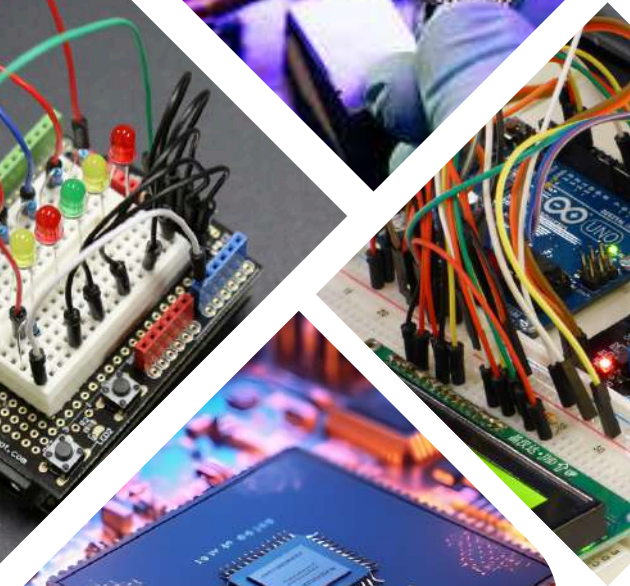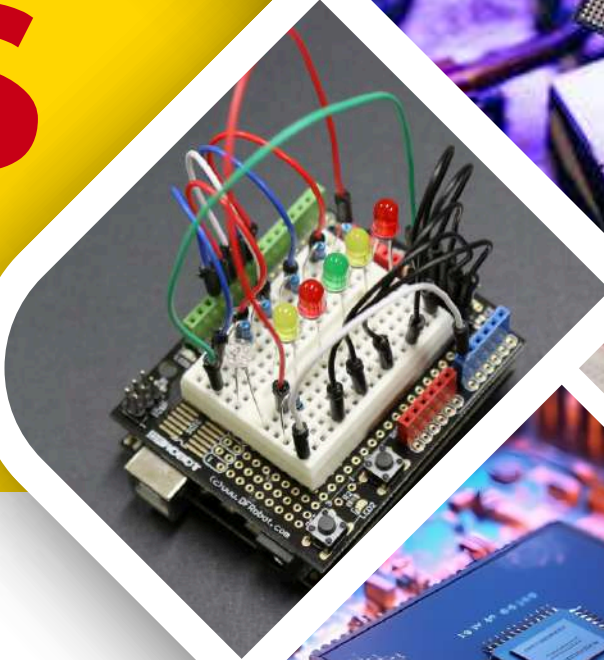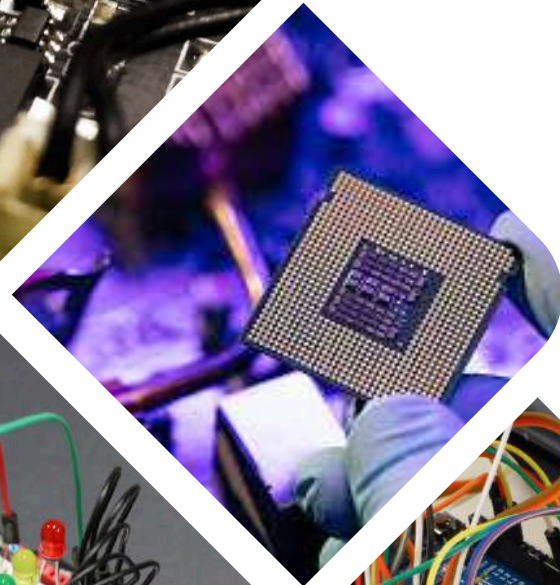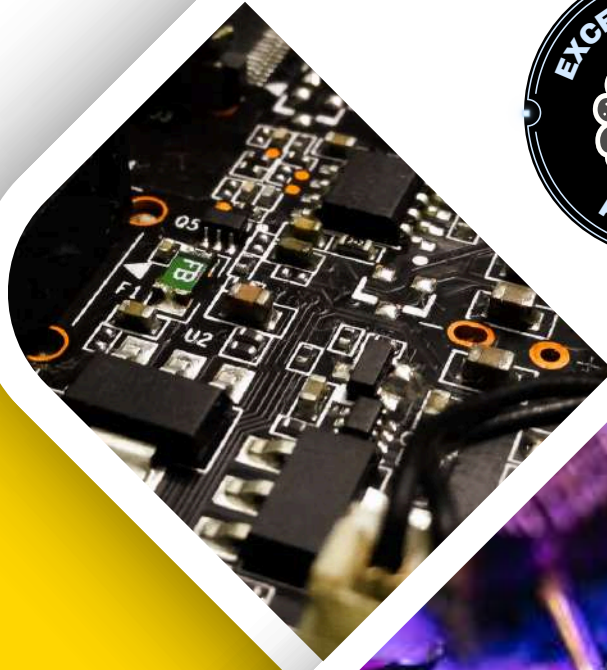BITS
&
BYTES

EXCELTRON - ECE
KSSEM

BITS & BYTES

ECE DEPARTMENT NEWSLETTER

JULY –DEC
2024
VOLUME - 2

KSSEM ECE

@kssem_ece_ex_celtron

Vision

To emerge as a pioneer in the field of Electronics and Communication Engineering, through excellence in technical education and research.

MISSION

The Department of Electronics and Communication Engineering shall

- Provide a transformative educational experience focusing on disciplinary knowledge, problem solving techniques and innovative projects.
- Excel in research and promote Industry-Academia interaction.
- Inculcate entrepreneurial traits in the student community, by fostering managerial and leadership qualities.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO1: Excel in professional career by acquiring domain knowledge.

PEO2: Motivation to pursue higher Education and research by adopting technological innovations by continuous learning through professional bodies and clubs.

PEO3: To inculcate effective communication skills, team work, ethics and leadership qualities.

What's Within?

MESSAGE FROM MANAGEMENT
HOT TOPIC!
ALUMNI CORNER
DEPARTMENT EVENTS
VEDIC MATHEMATICS
SCR ACTIVITIES BY ECE DEPARTMENT
FACULTY ACTIVITIES AND ACHIEVEMENTS
- PUBLICATIONS
- PROMINENT EVENTS ATTENDED BY FACULTY
- FACULTY AS EXTERNAL RESOURCE PERSONS
- MASSIVELY OPEN ONLINE COURSES (MOOCs)
- SPORTS ACHIEVEMENTS
ACHIEVEMENTS
STUDENT PARTICIPATION/ACHIEVEMENTS
- MOOCs and ONLINE & OFFLINE COURSES ATTENDED
- PARTICIPATION IN VTU EVENTS
ROTARACT CLUB EVENTS
NSS ACTIVITIES
CAREER OPPORTUNITIES FOR ECE ENGINEERS
MEET THE TEAM

Message From
Management

I am pleased to witness the remarkable academic progress and learning opportunities in the E&C Department. This edition of BITS and BYTES reflects the dedication and collective efforts of the department in fostering a strong educational foundation.

With proactive leadership, the department has consistently provided students with platforms to develop industry-relevant skills. The organization of various workshops and hands-on training sessions has enhanced their learning experience, equipping them for future challenges.

My heartfelt congratulations to the students, mentors, and administration for their commitment and hard work. I also commend the editorial team for effectively highlighting the department's achievements and initiatives. Wishing everyone continued success in their future endeavors.

SRI. R. RAJAGOPAL NAIDU
President

I am very proud to see the academic achievements and other learning opportunities being created in the E&C Department. This edition of BITS and BYTES has portrayed the wonderful efforts made by the entire department for showcasing the learning environment they have created.

The leadership of the department has been very proactive in creating opportunities to learn the skill sets that are required by the user systems. The fact that many workshops and hands-on training have been conducted, gives our students a better perspective to learn and prepare themselves for the demanding future.

I congratulate all the students, their mentors and the administration for their good work and wish them the very best for all their future efforts. I congratulate the editorial team for showcasing all the good work that is happening in the department.

