

**2025**  
**VOL-1**  
**ISSUE-1**  
**JAN-FEB**



**ECHOES**

**VOICE OF ECE**



## **"One Nation , One Constitution , One Destiny!"**

The **75<sup>th</sup>** Republic Day of India commemorates the adoption of the Constitution on 26th January 1950, a landmark moment that established the country's democratic framework and core values. It is a tribute to the extraordinary vision and dedication of the leaders who shaped India's future, ensuring justice, liberty, equality, and fraternity for all. This special occasion celebrates the unity in diversity of India, as people from all walks of life, regions, cultures, and faiths come together, embodying the strength of collaboration and harmony. It highlights the resilience and commitment of the citizens who continue to build and empower the nation with democratic ideals and unwavering progress.

The 75th Republic Day serves as a proud reflection of India's rich heritage and achievements, while also inspiring every individual to uphold democratic principles and work collectively towards a brighter, inclusive future. This milestone reinforces the essence of unity and teamwork that defines



# ABOUT DEPARTMENT

The Department of Electronics & Communication Engineering (ECE), established in 1983, boasts 120 distinguished faculty members, including 101 with PhD degrees, while others are pursuing PhDs. Faculty with rich industry experience cater to both academic and industry needs. State-of-the-art laboratories, Centers of Excellence, and Research Centers support UG, PG, and PhD students, emphasizing R&D activities and innovative exploration beyond the curriculum.

With Rs. 259 million in sponsored projects from DST, ISRO, and others, the department showcases a strong research culture, publishing over 3300 peer-reviewed articles. The vibrant academic calendar includes advanced certificate courses, seminars, visiting foreign faculty, and student paper contests. Student development programs, industry alliances, and active associations further enhance the department's offerings.

## VISION

To become a world-class department in the frontier regions of Electronics & Communication Engineering.

## MISSION

- To bring forth graduates possessing professional excellence.
- To conduct quality research with social & industrial application.
- To render technical assistance in converting the learners into entrepreneurs.

# HOD - MESSAGE



**We are proud to present ECHOES, the inaugural ECE Newsletter from K L University. This edition showcases advancements in Nano Materials, RF Engineering, 5G, VLSI, IoT, AI, and Embedded Systems, highlighting key achievements like the K L Satellite project and our commitment to innovation.**

**With industry collaborations including National Instruments, Tessolve, and Huawei, we provide hands-on exposure to emerging technologies. Our advanced labs and industry-driven curriculum encourage participation in symposiums, hackathons, and research projects, fostering impactful skills.**

**This edition celebrates our achievements and promotes a culture of innovation. We look forward to continued growth, research, and technological advancements.**

**Best wishes and happy learning!**

**- Dr. SUMAN MALOJI  
HOD-ECE**

# FACULTY TEAM



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Chairman and publisher



**Dr. D Venkata Ratnam**

Co-publisher



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**Mr. P Srikanth Reddy**

Associate Editor

# ABOUT PULSE

## PULSE – The Heartbeat of ECE Students

PULSE, the student body of the Department of Electronics and Communication Engineering (ECE), serves as a dynamic platform for students to enhance their skills, gain hands-on experience, and develop essential leadership, management, organizational, and teamwork abilities. It fosters both professional growth and personal development, empowering students to acquire new competencies beyond the classroom.

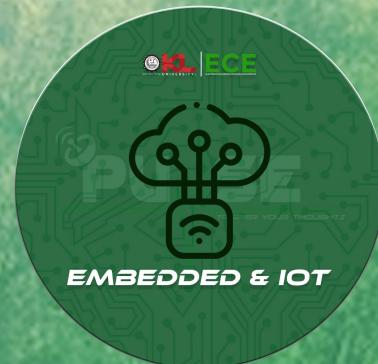
Beyond academics, PULSE provides opportunities for students to showcase their talents, engage in recreational activities, and participate in various initiatives that add value and meaning to their student life.

