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(Established under Section 3 of UGC Act 1956)

Nitte – 574 110, Karnataka, India

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Volume 05 Issue 01 August 2025 EEE News Letter

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Induction Programme

30 July 2025

The Department of Electrical and Electronics Engineering (EEE) conducted an Induction Programme for the newly admitted first-year students of the 2025 batch on 30 July 2025 at LC01, C. V. Raman Block, NMAMIT, Nitte. The programme aimed to acquaint students with the department, its faculty members, and the wide range of academic and co-curricular opportunities available to them. The event commenced with an introduction session, where all teaching, technical and non-teaching staff members of the department introduced themselves to the new students, creating a welcoming atmosphere. This was followed by a technical session on "Role of Electrical Engineers in Society and Career Opportunities for EEE Graduates" by Dr. Nagesh Prabhu, Vice-Principal, NMAMIT. He elaborated on the relevance of electrical engineering in today's world and the wide array of career paths available to graduates. The next session, "Man, Machine and God" was conducted by Mr. Naveen J and Mrs. Akshatha N M, who highlighted the transformative power of human inventions and the importance of providing the right input to the machines for achieving operational excellence. Mrs. Swathi Hatwar H, ELITES Coordinator, introduced the students to the ELITES student association, explaining its objectives, its journey so far and the various student-centred activities planned for the academic year. Mr. Ravikiran Rao M, ELIXIR Coordinator, discussed the significance of undertaking projects and the long-term impact of ELIXIR on students' professional development. The afternoon session focused on creating awareness about the department's official social media platforms, encouraging students to stay connected and informed about ongoing activities and achievements. The programme concluded with a vibrant and engaging session of fun activities and games organised by the senior students, fostering peer interaction and team spirit among the newcomers.

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Kaushalya for the Students of III Semester B. Tech (EEE)

27 Aug 2025

The department of Electrical and Electronics Engineering organised a two-day skill development program "Kaushalya – Right tool -Accurate measurement- Better information" for the third semester students of the department on 07 and 08 August 2025 at Shambavi Seminar Hall. The workshop highlighted the importance of applying theoretical knowledge to laboratory experiments and emphasised the use of appropriate tools for accurate measurement and effective analysis. The inaugural programme of the event was held on 07 August 2025 at Shambhavi Seminar Hall. Dr. Nandini K K, Assistant Professor – Grade III, Dept of EEE welcomed the gathering. Dr. Suryanarayana K., Professor and Head, Department of EEE, highlighted the importance of such skill development programmes in minimising errors during laboratory experiments and in adopting the correct approach to achieve accurate results. The programme concluded with a vote of thanks delivered by Dr. Pramod Bhat Nempu, Assistant Professor – Grade III. The ceremony was compered by Mrs. Akshatha N. M., Assistant Professor – Grade II. The sessions were conducted as per the following schedule:

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Day	Time	Session	Topic
07 August 2025 Thursday	9:00 AM - 10:50 AM	1	**Insight to the Department of EEE** **Dr. Latha Shenoy**
	11:10 AM -1:00 PM	2	**Network Analysis – Part 1** **Dr. Suryanarayana K and Team**
	1:00 PM - 2:00 PM	**Lunch Break**	
	2:00 PM - 4:00 PM	3	**Analog Signal Processing** **Mr. Ravikiran Rao M**
08 August 2025 Friday	9:00 AM - 10:50 AM	1	**Network Analysis – Part 2** **Dr. Suryanarayana K and Team**
	11:10 AM – 12:05 PM	2	**Microcontroller** **Ms. Nutana Shetty & Dr. Dinesh Shetty**
	12:05 PM - 1:00 PM	3	**Microcontroller Applications** **Dr. Suryanarayana K and Team**
	1:00 PM - 2:00 PM	**Lunch Break**	
	2:00 PM - 3:30 PM	4	**Role of Projects in the Engineering Journey** **Dr. Suryanarayana K and Team**
	3:45 PM - 4:15 PM	5	**Valedictory**

Session 1: Dr. Latha Shenoy, Assoc. Professor gave an "Insight into the Department of Electrical and Electronics Engineering". The session was conducted to familiarize the students with the vision, mission, academic programs, laboratories, research facilities and career opportunities of the department.