SRI. R. LEELA SHANKAR RAO
Hon. Secretary

I am delighted to see the E&C department releasing this newsletter, highlighting their academic, co-curricular, and extra-curricular activities throughout the academic year. These initiatives not only enhance students' learning experiences but also provide them with opportunities to apply their knowledge in real-world scenarios.

The active participation of both staff and students in these activities fosters mutual learning and growth. The Management fully supports the creation of such enriching opportunities that focus on equipping students with the latest tools and techniques.

I extend my heartfelt congratulations to the staff, students, and the editorial team for skillfully presenting this edition of BITS & BYTES. Wishing them continued success in all their future endeavors.

SRI. T. NEERAJAKSHULU
Treasurer

Message From
Management

I am truly delighted to see this edition of BITS & BYTES, the official newsletter of the E&C Department. It is inspiring to witness the wide range of activities and initiatives that have contributed to the holistic development of our KSSEM students. The department's focus on innovative projects, hands-on training, and co-curricular as well as extra-curricular activities reflects the strong learning culture fostered throughout the academic year. I have no doubt that our students will continue to exhibit remarkable skills and creativity, making us all proud to be part of their academic journey. This newsletter beautifully showcases their accomplishments and progress.

My sincere congratulations to the faculty, students, and leadership for their commendable efforts in presenting their year-long journey with such excellence. Wishing the E&C Department continued success in setting new benchmarks of distinction.

DR. K.V.A. BALAJI
CEO, KSGI

As we step into another exciting year, the Department of ECE proudly presents the latest edition of Bits & Bytes. This newsletter showcases the dedication, hard work, and innovative spirit of our faculty and students as they strive toward their goals.
Bits & Bytes highlights the remarkable contributions and achievements of our students, reflecting their perseverance, creativity, and commitment—whether in academics, cultural activities, or community engagements.
I extend my heartfelt congratulations to the Newsletter Editorial Committee for their efforts in bringing out this edition. As we continue to learn, innovate, and collaborate, I encourage everyone to share ideas and insights that will drive our growth. Looking ahead, we have several exciting events and opportunities to enhance our skills and knowledge. I urge all of you to participate actively and make the most of these experiences. Your engagement is invaluable, and together, we can accomplish remarkable milestones.
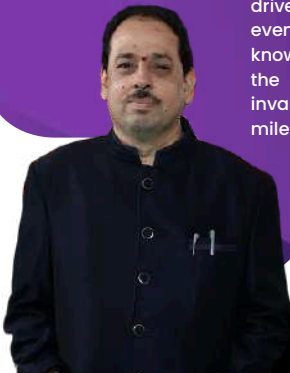
DR. K. RAMA NARASIMHA
Principal / Director

Dear Team,
As we step into a new academic year, I want to take a moment to acknowledge our collective achievements and the exciting opportunities ahead. It is truly inspiring to see our editorial team expanding, bringing fresh ideas, dedication, and hard work to shape this edition of our department newsletter.
The unwavering efforts of our students and faculty have played a vital role in our progress, and I deeply appreciate each of you for your contributions. This newsletter not only highlights your dedication and accomplishments but also sets the foundation for future growth and innovation.

Thank you for your enthusiasm and commitment. Let's continue working together to reach new heights and make a lasting impact! As we move forward, I encourage you all to stay curious, explore new possibilities, and embrace challenges with confidence.

DR. K SENTHIL BABU
Professor & Head
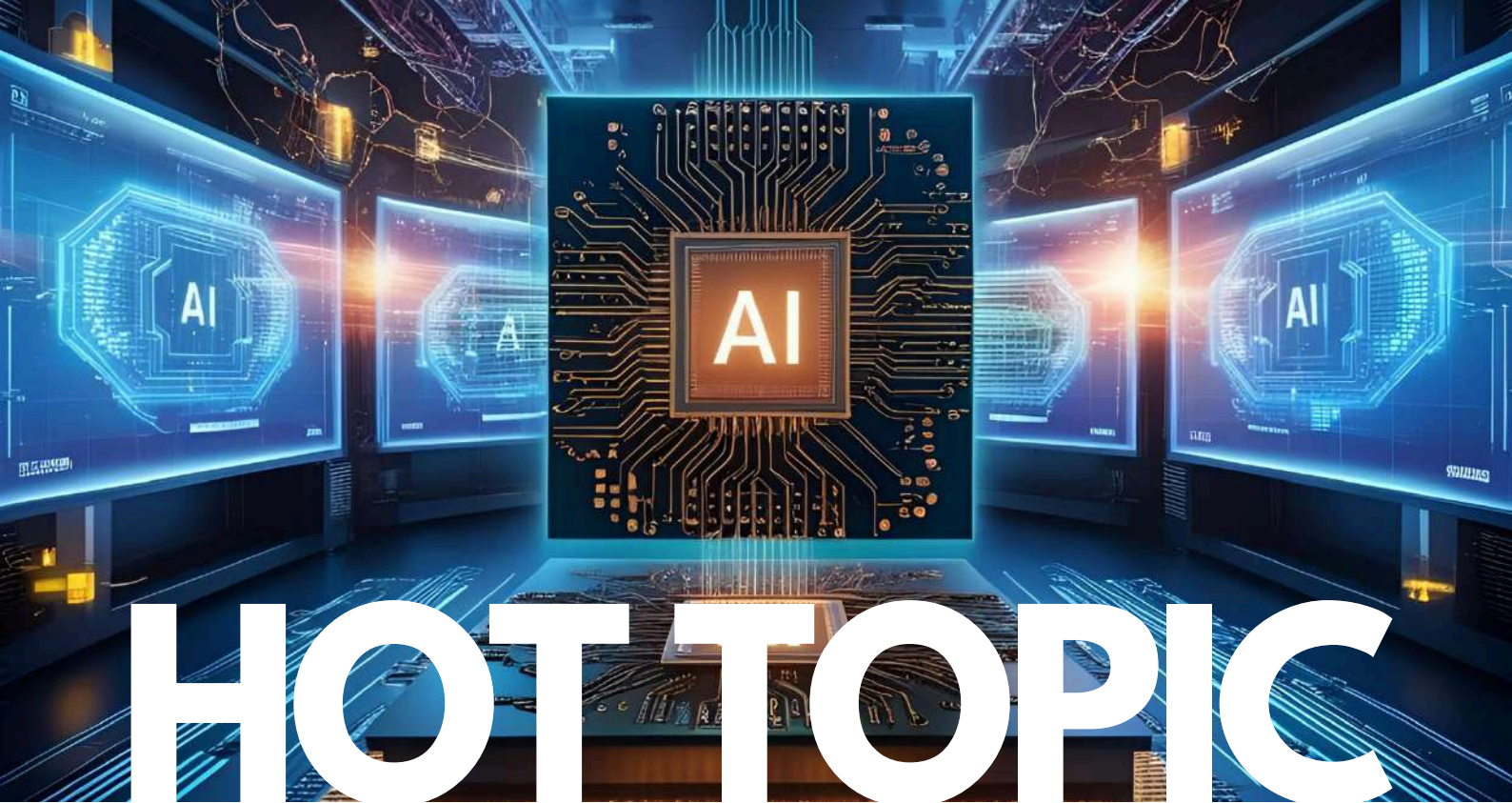
HOT TOPIC

AI IN CHIP DESIGN

Artificial Intelligence (AI) is transforming semiconductor design, revolutionizing how chips are developed, optimized, and manufactured. As the demand for faster, more efficient, and power-conscious chips grows—especially with the rise of AI applications, 5G, and the IoT—AI-driven Electronic Design Automation (EDA) tools are stepping in to reshape the industry.

AI enhances chip design by optimizing Power, Performance, and Area (PPA), automating complex tasks like place-and-route, and accelerating time-to-market. With chip complexity increasing, AI helps bridge the talent gap by handling intricate design processes, reducing manual effort, and improving accuracy. Machine learning algorithms analyze vast amounts of design data to detect potential flaws early, leading to higher-quality chips with fewer defects.

