SVCE | Sri Venkateswara College of Engineering

VIDYUT

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Department of Electrical and Electronics Engineering

Official Newsletter

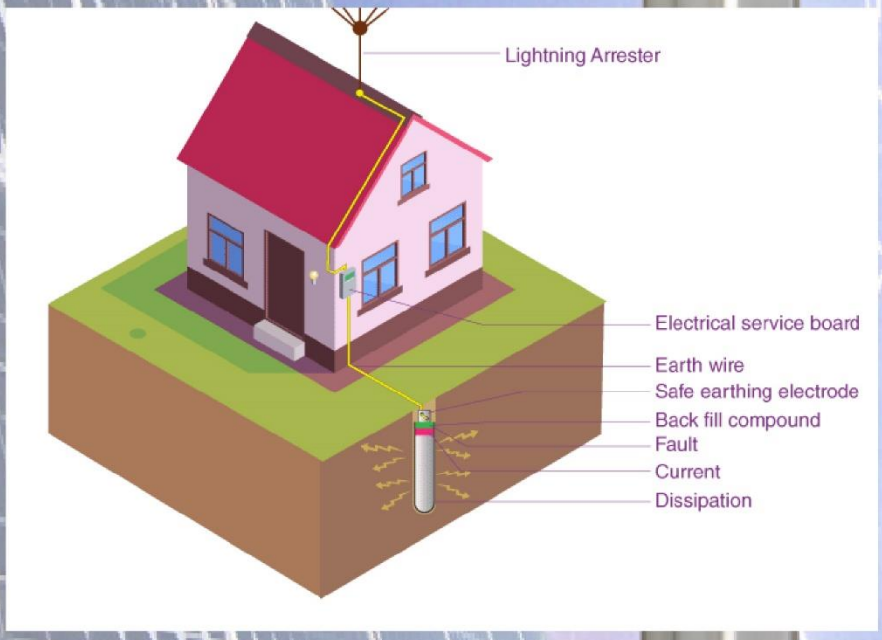

Table of Contents

SRI VENKATESWARA COLLEGE OF ENGINEERING

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Vision of the Institution

To be a leader in Higher Technical Education and Research by providing the state of the art facilities to transform the learners into global contributors and achievers.

Mission of the Institution

To develop SVCE as a "CENTRE OF EXCELLENCE" offering Engineering Education to men and women at undergraduate and postgraduate degree levels, bringing out their total personality, emphasizing ethical values and preparing them to meet the growing challenges of the industry and diverse societal needs of our nation.

Vision of the Department

The vision of Electrical and Electronics Engineering Department is to provide a high standard of education in Electrical and Electronics Engineering so as to meet the industry standards through domain.

Mission of the Department

M1: To create state of the art facilities such that the students excel in Electrical and Electronics Engineering education.

M2: To equip students with a well defined curriculum to meet the requirements of industries and society.

M3: To promote a culture of research, innovation and entrepreneurship in the thrust and allied areas of Electrical and Electronics Engineering.

M4: To inculcate soft skills and foster ethical values and shape the total personality of the students.

Program Educational Objectives (PEOs) UG-EEE

PEOI: Graduates of EEE transformed to engineering contributors in the fields of Electrical, Electronics and Computer Engineering.

PEO2: Succeed in becoming entrepreneurs through human centered design thinking and innovation.

PEO3: Become eligible to pursue higher studies in their chosen areas of engineering or management

PEO4: Effective, conscious and ethical team player in the field of green energy management and sustainability

Program Outcomes (POs) for UG-EEE

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: Design solutions for complex engineering problems and design system components processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. Modern tool usage: Create, select and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and

modeling to complex engineering activities with an understanding of the limitations.

6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and lead.
12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs) for UG-EEE

PSO1: The ability to build, implement, test and maintain analog and/or digital systems and implement Electronic control of Drives for Industrial automation and Electric Vehicle.

