presented their project ideas for the Internally Funded Students project Scrutiny for the year 2023 on 16/11/2023.
- Dr.R.Seyezhai, P/EEE demonstrated the working of PEM fuel cell based DC drive to the PG students of Mechanical Engineering in the Renewable Energy Systems Lab along with their Faculty Dr.S.A.Srinivas, AP/Mech. The students actively interacted and the application of PEM FC for EV applications was also discussed. Mr.Sowrirajan & Mr.Pradeepkumar, Lab Assistants, EEE helped for the demo on 20/11/2023
- Dr. R. Ramaprabha presented Internally Funded Faculty Projects (IFFP) on Nov 03, 2023 as Co-PI of the project.
- Ms. Anjana Ethirajan under the guidance of Dr. R. Ramaprabha presented Poster on her research work during SSN Doctorates Day held on 14.11.2023 at EEE seminar hall.
- Dr. R. Ramaprabha along with team attended Green Hydrogen Energy project meeting through zoom with VIRUKSA MFG Solutions Pvt Ltd on Dec 18, 2023.

- Dr. R. Ramaprabha along with team attended Green Hydrogen Energy project meeting with VP on Nov 10, 2023
- 3 UG batches under the guidance of Dr. R. Ramaprabha presented Internally Funded Student Projects (IFSP) on Nov 16, 2023
- Dr. R. Ramaprabha along with team attended Green Hydrogen Energy project meeting through zoom with VIRUKSA MFG Solutions Pvt Ltd on Dec 18, 2023.
- An Industry Interaction session for PG II-year students for improving their project work to meet industrial needs was arranged on Dec 19, 2023. Mr. S. Iyappan, Electronics Engineer, Valeo India Private Limited, Chennai interacted with the students. This intention of this initiative is to improve the quality of student's projects. Dr. R. Ramaprabha, Asso. Prof./EEE & Dr. R. Seyezhai, Prof./EEE arranged for this session as project coordinator
- Dr. R. Ramaprabha reviewed 4 papers for ICPEDC 2024 – SSNCE- Dec 20, 2023
- Dr R. Leo has reviewed 2 papers in IEEE Access, International journal (WoS) on 30/12/2023

Other Items

- Dr. Ramaprabha delivered a Guest Lecture titled "Simulation of DC-DC Converters" on 11/10/2023 organized by SSNCE
- Dr. Ramaprabha delivered a Guest Lecture titled "Tutorial Session on Power Electronic Converters & Drives" on 12/10/2023 organized by SSNCE
- Dr. R.Seyezhai P/EEE and Dr. M. Senthilkumar, ASSP/EEE conducted the review meeting for the Criteria-5 for UG-NBA on 28.10.2023.
- Dr. R. Seyezhai, P/EEE & Dr. R. Ramaprabha, ASSP/EEE conducted the first review for the Project Phase-1 for III Sem, M.E.PED on 10.10.2023.
- Dr. R. Seyezhai, P/EEE and Dr. Arun, AP/EEE identified around 11 projects from the EEE department that have the potential for patenting for the year 2023.
- Dr. R. Ramaprabha along with EEE team attended Green Hydrogen Energy project meeting on Oct 04, 2023 to finalize the proposal at Chemical Engineering department seminar hall.

FACULTY ACTIVITIES

- Dr. R. Ramaprabha along with NIRF team attended meeting with the institution president & Heads regarding NIRF pre-registration on Sep 30, 2023
- Dr. R. Ramaprabha along with team attended Green Hydrogen Energy project meeting through zoom with VIRUKSA MFG Solutions Pvt Ltd on Oct 13, 2023
- Dr.M.Balaji Served as academic expert in Detailed Design Review (PDR) committee constituted by CVRDE, Chennai to review the development of Dual Voltage Auxiliary Power unit on 18/10/2023.
- Dr.R. Seyezhai, P/EEE and Dr.A.Bharathi Sankar,(AP/VIT, Chennai) obtained the grant for their patent titled, “Solar Powered Battery Operated Vehicle Using BLDC Drive” on 16.10.2023.
- EEE department Research seminar was given by Ms. M. Vijayalakshmi (Reg. No. 1325299205), Part-time research scholar of Dr. R. Ramaprabha, ASSP/EEE on the topic “Flywheel based power conditioning unit for photovoltaic systems” at 02.00 p.m. on 12.10.2023 at EEE Seminar Hall.
- Dr. Ramaprabha Conducted Synopsis meeting in Seminar Hall, EEE Department, SSNCE as a Supervisor for the research scholar Ms. M. Vijayalakshmi on 27/10/2023.
- K. K. Nagarajan conducted Confirmation DC meeting through online mode in EEE Department as a Supervisor for the research scholar Ms. Poornima on 27/10/2023.
- Dr. R. Seyezhai Conducted Synopsis meeting in Physical mode as a Supervisor for the research scholar M.Sridhar on 06/11/2023.
- Dr.R.Ramaprabha Attended Confirmation meeting in Online (Department of EEE, Sri Venkateswara College of Engineering, Sriperumbudur) as a DC Member for the research scholar Rajeswari V on 23/11/2023.
- Dr.M.Balaji Conducted Viva Voce meeting in Sri Sivasubramaniya Nadar College of Engineering as a Supervisor for the research scholar Mr.E.Fantin Irudhaya Raj on 24/11/2023.
- Dr.V.Rajini attended the patent hearing discussion on her Patent Application-201641014396 on 29-11-23
- Dr.V.Rajini attended the patent hearing discussion on her Patent Application-01741039792 on 07-12-23.

Naneri Teacher Award 2023

Dr. R. Seyezhai, P/EEE received the “Naneri Teacher Award - 2023” for her contribution to teaching & Research by Tamil Literary Club, Madurai, Arunachala Educational Trust and Acharya Engineering College, Pondicherry for the contribution to Teaching & Research Field. A certificate was also awarded signed by Chief Minister, Pondicherry.



The award ceremony took place at Acharya Engineering College, Pondicherry on 08.11.2023. Around 10 college teachers from different domains and regions were awarded during the felicitation.

Workshop

Application of Control & Instrumentation using STM32
(at EEE Seminar Hall on 09/11/2023 and 10/11/2023)

Coordinators

Dr. M. Senthil Kumaran, Associate Professor

Dr. R. Rengaraj, Associate Professor

Dr. K. Murugesan, Associate Professor

Dr. G. R. Venkatakrishnan, Associate Professor

The workshop titled “Application of Control & Instrumentation using STM32” aimed to provide second-year Electrical and Electronics Engineering (EEE) students with a comprehensive understanding of programming STM32 microcontrollers at the register level.

The focus was on key features such as General Purpose Input/output (GPIO), Interrupts, timers, ADC, DAC, and DMA Controller, empowering participants to interface and implement closed-loop control algorithms for real-time systems. Real-world applications, including interfacing with Encoders for speed and position measurement, Speed control of BLDC motors using Electronic Speed Control unit (ESC), and Sine PWM and Space Vector PWM generation for Inverters, were explored.

The workshop, attended by 30 enthusiastic participants, featured a live demonstration showcasing the practical application of STM32 in real-time scenarios. The combination of theoretical insights, hands-on exercises, and a live demo ensured a successful and engaging learning experience, equipping participants with valuable skills for future challenges in embedded systems and control engineering.

Department FFEV events



Workshop

“ Entrepreneurship and Innovation as Career Opportunity”

The department of Electrical and Electronics Engineering in association with Institution Innovation Council (IIC) organised a workshop on “Entrepreneurship and Innovation as Career Opportunity” on 16.11.2023.

Mr. M. Malaiyappan, Founder and Director, Pantech E-Learning Pvt. Limited, Chennai delivered the lecture. The workshop was attended by UG students, research scholars and faculty members.



The speaker discussed the importance of entrepreneurship and characteristics of an entrepreneur. He elaborated the scope of Innovation in entrepreneurship. He highlighted the opportunities in Entrepreneurship and Innovation. The participants interacted with the speaker and the session was well received.