Moreover, AI-driven chip design plays a crucial role in advancing technologies such as autonomous vehicles, edge computing, and quantum computing. Companies like NVIDIA, Google, and AMD are already leveraging AI for next-gen semiconductor innovation. As AI continues to evolve, it promises to redefine the electronics landscape, making chip design smarter, faster, and more efficient than ever before.
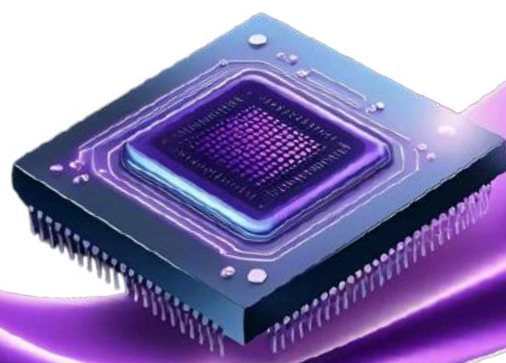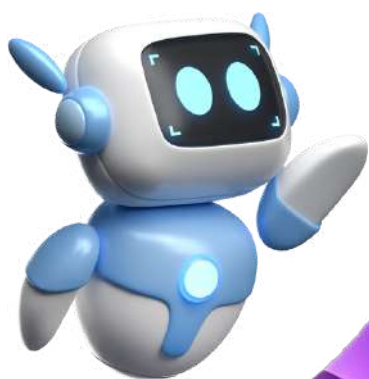
ALUMNI CORNER

WHY DID YOU CHOOSE ECE?

Right from my school days I had fascinations towards computers and had decided to work in the field of computer science. We are living in world of advanced communication and get the news about anything and everything that happens around world in no time. The job security is main problem in modern era. Gone are the days when one used to get into a job and work at one place and happily retire from same place. When I learnt about these issues, I understood the importance of acquiring multiple skills to survive in competitive world. At the same time, I had strong inclinations towards software industry. On comparing the various fields of engineering, I found that electronics and communications engineering branch was close to my liking where I could have learnt about programming as well as the hardware aspects. The skills related to networking and communications are also required in software industry. After considering all these aspects and talking to few in the field, I made up mind to take up electronics and communications engineering and I am happy and proud about it.

IN RETROSPECT, HOW DID YOUR TIME AT KSSEM SHAPE YOU?

College is more than just lectures and practicals; it fosters personal growth and independence. Joining KSSEM after higher secondary, I was initially unsure of what lay ahead, but the welcoming atmosphere helped me adapt quickly. The academic guidance and supportive environment, especially in the ECE department, deepened my knowledge, while extracurricular activities boosted my confidence and friendships. My time at KSSEM has been instrumental in shaping my personality and career, for which I am truly grateful.

WHAT EXTRACURRICULAR ACTIVITIES DID YOU INVOLVE YOURSELF IN, DURING YOUR TIME AT KSSEM?

In addition to helping me to convert from a timid student to a confident graduate engineer by providing necessary engineering knowledge, KSSEM also provided various opportunities to me to shape my overall personality and I will be always grateful to my faculties at KSSEM for the opportunities provided. To list a few of my extracurricular activities at KSSEM I will mention the following:

i)Was campus ambassador for vebbler, the Made In India social media platform and Smaaash, India's most acclaimed gaming and entertainment center

ii) Was part of organizing team for robotics workshop

iii) Participated in Robotryst-2015, an annual technical festival conducted by IIT, Delhi and secured fourth place in zonal round.

iv)Led a robotics demo team who gave demonstration of working models of robots to students of schools situated near KSSEM and helped them to kindle interest in the field of electronics and robotics.

v)Participated in multiple test and tech fest events and won awards couple of times.

vi)Helped in organizing events like freshers' day and farewell parties for outgoing batch of students

WHAT ADVICE WOULD YOU GIVE TO STUDENTS, FOR SUCCESS IN THEIR CHOSEN FIELDS?

Grabbing a job offer and landing into a job either by your choice or otherwise is just the beginning of tough journey in profession. The job market is quite volatile and job security is available on high premium. To survive in this cut throat competition you must be always on toes. To stay relevant in your chosen field, please keep in mind the following:

- **Continuous learning:** The technology is changing at mindboggling speed. And to stay relevant in this challenging scenario, continuous learning is the only option. Keep an eye on advancements in technology and update your skillset accordingly.
- **Innovation and technological advancement:** Completing the given task in time is minimum expectation from an employee. One needs to think out of box and come out with solution for the assigned task in more efficient and effective way. Applying innovative mind to solve a problem is what will make one stand in the crowd and survive.
- **Collaboration with stakeholders:** When you are assigned to a project it is imperative that you have to collaborate with other team members in project as well as other teams and sometimes with clients. Build on your interpersonal and communication skills.

IN YOUR OPINION, WHAT KEY TOPICS SHOULD STUDENTS PRIORITIZE IN THEIR STUDIES?

I believe students should focus on getting their basics right, such as math, physics, and the core concepts of their field. These fundamentals make it easier to understand complex topics later. At the same time, it's important to pick up technical skills that are in demand, like coding or using tools related to your branch. Communication is another key area, and being able to express ideas clearly makes a huge difference in teamwork and interviews. Problem-solving and thinking critically are skills you'll use every day, no matter what job you do. Getting involved in projects teaches you how to work in teams, manage time, and handle pressure. With technology evolving so fast, keeping up with AI, IoT, or new trends in your field really helps. Soft skills like leadership and adaptability are just as important as technical ones. Internships provide great hands-on experience, and finally, never stop learning. Keep exploring, stay curious, and grow beyond textbooks as that is what truly sets you apart.

DEPARTMENT EVENTS

INDUSTRIAL VISIT TO MGIRER – LEARNING SUSTAINABLE ENERGY SOLUTIONS

The ECE Department of KSSEM, in collaboration with the IEEE Student Branch, organized an industrial visit to the Mahatma Gandhi Institute of Rural Energy and Development, Jakkur, for 6th-semester students on 11th July 2024, accompanied by faculty members Dr. Arun Kumar M, Mrs. Bhargavi Sangam, and Mrs. Deepa R. Bhangi.

CYBER SECURITY TALK – INSIGHTS FROM INDUSTRY EXPERTS

The ECE Department of KSSEM, in collaboration with the IEEE Student Branch, organized a technical talk on "Cyber Security" for 4th-semester students on 12th July 2024 at Aryabhatta Seminar Hall, led by Mr. Ram Kumar V., Vice President of Rubixe, and Cyber Security expert Syeda Thasnim Fathima.

RURAL OUTREACH PROGRAM – EDUCATING GIRLS FOR A BRIGHTER FUTURE

The ECE Department of KSSEM, in collaboration with the IEEE Student Branch, organized a Rural Outreach Program on "Empowering Tomorrow's Leaders: Educating Girls for a Brighter Future" at Government Lower Primary School, Nagegowdana Palya, Bengaluru, on 13th July 2024, accompanied by Dr. Renuka V. Tali, Professor, Department of ECE.

CSIR-NAL VISIT – EXPLORING AVIATION & RESEARCH

The ECE Department of KSSEM, in collaboration with the IEEE KSSEM Student Branch, organized a visit to CSIR-NAL on 22nd August 2024 as part of the "One Week, One Theme" program. 3rd-semester students, accompanied by Prof. Ravikiran B. A., attended the event at CSIR-NAL's Golden Jubilee Hangar, Bangalore.

TEACHER'S DAY CELEBRATION – HONORING OUR EDUCATORS

The ECE Department of KSSEM, in collaboration with the IEEE KSSEM Student Branch, organized the Teacher's Day Celebration on 14th September 2024 at Aryabhatta Seminar Hall.