PSO2: The ability to analyze Power System network encompassing stability,

control and protection and interconnection of Renewable Energy Sources with Micro and smart grid.

Program Outcomes (POs) for PG-PED

PO1: An ability to independently carry out research/investigation and development work to solve practical problems.

PO2: An ability to write and present a substantial technical report/document.

PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program.

Program Specific Outcomes (PSOs) for PG-PED

PSO1: The ability to design and analyze Power Electronic converters and control of Electric drives for Industrial applications.

PSO2: The ability to apply Power Electronic Circuits in Transmission and distribution network of Power System and interconnection of Renewable Energy.

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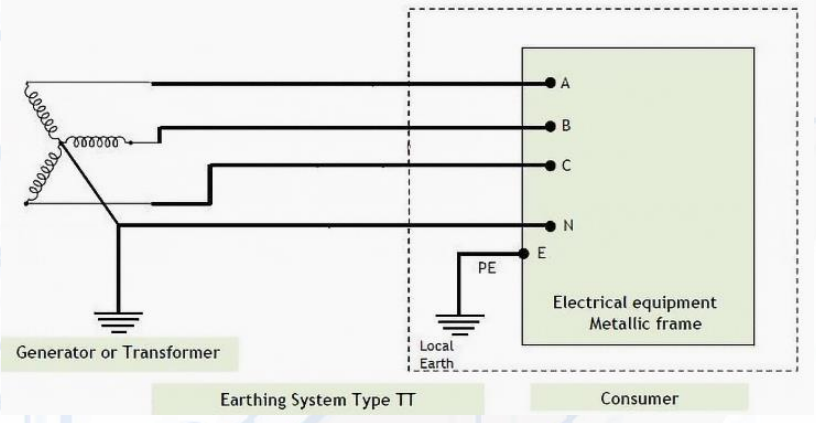
An Article on "Earthing System Concept"

We can say that electrical earthing is the process of transferring the immediate discharge of the electrical flow directly to the earth. Simple as that! This transfer is achieved with the help of the low-resistance conductor implemented for this purpose. It is an arrangement by which an electrical installation is connected to a means of earthing. All equipment and appliances must have an earthing terminal to discharge currents to earth during faults.

Types of Earthing system

According to the British Standard and IEC 60364 standard, there are five main types of earthing connections represented by two letters: T or N. The first letter indicates whether the supply source equipment (Transformer or Generator) is connected to a separate earthing. The second letter indicates whether the load is directly earthed or not. There could be a third and fourth letter to describe the neutral, whether separated or connected, using the letters S, C, or both.

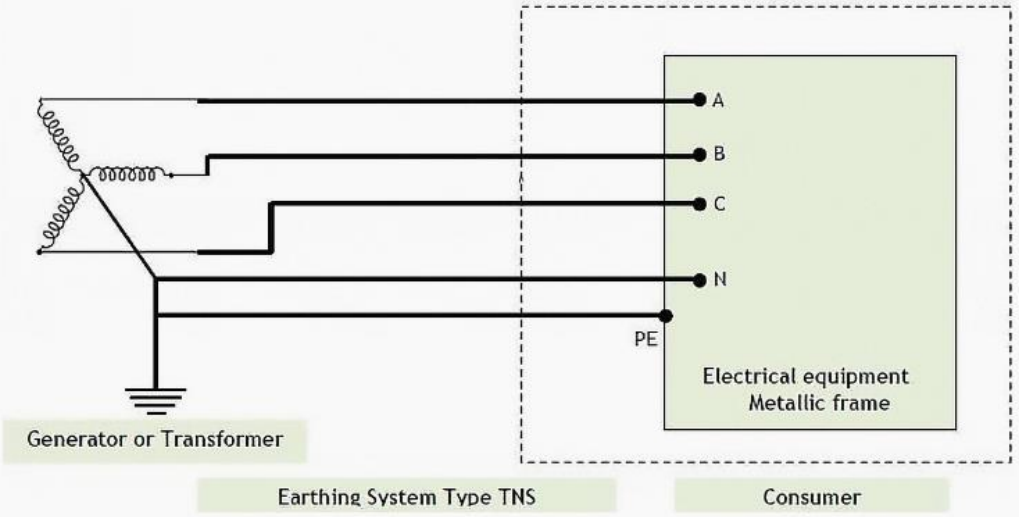
TT System Directly Connected to Earth



In this type of earthing system, connection to the supply source is directly connected to the earth, denoted by the first T. The consumer has solidly earthed