Faculty Coordinators

Dr.R.Seyezhai

Dr.R.Ramaprabha

Dr.M.Balaji

Dr. R. Ramaprabha & team got a patent Granted [22nd Nov 2023]

The details of the patent are:

Title: *A Solar Powered Compact Dustbin Assembly*

Patent No.: 471651

Inventors: *M. Aishwarya, N. Divyasri, S. J. Indhra Pooja (Students of UG 2020 passed out batch), Dr.R. Ramaprabha, Dr. M. Balaji and Dr. V. Kamaraj (Faculty members, EEE department)*



Brief idea of the Patent: The invention relates to the field of compactors for waste bins or recyclables, an apparatus and method for solar-powered waste compaction. The invention particularly relates to the design of the solar powered waste compactor assembly with reading facility about waste bins fill level in real time.

The patent is the outcome of SSN funded student Project (IFSP 2017-2018). The students completed the base product in the year 2019. Then the project was improvised, tested & patent drafted by the faculty members in the team in the year 2021 and filed patent in the year 2022. As the outcome of this patent publications, Dr. R. Ramaprabha, Dr. M. Balaji and Dr. V. Kamaraj got consultancy work by M/s. Ayya Traders in the year 2023.

Sanctioned IFP's in EEE

PG

S. No.	Name and Year of the Student(s)	Project Guide(s)	Title of the Project	Duration	Budget & Items Approved
1	Raghul. R II year	Dr. V. Rajini	Sensor-less Control of Permanent Magnet Motor for Enhanced Electric Vehicle Performance	11 Months	Budget: Rs.28000 Items Approved: 1. BLDC Motor 2. PCB Fabrication 3. Electrical Items 4. Miscellaneous

UG

S. No.	Name and Year of the Student(s)	Project Guide(s)	Title of the Project	Duration	Budget & Items Approved
1	Vedha Varrshini. J Sreyasi. S II year	Dr. V. Rajini	Design and analysis of Axial flux motor drives for electric two wheeler application	12 Months	Budget: Rs.30000 Items Approved: 1. Hub Motor Fabrication 2. Miscellaneous
2	Nehasri. H Sornaharini .D II year	Dr. V.S. Nagarajan	Design and analysis of Inset Permanent Magnet motor drives for energy efficient Ceiling Fan application	18 Months	Budget: Rs.30000 Items Approved: 1. Permanent Magnet Inset Motor 2. Miscellaneous

Sanctioned IFP's in EEE

3	<p>Shreyas Y Subramanian III year</p> <p>Sakthi Santosh C Santhosh GS IV year</p>	<p>Dr. V.S. Nagarajan</p>	<p>Design and comparative evaluation of Less Permanent Magnet/Magnet- less motor drives for Cargo Bike application</p>	<p>12 Months</p>	<p>Budget: Rs.29000 Items Approved:</p> <ol style="list-style-type: none"> 1. Outer Rotor Hub Fabrication 2. Inner Stator Fabrication 3. Permanent Magnets 4. Miscellaneous
4	<p>Poojashri K M</p> <p>Radha Rukmani V Yuva Prasath S II year</p>	<p>Dr. V.S. Nagarajan</p>	<p>Design and Development of High Efficiency Induction Motor for Air Conditioning Application</p>	<p>18 Months</p>	<p>Budget: Rs.29000</p> <p>Items Approved:</p> <ol style="list-style-type: none"> 1.compressor system 2.optimised induction motor 3.Miscellaneous
5	<p>Sai Kanna R Raymond Jude</p> <p>Harini Sree V S Saraswathy TD III year</p>	<p>Dr. K. Usha</p>	<p>IoT-based Battery and PMSM Monitoring System</p>	<p>12 Months</p>	<p>Budget: Rs.26000 Items Approved:</p> <ol style="list-style-type: none"> 1.Arduino UNO 2.Electrical components 3.Miscellaneous
6	<p>Krishnapriya S</p> <p>Komal Y Vishnuvarshini R II year</p>	<p>Dr. Arun Ramave erapathiran</p>	<p>Development of Transmission Line Fault Detection System</p>	<p>12 Months</p>	<p>Budget: Rs.7500</p> <p>Items Approved:</p> <ol style="list-style-type: none"> 1.Arduino UNO 2.Electrical components 3.Miscellaneous

7	<p>Indhuja S K</p> <p>Arini R S M</p> <p>III year</p>	<p>Dr. V.</p> <p>Thiyagarajan</p>	<p>IoT Based IV Pole</p> <p>Monitoring System</p>	<p>12</p> <p>Months</p>	<p>Budget: Rs.25000</p> <p>Items Approved:</p> <p>1. Strain Gauge Load Cell</p> <p>2. SMPS</p> <p>3. Arduino Controller</p> <p>4. Electrical Components</p> <p>5. Miscellaneous</p>
8	<p>Deepti K</p> <p>Manasa K</p> <p>III year</p>	<p>Dr. R. Seyezhai</p>	<p>Efficient Solar-based</p> <p>Energy Harvesting</p> <p>with Supercapacitor</p> <p>for IoT Devices</p>	<p>12</p> <p>Months</p>	<p>Budget: Rs.23000</p> <p>Items Approved:</p> <p>1. PV Panel</p> <p>2. MOSFET</p> <p>3. Electrical</p> <p>Components</p> <p>4. Miscellaneous</p>
9	<p>A. Harish</p> <p>M. Karthic</p> <p>Thangam</p> <p>A. Muthukumar</p> <p>IV year</p> <p>R B Alagar</p> <p>Karthick</p> <p>II year</p>	<p>Dr. R.</p> <p>Ramaprabha</p>	<p>Implementation of</p> <p>Adjustable Gain</p> <p>Three Port Converter</p> <p>Microgrid System</p>	<p>7</p> <p>Months</p>	<p>Budget: Rs.23000</p> <p>Items Approved:</p> <p>1. IGBT</p> <p>2. Electrical</p> <p>Components</p> <p>3. Miscellaneous</p>
10	<p>Sa. Viswavardhini</p> <p>Shrikar S</p> <p>Vivekanath</p> <p>NM</p> <p>Pragadeesh M</p> <p>Sajanitha R</p> <p>III year</p>	<p>Dr.</p> <p>G.R. Venkatakrishn</p> <p>an</p>	<p>Energy Theft and</p> <p>defective Meter</p> <p>Detection</p>	<p>24</p> <p>Months</p>	<p>Budget: Rs.18000</p> <p>Items Approved:</p> <p>1. MEGA2560</p> <p>Controller Board</p> <p>2. Electrical</p> <p>Components</p> <p>3. Miscellaneous</p>

11	<p>Vaduhammal V</p> <p>IV year Parameshwarn R</p> <p>Sanjay M S</p> <p>III year</p>	<p>Dr. V. Thiyagarajan</p>	<p>Design and Implementation of Reduced Voltage Stress</p> <p>Asymmetrical Multilevel Inverter with Optimal Components</p>	<p>12 Months</p>	<p>Budget: Rs.18000 Items Approved:</p> <ol style="list-style-type: none"> 1. Power Switches 2. Driver Circuits 3. Controller Circuit 4. Electrical Components 5. Miscellaneous
12	<p>Dhanush Priya S</p> <p>Gunali T Kaarventhan</p> <p>II year</p>	<p>Dr. K. K. Nagarajan</p>	<p>Smart Farming using IoT and AI</p>	<p>12 Months</p>	<p>Budget: Rs.25000 Items Approved:</p> <ol style="list-style-type: none"> 1. Raspberry Pi 2. Sensors 3. Electrical Components 4. Miscellaneous
13	<p>Aathiswari M</p> <p>Aswin S Deepika M</p> <p>III year</p>	<p>Dr. R. Ramaprabha</p>	<p>Implementation of Non- Isolated</p> <p>Single-Phased Quadratic Switched- Boost Inverter with Step-Up Inversion Capability</p>	<p>16 Months</p>	<p>Budget: Rs.25000</p> <p>Items Approved:</p> <ol style="list-style-type: none"> 1. IGBT 2. Electrical Components 3. Arduino Mega Kit 4. Miscellaneous
14	<p>Rajamithra K</p> <p>Renuka B Rashmika V</p> <p>III year</p>	<p>Dr. R. Ramaprabha</p>	<p>Development of Soldier Vest for</p> <p>Enhanced Military Performance and Safety</p>	<p>16 Months</p>	<p>Budget: Rs.13000</p> <p>Items Approved:</p> <ol style="list-style-type: none"> 1. Arduino Mega Kit 2. Sensors 3. Electrical Components 4. GPS Module 5. Miscellaneous