True to its name, PULSE ignites passion and determination, inspiring students to push their limits and strive for excellence. It power surges every strand in your body and leaves you with a stimulation to work every day with the goal and determination to stand out as one among the crowd and achieve success. It ignites passion and perseverance, inspiring students to push their limits and strive for excellence.

Year after year, Team PULSE organizes critically acclaimed flagship events, including Idol of ECE, Treasure Hunt, Tejomayam, Iconic Engineer, Project Expo, and Renovate—offering ECE students a platform to innovate, compete, and excel.

Join PULSE and be part of a vibrant student community that is derived from success and drives towards success fostering a spirit of achievement in your every moment!

## TECHNICAL CLUBS



# BEST FACULTY

# AWARDS

2025



# BEST FACULTY

# AWARDS

2025



# FACULTY ACHIEVEMENTS

**Dr. B.T.P. Madhav** successfully awarded the PhD to Kothakonda Durga Bhavani (183040097) with the thesis titled:"Analysis of Broadband Evaluation of Characteristic Modes on M-by-N Array with Corporate Feeding" on 28th December 2024.

**Dr. Chella Santhosh** received an invitation for Virtual Invited Talk at the International Conference on Artificial Intelligence Innovations for Advanced Research & Emerging Materials Science held at Government Arts College (Autonomous), Salem on 7th March 2025.

**Dr. A. V. Prabu**, Associate Professor, served as a Reviewer at the International Conference on Recent Trends in Microelectronics, Automation, Computing, and Communication Systems, IEEE Chapter, Hyderabad Section.

**Dr. A. V. Prabu**, Associate Professor, served as a Reviewer in the International Journal of Imaging Systems and Technology, Wiley.

# FABRICATION LABORATORY

KL University's Department of Electronics and Communication Engineering (ECE) is committed to providing state-of-the-art facilities to foster practical learning and innovative research among students and faculty. While the department does not feature a dedicated Fabrication Laboratory (Fab Lab), it boasts a variety of specialized labs designed to cover diverse domains within electronics and communication engineering. Among these is the Electronic System Design Laboratory, which focuses on equipping students with hands-on expertise in system-level design and implementation.

Additionally, the department offers laboratories tailored for areas such as VLSI design, embedded systems, RF and microwave engineering, and communication systems.

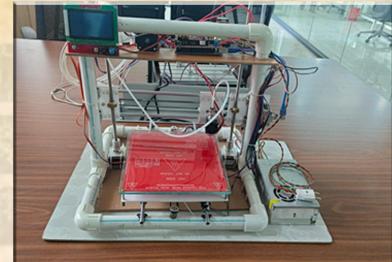
These labs are equipped with advanced tools and software to simulate, analyze, and test real-world scenarios, ensuring students gain industry-relevant skills. They cater to research and academic projects, providing an interactive and collaborative environment for innovation. The department emphasizes the importance of practical exposure, seamlessly integrating these facilities into the curriculum. By bridging the gap between theoretical knowledge and real-world applications, KL University's ECE department empowers students to achieve excellence and contribute meaningfully to the technological landscape.

## **FAB LAB CONTRIBUTIONS:**

### **1. INDIGENOUS PRODUCT : 3D PRINTING MACHINE**

**BY: 2200049066 SHAIK SHAREEF**

3D printing is revolutionizing manufacturing by allowing complex objects to be created layer by layer using plastic. It enables rapid prototyping, turning ideas into reality in hours instead of weeks or months. The technology is widely used in engineering, medicine (for artificial implants), and architecture (for building models). Currently, it can produce intricate designs, including mechanical components like valves. The future of 3D printing looks even more promising, especially when machines can work with multiple materials, greatly expanding the range of objects that can be created.



### **2. DIGITAL WATER CURTAIN**

**BY:**

- **2200049027 – G. Rohith Reddy**
- **2200040212 – Harshitha Durgaraju**
- **2200049082 – M. Adithyaa saai**
- **2200049038 – Y. Bhuvanesh**



The Digital Water Curtain is an innovative system that controls water flow digitally to create dynamic visual effects.