Session 2: Dr. Suryanarayana K and team described the fundamental concepts, circuit theorems, and problem-solving approaches essential for electrical engineering students.

Session 3: Mr. Ravikiran Rao, Asst. Professor – Grade - II handled a session on Analog Signal Processing focusing on the principles of continuous-time signals, filtering techniques, modulation methods, and practical applications in real-world systems.

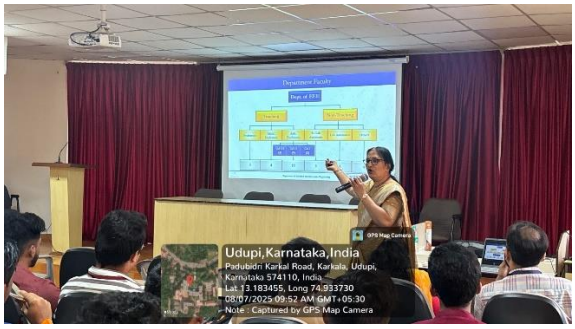
Session 4: Dr. Suryanarayan K. and his team built upon the previous session, delving into advanced concepts and practical applications in electrical circuits.

Session 5: Dr. Dinesh Shetty, Asst. Professor – Grade - III & Mrs. Nuthana Shetty, Asst. Professor – Grade - I handled a session on Microcontroller. Also demonstrated home automation system using MicroLabLet kit.

Session 6: Dr. Suryanarayana & team handled a session which gave an insight to various microcontroller applications highlighting their applications in embedded systems and practical use cases.

Session 7: Dr. Suryanarayana & team handled a session on "Role of Projects in the Engineering Journey", emphasising the importance of project-based learning in bridging theoretical knowledge with practical applications.

The valedictory programme was held on 08 August 2025. Ms. Akshatha N. M. presented a summary of the two-day Skill Development Programme, followed by constructive feedback shared by the student participants. The resource persons also reflected on their experiences. Dr. Suryanarayana K. delivered the concluding remarks, and the session ended with a vote of thanks proposed by Dr. Nandini K. K.



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Kaushalya for the Students of V Semester B. Tech (EEE)

28 Aug 2025

The Department of Electrical and Electronics Engineering (EEE) organised a Student Development Programme (SDP) "Kaushalya, Right tool - Accurate measurement - Better information" for the students of fifth semester, B. Tech (EEE) on 13 and 14 August 2025 at Shambavi Seminar Hall. The workshop aimed at combining theoretical knowledge with practical exercises, to equip students with essential skills for achieving precise measurements and interpreting data effectively, which are crucial for the future engineering projects and studies. The SDP focused on understanding the key concepts in Power Electronics, Modern Switchgear and Protection, Electrical machines-II, Hardware System Design, Electrical CAD, Internet of Things and Carrier Guidance.

Day 1: Session 1 – The session began with a lecture on Power Electronics delivered by Mr. Pradeep Kumar, Asst. Professor – Grade - III. The discussion started with an introduction to power electronics and an overview of commonly used power semiconductor devices. He explained the latching and controlling mechanism of SCR (Silicon Controlled Rectifier) and TRIAC, highlighting their operating principles, V-I characteristics and practical applications in power control. To complement the theory, Mr. Pradeep Kumar demonstrated a controlled SCR circuit connected to two vehicle headlight lamps. Through this experiment, participants observed how the firing angle control of the SCR regulates the brightness of the lamps, showcasing the application of power electronic devices in real-life scenarios such as light dimming and power regulation. The session provided students with both conceptual clarity and practical insight into the role of power electronic devices in modern electrical systems.

Day1: Session 2 – The second session of the day was conducted by Mr. Anand Bhat, Assistant Professor – Grade II, on the topic *Hardware System Design*. He began by emphasising the role of systematic project planning in the successful execution of hardware-based projects. The session covered the various stages of design, from conceptualisation to final implementation, with a detailed explanation of circuit layout preparation and its impact on efficiency and accuracy. Mr. Bhat also elaborated on the methodology of designing Printed Circuit Boards (PCBs), focusing

on key aspects such as component placement, routing, and adherence to design rules. The session provided participants with valuable insights into the practical challenges of hardware design and strategies to address them through structured planning and careful execution.