SELFIE MAINE LELI AAJ – A FUN-FILLED IEEE EVENT

The ECE Department of KSSEM, in collaboration with the IEEE KSSEM Student Branch, organized the fun-filled event "Selfie Maine Leli Aaj" on 20th September 2024 at Kalidasa Auditorium.

5G TECHNOLOGY SESSION – CELEBRATING IEEE DAY

The ECE Department of KSSEM, in collaboration with the IEEE KSSEM Student Branch, organized an interactive session on 5G Technology on 8th October 2024 as part of the IEEE Day celebrations. The session, held at Aryabhatta Seminar Hall, was conducted by Prof. Sasindran Madhava Prabhu.

AYUDHA POOJA CELEBRATION – EMBRACING TRADITION AT KSSEM

The ECE Department of KSSEM celebrated Ayudha Pooja on Vijayadashami on 10th October 2024. The event was attended by Dr. K. Ramanarasimha, Principal, KSSEM, Dr. K. Senthil Babu, Professor and HoD of ECE, along with HoDs of various departments, faculty, supporting staff, and students.

AI FOUNDATION COURSE – A WORKSHOP FOR FUTURE INNOVATORS

The AI & DS Department of KSSEM, in collaboration with the ECE, CSE, and CSBS Departments, organized a three-day workshop on the "AI Foundation Course" for 3rd-semester students from 23rd to 25th October 2024 at Alpha-Delta Seminar Hall. Conducted by the Edunet Foundation and sponsored by IBM, the session was led by Mr. Piyush Pankaj, Master Trainer at Edunet Foundation.

IPR TALK – SIGNIFICANCE OF INTELLECTUAL PROPERTY RIGHTS

The ECE Department of KSSEM, in collaboration with the IEEE KSSEM Student Branch, organized a talk on "Significance of Intellectual Property Rights for Innovators and Entrepreneurs" on 6th November 2024 at Aryabhatta Seminar Hall. The session was delivered by Dr. YVS Lakshmi, IPR Consultant at C-DOT.

IEEE SOCIETIES INAUGURATION – A GRAND LAUNCH EVENT

The IEEE KSSEM Student Branch, in association with the Departments of Electronics and Communication Engineering and Artificial Intelligence & Data Science, successfully organized the grand inauguration of the IEEE Education Society and Computer Society on 11th November 2024 at Architecture Seminar Hall. The event was graced by the esteemed presence of Chief Guest, Prof. Anandi Giridharan, Principal Research Scientist at IISc Bangalore.

KAUN BANEGA BRAINIAC – A QUIZ FOR THE BRIGHTEST MINDS

The ECE Department of KSSEM, in collaboration with the IEEE KSSEM Student Branch, organized the event "Kaun Banega Brainiac" on 11th November 2024 at Architecture Seminar Hall.

24-HOUR HACKATHON – A CHALLENGE FOR INNOVATORS

The ECE, AI & DS, CSE, and CSBS Departments of KSSEM, in collaboration with the IEEE Student Branch, conducted a 24-hour Hackathon from 31st November to 1st December 2024 at Alpha-Delta Seminar Hall.

PCB DESIGN WORKSHOP – HANDS-ON LEARNING FOR ENGINEERS

The ECE Department of KSSEM, in collaboration with KSRIF and the IEEE Student Branch, organized a one-day workshop on "Introduction to PCB Design" for 7th-semester students on 16th December 2024 at AI&DS Seminar Hall.
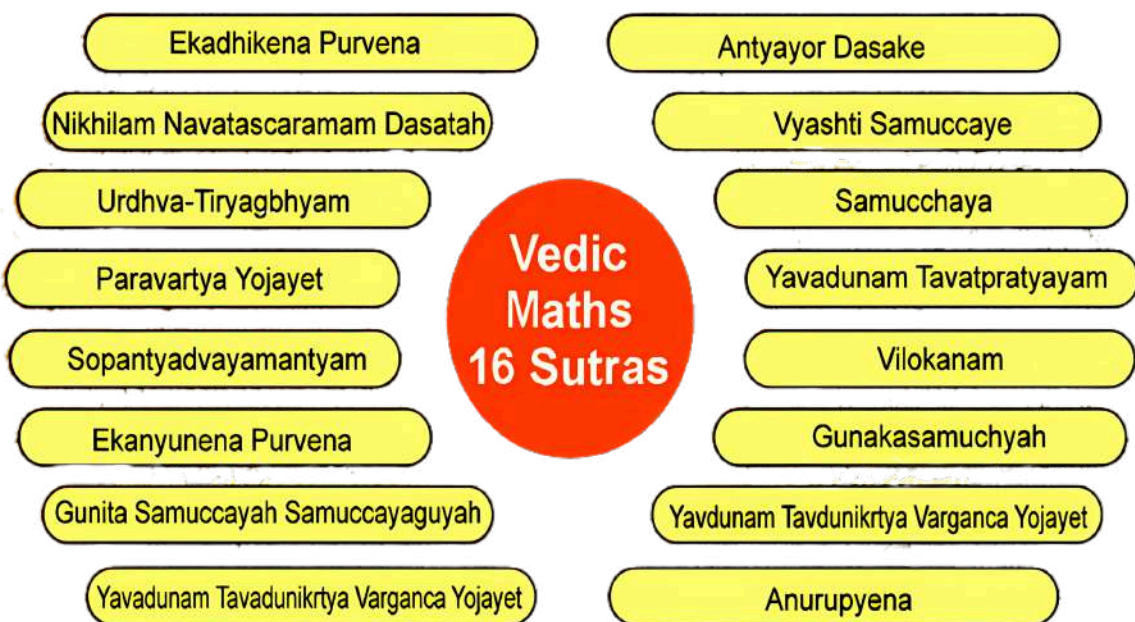

> **"** Your body is a conductor of electricity – That's why touchscreens work when you touch them but not when you use a plastic pen. **"**

VEDIC MATHEMATICS

Vedic Mathematics is a system of mathematics based on ancient Indian texts known as the "Vedas" particularly the Atharvaveda. It was rediscovered by Swami Bharati Krishna Tirthaji in the early 20th century. It contains a collection of 16 Sutras (formulas or principles) and 13 Sub-Sutras (sub-formulas) that offer a simplified and efficient method for performing mathematical calculations. These sutras offer techniques for quick mental calculations and cover a wide range of topics, including arithmetic, algebra, geometry, and calculus.

The methods are designed to simplify mathematical processes, making them faster and more intuitive. Vedic mathematics is based on the principle of unity, which means that everything is connected and can be simplified to a single entity. By focusing on patterns and relationships between numbers, Vedic Mathematics promotes mental agility and helps students and practitioners develop a deeper understanding of mathematical concepts. The 16 sutras serve as tools for solving problems in a more systematic and less cumbersome way, enabling anyone to approach mathematics with greater confidence and ease. Here are the 16 main Sutras:

Ekadhikena Purvena	Antyayor Dasake
Nikhilam Navatascaramam Dasatah	Vyashti Samuccaye
Urdhva-Tiryagbhyam	Samucchaya
Paravartya Yojayet	Yavadunam Tavatpratyayam
Sopantyadvayamantyam	Vilokanam
Ekanyunena Purvena	Gunakasamuchyah
Gunita Samuccayah Samuccayaguyah	Yavdunam Tavdunikrtya Varganca Yojayet
Yavadunam Tavadunikrtya Varganca Yojayet	Anurupyena

Vedic Maths 16 Sutras

In the first episode from a series of articles, that we will explore these sutras in detail, let us delve into first two sutras:

**1. Ekadhikena Purvena (By one more than the previous one):**
The first Sutra, Ekadhikena Purvena, is primarily used as a method to quickly calculate squares of numbers, particularly those ending in 5, by adding 1 to the previous digit and then multiplying.

Eg: (i)25^2
- Previous digit of 5 is 2.
- Add 1 to 2: 2 + 1 = 3.
- Multiply 2 by 3: 2 x 3 = 6.
- So, the square of 25 is 625.