independently of the source earthing method, donated by the second T. The neutral and earthing conductors must be separated through the installation because the power supply authority only provides the neutral or protective conductor for the connection to the consumer. This method is the standard arrangement for most installations fed from an overhead supply.

TN-S System with Separate Ground and Neutral



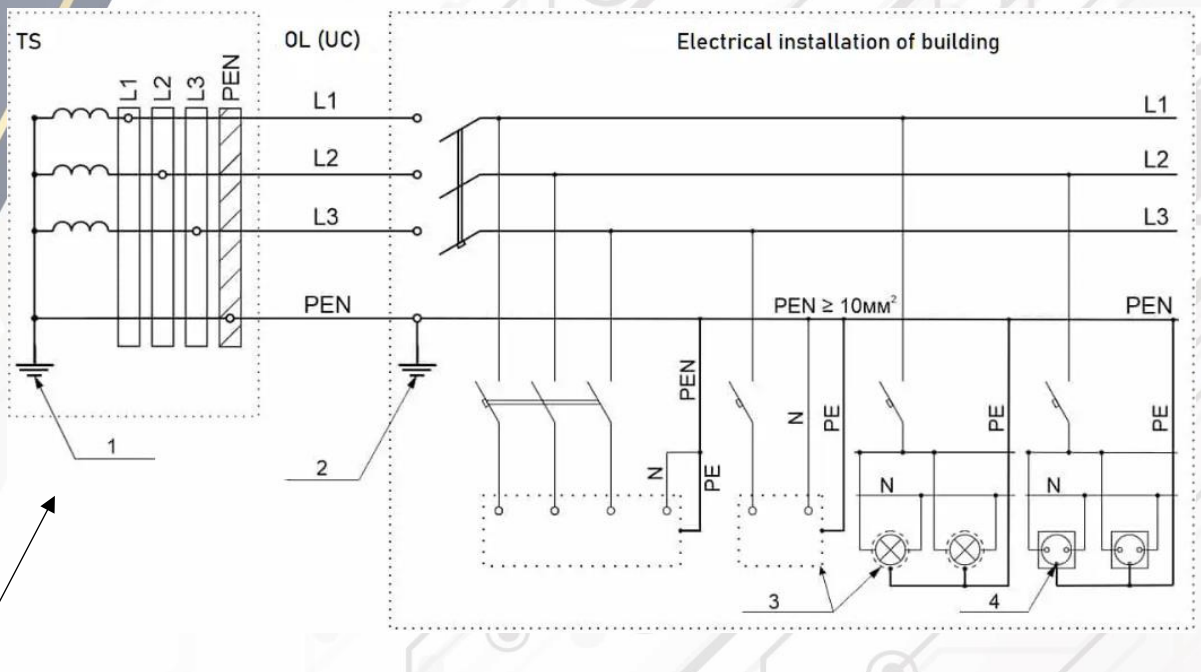
In this system, the Ground Conductor & Neutral Conductor are separate throughout the distribution system. The protective conductor is the metallic covering of the cable supplying the installation. All the exposed conductive parts of the installation are connected to this protective conductor or via the main earthing terminal of the installation. S indicates that the working neutral line and the protection line are strictly separated, so the PE line is called a dedicated protection line.

The customer may have an earth terminal connected to the sheath of the service cable or a separate earth conductor. Most installations with an underground supply will likely be of this type of earthing.