15	<p>C Sneka</p> <p>IV year</p> <p>L Anshul</p> <p>K Vishnuvarthan</p> <p>II year</p>	<p>Dr. V.</p> <p>Thiyagarajan</p>	<p>A Pencil Shaped Multilevel Inverter with Voltage Boosting Ability for Electric Vehicle Applications</p>	<p>12</p> <p>Months</p>	<p>Budget: Rs.18000</p> <p>Items Approved: 1. MOSFET</p> <p>2. IGBT</p>
16	<p>Anbu Sucitra. S</p> <p>Harini. M</p> <p>K. Harini Shri</p> <p>Illakkiya. A.K</p> <p>II year</p>	<p>Dr. Sajjan</p> <p>Kumar EEE</p> <p>Dr. Sachin</p> <p>Sarate</p> <p>BME</p>	<p>IoT based Smart Cardiac Health Monitoring System for Remote Area Applications</p>	<p>18</p> <p>Months</p>	<p>Budget: Rs.10000</p> <p>Items Approved:</p> <p>1. Arduino Board</p> <p>2. Sensors</p> <p>3. Electrical Components</p> <p>4. Miscellaneous</p>
17	<p>Sam Infant Jude</p> <p>Varshini S</p>	<p>Dr. M. Balaji</p>	<p>Smart Traffic management System for Emergency Vehicle Using Internet of Things (IoT)</p>	<p>9</p> <p>Months</p>	<p>Budget: Rs.12000</p> <p>Items Approved:</p> <p>1. Microcontroller</p> <p>2. RFID Reader</p> <p>3. Electrical Components</p> <p>4. Sensor</p> <p>5. Miscellaneous</p>
18	<p>Sri Vidhya J</p> <p>III year</p> <p>Ariharasudhan A</p> <p>Asvikaa KMR</p> <p>Jeyakkavi M</p> <p>II year</p>	<p>Dr. U. Shajith</p> <p>Ali</p>	<p>IoT-based Smart Traffic Management System with an Integrated Speed Controller for E- Vehicles</p>	<p>18</p> <p>Months</p>	<p>Budget: Rs.20000</p> <p>Items Approved:</p> <p>1. Camera</p> <p>2. IoT Communication Module</p> <p>3. Arduino</p> <p>4. GPS Module</p> <p>5. Electrical Components</p> <p>6. Miscellaneous</p>

19	<p>Viswesh T Esha Agnes Kayalvizhi A M</p> <p>II year</p>	<p>Dr. P. Saravanan</p>	<p>Development of Electric Vehicle System for Patient Mobility</p>	<p>12 Months</p>	<p>Budget: Rs.20000</p> <p>Items Approved:</p> <ol style="list-style-type: none"> 1. Battery & Charger 2. STM/FPGA 3. GPS Module 4. Electrical Components 5. Miscellaneous
20	<p>Mandati Sai</p> <p>Sudhir K</p> <p>Mohamed Anas S II year Suvathi Priya J S III year</p>	<p>Dr. G.R. Venkatakrisnan</p>	<p>Smart College Bus Management System</p>	<p>12 Months</p>	<p>Budget: Rs.25000</p> <p>Items Approved:</p> <ol style="list-style-type: none"> 1. Raspberry Pi 2. GPS Module 3. Electrical Components 4. Miscellaneous
21	<p>Mahalaksh mi. R</p> <p>Mahalaksh mi. S Sriram. S II year</p>	<p>Dr. R. Rengaraj</p>	<p>Smart Car System</p>	<p>24 Months</p>	<p>Budget: Rs.28000</p> <p>Items Approved:</p> <ol style="list-style-type: none"> 1. Raspberry Pi 2. Radar Sensor 3. Electrical Components 4. Miscellaneous

22	<p>Shyam Sainarayanan</p> <p>Varadharajan Sachin Rangabaskar S. Monish Kumar Dheva. S.L. II year</p>	Dr. M. Balaji	<p>Smart Automated Reservoir Management for Optimal Irrigation and Flood Control</p>	12 Months	<p>Budget: Rs.23000</p> <p>Items Approved:</p> <p>1. Sensors 2. Arduino UNO 3. Electrical Components 4. Miscellaneous</p>
23	<p>Smithaa. S</p> <p>S. Sai Likhitha Tejaswini Sriharini. K Saimugil. R III year</p>	Dr. R. Seyezhai	<p>Implementation of Solar Homesteads for Rural Electrification</p>	12 Months	<p>Budget: Rs.28000</p> <p>Items Approved: 1. PV Panel 2. Battery 3. Electrical Components 4. Miscellaneous</p>

SSN Doctorate Scholars Day

[2023 on 14. 11. 2023]

EEE Department - 3 Oral & 5 Poster presentations

Oral Presentations

Poster Presentations

Oral No	Title of the Abstract	Name of the Student	Name of the Supervisor
EEE			
OP-1	Prediction of Cardiovascular Disease using AI Based Techniques	S. Daphin Lilda	Dr. R. Jayaparvathy
OP-2	Design And Analysis of Permanent Magnet Synchronous Motor for Drone Application	S.T. Vigneshwar	Dr. M. Balaji
OP-3	A generalized symmetrical and asymmetrical multilevel inverter topology with reduced number of components	D. Ragul	Dr. V. Thiagarajan

Poster No.	Title of the Abstract	Name of the Student	Name of the Supervisor
EEE			
PP-1	Design and implementation of PV based resonant dc-dc sepic with valley - fill for led applications	B. Lakshmi Praba	Dr. R. Seyezhai
PP-2	Investigation of Modulation Strategies for Split Source Inverter in PV Systems	S. Devi	Dr. R. Seyezhai
PP-3	Review on Hybrid System based EV Charging Stations	Anjana Ethirajan	Dr. R. Ramaprabha
PP-4	Design of Optimal Noise Transfer Function for Delta Sigma Modulator Using Weighted Least Square Method	J. Arockia Twinkle	Dr. Premanand V. Chandramani
PP-5	Design and Analysis of Permanent Magnet Assisted Three Phase E-Core Stator SRM For Electric Three-Wheeler	M. Karthika	Dr. M. Balaji

Participants with Event Co-ordinators



B. Lakshmi Prabha Received Best Poster Presentation Award



Discussion on Collaborative Research works

[at ESAB India Limited, Ambattur, Chennai]

Dr. R. Seyezhai, Dr. R. Ramaprabha & Dr. M. Balaji discussed the potential research areas with Dr. Paramasivam, General Manager – R & D, ESAB India Limited on 07. 11.2023.

They also visited the different sections of ESAB including R & D to explore the happenings there with the help of Mr. Ganesh, Senior Manager – Maintenance / Projects Regional EHS Head, ESAB India Limited.



Mr. Ganesh (Senior Manager – Maintenance / Projects
Regional EHS Head),
Dr. M. Balaji (Associate Professor/EEE/SSNCE),
Dr. Paramasivam (General Manager – R & D, ESAB India
Limited),
Dr. R. Ramaprabha (Associate Professor/EEE/SSNCE) &
Dr. R. Seyezhai (Professor/EEE/SSNCE)
(from left to right)

Alumni Interaction



Srinath Selvanarayanan, Member technical staff, Zoho (B.E. EEE (20014-18) batch), visited the EEE department in the second week of October 2023 and had interaction with HoD, EEE and several other faculties.

He is in constant touch with the faculty members and has extended his support in providing guidance to the students related to Software related product development.