Day1: Session 3 – The third session of the day was conducted by Dr. Dinesh Shetty, Assistant Professor – Grade III, on the topic Electrical CAD. He discussed the planning of electrical wiring systems, outlining the steps involved in designing a safe and efficient wiring layout. The session highlighted the selection of appropriate components such as conductors, protective devices, and switches, with an emphasis on adhering to relevant standards and codes of practice. Dr. Shetty also introduced a software tool for electrical circuit design, demonstrating how CAD tools streamline the drafting, analysis, and documentation of wiring systems. The session enabled participants to appreciate the significance of systematic planning, compliance with standards, and the use of modern software in electrical design.

Day1: Session 4 – The afternoon session commenced with an insightful talk by Dr. Krishna Rao, Asst. Professor – Grade III on the topic Modern Switchgear and Protection. He began by introducing the importance of switchgear in ensuring safety, reliability and efficiency of electrical systems. He also explained the equivalent circuit of a transformer, highlighting the role of resistance, reactance and magnetising components in analysing the transformer performance. He discussed the calculation of transformer efficiency, emphasising how copper losses, iron losses, and load conditions influence overall efficiency. The session further focused on the selection of fuses and determination of fuse ratings for different electrical circuits. He explained the key parameters considered while choosing a fuse, such as current rating, breaking capacity and application type. Practical examples were given for selecting appropriate fuse ratings in domestic wiring, industrial systems and protection of sensitive electronic equipment. Through these explanations, the participants gained a clear understanding of how proper protection devices safeguard equipment and enhance the reliability of power systems.

Day2: Session 1 began with a talk on Electrical Machines–II, conducted by Dr. Girisha Joshi, Assoc. Professor and Mr. Naveen J, Asst. Professor – Grade – III. The session started with Mr.

Naveen J providing an introduction to electrical machines, highlighting their significance and wide range of applications in day-to-day life—from household appliances to industrial drives.

Following this, Dr. Girisha Joshi gave a detailed explanation of the working principles of different electrical machines. He demonstrated the experimental setup of a universal motor, explaining its construction, operation and typical applications. In addition, he elaborated on the working of an induction motor, supported with an experimental setup to give participants hands-on understanding of its characteristics and performance. The combination of theoretical insights and practical demonstrations helped students clearly relate the concepts of machine operation with the real-world applications

Day2: Session 2 – The session on Internet of Things (IoT) was presented by Mrs. Nutana Shetty, Asst. Professor – Grade – I. She gave valuable insights into the concept of IoT, its genesis and its growing importance in today's digital world. The session covered how IoT connects physical devices to the internet, enabling monitoring, data exchange and remote control. She also discussed real-life applications of IoT across domains such as smart homes, healthcare, agriculture and industrial automation. To provide hands-on exposure, she demonstrated a simple IoT project that controlled a lamp through Wi-Fi using the Blynk app. Participants observed in real time how a mobile application could transmit commands over the internet, which were then received by a microcontroller to operate an electrical appliance. The demonstration not only illustrated the practical implementation of IoT concepts but also inspired students to explore and develop innovative IoT-based solutions.

Day2: Session 3 – The next session was on Power Electronics, delivered by Dr. Dhananjay B, Asst. Professor – Grade – III. He began by introducing various power electronic devices and their significance in modern electrical and electronics systems. The discussion focused on the MOSFET (Metal-Oxide-Semiconductor Field Effect Transistor), one of the most widely used devices in power electronics due to its high efficiency and fast switching capabilities. He explained the characteristics of MOSFETs, including their input-output behaviour, threshold voltage, transfer characteristics and advantages over conventional devices such as BJTs. He

highlighted their key features such as high input impedance, low switching losses and suitability for high-frequency applications. To reinforce the theoretical concepts, he demonstrated the working of a MOSFET as a switch using an experimental setup. Through the demonstration, students were able to observe how the MOSFET transitions between ON and OFF states when appropriate gate signals are applied, and how it can be effectively used in controlling power flow in circuits. This practical exposure gave participants a clear understanding of the role of MOSFETs in converters, inverters, and other power electronic applications.