TN-C System with Combined Ground and Neutral

The Neutral and the protective earth are combined into a single conductor throughout the system. All the exposed and conductive parts of the installation are connected to the PEN conductor. The third letter in this type of earthing, C, indicates that the working neutral and protection lines are one. Therefore, in TN-C (Terra Neutral – Combined) method, the earth and neutral share the same conductor (two-wire single-phase).The neutral conductor is also a protective conductor referred to as a PEN (Protective Earth and Neutral) conductor.

In the TN-C type of system earthing one of the live parts of the power supply is earthed, usually the transformer neutral. All exposed-conductive-parts of class 1 electrical equipment installed in the electrical installation of a building have an electrical connection to the transformer's earthed neutral. PEN conductors are generally used to provide this connection in both the low-voltage electrical distribution network and in the electrical installation of a building. If the overhead line (OL) is part of the distribution network, its PEN conductor is generally earthed at several points, by performing a so-called re-earthing of the PEN conductor.



1 – power supply earthing arrangement
2 – the earthing arrangement of the electrical installation of a building
3 – exposed-conductive-parts
4 – protective contact of the socket-outlet
TS – transformer substation
UC – underground cable
OL – overhead line

When implementing a TN-C system, the cross-section of PEN conductors in the electrical circuits of the electrical installation of a building may not be smaller than 10 mm^2 for copper and 16 mm^2 for aluminum. The cross-section of phase conductors in the final lighting circuits is usually 1.5 and 2.5 mm^2, in the final circuits of socket-outlets 2.5 mm^2.

In the electrical installation of a building corresponding to the TN-C type of system earthing, a PEN conductor must be present in all distribution circuits and in the vast majority of the final circuits. Separation of a PEN conductor in such the electrical installation of a building may be performed only when connecting hand-held and portable electrical equipment of class I, performed by means of socket-outlets.

The TN-C system can easily be realised when connecting a newly constructed low-voltage installation to an existing or under construction electrical distribution network. However, with this type of system earthing it is difficult to ensure the same level of electrical safety as in the TN-C-S, TN-S and TT systems.

References

- International Standard IEC 60364-1 Fifth Edition 2005-11
- Requirements for Electrical Installations BS 7671:2018 + A2:2022 The IET Wiring Regulations Amendment 2 to BS 7671:2018 The changes from the 18th Edition
- Kharechko Y.V. Fundamentals of earthing electrical networks and electrical installations of buildings. 6-th edition, revised and supplementary – Moscow: PTF MIEE, 2012. – 304c

Article by
Ms. S.Sinthamani, Assistant Professor.

Students Achievements

The Annual District Rotaract Awards - INSPIRE was held at Muthamizh Peravai, Chennai on June 24, 2023. Our college received 5 trophies and 3 recognitions in that ceremony. Student from EEE Rtr.Dhanush RagavP received Best president award for 2023.Student of third year EEE, Rtr. Hareesh V received Outstanding Secretary Award for 2023.

Best Club Award

Rtr.Dhanush Ragav P, Rtr president

Best President Award - Rtr.Dhanush Ragav P from EEE

Rtr.Hareesh V, Rtr Secretary

Outstanding Secretary Award - Rtr.Hareesh V from EEE

Students Participation

The Rajiv Gandhi National Institute of Youth Development (RGNIYD), Sriperumbudur, Tamil Nadu, is an Institution of National Importance by the Act of Parliament No. 35/2012 under the Ministry of Youth Affairs & Sports, Government of India. The RGNIYD was set up in 1993 under the Societies Registration Act, XXVII of 1975. The Institute functions as a think-tank of the Ministry and premier organization of youth-related activities in the country. As the apex institute at the national level, it works in close cooperation with the NSS, NYKS and other youth organizations in the implementation of training programmes.Seven girl students from first year EEE attended the `Capacity Building & Personality Development` One-day programme on 28th June 2023 conducted by RGNIYD.