Navigating the Digital Age: The Impact of Technology on Interpersonal Communication in College Relationships

- Komal Y, 2nd year

In an era dominated by technology, college students find themselves immersed in a digital landscape that profoundly influences the way they communicate. The ubiquitous presence of smartphones, social media platforms, and instant messaging apps has revolutionized interpersonal connections, presenting both opportunities and challenges in the realm of college relationships.

At first glance, technology appears to enhance communication by providing instant connectivity. Couples separated by physical distance can maintain a constant dialogue through video calls, texts, and social media updates. However, the paradox lies in the potential dilution of meaningful, face-to-face interactions. The convenience of digital communication often leads to a reduction in genuine, in-person conversations, impacting the depth and quality of relationships.

Moreover, the allure of social media introduces a new layer of complexity. The pressure to curate a perfect online persona can create unrealistic expectations and contribute to feelings of inadequacy. The fear of missing out (FOMO) on social events portrayed online may affect students' mental well-being and hinder genuine connections. Striking a balance between digital and in-person communication becomes crucial in fostering authentic relationships.

Despite the challenges, technology can be a valuable tool for maintaining connections. Collaborative platforms and shared calendars facilitate coordination in busy college schedules. Additionally, virtual communication allows for increased inclusivity, enabling introverted individuals to express themselves more comfortably through written messages.

Student corner

As we navigate this digital age, it becomes essential for college students to consciously manage their use of technology in relationships. Establishing boundaries for screen time, prioritizing face-to-face interactions, and embracing vulnerability in communication are vital steps towards cultivating meaningful connections in the evolving landscape of college relationships. By acknowledging the impact of technology and adopting mindful communication practices, students can ensure that the digital age enhances rather than diminishes the richness of their interpersonal experiences.

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Furthermore, the influence of technology extends beyond communication dynamics, shaping the very nature of relationship initiation. Dating apps and online platforms provide an avenue for meeting potential partners, altering traditional approaches to romance. While these platforms broaden the pool of potential connections, they also raise questions about authenticity and the commodification of relationships.

In the pursuit of genuine connections, students must grapple with the temptation to prioritize virtual interactions over real-world experiences. Balancing screen time with face-to-face engagement fosters a deeper understanding of emotions and nuances often lost in digital exchanges. The tactile aspects of communication, such as body language and shared physical spaces, contribute significantly to the richness of relationships.

Moreover, the instantaneous nature of digital communication can inadvertently lead to misinterpretations and conflicts. The absence of non-verbal cues may result in misunderstandings, emphasizing the need for clarity in expressing emotions and intentions. Embracing open and honest conversations becomes pivotal in overcoming the limitations posed by screens and ensuring effective communication in college relationships.

As we reflect on the impact of technology, it is evident that intentional efforts are required to harness its benefits while mitigating potential pitfalls. Educating college students about healthy digital communication habits, fostering a culture of empathy, and encouraging offline social events can contribute to a more balanced and fulfilling college experience. By embracing the opportunities technology presents while actively addressing its challenges, students can forge meaningful connections that withstand the tests of the digital age.

Wireless Electricity

Mahalakshmi R, 2nd year

Wireless electricity refers to the transmission of electrical power from a power source to an electrical device without the need for physical conductors (wires) to connect them. This concept has been explored and developed in various forms over the years. There are two main technologies associated with wireless electricity: inductive coupling and resonance.

In a world dominated by technology, the quest for convenience and efficiency has fuelled innovation in various fields, including the realm of power transmission. One ground-breaking concept that has captivated the imagination of scientists and engineers alike is wireless electricity. This innovative technology aims to liberate us from the constraints of traditional wired power connections, offering a future where devices are seamlessly powered without the need for physical connectors. In this article, we explore the key principles behind wireless electricity and its current applications, as well as the potential it holds for revolutionizing how we power our world.

Wireless electricity relies on the principles of electromagnetic induction and resonant coupling to transmit power without the use of traditional wires. Two primary technologies have emerged as frontrunners in this field: inductive coupling and resonant inductive coupling. Inductive coupling involves two coils of wire – a primary coil connected to a power source and a secondary coil connected to the device to be powered. When an electric current flows through the primary coil, it generates a magnetic field, which induces an electric current in the secondary coil, facilitating wireless power transfer. This technology is commonly found in wireless charging pads for smartphones and electric toothbrushes.

Taking inductive coupling a step further, resonant inductive coupling enhances the efficiency of power transfer by incorporating resonant capacitors.

Student corner

By tuning the resonant frequencies of both coils, the system becomes more flexible in terms of coil positioning and increases the distance over which power can be transmitted effectively. One of the most tangible and widely adopted applications of wireless electricity is in the form of wireless charging for small electronic devices. From smartphones to electric toothbrushes, users can now enjoy the convenience of simply placing their devices on a charging pad without the hassle of tangled cords. This technology not only simplifies the user experience but also reduces wear and tear on traditional charging connectors.

While wireless charging for consumer electronics is already making strides, the true potential of wireless electricity lies in its ability to revolutionize larger-scale power transmission. Researchers are exploring the feasibility of using wireless technology to charge electric vehicles and power industrial equipment over significant distances. Microwave and radio frequency transmission represent another avenue for wireless power transmission. These methods involve converting electrical power into electromagnetic waves, which are then received and converted back into electricity by a receiver. While promising for longer-distance applications, challenges such as energy loss and safety concerns must be addressed for widespread adoption.

Despite the promise of wireless electricity, several challenges must be overcome. Energy loss during transmission, safety concerns related to exposure to electromagnetic fields, and the need for standardization to ensure compatibility between devices and charging systems are among the key considerations. Wireless electricity stands at the forefront of technological innovation, offering a glimpse into a future where power transmission is seamless and unbound by physical connectors. As we continue to explore the possibilities and overcome challenges, the day may not be far off when our cities, vehicles, and industries are powered wirelessly, ushering in a new era of convenience, efficiency, and sustainability.

ROLE OF EMBEDDED SYSTEMS IN MODERN AUTOMOBILES

- Harini M, 2nd year

Embedded systems, comprising microprocessors and read-only memory (ROM) chips, are the unsung heroes of modern automobiles. These compact computing devices seamlessly integrate into various components, playing a crucial role in enhancing performance, safety, and overall efficiency.

At the heart of every vehicle lies an embedded system responsible for engine management. Microprocessors efficiently oversee fuel injection, air-fuel mixture, and other vital parameters, optimizing overall engine performance. The precision offered by embedded technology is integral to the smooth operation of contemporary engines.

To meet the demands of tasks requiring rapid responses and minimal system requirements, automobiles employ Real-Time Operating Systems (RTOS) within embedded systems. This ensures quick and precise execution, especially in critical functions such as engine management, traction control, and safety mechanisms.

Safety is paramount in the automotive realm, and embedded systems contribute significantly to this aspect. Microcontrollers within embedded airbag systems respond to collision sensors, orchestrating the timely deployment of airbags. This additional layer of protection enhances the safety of front seat occupants.

Embedded systems revolutionize navigation within vehicles, integrating Global Positioning System (GPS) technology for accurate positioning and real-time guidance.

This technology, woven seamlessly into the vehicle's framework, provides drivers with reliable directions and location-based information, enhancing the overall driving experience.

Innovative rain-sensing technology is another testament to the versatility of embedded systems in automobiles. Optical sensors discreetly placed on windshields detect rain or moisture, allowing the embedded system to intelligently adjust the speed and frequency of windshield wipers. This automated response enhances visibility and improves driver safety in adverse weather conditions.

Embedded systems are integral to Anti-Lock Braking Systems (ABS), a technology designed to prevent skidding during braking. Employing sensors, valves, pumps, and controllers, ABS modulates brake pressure to maintain optimal tire-road contact. This ensures efficient braking, particularly on slippery surfaces, enhancing overall vehicle control.

Embedded systems have silently become indispensable in the automotive landscape. Their role in engine management, safety features, navigation, and environmental responsiveness illustrates their versatility. As technology advances, embedded systems will likely continue to shape the future of automobiles, contributing to increased efficiency, reliability, and safety on the roads.