The project integrates programmable solenoid valves with real-time microcontroller-based control to achieve precision in water droplet patterns. Using embedded systems and automation, the curtain can display text, patterns, or interactive designs. This technology finds applications in entertainment, advertising, and artistic installations. The successful implementation demonstrates the feasibility of digital water flow manipulation for enhanced visual experiences.

# RESEARCH ARTICLE

## **SERS Sensors in Biomedical Applications**

Surface-Enhanced Raman Spectroscopy (SERS) and electrochemical sensors are revolutionizing biomedical diagnostics and healthcare monitoring by providing high sensitivity, selectivity, and real-time analysis for biomolecular detection. Electrochemical sensors, using redox reactions, offer rapid and precise biomolecule detection, with advancements in nanomaterials like graphene, gold nanoparticles, and carbon nanotubes enhancing sensitivity and specificity. These sensors have diverse applications, including glucose monitoring and biomarker detection for diseases like cancer and infections.

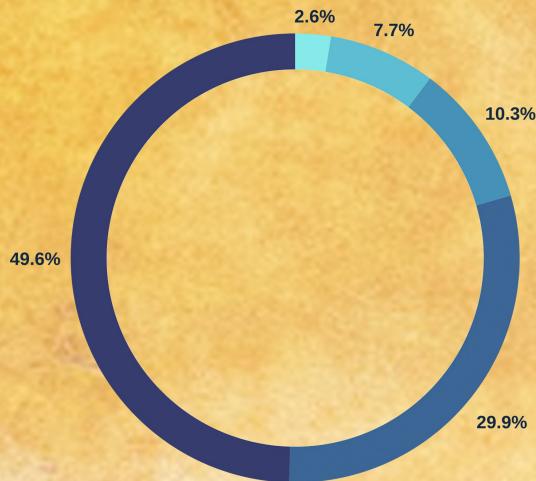
SERS sensors, employing plasmonic nanostructures, amplify Raman signals for ultra-sensitive molecular detection, even at the single-molecule level. Innovations in nanofabrication have resulted in reliable and stable SERS substrates, ideal for detecting pathogens, drug molecules, and early-stage cancer biomarkers.

The integration of electrochemical and SERS approaches is paving the way for hybrid sensors that combine the strengths of both techniques. These hybrid platforms promise multiplexed, reliable biosensing, significantly impacting point-of-care diagnostics and personalized medicine. As research advances, these cutting-edge technologies are poised to redefine diagnostics, enabling early disease detection and improving patient outcomes.



**Dr. Balaji Ramachandran**  
Dept. of ECE, KLEF

# RESEARCH BULLETIN

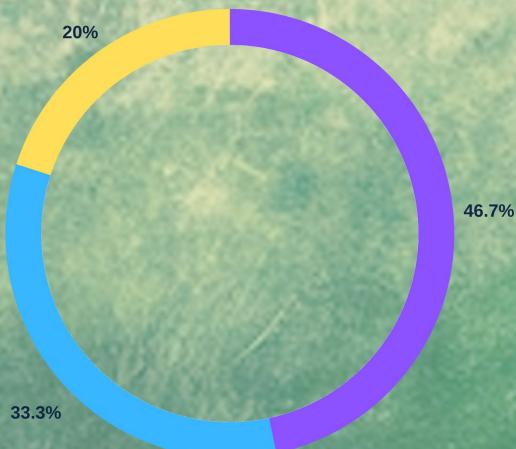
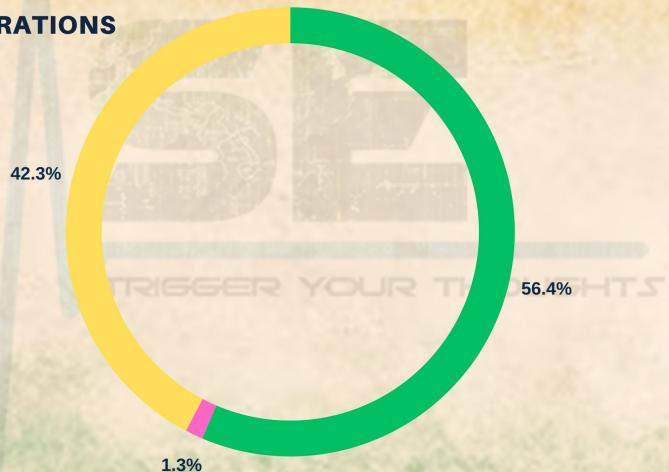


