Centenary Celebrated Sharnbasveshwar Vidya Vardhak Sangha's

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Sharnbasva University

Kalaburagi -585 103 Karnataka-India | Estd. : 2017

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Karnataka Act No. 17 of 2013. Notification No. ED 144 URC 2016 dated 29/07/2017

Faculty Of Engineering and Technology (Exclusively for women)

Department Of Electronics and Communication Engineering

Department Magazine 2021-22

Poojya Dr. Sharnbaswappa Appa
Chancellor,
Sharnbasva University, Kalaburagi

Poojya Dr. Sharnbaswappa Appa

The field of Electronics and Communication Engineering is at the heart of the technological revolution that continues to shape the future of industries worldwide. It is inspiring to see how your department is contributing to the advancement of knowledge, fostering creativity, and preparing the next generation of leaders in this exciting domain.

Through your research, projects, and collaborations, you are not only creating a rich academic environment but also making meaningful contributions to society. I am particularly proud of how the department continues to push boundaries in various areas such as signal processing, telecommunications, embedded systems, and more.

I encourage all of you students, faculty, and staff to continue embracing innovation, teamwork, and a commitment to excellence. Let this magazine be a reflection of the bright future you are all helping to build. May it inspire new ideas, foster intellectual curiosity, and showcase the dynamic talent within your department. I convey my best wishes for the success of GNYANA ECE Innovations.

Poojya Matoshree Dr. Dakshayini S. Appa
Chairperson,
Sharnbasveshwar Vidya
Vardhaka Sangha

Poojya Matoshree Dr. Dakshayini S. Appa

Innovation requires passionate explorers t propel transformation at the workplace. With an ever-changing global scenario, the key to success is responding to the complex and rapidly changing in the field of electronics.

Electronics and Communication Engineering is a field that is constantly evolving, with emerging technologies shaping the way we communicate, interact, and experience the world. As we witness groundbreaking advancements in fields like AI, IOT, 5G, and beyond, it is crucial for us to not only embrace these changes but also to lead them. The future of technology depends on the passion, creativity, and dedication of the next generation of engineers, and it is inspiring to see how our department continues to contribute to this vision.

Wishing you all continued success and fulfillment in your academic and professional journeys.

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As technology continues to advance at an unprecedented rate, the role of Electronics and Communication Engineers in shaping the future becomes increasingly vital. The department's unwavering commitment to excellence in teaching, research, and industry collaboration provides our students with the tools and knowledge needed to thrive in this fast-paced, ever-evolving sector.

This magazine serves as a wonderful reflection of the hard work and enthusiasm of our students and faculty. It provides a platform for sharing ideas, projects, and research that contribute to the global conversation on emerging technologies. It is inspiring to see how our department continues to produce future leaders who will drive innovations in fields such as telecommunications, embedded systems, signal processing, and beyond.

I look forward to witnessing your continued success and the remarkable impact you will have in the world of Electronics and Communication Engineering.

Prof. Shivganga Patil
HOD,ECE
Sharnbasva University

The field of ECE continues to evolve at an unprecedented pace, bridging the gap between foundational science and real-world application. As engineers of the future, our students are constantly challenged to stay ahead of the curve. This magazine showcases not only their technical capabilities but also their enthusiasm for learning, research, and holistic development.

I commend the efforts of the editorial team and all contributors who have made this publication possible. Through articles, project highlights, interviews, and achievements, this magazine captures the dynamic spirit of our department. It also serves as a platform for knowledge-sharing and intellectual engagement among peers and faculty.

Let us continue striving for excellence in both academics and innovation, nurturing a culture that blends technical knowledge with ethical values and social responsibility.