National Solar Competition

2023

Conducted by SEPA

About the organisation

SEPA is a Non-Profit, Non-Govt, Industry-led and Industry managed organisation and looks to create a Technological and demographically inclusive movement that seeks to achieve its aims that are in sync with the Nation's Sustainable Development Goals.

About the competition:

As part of the national event, 'Sustainable India 2023', SEPA orchestrated a national solar competition in 2023 open to students from universities and various institutions nationwide. The competition spanned from July to November 2023. Its framework encompassed elements such as literature review, electrical design, datasheet comparison, advancements in energy storage technologies, and an exploration of national solar policies. This holistic approach provided students with a comprehensive understanding of the solar industry.

Comprising three stages, the competition offered cash awards totalling 3.5 lakhs. The initial two stages were conducted online, witnessing participation from over 60 teams across the country. From these entries, the top 5 teams were shortlisted for the final event.

The culminating stage took place at the JSS Academy of Technical Education in Noida on the 20th of November 2023. Representing our college in this grand finale were team members Smithaa M, Sangamithirai S, and T D Saraswathy, pre final year students from the Electrical and Electronics Engineering department.

Student corner



Day -1 (20th November 2023, Monday)

The competition's final stage comprised two parts:

1. First Part: Spanning 1 hour 30 minutes, this segment focused on assessing our Analytical Skills and understanding of Solar Energy fundamentals, encompassing generation, application, and design.
2. Second Part: A concise 30-minute viva voce session aimed at evaluating our knowledge. This round encompassed a discussion on our comprehension and involved identifying hardware elements.

Teams underwent assessment based on technical criteria, emphasizing quality and safety parameters throughout the evaluation process.

Day -2 (21ST November 2023, Tuesday)

The 'Sustainable India 2023' inauguration was graced by Shri Nitin Gadkari, Minister of Road Transport and Highways, Govt of India. Our team secured first place and received a Rs. 2 lakh cash prize from the minister. The event drew industrial and academic experts, concluding with informative technical talks and panel discussions. It was a valuable platform for learning and collaboration towards a sustainable future.

Energy-Efficiency and Sustainability: A Focus on Microelectronics

- Anbu suchitra, 2nd year

Microelectronics, a revolutionary aspect of electronics, came about with the goal of making electronic parts incredibly small, opening the door to groundbreaking advancements in technology. The origins of microelectronics date back to the late 1950s and early 1960s when the integrated circuit (IC) was initially created. Key figures in this significant breakthrough were engineers and scientists like Jack Kilby and Robert Noyce, who played crucial roles in giving rise to a field that would reshape the world of electronic systems.

Microelectronics offers remarkable advantages over traditional electronics by making electronic components smaller and integrating them onto a single chip. This allows for the creation of devices that are compact, light, and energy-efficient. The shift from larger individual components to integrated circuits has transformed how electronic systems are designed and made, resulting in a significant improvement in performance and functionality. In simple terms, microelectronics makes devices more efficient and powerful by packing everything into a smaller space.

It plays a crucial role in numerous everyday applications. Whether it's the tiny microprocessors that run our laptops and phones or the detailed microcontrollers guiding cars and medical devices, microelectronics is everywhere. It's the reason we have advanced sensors for precise measurements, memory devices that store vast amounts of information, and communication systems that keep us connected. In simpler terms, microelectronics is the driving force behind the smart technology we rely on in various sectors, making our electronic devices more efficient and capable.

Microelectronics is crucial in both research and industries. It powers innovations in fields like nanotechnology, allowing us to manipulate materials at incredibly tiny levels. In healthcare, microelectronics contributes to advancements, helping with things like medical treatments. It also plays a role in environmental monitoring, assisting in tracking and understanding changes in our surroundings. In simple terms, microelectronics is versatile, adapting to different needs and helping us tackle complex challenges in various areas.

Student corner

In conclusion, the evolution of microelectronics, from its early stages to the present, has reshaped our technological landscape. Its inception revolutionized electronic engineering, resulting in smaller yet more potent devices. As microelectronics continues to progress, it stands as a pivotal element in contemporary electronic systems, influencing various industries. Looking ahead, we anticipate further innovations, envisioning a future marked by enhanced connectivity and technological advancements driven by the continued evolution of microelectronics.

NSS Students from SSN College of Engineering Explore Climate Change Initiatives at the American Center, US Embassy in Chennai

-Sudharshan, 2nd year

The NSS students of SSN College of Engineering embarked on an enlightening journey to the American Center at the US Embassy in Chennai. This two-page article captures their immersive experience as they delved into the impactful realm of climate change and discovered the array of activities implemented to mitigate its effects.



The visit commenced with an insightful presentation on the stark realities of climate change, delivered by experts from the American Center. Students were exposed to compelling data and visual representations, emphasizing the urgent need for global intervention. The engaging session sparked discussions on the role of individuals and communities in combating climate change.

A highlight of the day was an interactive discussion with climate scientists and researchers. Students had the opportunity to pose questions, gaining deeper insights into the intricate web of climate-related challenges. The session fostered a sense of responsibility among the NSS students, motivating them to actively contribute to sustainable practices.



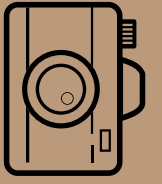
The second part of the visit focused on the various activities and initiatives undertaken to combat climate change. The students were taken on a guided tour showcasing innovative technologies, renewable energy solutions, and green infrastructure. Demonstrations highlighted the importance of sustainable practices, inspiring the students to adopt eco-friendly habits in their daily lives.

Hands-on workshops allowed students to actively engage in activities aimed at reducing carbon footprints. From creating awareness campaigns to participating in tree-planting drives, the NSS students were encouraged to be catalysts for change within their communities.

The visit concluded with a panel discussion featuring environmental activists and policymakers. The discourse centered on the role of youth in influencing policy decisions and advocating for sustainable practices. The NSS students left the American Center with a renewed sense of purpose, armed with knowledge and a commitment to combat climate change in their respective spheres of influence.

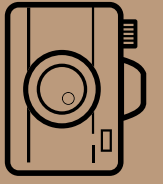
The NSS students of SSN College of Engineering returned from the American Center with a profound understanding of the impact of climate change and a heightened awareness of the role they can play in addressing this global challenge. The visit served as a catalyst for empowering future leader to actively contribute to the ongoing fight against climate change, ensuring a sustainable and resilient future for generations to come.





MYSTIC LENSES





MYSTIC LENSES



Student Achievements

S.P.Kishore, a 2nd year student of the EEE department won gold medal in the Anna University Inter-Zone Judo competition under anna university sports board



Sherina Joanna, a first year student of EEE department won gold in hammer throw and bronze in discus throw at the Anna University Inter-Zone Athletics organised by Kongunadu Engineering College during december 16 to 17, 2023



Schneider Electric

Sector : Core

Role: Graduate Engineer trainee

Category : Super Dream

Description : Intern +FTE

CTC : 12 LPA

Name: Abhinaya

Round 1:

This was an online test conducted remotely, allowing you to attend it from your preferred location. The platform used for the test was called 'AON Assessment,' which recorded both video and proctored the screen. When registering for the test, we were also asked to choose the division for which we wanted to take the test. I chose Schneider Digital. The test consisted of four sections: technical, verbal, puzzle-solving, and a behavioral quiz. Since I chose Schneider Digital, all the questions were related to digital logic circuits, Signals and Systems, Digital Signal Processing, and Power Electronics. The technical section was 0.5 hours of the total 2-hour test.

The verbal section included negative marking, so make sure to read the instructions for all the sections carefully. All the questions were straightforward and relatively easy to answer. The puzzle-solving section tests your patience and cognitive ability.

Round 2:

After 4 days, the results of the first round were announced, with only 5 candidates being selected for the second round. The second round was conducted on Microsoft Teams with the presence of 2 friendly panelists. Upon joining the meeting, the panelists introduced themselves and inquired about my hobbies. They also asked standard questions, including "Tell me about yourself," my career aspirations, and what I knew about the company.