## INDEXING INSIGHTS

- SCOPUS INDEXED: 58 PUBLICATIONS
- WEB OF SCIENCE INDEXED: 35 PUBLICATIONS
- SCI INDEXED: 12 PUBLICATIONS
- IEEE JOURNALS INDEXED: 9 PUBLICATIONS
- HIGHEST INDEXING LEVEL: 3
- INDEXING'S PER PUBLICATION (3 PAPERS REACHED THIS LEVEL).

## INTERNATIONAL & NATIONAL COLLABORATIONS

- INTERNATIONAL COLLABORATIONS: 44 PUBLICATIONS INVOLVED RESEARCHERS FROM USA, GERMANY, UK, AUSTRALIA, SINGAPORE, CANADA, SOUTH KOREA, AND JAPAN.
- NATIONAL COLLABORATIONS: 1 PUBLICATION WITH REPUTED INDIAN INSTITUTIONS LIKE IITS, NITS, AND IISC BANGALORE.
- SELF-PUBLICATIONS (KL UNIVERSITY ONLY): 33 PUBLICATIONS

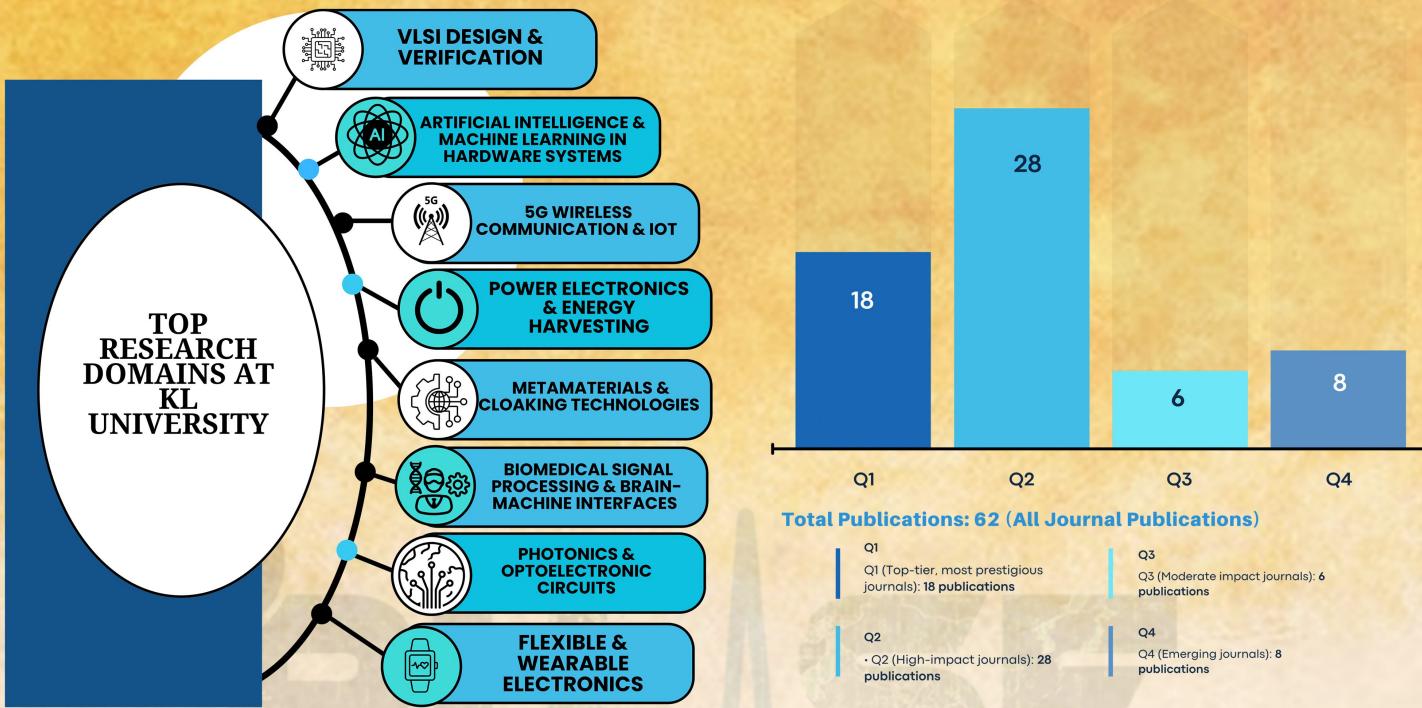


## INTERDISCIPLINARY COLLABORATIONS:

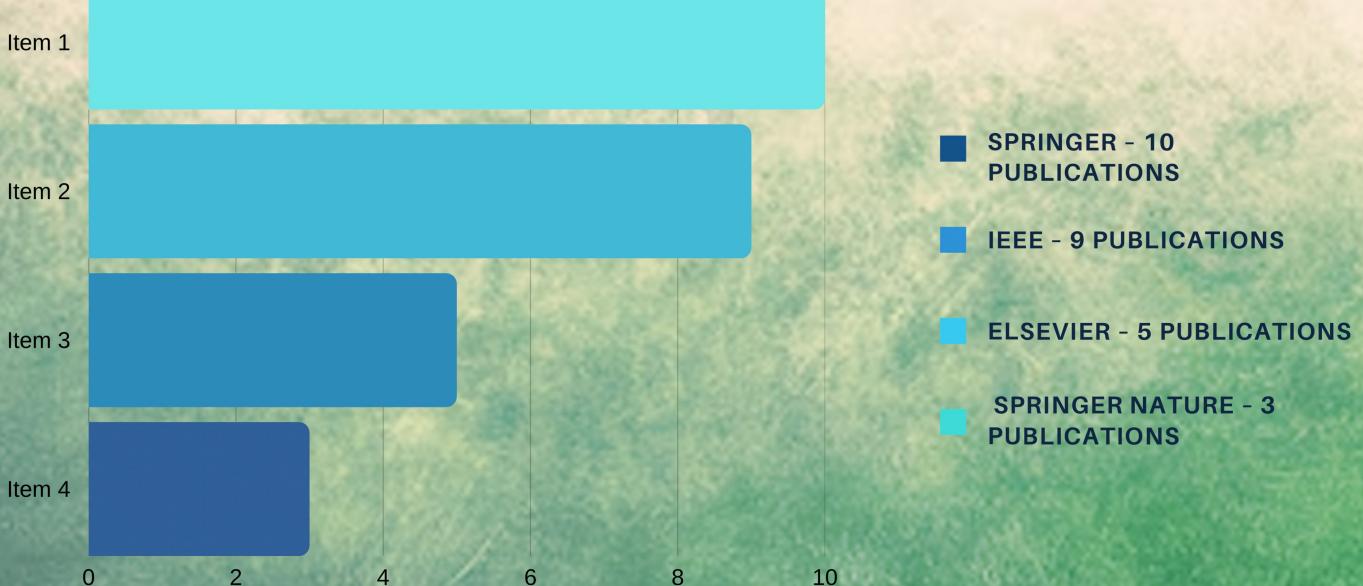
- ELECTRONICS + BIOMEDICAL ENGINEERING - 7 PAPERS
- AI + IOT APPLICATIONS - 5 PAPERS
- PHOTONICS + ENERGY HARVESTING - 3 PAPERS