(ii) 85^2
- Previous" digit of 5 is 8.
- Add 1 to 8: 8 + 1 = 9.
- Multiply 8 by 9: 8 x 9 = 72.
- So, the square of 85 is 7225.
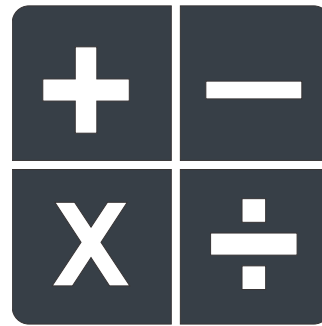
2.Nikhilam Navatashcaramam Dashatah (All from 9 and the last from 10):
Nikhilam Sutra in Vedic Mathematics can be used as shortcuts to multiply numbers, divide numbers in faster approach. In English it is translated as All from 9 and last from 10. i.e. subtract last digit from 10 and rest of digits from 9.

Eg: Multiply 98 by 96.
Step 1: Identify the base: Since both numbers are close to 100, use 100 as the base.
Step 2: Find the deviations:
- 98 is 2 less than 100 (so, -2)   98 02
- 96 is 4 less than 100 (so, -4)   96   04
Step 3: Apply the "Nikhilam" rule:
- Multiply the deviations: (-02) x (-04) = 08 (a)
Step 4: Cross-addition:
- Subtract the deviation of 98 from 96: 96 – 2 = 94
or
- Subtract the deviation of 96 from 98: 98 - 4 = 94 (b)
- Final answer: Combining the results (a) and (b), the answer is 9408.

SCR ACTIVITIES BY ECE DEPARTMENT
LEARNING BEYOND CLASSROOMS!

At the Electronics and Communication Engineering (ECE) Department, learning isn't just limited to circuits and codes! The Social Connectivity & Responsibility (SCR) activities for 3rd-semester students brought a blend of creativity, sustainability, and cultural exploration. Here's a glimpse of how our students stepped beyond the classroom and into meaningful experiences!

🌱 Plantation & Adoption of a Tree – Growing with Nature!

Each student group adopted a tree, promising to nurture it throughout their academic journey. But that's not all – they also documented its growth through photoblogs and documentaries! A perfect way to stay rooted (literally!) while learning about environmental responsibility.

♻️ Best Out of Waste (Craft Corner) – Trash to Treasure!

Ever thought waste could turn into something beautiful? Our students did just that! They transformed discarded materials into creative crafts, proving that innovation and sustainability go hand in hand. Held on September 5, 2024, this activity sparked imagination while strengthening teamwork.

🏛️ Heritage Walk – A Journey Through Time!

History isn't just in books! Our students stepped into the past, exploring historic sites like Vaikunta Hills, ISKCON Temple, and Kukke Shri Subramanya Swamy Temple. This walk wasn't just about admiring old structures – it was about understanding our roots, culture, and heritage while interacting with the community.

🌾 Organic Farming – Hands in Soil, Lessons for Life!

What better way to learn about sustainability than by getting your hands dirty? Students learned the importance of organic farming, gathered techniques, and even implemented them on their adopted plants in the campus. A true lesson in patience, care, and environmental consciousness!

🍲 Food Walk – A Feast Without Fire!

Cooking without fire? Yes, you read that right! Our students took on this fun challenge and prepared delicious, nutritious dishes using zero-flame techniques. Peers and faculty got to enjoy the food, making this a tasty and healthy learning experience.
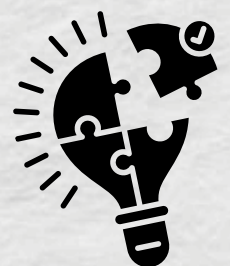
From planting trees to exploring history and crafting creativity, these SCR activities showcased the incredible enthusiasm and skills of our 3rd-semester ECE students. Here's to more such engaging learning experiences in the future!

FACULTY ACTIVITIES AND ACHIEVEMENTS

PUBLICATIONS

Dr. Dileep J, Dr. Supriya V G, Dr. Manjunath Ramachandra, "Detection of Principal Component Features for Person Identification in Video", International Journal of Electrical Systems, Scopus Plus Web of Science Indexed Journal, October 2024, Vol-20, Issue-03, ISSN:6245-6252.

PROMINENT EVENTS ATTENDED BY FACULTY

- **Dr. Manu D K** attended a Five Day FDP on "Bridging Academia by Advancing Research and Teaching with AI and Machine learning" organised by Dr. D.Y. Patil Institute of Technology, Pimpri, Pune, Maharashtra from 1st July 2024 to 5th July 2024.
- **Dr. Manu D K** attended a One Weeks ISTE Short Term Training Programme (STTPs) on "Bridging Academia by Advancing Research and Teaching with AI and Machine learning" organized by Dept. Of E & Tc Engg., Dr. D. Y. Institute of Technology, Pimpri, Pune in association with ISTE New Delhi from 1st to 5th July 2024 2024.
- **Dr. Manu D K** attended a Five Days National Level FDP (Online) on "Exploring Computational Intelligence" organised by School of Computer Science and Engineering, VIT-AP University, Amaravati from 16th July 2024 to 20th July 2024.
- **Dr. Girish V Attimarad** attended a Five Day National Level FDP (Online) on "Exploring Computational Intelligence" organised by School of Computer Science and Engineering, VIT-AP University, Amaravati from 16th July 2024 to 20th July 2024.
- **Mr. Ravikiran B A** attended a Five Days National Level FDP on "Exploring Computational Intelligence (Online)" organised by Department of CSE VIT-AP University, Amaravati from 16th July to 20th July 2024.
- **Dr. Renuka V Tali** attended an Awareness Workshop on "NPTEL" organised by Library Department KSSEM on 6th August 2024.
- **Mr. Ravikiran B A** attended the International Workshop on "The Role of Generative AI in Academics & Research" organised by Dept. of ECE, VTU Belagavi & VRIF held on 8th August 2024.
- **Mr. Ravikiran B A** attended a Two Day Workshop "Deep Learning and IoT Technologies in Precision Healthcare" organised by Department of Computer Applications Perundurai erode Tamil Nadu India on 16th and 17th August 2024.
- **Dr. Renuka V Tali**, **Mrs. Deepa R Bhangi** & **Dr. Dileep J** have attended a 6 Days FDP "Languages and Methodologies for future ASIC Verification" Organised by SJBIT Bengaluru from 26th to 31st Aug 2024.
- **Renuka V Tali** attended a Four Days FDP on "VTU Internship Program" organised by Rooman Technologies in Association with VTU Regional Centre, Bengaluru from 2nd to 5th September 2024.
- **Dr. Girish V Attimarad** attended a one day Workshop on "Innovation in Active and Passive Antenna Systems for 5G &6G Mobile Communication" organized by IEEE AP/MTT-S Bangalore Joint Chapter & IETE Bangalore Chapter from 28th November 2024.

PROMINENT EVENTS ATTENDED BY FACULTY

- **Dr. Girish V Attimarad, Mrs. Hemapriya M & Mrs. Tejaswini G V** attended a one day Workshop on "Research Funding Schemes In India" organized by K S Research & Innovation Foundation in association with Department of Mechanical Engineering on 30th November 2024.
- **Dr. Renuka V Tali, Mr. Ravikiran B A, Mrs. Deepa R Bhangi, Ms. Muskaan Huda R** have attended a one Day Worksop on "Introduction to PCB Design" Organised by the Department of ECE in association with IEEE Student Branch KSSEM 16th December 2024.
- **Dr. Manu D K & Dr. Renuka V Tali** have Reviewer for the International Conference on "Next- Gen Semiconductor Device and Smart Computing Applications" organised by Cambridge Institute of Technology, K R Puram, Bangalore on 20th and 21th December 2024.
- **Dr. Manu D K** has presented a paper titled "Design and Implementation of a Wireless Mobile Computing Platform for Fall Detection" in the International Conference on "Next- Gen Semiconductor Device and Smart Computing Applications" organised by Cambridge Institute of Technology, K R Puram, Bangalore on 20th and 21th December 2024.