Interview Experience

Then, we delved into technical questions. I mentioned that my favorite subjects were power electronics, and since it was a power systems company, I also expressed my interest in switchgear and protection. The panelists asked questions related to power electronics, switchgear and protection, power system analysis, power system operation and control, electrical machines 1 & 2, and electromagnetic interference (EMI). A few questions were: what is a diode? What is a freewheel diode? What are rectifiers, dual converters, difference between MOSFET and IGBT. Explain the various types of circuit breakers which would be employed for the complete transmission and distribution line. What are the different types of relay? Differentiate between real, reactive and apparent power. List the different types of starters and also the applications of induction motors. Differentiate between synchronous and Induction motors. They also posed questions related to 11th and 12th-grade physics, such as explain Kirchoff's law, Faraday's law etc. So it is essential to have a strong foundation in the basics.

This technical discussion lasted for about 25 minutes. To wrap up the meeting, the panelists gave me the opportunity to ask any questions I had for them. After that, the meeting concluded. The results for this interview were out the same day by 5:00 PM.

Round 3:

This was the HR Round, much like any other HR interview. It included typical questions such as 'Tell me about yourself,' 'Share your career objectives,' and 'Where do you see yourself in 5 years?' The HR interviewer was quite friendly, and she openly expressed her tiredness from a full day at the office. This led to a casual conversation about our lives, lasting for about 5 to 10 minutes. Later in the interview, she posed several behavioral questions, including how I would resolve conflicts, what actions I've taken to enhance my leadership skills, and inquired about my day. In this round, it's essential to be as honest as possible and not hesitate to express your views.

Later the next day by 11 A. M the results came out and 2 members were selected.

Mr. Cooper

Company : Mr. Cooper

Role : Software Engineer

Category : Super Dream

Type : IT

Description : Internship + Full time

CTC : 10 LPA

Name : Poovizhi A

Round -1: Coding

It consists of two coding rounds. Firstly, the short coding round which has approximately 20 MCQs (SQL, C, C++, Java, Data structures, OOPS) + 4 coding questions (any programming language such as C, C++, Python, Java) which lasted for 2 hours. Secondly, for the long coding round (for the ones who shortlisted in short coding round), they gave an usecase, for example, "Expenditure management system", for that they asked to draw data modelling (45 mins) and also coding (45 mins) should be done for that usecase.

Round -2: (Technical Interview)

There may be two rounds. For the first round, they ask questions based on my resume. They concentrated more on OOPs and Data structures and also asked to write code in any language based on my preference. On the second round, their questions are based on SQL queries. Each round lasted for 30 - 45 minutes.

Round -3: HR + Technical Round

It consists of 2 panelists, one for technical and other for HR which lasted for 30 minutes. Simple technical questions were asked based on my IT related projects and courses. As I am a non-IT student, HR asked the reason for choosing IT sector. And also, they asked that "Why do you choose Mr. Cooper?", after that they gave feedback for my performance as I asked for it.

Everything has changed...and yet remained the same...

Seetharaman TN (SSN EEE 2003-2007 Batch)

IIMA/Consultant US Federal Government

The prelude:

At the Goa airport early November, returning from a trip with friends from my post-graduation days, the television at the airport beckoned...as India was bowling out South Africa cheaply in the 2023 world cup clash. As yet another wicket fell, a familiar face jumped out from the crowd. I went closer to get a better look and be sure. Yes indeed! It was Sunita Nair Ma'am from SSN. I approached her and said, "Excuse me Ma'am."

She turned, and the recognition hit her instantly – that I was a former student of SSN college of Engineering. "How are you? Sorry – your face is so clearly familiar, but I forget your name." That was understandable...she has seen thousands of students study and move on from SSN over the years...but we all had only one Sunita Nair Ma'am. It is easier for us to remember her name than she is remembering all ours.

We got around to catching up. Ma'am mentioned how she had moved to the BITS Goa campus but still worked with SSN/ Shiv Nadar University on a consulting basis. She mentioned about how campus has changed, how the students have changed over the years, how SSNCE now shared the campus with Shiv Nadar University and many such snippets. As we got on to the flight to Chennai, I managed to click a selfie with Ma'am in the cramped quarters of the flight.

As we got off the short flight, Ma'am was insistent "You should definitely visit college." While I always wanted to, was not sure if all the professors and lecturers who had to deal with me in campus would still be there. But this was enough encouragement.

The Visit:

As my cab was traversing OMR, memories started flooding...I had done the 50 km long bus ride from Anna Nagar to SSN daily for 4 years. Astounded at that realization, the views of the road made me realize how things have changed. OMR used to be a 1 to 2 lane road from 2003 to 2007. Now I saw bypasses, multi-storeyed apartment complexes, malls, and big brands everywhere. When we had to bunk college, our closest movie theatre was a literal Tent kottai in Kelambakkam. The students today were spoilt for choice.

Entering the college, my jaw dropped. The entrance was magnificent, regal, and the way inside laden with greenery. I loved how the campus had transformed. What used to be a long trudge into campus from the entrance in the hot sun now seemed like an enticing stroll. The park was stunning. New buildings had sprung up everywhere even as the older ones like the auditorium that existed when I studied still stood strong, retaining their grace.

Walking into the career development centre, I had another chat with Sunita Nair Ma'am. She took me through all the changes across the years, the genesis, development and establishment of Shiv Nadar University, how the college continued to be top ranked among engineering colleges in the state (it was ranked 1 all the 4 years I studied at SSN), how the philosophy of the management continues to be giving the students ample freedom within the broad guard rails in place to ensure the students don't go astray, how the students continue to astound and impress the world with their continuous achievements in multiple spheres...it went on. All this while, there was just one thought running in my mind in the background - "everything at SSN has changed...and yet everything remains the same..."

Alumni Speaks

Next stop, the EEE department – my department. What is now the Mechanical Engineering block used to be where we had the EEE department back in the day. But I sauntered along to the current EEE block. Bigger, more spacious, and better equipped. Entering the block, serendipity had me run into Rajini Ma'am – the HOD. She taught us a Machines course in the fifth Sem. Learning that now the college set its own exams and that the level was higher than the Anna University syllabus left me beaming with pride for some reason. Even when we studied, while we followed the Anna University syllabus, the emphasis had always been on promoting a higher plane of understanding and learning. Now that could be seen more in practice. The students still seemed to be the same as from two decades ago – talented yet playful – but always respectful and responsible.

Next stop – the staff rooms. The first person I ran into was Leo Sir. Sir had not changed a bit! And he remembered me by name! Leo Sir taught us business related courses and was the staff in-charge for the symposium (we had separate symposia for each department back then). Sir was as gracious as ever. Ramaprabha Ma'am walked over – she was still her normal cheerful self. Balaji Sir – who taught us immediately after joining SSN was still the same – jovial and friendly. Murugesan Sir continued to promote Tamil with the same passion that always drew nothing but utmost respect from everyone. Senthil Kumaran sir was there as well with similar levels of gusto as always.

Having been a student and now having conversations with each of the staff members now, one thing became apparent. They all let on truly little of how much they see, observe and monitor. All the pranks and mischief I indulged in while studying and thought I had tactfully concealed; it became painfully obvious to me that they had noticed all of it all along. You really could not hide much from them. Their watchful yet caring eyes had ensured many batches graduating with flying colours.

Alumni Speaks

A new level of gratitude came over me. They had all along been taking gentle care of me without my knowledge while I was at my antics – but this led me to become more confident about myself as a person. This is intangible – but this is a part of my development as a person I treasure. All thanks to these extremely well-oriented and caring teachers.

All this while, I kept on observing the students, in many of whom I could see a younger version of myself. The same boundless energy, confidence, the same early college rivalries, crushes, weak areas (mine was Digital Signal Processing), and the same relentless optimism. The energy around me was positive, vibrant, and readily palpable. Something that can only happen with the youth. Most of the students seemed more accomplished than I was at that stage – something that brought instant joy.