Ms. Akhila .S	Ms Dharshini S	Ms. Mega Shree M	Ms.Vinodhasree G R
Ms. Laksita D	Ms.Pavithra. B	Ms.Yuvasri S J	

PALS-IIT Madras

On behalf of SVCE, Dr N K Mohanty, Professor/EEE and Dr. N. Kumaratharan, Professor / ECE have received "PROUD PARTNER INSTITUTE 22-23 AWARD" and " AWARD OF EXCELLENCE IN PARTICIPATION" for the year 2022-23 from Prof. V. Kamakoti, Director, IIT Madras on 3rd June 2023.

Faculty Achievements

Dr N K Mohanty, Professor/EEE has received "CERTIFICATE OF APPRECIATION" as an InnoWAH Coordinator for the year 2022-23 from PALS-IIT Madras on 3rd June 2023.

Dr. N K Mohanty, Professor, reviewed the paper title "The Role of Software Engineering in Building Smart Cities for Electric Vehicles" for the international Journal " Sustainability" in the month of June 2023.

Dr. N K Mohanty, Professor, reviewed the paper title "Applying Multiple-Input Single-Output Interleaved High Step-Up Converter with Current-Sharing Device Having Different Input Currents to Harvesting Energy from Multiple Heat Sources" for the International Journal "Applied Sciences" in the month of May 2023.

REVIEW CONFIRMATION CERTIFICATE

We are pleased to confirm that

Nalin Mohanty

has reviewed 3 papers for the following MDPI journals in 2023:

Sustainability, Applied Sciences

Shu-Kun Lin

Dr. Shu-Kun Lin, Publisher and President
Basel, 10 July 2023

MDPI

MDPI is a publisher of open access, international, academic journals. We rely on active researchers, highly qualified in their field to provide review reports and support the editorial process. The criteria for selection of reviewers include: holding a doctoral degree or having an equivalent amount of research experience; a national or international reputation in the relevant field; and having made a significant contribution to the field, evidenced by peer-reviewed publications.

Events Organized

PATHWAYS-2023

The webinar PATHWAYS - 2023 was organized by the Department of EEE on 20th June 2023 to provide a platform for the students to gain insights in the field of Electrical and Electronics Engineering (EEE) and its potential applications in various industries and future advancements.

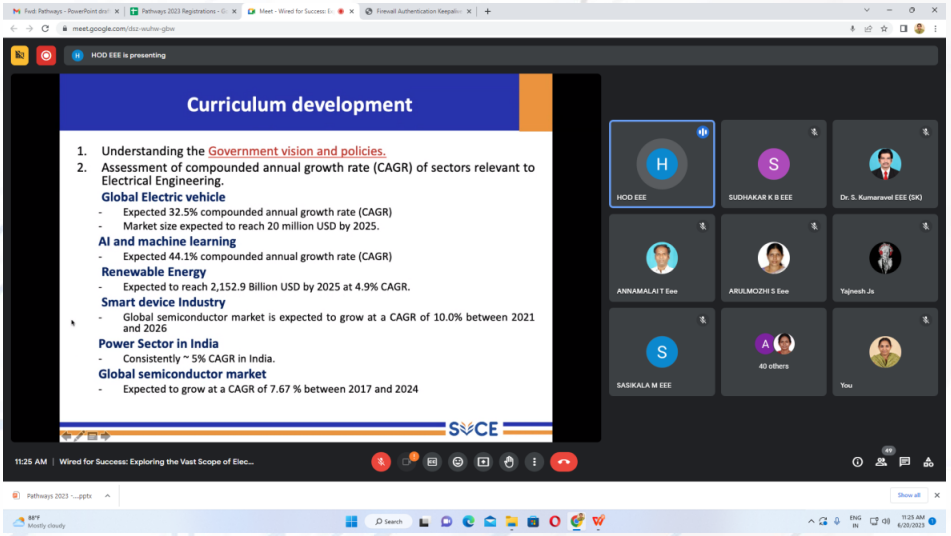
The keynote address was delivered by Dr.KR.Santha Vice-Principal, Professor & HOD/EEE highlighted the significance of Electrical and Electronics Engineering in various industries, the current trends, challenges, and opportunities in the field.