FACULTY AS EXTERNAL RESOURCE PERSONS

Dr. K Senthil Babu Discussion on "CO, PO and Mapping Attainment" at K S Polytechnics on 21st November 2024.

## MASSIVELY OPEN ONLINE COURSES (MOOCs)

- **Mrs. Manjula B G & Mrs. Tejaswini G V** have completed a NPTEL Course on "Teaching and Learning in General Programs: TALG" during Jul-Aug 2024.
- **Mrs. Hema Priya M & Mrs. Reena D Kulkarni, Mrs. Tejaswini G V** have completed a NPTEL Course on "Introduction to Industry 4.0 and Industrial Internet of Things" during Jul-Oct 2024.

SPORTS ACHIEVEMENTS

- **Dr. K Senthil Babu** participated in the Intercollegiate staff Badminton held at Dayananda Sagar Academy of Technology & Management on 12th and 13th August 2024.
- **Dr. Manu D K** won Second place in the Intercollegiate staff Badminton, held at Dayananda Sagar Academy of Technology & Management on 12th and 13th August 2024.

ACHIEVEMENTS

Dr. K Senthil Babu, Dr. Kishore M, Dr. Dileep J **have been granted a Patent "Knee Rehabilitation Using Arduino" on 11th November 2024.**
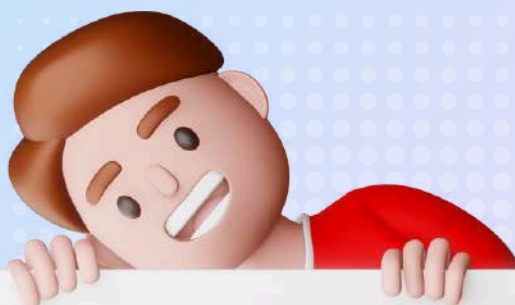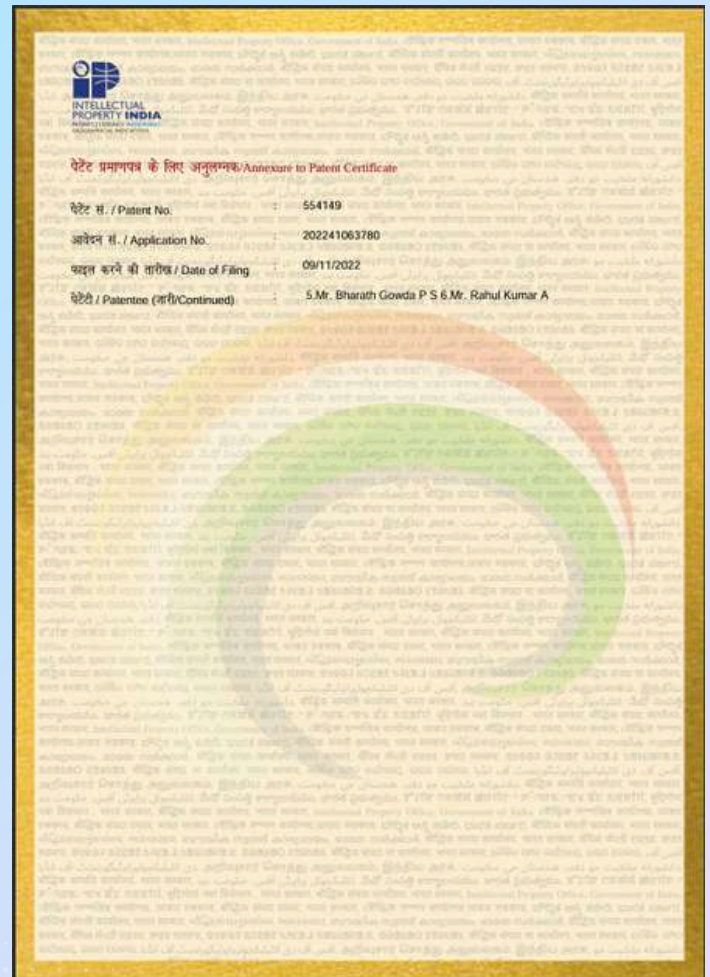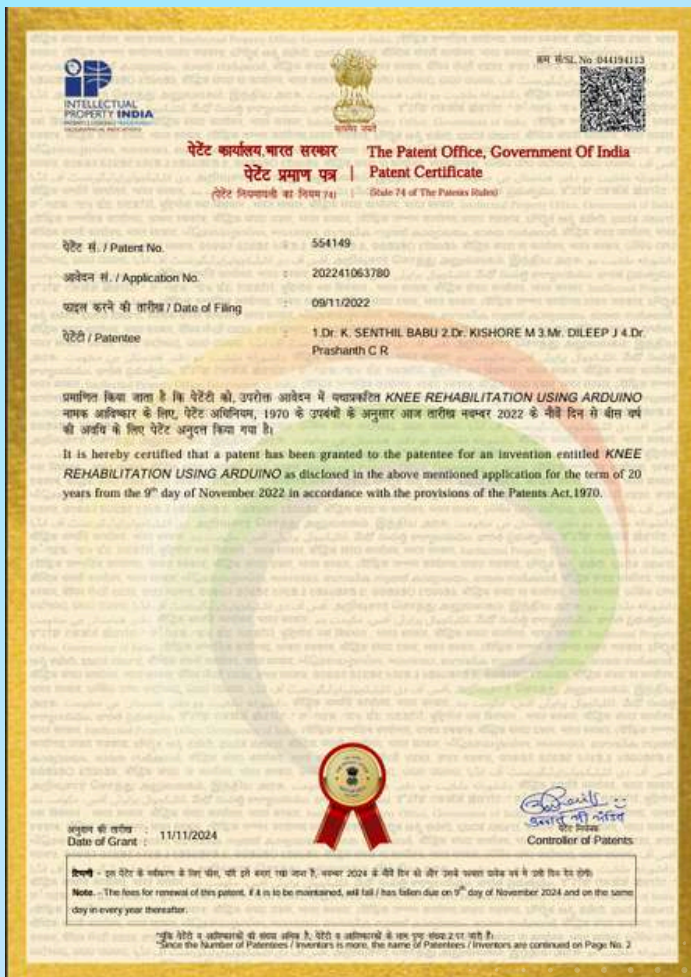
> Inspired by the human brain, neuromorphic chips use artificial neurons and synapses to process information efficiently, enabling ultra-low-power AI applications in robotics, autonomous systems, and real-time data analysis.

STUDENT PARTICIPATION/ ACHIEVEMENT

- The Department of Electronics and Communication Engineering, KSSEM, in association with the IEEE Student Branch, organized a Rural Outreach Program on "Empowering Tomorrow's Leaders: Educating Girls for a Brighter Future" at Government Lower Primary School, Nagegowdana Palya, Bengaluru, on 13th July 2024. Students were accompanied by Dr. Renuka V. Tali, Professor, and Department of ECE.
- **Monith C N** has Participated in the "11th South Zone National Invitational Volleyball Championship-2024" held at Puducherry from 9th October to 11th October 2024.
- **Abhinadan S, Brunda M, Chithra J, Ankith C, Kushan V, Aashish Aryan N S, Kumaresh P, Chethan B, Kaushik S, K Pavan Kumar, Aisiri Dilip, Jahnavi Chitturi** have participated in "Hardware Hackathon 2K24" organised by KSIT held on 22nd November 2024.
- **Sneha R, Yashaswini, Shivani C, Megharaj Danapla** have Secured the First Place in "Hackathon-24" Organised by KSSEM held on 30th November and 1st December 2024.
- **Vinay P** has Secured the Fourth Place in "Hackathon-24" Organised by KSSEM held on 30th November and 1st December 2024.
- **Narra Bharath Naidu, Veerapalli Vamsi, Madupuri Pavan, Sohan** have Participated in "Hackathon-24", held on 30th November and 1st December 2024 organized by KSSEM.
- **Aashish Aryan N S, Kushan V, Kumaresh P, Kashish Pareek, Deeksha Kumar L, Chethan B, Bittu Kumar, Anvitha M Shetty**, have attended Workshop & Participated in the "TRACE-O-RACE" organised by MVJ College of Engineering during Vertechx 12.0, an inter Collegiate National Level Technical Fest held on 20th December to 21st December 2024.