As the day was ending, I wanted to visit the sports facilities. SSN had always been a leading college for sports what with some incredibly famous sportsmen graduating from it. Even when I studied – the sports center was truly high-quality. Yet I had heard enough about how they are now genuinely world class.

Leo sir generously offered to show me around. The cricket ground led me to drop my jaw again. Likewise – the football and athletics ground, the tennis courts – the college had spared no expense in ensuring students had access to world class facilities. Leo Sir proved to be a great conversationalist as well. We discussed a range of topics, from fitness, students' changing trends, Shiv Nadar University's growth, about the man who started it all – the great Shiv Nadar himself, the college movie club, the astronomy club, and other myriad topics. 16 years since graduating college, I felt like I was a college student again – talking about every topic under the sun. The only difference was – earlier, I would be doing this with fellow classmates after bunking class, now I am doing it with a professor 16 years after graduating.

Alumni Speaks

As the sun was setting, it was time to bid adieu. I popped into Sunita Nair Ma'am's room one last time – she was still there engaged in discussing with the students about selecting student office bearers for Instincts – some things never change! I wish Ma'am well, look at the students trying hard to suppress a smile – and stroll out to the campus entrance past SOMCA, the Boys Hostel where I spectate a game of cricket for a bit, the Pillaiyar Temple and finally outside the campus.

SSN has changed considerably. What was a lithe, strapping young institution of promise that was always leading back in the say has changed into a distinguished, prominent, and more famous institution that is now poised for international greatness. However, it has retained its old soul.

I recognize this feeling I have as I get outside the campus – one which tells me I will be back again. Everything has changed...and yet remained the same...

Closing thoughts:

This visit made me realize how much SSN had always been a part of my personality ever since I graduated 16 years ago. SSN taught me to always be respectful, yet questioning, curious and inquisitive. It thought me that the pursuit of excellence was both a goal and the reward in itself – and all accolades and praise one gets along the way should not distract one from continuing the pursuit. It also thought me the true value of humility and the importance of honest effort – no matter what the results. Most importantly, SSN thought me how to both use and enjoy freedom – something about my time here I will always cherish.

It changed everything in me...and yet thought me to remain the same...

Alumni Speaks



Alumni Speaks

Some words aimed at the current set of SSN Students:

Who am I:

I am Seetharaman TN. Studied EEE at SSN from 2003-2007. Worked at Cognizant for two years before I went to IIMA and then worked in Management Consulting. I currently consult for the US Federal Government in Operational Analytics for the Affordable Care Act better known as Obamacare.

What did SSN offer that helped me all these years?

SSN's offers an environment conducive to learning by doing. The infrastructure is world class, the teaching staff genuinely involve themselves in anything a student wishes to learn and needs help in, and the set up enables one to try out anything regardless of the results. The process of learning anything is refined if one constantly engages in trying out their ideas. Failing early, failing fast and failing without fear of failure are all big advantages to anyone going into their professional career. SSN offered me all this. Regardless of the subject – what stays with me to this day is the refinement my process of learning anything underwent at SSN.

What would I suggest students should focus on more?

Basic hard skills are a minimum pre-requisite in any industry. Having good hard skills alone will be insufficient. Students should focus on finishing anything to 100%. Any task of job that isn't finished 100% is not good enough. So, soft skills, packaging, refinement, and proper presentation – be it in software, hardware, core or management and commercial spaces will be of utmost importance in making sure you stand out. Work extra hard on having a good personal presence, communication, articulation of ideas and concepts and most importantly, active listening.

Between two equally matched talents, the one who listens more will have a much higher chance of success.

Alumni Speaks

Working with people will be 100% of your job no matter what industry you are in. So respecting people regardless of their role, hearing them all out and learning to deal with people of varying personalities will be vital. Use all the extracurricular activities available at college to hone each of these skills. I wish I had done that more.

What would I have done differently over these years professionally?

Get over my fear of failure earlier. Any job in the future will require you to keep learning newer concepts, skills, and domains. We will all struggle at this early on – but we must persist. I would have gotten over my reluctance to fail earlier. Our own past successes make us fear failure more. Please get over this as soon as possible and always have the humility to accept failure, and the optimism to envision that you will succeed as you persist. SSN inculcated this attitude in me, however – I needed to have leveraged opportunities I had in college more than I did. So I suggest all students please do this in earnest.

Final words

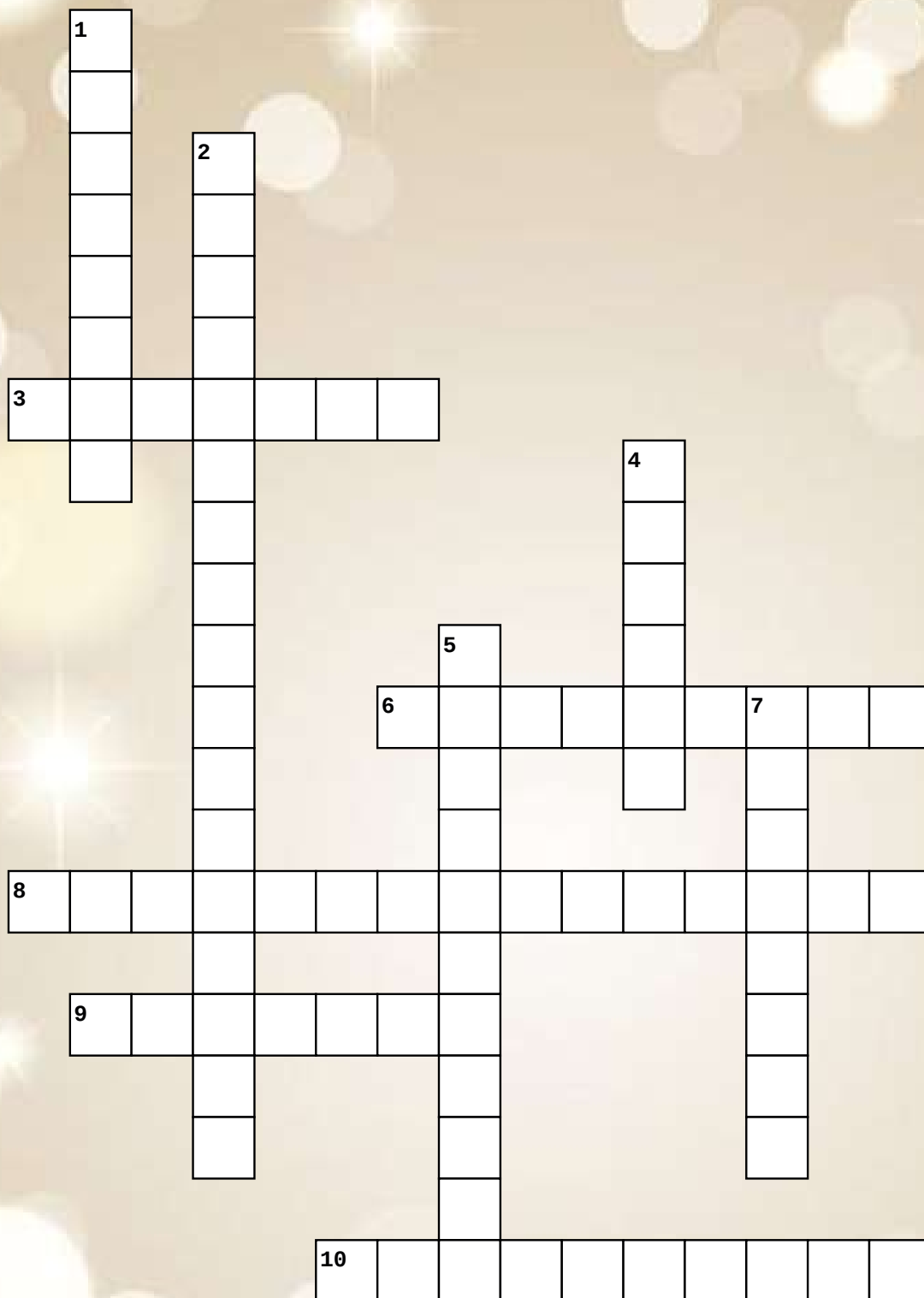
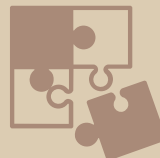
Most of you likely were not born when I started college. I come from a generation where anything Indian was considered not of international standards. You all do not belong to that thinking. Today, we must be as good if not better than the best the world has to offer. Bear this in mind and make sure that anything you all end up doing, the end result should be world class no matter what your incentives are.