# RESEARCH BULLETIN

## RESEARCH STATISTICS & KEY ACHIEVEMENTS



TRIGGER YOUR THOUGHTS



## FACULTY SPORTS

**Dr. BTP Madhav (C)**

**Dr. K Hari Kishore**

**Dr. Fazal Noorbasha**

**Dr. K Srinivasa Rao**

**Dr. Kasi Prasad**

**Dr. Yesudasu**

**Dr. Venkat Ratnam**

**Mr. Koteswara Rao**



The ECE department faculty of KL University recently showcased their cricketing skills in an exciting match. The event was filled with thrilling moments, powerful shots, and remarkable teamwork. The faculty members displayed great sportsmanship, making the match both competitive and entertaining. It was a wonderful opportunity to strengthen camaraderie and celebrate the spirit of sports.

# ACADEMIC AWARDS



**MANNAVA DURGA PHANI**  
2100040073 - 9.94 cgpa



**VENIGANDLA BHARGAVI**  
2100040258 - 9.90 cgpa



**GURRAM SITANJALI**  
2100040222 - 9.88 cgpa



**B MOUNIKA**  
2200049050 - 9.91 cgpa



**EPPALA BHAVITHA**  
2200040074 - 9.86 cgpa



**KOTAPATI VIJAYA SAI**  
2200049051 - 9.84 cgpa



**PABBATHI JUHI HIMA VARSHA**  
2300040331 - 9.90 cgpa



**MALLAMPATI SUMANTH**  
2300040361 - 9.90 cgpa

## ACADEMIC AWARDS



**SANAGAPALLI BABITHA LAKSHMI**  
2300040398 – 9.85 cgpa



**SOMA NAVYA SRIVALLI**  
2300040085 9.85 cgpa



**BEJJAM KAMALNADH**  
2300040372 – 9.85 cgpa



**C VENKATA SAI LAKSHMI GAYATHRI**  
2300040430 – 9.85 cgpa



**PONAMALA GAYATHRI**  
2300040023 – 9.80 cgpa

# SPORTS



Secured **2ND PLACE** in both the open singles runner and doubles **Hyderabad Open National Ranking Tournament on pickle ball**

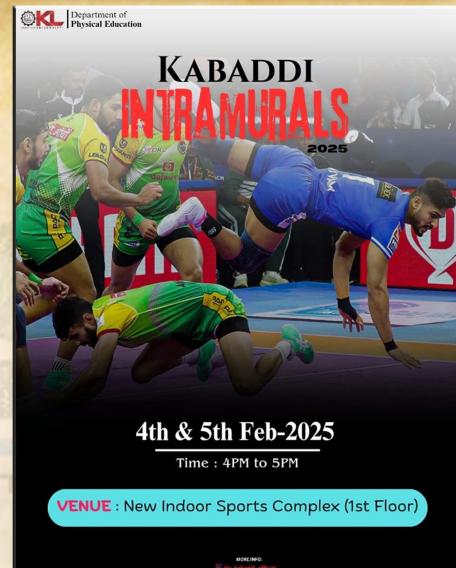


**WINNERS** in Kabaddi event  
conducted by SRM University for  
UDGAM Fest - 27, 28 Feb and March 1  
**2200040298 - M.Saketh Reddy**  
**2100040282 - T.Karthik**





T. Karthik	2100040282.
A.Satyana Rayana	2100040376.
V.Hemanth Reddy	2100040355.
G.Pavan Kumar	2401510058
M.Saketh Reddy	2200040298
B.Vamsi Krishna	2100100022
Ch.Sagar	2200100064
K.Jaya Sankar	2100040231
T.Visruth Vardhan	2300040338
M.Santhosh	2300049046
K.P.Nagasai Siddarth	2100040214
B.Siva	2100040212



## AMARAVATI CHAMPIONSHIP

from 11-02-2025 to 18-02-2025

# IDL OF ECE

**"IDL OF ECE"** IS AN EXCITING COMPETITION ORGANIZED BY TEAM PULSE AT K L UNIVERSITY, DESIGNED TO CHALLENGE AND CELEBRATE THE SKILLS OF ELECTRONICS & COMMUNICATION ENGINEERING (ECE) STUDENTS. HELD ON **FEBRUARY 14, 2025**,