Meta-Materials in Antennas

"Advanced meta-materials are being used to design compact, high-efficiency antennas for 5G, satellite communications, and IoT applications, improving signal strength and reducing interference.."

MOOCs and Online & Offline Courses Attended

- **Vandana Prakash** has participated in "Portrait Sketching Competition" from 11th to 16th September 2024.
- **Dilkush Vishnoi** has completed an "Altium Education PCB Basic Design Course" on 22nd November 2024
- **Joshwa A & Darshini R** has completed an "Altium Education PCB Basic Design Course" on 23rd November 2024.
- **Sudheershana K V, Sai Meghana K M, K Udaya Kiran, Kodidala Vanaja, Harshitha R Das**, have completed an "Altium Education PCB Basic Design Course" on 25th November 2024.
- **Rakshitha H, R Daxin, Harshitha U, Megha S K, Danush B, Jeevan A A**, have completed an "Altium Education PCB Basic Design Course" on 26th November 2024.
- **Pavan K N, Mallesh N, Darshini T S, R M Lavya, G Usha Shree, Tejas K, Sharath G B, Nagaraj Vagga, Pavan S, Anika Kavya Tippinni, Shashank B Venkatesh, R M Lavya** have completed an "Altium Education PCB Basic Design Course" on 27th November 2024.
- **Ananya N, Suprith Y, Sagar K A, Kathik C M, Anuraag G V, Shivashankar N, Ganesh R, Pramod S, Manoj S,** have completed an "Altium Education PCB Basic Design Course" on 28th November 2024.
- **Ananya B Shetty, Latha P N** have completed an "Altium Education PCB Basic Design Course" on 29th November 2024.
- **Pavan M D** has completed an "Altium Education PCB Basic Design Course" on 30th November 2024
- **Nitin Kumar N** has completed an "Altium Education PCB Basic Design Course" on 1st December 2024.
- **Manish S, Chandan Yadav S,** have completed an "Altium Education PCB Basic Design Course" on 2nd December 2024.
- **Nandan Kumar V S** has completed an "Altium Education PCB Basic Design Course" on 3rd December 2024.
- **Rohith M J** has completed an "Altium Education PCB Basic Design Course" on 4th December 2024.

ENIAC – The Giant Computer

The first electronic computer was developed in the 1940s and weighed 27 tons, largely due to its nearly 18,000 vacuum tubes that enabled rapid electronic calculations. Occupying an entire room and requiring extensive cooling and maintenance, it was primarily used for military computations such as artillery firing tables.

PARTICIPATION IN VTU EVENTS

Monith Gowda CN, 1KG22EC072, Department of ECE 5th sem , Represented Volleyball Association of Karnataka, Secured 1st place in the 11th South Zone National level Invitational Volleyball Championship 2024, held at Puducherry State from 9th to 11th Oct 2024

VTU Bangalore South Division Inter College Cricket (M) Tournament 2024-25 held at SJBIT ,Bengaluru on 6th Oct 2024 .KSSEM students participated and played against AMCE, Bengaluru.
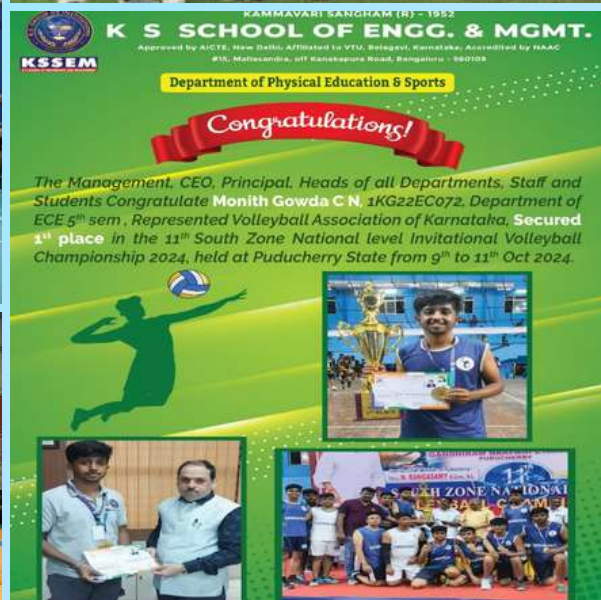
VTU Bangalore South Division Inter College Cricket (M) Tournament 2024-25 held at SJBIT ,Bengaluru on 6th Oct 2024 .KSSEM students participated and played against AMCE, Bengaluru.

VTU Bangalore South Division Inter College Basketball (M) Tournament 2024-25 held at T. John IT ,Bengaluru on 18th &19th Oct 2024. KSSEM students participated and played against RNSIT, Bengaluru.

VTU Bangalore South Division Inter College Kabaddi (M) Tournament 2024-25 held at Sri Sairan CE, Anekal on 19th & 20th Oct 2024. KSSEM students , 1st match own against DSCE, Bengaluru & 2nd match played against DBIT.

VTU Bangalore South Division Inter College Volleyball (M) Tournament 2024-25 held at ACSCE, Bengaluru on 22nd & 23rd Nov 2024. KSSEM students played against DSCE, Bengaluru

VTU Bangalore South Division Inter College Throwball (W) tournament 2024-25 held at JVIT, Bidadi on 12th Dec 2024 and played against RRCE, Bengaluru.

KAMMAVARI SANGHAM (R) - 1952
K S SCHOOL OF ENGG. & MGMT.
Approved by AICTE, New Delhi, Affiliated to VTU, Belagavi, Karnataka, Accredited by NAAC
#15, Mallasandra, off Kanakapura Road, Bangaluru - 560109

Department of Physical Education & Sports

Congratulations!

The Management, CEO, Principal, Heads of all Departments, Staff and Students Congratulate **Monith Gowda C N, 1KG22EC072**, Department of ECE 5th sem , Represented Volleyball Association of Karnataka, **Secured 1st place** in the 11th South Zone National level Invitational Volleyball Championship 2024, held at Puducherry State from 9th to 11th Oct 2024.

ROTARACT CLUB EVENTS

Ganeshotsav

The Rotaract Club of KSSEM, alongside Rotaract Bangalore Southeast and Rotaract Bangalore High Grounds, organized an unforgettable Ganeshotsav on 22nd September 2024.

World Polio Day Awareness Event !!

The Rotaract Club of Koramangala organized a Polio Awareness Event on October 27, 2024, with the goal of educating the community on the importance of polio prevention. The event brought together various members and organizations, with the Rotaract Club of KSSEM proudly participating as a supporting partner.

Netra Nakshe

Rotaract Club of KSSEM, in collaboration with Saradev Eye Hospital, organized a free eye checkup camp titled "Netra Nakshe" to promote eye health and vision care.

Kannada Rajyotsava

The Rotaract Club of KSSEM successfully collaborated and organized the Kannada Rajyotsava celebration on 29th November 2024.

Planting A Green Future

The Rotaract Club of KSSEM (RID 3191), proudly organized a vibrant Plantation Drive at Doddakallasandra Government School, where 13 of our passionate members joined forces with 39 enthusiastic school students.

Daan Utsav

The Rotaract Club of KSSEM, in collaboration with Rotaract District 3191, organized a "Waste Collection Drive" aimed at promoting environmental awareness and responsible waste management within the community. Held at the KSSEM Ground, the drive invited citizens to drop off a variety of dry, recyclable, and reusable items between 9 AM and 1 PM.