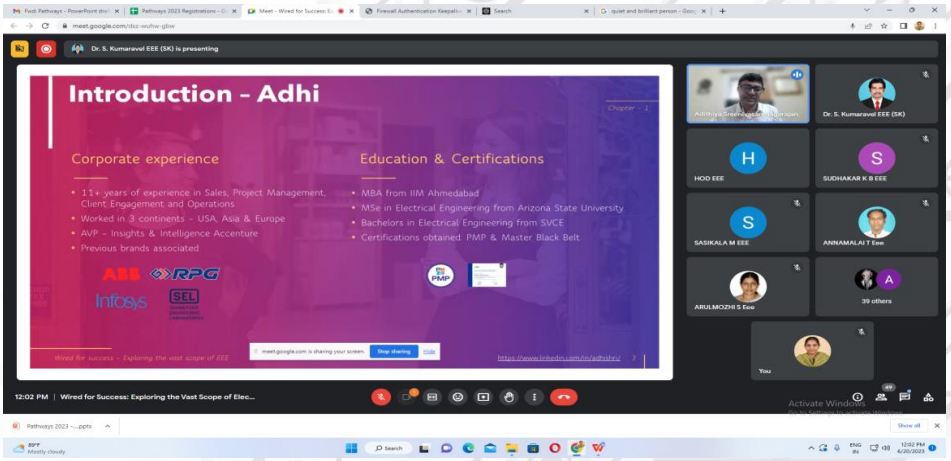
Mr.Adithiya Sreenivasan Nagarajan Analytics and Insights division of Accenture, highlighted the need for skilled professionals to drive innovation in tackling global challenges and encouraged participants to explore the exciting possibilities within the industry.

Mr.Akash Jain Founder and CEO, Mu-Phile labs discussed how EEE plays a vital role in their organizations and shared real-world applications of the field.

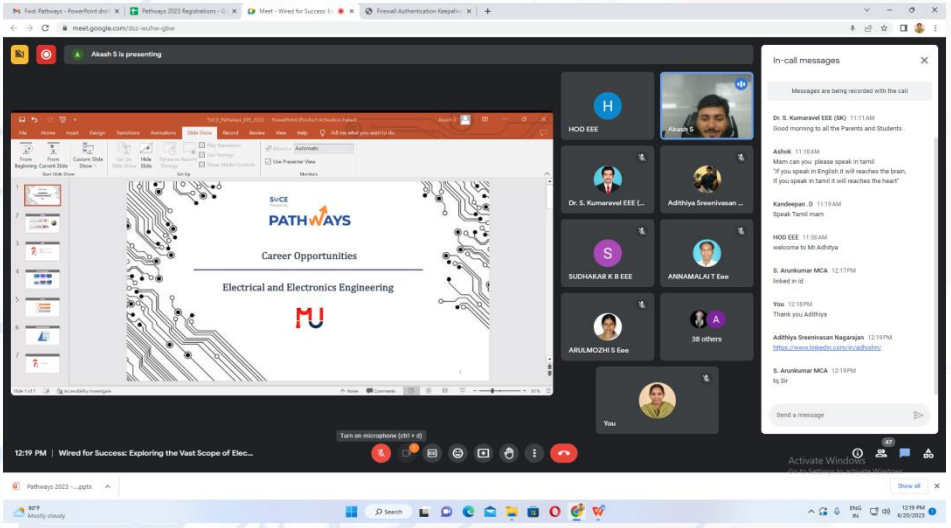
The webinar concluded with closing remarks from the organizers, summarizing the key takeaways and expressing gratitude to the participants and contributors.