PLACEMENT REPORT

S.No	Name	Company	CTC
1	Mona Abishek A	Astrazenca	7.65 LPA
2	Aprajita Jaiswal	BNP Paribas	6 LPA
3	MURALIKRISHNA S	BNY Mellon	21.6LPA
4	Sabarish K L	Bosch Global Software Technology	7LPA
5	Prathyumnann M	Bosch Global Software Technology	7LPA
6	Amaan Meer	Bosch Global Software Technology	7LPA
7	Akshitha C S	Comcast	7 LPA
8	Paari A	Comcast	8.25 LPA
9	RAGHUL S J	COMCAST	8LPA
10	Sunitha R	Comcast	7LPA
11	Tarun J	Comcast	8.25LPA
12	Swarna S	Comcast	7LPA
13	Srihari Kumar S	Comcast	8.25 LPA
14	Kovi Sai Sandeep	Comcast corporation	7LPA
15	Himasai Thupakula	DOW chemicals	8+ LPA
16	Abishek B S	Embedur system	8LPA
17	Vasanth R	Embedur system	8LPA
18	Kumaresh N	Everstage	8.3LPA
19	Pradeep P	Freshworks	5LPA
20	Sasikaran K S	Ignitarium	5LPA
21	Sathyaprakash R	JGC India EPC Private Limited	6 LPA
22	Uppili Narasimhan GG	Kellogg Brown & Root (KBR)	600000
23	Siyan Ananth A	lcs control private limited(intern)	20,000pm
24	Sriranjini S	McDermott	6LPA
25	Suneeth D	Mindgrove (off campus)	6LPA
26	Vishwajith N S	Mindgrove (off campus)	6LPA

27	Thaga Sheriff	Mindgrove (off campus)	6LPA
28	Poovizhi A	Mr. Cooper	10 LPA
29	Poovizhi A	Mr. Cooper	10 LPA
30	Deepshika S	NATWEST	13 LPA
31	Jayachandran J	Royal Enfield	5.25 LPA
32	Sai Prasad M A	Royal Enfield	5.25LPA
33	Abhinaya Ravichandran	SCHNEIDER ELECTRIC	12
34	Yashaswini	Schneider electric	12
35	Sai Krishna Karthick	Tata Elxsi	5.5LPA
36	Santhosh G S	Tata Elxsi	5.5LPA
37	Rohin R	Technip	6.1LPA
38	Uma Shankar G	TransUnion	8 LPA
39	Mani Bharathi.P	TransUnion	8,00,000
40	Abdulrahman Saleem	Value ingredients pvt ltd	600000
41	KETHA SURYA PRAKASH REDDY	Value ingredients pvt ltd	600000
42	Agilbert Sesu Felick F	Wood PLC	600000
43	Akash Raj S A	Wood plc	6,00,000
44	Sneha S	Wood Plc	6 LPA
46	Surya Jothimurugan	Wood plc	6 LPA
47	Vanaja I	Wood PLC	6,00,000

CROSSWORD





Across

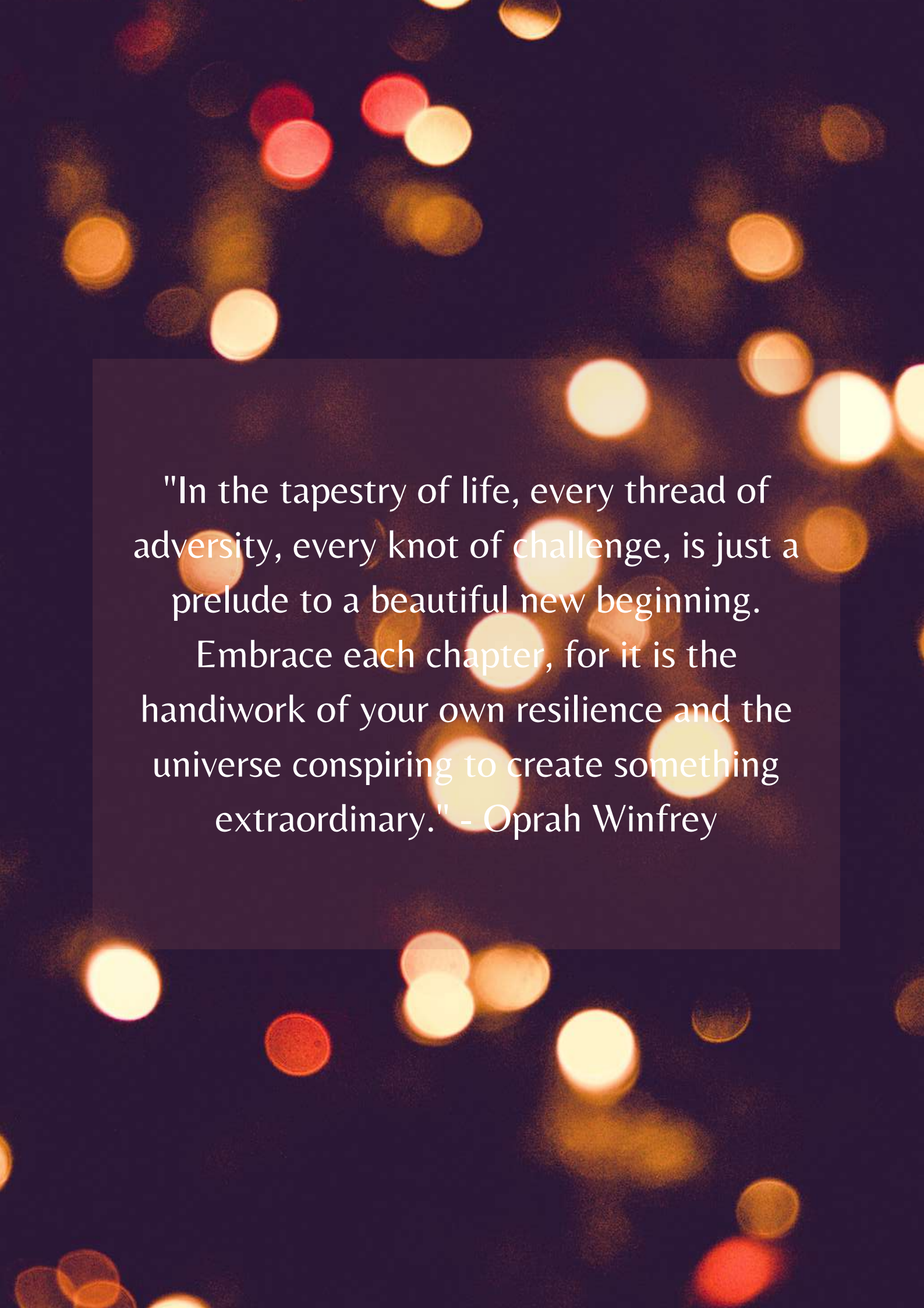
3. measurement of energy gained by a unit of charge in a circuit
6. device used to produce microwave energy in an oven
8. subdivision of electrical engineering to describe readers for DVD discs
9. the time rate of flow of electrical charge
10. a control circuit to regulate temperature

Down

1. a passive two-terminal electrical component that stores energy in a magnetic field when electric current flows through it
2. an electronic circuit that senses heart beats
4. Cells connected in this type of connection gives a greater resultant voltage than individual cells
5. the capability of a material object or device to store electric charge
7. the control mechanism for currents in a circuit

SCAN ME FOR ANSWERS...





"In the tapestry of life, every thread of adversity, every knot of challenge, is just a prelude to a beautiful new beginning.

Embrace each chapter, for it is the handiwork of your own resilience and the universe conspiring to create something extraordinary." - Oprah Winfrey