Movathon 2024

On October 20, 2024, DHEE Hospital, in association with Rotaract Club of KSSEM and NSS KSSEM, hosted the highly anticipated Movathon 2024 to mark World Arthritis Day.

Cruise For A Cause

On November 16, 2024, the Rotaract Club of KSSEM transformed a bike ride into a mission of joy, giving, and celebration with Cruise for a Cause. This extraordinary event brought 53 enthusiastic Rotaractors together to make a meaningful impact on the students of the Government School in Chakkaluru village, Channapatna Taluk.

Talents Meet

To promote cultural engagement and provide a platform for creative expression, the Rotaract Club of KSSEM organized a talent show on 25th November 2024, specifically for first-year students.

Golden Ties: Bridging Hearts and Generations

Rotaract Club of KSSEM's Heartwarming Old Age Home Visit In a day filled with love, laughter, and compassion, the Rotaract Club of KSSEM brought joy to the hearts of around 40 elderly residents during a memorable visit to an old age home.

ROTARACT CLUB KSSEM

KARNATABALA

NSS ACTIVITIES

INDEPENDENCE DAY

The 78th Independence Day was celebrated with enthusiasm at K. S. School of Engineering and Management on 15th August 2024 at the Basketball Court, KSSEM. The event began at 9:30 AM with an Invocation Song by Ms. Pooja Vasanth, followed by the Welcome Address by Dr. K. Rama Narasimha, Principal, KSSEM. Sri R. Rajagopal Naidu, President, KSGI, hoisted the National Flag, and everyone pledged to uphold its honor. A patriotic song was sung by Ms. Meghana, and the event concluded with a Vote of Thanks by Dr. Balaji B.

Sadbhavana Diwas 2024

Sadbhavana Diwas 2024 was celebrated at KSSEM on August 20, 2024, marking the 79th birth anniversary of Rajiv Gandhi. The event highlighted national integration and communal harmony, with students taking the Sadbhavana pledge. The Rajiv Gandhi National Sadbhavana Award, established in 1992, honors contributions to social harmony. The event concluded with gratitude to all participants.

Movathon – 2024

Movathon – 2024, organized by NSS Cell, KSSEM with DHEE Hospitals on October 20, 2024, raised arthritis awareness through 5K and 10K walk/run events. The walkathon began at 6:30 AM with an inauguration and speeches, highlighting the importance of staying active for joint health.

Constitution Day 2024

Constitution Day 2024, organized by NSS Cell, KSSEM on November 26, featured Preamble reading, oath-taking, and discussions on constitutional values. The event emphasized justice, liberty, equality, and fraternity, inspiring students to uphold democratic principles.

NOT ME, BUT YOU

CAREER OPPORTUNITIES FOR ECE ENGINEERS

ECE graduates have double advantage of pursuing career in both hardware and software engineering as they study electronics subjects in detail as well as programming concepts during their graduation study. The field of Data Science, Machine Learning and Artificial Intelligence is growing rapidly and various career options are available to candidates who have knowledge about Data Science and can use advanced analytical techniques to solve complex problems and extract valuable insights from data. Strong Knowledge of Python or R programming is must in such opportunities. As such their career options can be classified into two major categories.

CORE ELECTRONICS ENGINEERING AND SOFTWARE ENGINEERING

Core Electronics Engineering opportunities:

- **VLSI Engineer:** There are diverse career opportunities like VLSI Design Engineer, Verification Engineer, Physical Design Engineer, ASIC and FPGA design engineer
- **Communications Engineer:** Focusing on designing and managing communication systems, including mobile and internet infrastructure, designing and maintaining communication networks.
- **Embedded Systems Engineer:** The fast growing field of IoT and embedded systems has opened up lot of opportunities for ECE engineers. With electronics control circuits becoming integral part of all modern machines ranging from automobiles to heavy complex machineries likehydraulic presses, ece engineers are highly sought after for implementing embedded systems, which are computer systems designed to perform a specific function.
- **Network Engineer:** ECE engineers have critical role to play in designing, implementing, and maintaining computer networks of many organizations.
- **Electronics Design Engineer:** Designing and developing electronic circuits and systems. A thorough understanding of digital signal processing is required for such career opportunities.
- **System Control Engineer:** Designing and testing complex systems.

SOFTWARE AND IT-RELATED ROLES

- **Software Engineer/Developer:** Utilizing their programming skills to develop software applications, especially in areas related to embedded systems or networking.
- **Software Analyst:** Analyzing software requirements and designing solutions.
- **Data Engineer:** Managing and optimizing data pipelines to ensure the smooth flow of information.
- **Data Scientist/Analyst:** Using their analytical skills and technical expertise to derive insights from data.
- **Desktop Support Engineer:** Providing technical support for computer systems and software.
- **Support Executives:** Various software companies recruit engineers for providing customer support to their clients.

OTHER POTENTIAL CAREER PATHS

- **Service Engineer:** Providing technical support and maintenance for electronic devices and systems.
- **R&D (Research and Development) Engineer:** Conducting research in areas like Robotics, AI, machine learning, and data analytics. Also get involved in developing new technologies and products especially related to signal processing.
- **Government Sector:** Opportunities in design, development, research, and administration in various government departments.

Silicon Photonics

By merging optical and electronic technologies, silicon photonics is significantly boosting data transfer speeds in data centers, contributing to more energy-efficient and faster networks. It reduces heat generation and power consumption compared to traditional electrical interconnects.

meet The tEAm!

Designing

NANDAN KUMAR V S
1KG21EC055

KEERTHANA C
1KG23EC045

SHRILAKSHMI C B
1KG23EC102

SHRAVYA R
1KG23EC100

MEGHARAJ DANAPLA
1KG23EC060

SNEHA R
1KG22EC110

GANAVI N
1KG23EC028

Content Aggregation

SATHVIK A N
1KG21EC081

BINDHUSHREE K.L
1KG23EC011

AASHISH ARYAN NS
1KG22EC002

MAHESH N
1KG23EC055

E JOSHNA
1KG22EC032

RUCHITHA H
1KG23EC089

ANIKA KAVYA TIPPINNI
1KG21EC010

Content Curation

SHASHANK S
1KG21EC084

SHREYA M DAMBAL
11KG21EC086

TANISHQ
1KG22EC117

CHETHAN B
1KG22EC026

PRAJNYA S
1KG23EC079

DEVIKA NATRAJ
1KG23EC022

RISHI H
1KG23EC086

M.GNATHMIKA
1KG23EC059

Faculty Coordinators
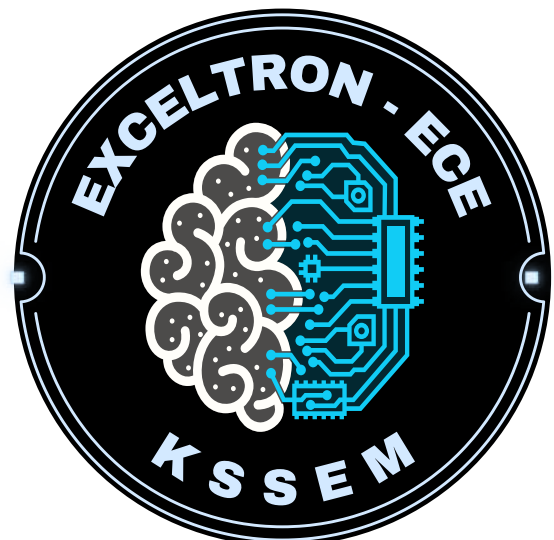
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Asst. Professor Dept. of ECE

PROF. SANJAY B NAYAK
Assoc. Professor Dept. of ECE

MRS. MEGHA P
Office Assistant Dept.of ECE

Department Forum

EXCELTRON - ECE
KSSEM

Kammavari Sangham (R) 1952
K. S. Group of Institutions

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