VISION & MISSION

FACULTY OF ENGINEERING & TECHNOLOGY

(EXCLUSIVELY FOR WOMEN)

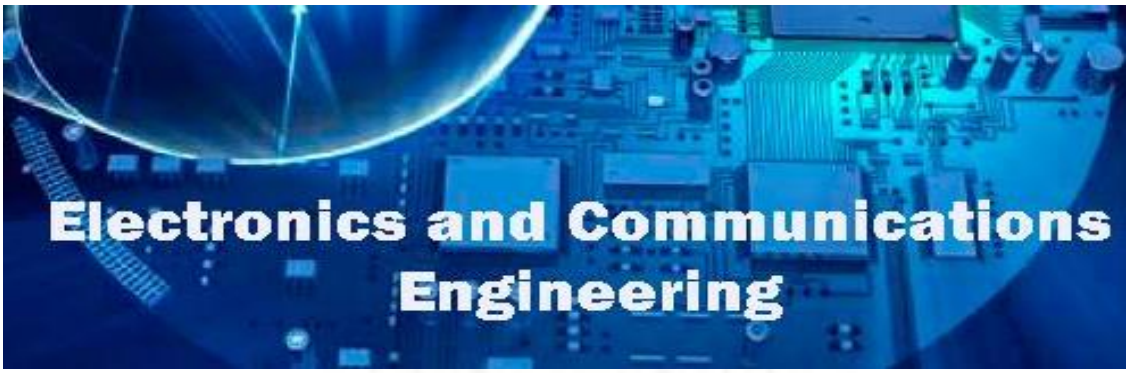
DEPARTMENT OF ELECTRONICS &COMMUNICATION ENGINEERING

VISION

To nurture women professionals through quality education, ethical values and expertise in electronics and communication engineering skills, enabling them to make contribution to society.

MISSION

- **Mission 1**: To provide a competent academic foundation in electronics and communication engineering, through comprehensive curricula.
- **Mission 2**: To promote research, innovation, and industry relevant skills enabling students to develop solutions for real-world problems.
- **Mission 3**: To create a supportive learning environment that inspires women to pursue entrepreneurship and make meaningful contributions to society.
- **Mission 4**: To foster ethical values in women professionals, to address global challenges with integrity and responsibility.



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EVeNtS

Emerging Trends and Opportunities in the VLSI Domain

Date: 11th December 2021
Resource Person: Mr. Vijay Kumar, Senior AMS Layout Engineer, Synopsys Private Limited
Organized by: Electronics and Communication Engineering Department

On 11th December 2021, the **Department of Electronics and Communication Engineering** organized a special session on **"Emerging Trends and Opportunities in the VLSI Domain"** to provide valuable insights into the dynamic and ever-evolving field of Very Large Scale Integration (VLSI) design and technology.

The session was led by **Mr. Vijay Kumar**, Senior AMS Layout Engineer at Synopsys Private Limited, a renowned leader in electronic design automation. With his deep expertise and industry experience, Mr. Vijay Kumar provided an engaging and informative talk that shed light on the latest advancements in the VLSI domain.

During the session, Mr. Vijay Kumar covered key emerging trends such as the growing role of Artificial Intelligence (AI) and Machine Learning (ML) in VLSI design, the importance of low-power and high-performance chip architectures, and the rise of advanced semiconductor fabrication technologies. He also shared his perspectives on the global demand for skilled VLSI professionals and the critical role of innovation in shaping the future of the semiconductor industry.

Mr. Vijay Kumar encouraged students to explore career opportunities in VLSI, highlighting the wide range of roles—from design engineers to verification specialists—available in this thriving sector. His talk emphasized the importance of staying updated with the latest tools, techniques, and design methodologies to succeed in the field.

The session witnessed enthusiastic participation from students, who engaged with the speaker through insightful questions and discussions. Mr. Vijay Kumar's practical examples and real-world case studies inspired students to consider VLSI as a promising and rewarding career path.

Quiz Competition

Date: 2nd March 2022
Resource Person: Prof. N. Sangeeta Reddy
Organized by: Electronics and Communication Engineering Department

On 2nd March 2022, the **Department of Electronics and Communication Engineering** hosted an engaging and spirited **Quiz Competition** that brought together students eager to test their knowledge and quick thinking in a friendly yet competitive environment.

The event was conducted under the guidance of **Prof. N. Sangeeta Reddy**, whose enthusiasm and insightful questions made the competition a memorable and enriching experience for all participants. The quiz was designed to cover a wide range of topics relevant to the field of electronics and communication engineering, including fundamental concepts, recent technological advancements, and key historical milestones.

Throughout the competition, students showcased their analytical skills and deep understanding of the subject. The quiz format included multiple-choice questions, problem-solving scenarios, and rapid-fire rounds, ensuring that participants had a chance to demonstrate not only their knowledge but also their ability to think on their feet.