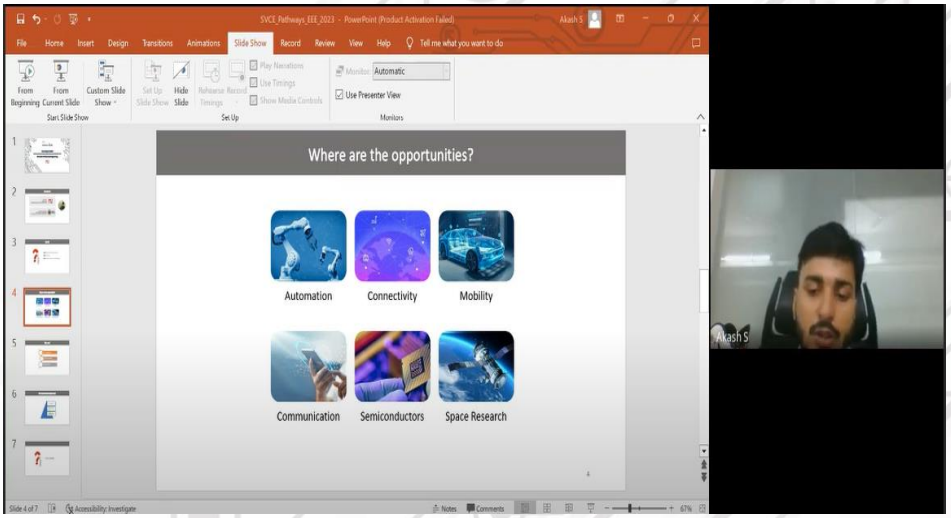
Glimpses of the Webinar are Displayed in the Following Pages




Dr. S. Kumaravel EEE (SK) is presenting
Introduction - Adhi
Corporate experience
11+ years of experience in Sales, Project Management, Client Engagement and Operations
Worked in 3 continents - USA, Asia & Europe
AVP - Insights & Intelligence Accenture
Previous brands associated
Education & Certifications
MBA from IIM Ahmedabad
MSe in Electrical Engineering from Arizona State University
Bachelors in Electrical Engineering from SVCE
Certifications obtained: PMP & Master Black Belt
ABB
RPG
Infosys
SEL
HOD EEE
SUDHAKAR K B EEE
SASIKALA M EEE
ANNAMALAI T Eee
ARULMOZHI S Eee
39 others
You
12:02 PM | Wired for Success: Exploring the Vast Scope of Elec...


Dr. S. Kumaravel EEE (SK) is presenting
Typical roles in EEE (Power Sector)
Control Design Engineer
T&D - Planning Engineer
Store and Commercial In-Charge
Site Supervisor
Automation Engineer
Protection Engineer
System Modelling Engineer
Commissioning Engineer
HOD EEE
SUDHAKAR K B EEE
SASIKALA M EEE
ANNAMALAI T Eee
ARULMOZHI S Eee
41 others
You
12:09 PM | Wired for Success: Exploring the Vast Scope of Elec...


Akash S is presenting
PATHWAYS
Career Opportunities
Electrical and Electronics Engineering
In-call messages
HOD EEE
SUDHAKAR K B EEE
ANNAMALAI T Eee
ARULMOZHI S Eee
38 others
You
12:19 PM | Wired for Success: Exploring the Vast Scope of Elec...



Parents Day Meet – I (First Years)

Parents' day meet for first year students for the EVEN semester of AY(2022-2023) was held on 17.06.2023, Saturday. Faculty advisors carried out vigorous counseling. After meeting with subject teachers, Dr.Sudhakar K B, AHoD/EEE addressed the gathering and discussed elaborately about the autonomous stream and importance of regular class attendance, Laboratory class attendance, CAT exams, Special classes and Career planning through verticals in curriculum. Parents clarified their doubts through interaction with AHoD/EEE.