Day2: Session 4 – The fourth session was conducted by Dr. Suryanarayana K, Professor and Head, Dept of EEE, who delivered an engaging talk on Career Guidance. He emphasized the importance of making informed academic choices, particularly in selecting the right electives from the fifth semester, as these subjects can significantly influence students' career paths and placement opportunities. He also highlighted the role of project work in shaping technical skills and confidence during job interviews. He explained how well-chosen and effectively executed projects not only strengthen problem-solving abilities but also serve as strong talking points in interviews, helping students showcase their practical knowledge and innovation. The session motivated students to carefully plan their academic journey, align their skills with industry requirements, and take proactive steps toward building a successful career.

The valedictory program was conducted on Aug 14, 2025. The summary of the two days SDP was presented by Mrs. Nutana Shetty. Both students and resource persons shared their views on this SDP. Dr. Suryanarayana K delivered concluding remarks.

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Investiture Ceremony of Elites Office Bearers

30 Aug 2025

The Department of Electrical and Electronics Engineering (Dept of EEE) conducted the Investiture Ceremony of the ELITES Students' Association for the newly elected office bearers of the Academic Year 2025–26 on 23 August 2025 at CV Raman Block, NMAMIT, Nitte. The newly elected office bearers formally took a pledge to uphold the dignity of the department and to contribute meaningfully to the growth of the association. The ELITES faculty coordinator, Mrs. Swathi Hatwar H., outlined the objectives of the club, following which the student leaders introduced themselves and shared their roles, responsibilities, and activity plans for the academic year.

Dr. Suryanarayana K., Professor and Head of the Department of EEE, congratulated the office bearers and emphasised the significance of leadership, teamwork, and accountability in their new roles. He highlighted how platforms such as ELITES and Student Development Programmes (SDPs) create opportunities to complement classroom learning with real-world skills. Stressing the importance of technical, professional, and soft-skill development, he inspired students to embody integrity, teamwork, and social responsibility. He further reminded them of their role in fostering a collaborative and positive departmental culture, assuring the department's full support in all their endeavours.

The event, attended by the Head of the Department, faculty members, office bearers, and students of EEE, marked a vibrant and impactful beginning to the academic year's activities.

The list of office bearers of Elites and the Class Representatives of different sections is given below:

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Sl. No.	Post	Name	USN	Semester
1.	President	Divij Santhosh Mandrekar	NNM22EE021	VII
2.	Secretary	Prathish	NNM22EE042	VII
3.	Treasurer	Rakshit	NNM22EE048	VII
4.	Cultural Committee Head	Nishma K B	NNM22EE036	VII
5.	Sports Committee Head	Chethan Kumar	NNM22EE016	VII
6.	Literary Committee Head	Amoolya	NNM22EE008	VII
7.	Technical Committee Head	Nikhil Adiga	NNM22EE033	VII
8.	Digital Media	H Abhinava R Hebbar	NNM22EE022	VII
9.	Event Management	Akhilesh Marturkar	NNM22EE005	VII
10.	Vice President	Nayana Rai N	NNM23EE052	V
11.	Joint Treasurer	Sathwik	NNM23EE069	V
12.	Member Cultural Committee	Sheethal Pai	NNM23EE073	V
13.	Member Sports Committee	Harshitha	NNM23EE031	V
14.	Member Literary Committee	Shreya S	NNM23EE078	V
15.	Member Technical Committee	Shreyas Deekshith K	NNM23EE080	V
16.	Joint Secretary	K Sundeep S Kamath	NNM24EE054	III
17.	Class Representative	Deepa	NNM23EE509	VII A
18.	Class Representative	Prathamesh R	NNM23EE519	VII B
19.	Class Representative	Ankith P J	NNM24EE010	V A

20.	Class Representative	Sherwin D Souza	NNM23EE074	V B
21.	Class Representative	Nehal S M	NNM24EE069	III A
22.	Class Representative	Prashasth B R Kotian	NNM24EE083	III B

Exploring Arduino

30 Aug 2025

The Department of Electrical and Electronics Engineering (Dept of EEE) in association with the Electrical and Electronics Engineering students' association "Elites" conducted a Student Development Programme "Exploring Arduino" at NMAMIT, Nitte on August 23, 2025 for the benefit of first year students of the department to provide them with a foundation in working with Arduino controllers. The aim of the SDP was to equip students with the essential technical skills that could later be applied in project development and showcased during ELIXIR, the department's annual technical fest.