THIS EVENT PROVIDES A PLATFORM FOR STUDENTS TO SHOWCASE THEIR TECHNICAL KNOWLEDGE, PROBLEM-SOLVING ABILITIES, AND APTITUDE IN VARIOUS ROUNDS. WITH ENGAGING CHALLENGES AND COMPETITIVE SEGMENTS LIKE "IDL OF ECE - APTITUDE", PARTICIPANTS GET THE OPPORTUNITY TO TEST THEIR EXPERTISE, COMPETE WITH PEERS, AND EARN RECOGNITION FOR THEIR TALENTS. WHETHER YOU'RE LOOKING TO PROVE YOUR MASTERY IN ECE OR SIMPLY WANT TO EXPERIENCE AN ELECTRIFYING COMPETITION,

## WINNERS 2K25



**ANJANA**  
**2300040406**



**SUDHA**  
**2300040362**



**BHARGHAV**  
**2300040453**



**SIVA REDDY**  
**2300040030**

## ఓ కుర్రవాడ

మరుగుతున్న రుధిరంతో  
చిగురించిన పరువం  
అదుపులేని మదిలో  
ఎదో సాధించాలని సంకల్పం  
అడుగిడితే ప్రపంచాన అడుగడుగున పోటీ  
ఆ పోటీలో నలిగి-రగిలి, ఎదగరా పైపైకి  
ఈ వయస్సేరా కాలం నేర్చించే జీవనసారం  
ఆ పయనంలో ఎక్కుపెట్టు నీలో సామర్థ్యం!  
మరణమే శరణము కాదురా ఎదురుతిరిగి నిలబడితే  
అడుగే ముందుకు పడదురా ఆలోచన తడబడితే  
ఎక్కుపెట్టి దూసుకెళ్తే  
గెలుపే నీ వశమైతే..  
లోకం పాదాక్కాంతం  
నీ ఉనికే అజరామరం...  
వినరా, ఓ కుర్రవాడ గెలుపే నీ స్తుతురా  
అరచేతిని బిగియిస్తే కాలం నీ పొత్తురా!



2200040107  
Rithwik Reddy



## Cyber Frauds as High-Profit Schemes

**Date** : 15th March 2025  
**Department** : ECE, KL University  
**Location** : Revendrapadu  
**Organized by** : Students of KL University

This session will highlight how cybercriminals use high-profit schemes to deceive individuals. It aims to create awareness on identifying, preventing, staying safe from online frauds and financial scams.

TRIGGER YOUR THOUGHTS



## Awareness on Social Media Sexual Harassment

**Date:** 17th March 2025  
**Department:** ECE, KL University  
**Location:** Prathuru  
**Organized by:** Students of KL University

This session aims to raise awareness about sexual harassment on social media platforms. It will focus on identifying harassment, understanding legal rights, and promoting safe online practices.

# STUDENT TEAM



**M K RAHUL**  
**2200040121**



**SHASHANK KONDI**  
**2200040330**



**R SIVESH**  
**2200040033**



**SREEPRAD**  
**2200040153**



**K M GOKUL**  
**2200040235**



**SAI LAKSHMI**  
**2200049054**



**P CHANDRAHASA**  
**2200040040**



**K SATYA PRAKASH**  
**2200040186**



**JYOTHSNA K**  
**2200040195**



**P KAMAL**  
**2200049078**



(DEEMED TO BE UNIVERSITY)

**KL ACCREDITED BY  
NAAC WITH A++  
GRADE**

**nirf  
2023**  
NATIONAL  
INSTITUTIONAL  
RANKING  
FRAMEWORK  
(Ministry of Human Resource Development, Govt. of India)

**RANKED 22  
AMONG ALL  
UNIVERSITIES**

**CATEGORY 1 45 YEARS OF  
UNIVERSITY EDUCATIONAL  
BY MHRD, Govt. of India LEADERSHIP**