The moments captured during the parent day meet are depicted as follows.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Kanchipuram
Tamil Nadu
Parent Day Meet I EEE
17-Jun-2023 9:39:13 am


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Kanchipuram
Tamil Nadu
Parent Day Meet I EEE
17-Jun-2023 9:40:16 am


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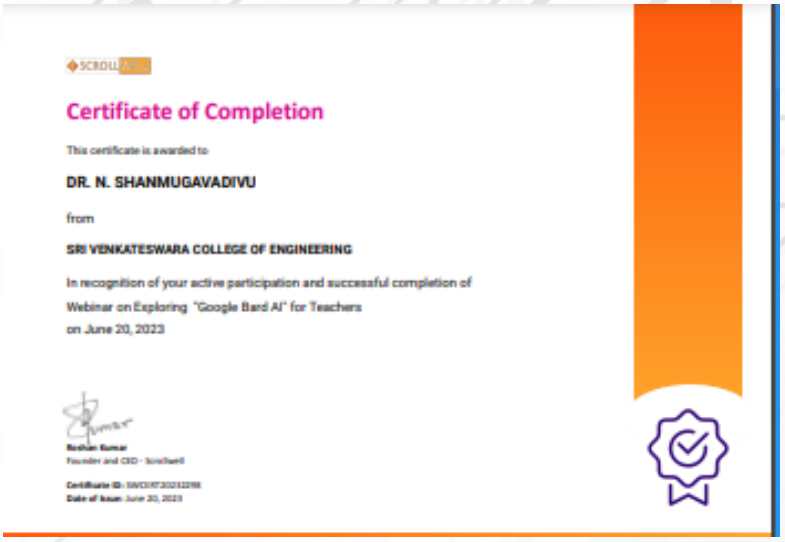
Tamil Nadu
Parent Day Meet I EEE
17-Jun-2023 10:03:55 am


12.9874904N 79.9724436E
Kanchipuram
Tamil Nadu
Parent Day Meet I EEE
17-Jun-2023 10:03:07 am

Faculty Participation in FDP/ Workshop

Dr.N.S.Shanmugavadivu, Assistant Professor, patricipated in five days FDP on "Robotic Process Automation Associate-UiPath" organized by ICT academy at Ethiraj College for Women from 12th to 16th June 2023.

Dr.N.S.Shanmugavadivu, Assistant Professor, attended a Webinar on Exploring "Google Bard AI" for Teachers on June 20th, 2023.


Certificate of Completion

This certificate is awarded to

DR. N. SHANMUGAVADIVU

from

SRI VENKATESWARA COLLEGE OF ENGINEERING

In recognition of your active participation and successful completion of Webinar on Exploring "Google Bard AI" for Teachers on June 20, 2023

Dr.C.Kamal, Assistant Professor, participated in a SERB sponsored workshop on "e-Mobility and Electric Vehicle Engineering", from 21st to 26th June, 2023 organized by National Institute of Technical Teachers Training and Research, Chennai.


Accelerate Vigyan

Cert.No. NITTTR/KAREV/23-24/022

THIS CERTIFICATE IS AWARDED TO

C. KAMAL

ASSISTANT PROFESSOR, EEE, SRI VENKATESWARA COLLEGE OF ENGINEERING, SRIPERUMBUDUR

FOR SUCCESSFULLY PARTICIPATED IN

SERB Sponsored

High End Workshop (Karyashala) on E-Mobility and Electric Vehicle Engineering

from 21.06.2023 to 28.06.2023

Organized by

National Institute of Technical Teachers Training and Research, Chennai

EVENT ORGANIZER SIGNATURE WITH DATE

HEAD OF THE INSTITUTE SIGNATURE WITH DATE

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

NEWSLETTER

EDITORIAL TEAM

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Dr. Sudhakar K Bharatan, AHOD
Dr. R. Karthikeyan, Associate Professor
Ms. S .Sinthamani, Assistant Professor

Mr. Sabari S, III year