The hands-on training session was held from 9:30 a.m. to 12:30 p.m. across two venues — the Computer Lab and the Microcontroller Lab. Senior students, guided by faculty members, planned and delivered the session effectively. The resource persons, Mr. Sherwin and Mr. Shreyas, introduced the students to different types of controllers, methods of choosing suitable controllers for projects, sensor interfacing techniques and a structured approach to building real-time projects.

A total of 80 first-year students enthusiastically participated in the session, supported by 30 volunteers who assisted in monitoring progress and providing guidance. The program received highly positive feedback, with students benefiting from practical exposure and interactive learning.

The event was graced by the Head of the Department, faculty members, office bearers, and students of EEE, marking a vibrant and impactful commencement of the academic year's activities.

Twist N Turn – Rubik's Cube Solving Competition

30 Aug 2025

The Department of Electrical and Electronics Engineering conducted a sports event, "Twist N Turn – Rubik's Cube Solving Competition", on 29 August 2025 at Sir MV Block, NMAMIT, Nitte. The event was organised to celebrate National Sports Day. The competition was aimed at enhancing the mental agility, sharpen brain activity and improve eye–hand coordination. It was also a celebration of quick thinking, strategy and problem-solving skills that are invaluable both on and off the field. A total of 16 participants took part in the event. The competition consisted of three rounds:

- Round 1: Participants had to solve the Rubik's Cube as quickly as possible. The fastest solvers qualified for the next round.
- Rounds 2 and 3: Specific patterns were given, and participants had to generate the said patterns. The fastest performer in each round advanced further.

At the end of the competition, Mr. Ankith Cherian emerged as the Winner, while Mr. Stanson secured first runner-up. The event was witnessed by the students and faculty members of the

department, who appreciated the participants' enthusiasm and skill. The competition successfully captured the spirit of National Sports Day and highlighted the importance of mental sports alongside physical ones.

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Details of the Workshop / STTP/ Faculty Development Program attended by the faculty of E&E Engg in the month of August 2025

Sl. No.	Name	Dept	Title of the Programme	Place	Date
1.	Mrs. Vijimol Vijayan	E&E Engg	Effective Publishing Strategies: AI Tools and Techniques for Enhancing Research Impact	Methodist College of Engineering and Technology, Hyderabad	21-26 July 2024
2.	Mrs. Vijimol Vijayan	E&E Engg	ARM Keil MDK Application and Hardware GSAS LPC-1768	Dept of ECE, NMAMIT, Nitte in association with SDC, Nitte (DU)	24-25 July 2025
3.	Mr. Mahabaleshwara Sharma K	E&E Engg	ARM Keil MDK Application and Hardware GSAS LPC-1768	Dept of ECE, NMAMIT, Nitte in association with SDC, Nitte (DU)	24-25 July 2025
4.	Mrs. Raksha Adappa	E&E Engg	ARM Keil MDK	Dept of ECE, NMAMIT, Nitte	24-25 July

Sl. No.	Name	Dept	Title of the Programme	Place	Date
			Application and Hardware GSAS LPC-1768	in association with SDC, Nitte (DU)	2025
5.	Mrs. Swathi Hatwar	E&E Engg	ARM Keil MDK Application and Hardware GSAS LPC-1768	Dept of ECE, NMAMIT, Nitte in association with SDC, Nitte (DU)	24-25 July 2025
6.	Dr. Dinesh Shetty	E&E Engg	Personality Types at Work	Coursera – University of Florida (Online)	01 Aug 2025
7.	Mrs. Raksha Adappa	E&E Engg	Personality Types at Work	Coursera – University of Florida (Online)	01 Aug 2025