The event witnessed enthusiastic participation, with students forming teams and engaging in healthy competition. The interactive nature of the quiz fostered a sense of camaraderie and learning, as students exchanged ideas and challenged each other's knowledge.

Prof. N. Sangeeta Reddy commended the participants for their dedication and emphasized the importance of such competitions in enhancing critical thinking, collaborative learning, and overall academic growth.

Ample Opportunities in the VLSI Domain

Date: 27th December 2021
Resource Person: Er. Siddalinga Aland, Senior Staff Physical Design Engineer, Ampere Computing Pvt. Ltd., Bangalore, Karnataka, India
Organized by: Electronics and Communication Engineering Department

On 27th December 2021, the **Department of Electronics and Communication Engineering** hosted an insightful session titled **"Ample Opportunities in the VLSI Domain"** to enlighten students about the vast career possibilities and emerging trends in the field of VLSI design.

The session was led by **Er. Siddalinga Aland**, Senior Staff Physical Design Engineer at Ampere Computing Pvt. Ltd., a company at the forefront of advanced processor technology. Drawing upon his extensive industry experience, Er. Siddalinga Aland provided students with a comprehensive overview of the VLSI sector, its evolution, and the abundant opportunities it offers to aspiring engineers.

During his engaging talk, Er. Siddalinga Aland highlighted the growing demand for skilled professionals in areas like physical design, verification, and low-power design techniques. He discussed the challenges and rewards of working in the VLSI domain and emphasized the need for strong technical fundamentals and a passion for continuous learning.

Students were particularly inspired by his insights into the real-world applications of VLSI technology, ranging from mobile devices to data centers and beyond. Er. Siddalinga Aland also shared his personal career journey, offering valuable advice on how to build a successful path in this dynamic and high-impact field.

The interactive nature of the session encouraged students to ask questions and engage in meaningful discussions about industry trends, skill development, and the future of semiconductor technology.

Social Awareness Programme on “Personal Hygiene”

Date: 2nd March 2022
Resource Persons: Student Council Members
Organized by: Electronics and Communication Engineering Department

On 2nd March 2022, the **Department of Electronics and Communication Engineering** conducted a social awareness programme on **“Personal Hygiene”**, led by the dedicated members of the **Student Council**. The event aimed to highlight the importance of maintaining personal hygiene and its vital role in promoting overall health and well-being.

The session covered essential topics such as proper handwashing techniques, oral hygiene, and the significance of clean clothing and personal care habits. The Student Council Members skillfully presented information on common hygiene practices, as well as the impact of poor hygiene on physical health and academic performance.

The programme fostered an interactive environment where students actively engaged in discussions and shared their own practices and challenges related to maintaining personal hygiene. The session also addressed the role of hygiene in preventing the spread of illnesses, an especially relevant topic in today’s times.

The Student Council Members emphasized that personal hygiene is not just a routine but a fundamental aspect of self-respect and social responsibility. Their presentation encouraged students to adopt better hygiene practices and to raise awareness among peers and in their communities.

This initiative reflects the department’s commitment to the holistic development of its students, promoting not only academic excellence but also a sense of responsibility towards personal and community well-being.

The programme concluded with a note of thanks and a collective resolve to continue fostering health-conscious habits and social responsibility among all students.

Social Awareness Programme on “Benefits of Yoga”

Date: 22nd June 2022
Resource Persons: Student Council Members
Organized by: Electronics and Communication Engineering Department

On 22nd June 2022, the **Department of Electronics and Communication Engineering** organized a **social awareness programme on “Benefits of Yoga”**, led by the enthusiastic and dedicated members of the **Student Council**. The session aimed to promote the holistic benefits of yoga for both physical and mental well-being, encouraging students to integrate this ancient practice into their daily lives.

The Student Council Members shared insightful information about yoga’s role in improving flexibility, enhancing concentration, reducing stress, and boosting overall health. They also discussed the scientific evidence supporting the positive impact of yoga on reducing anxiety and improving focus, which are essential for academic success and personal growth.

The interactive session included a practical demonstration of simple yoga poses and breathing exercises, allowing students to experience firsthand the calming and rejuvenating effects of yoga. Participants actively engaged in the session, sharing their thoughts and experiences, which created an atmosphere of mutual learning and enthusiasm.

The programme highlighted how yoga serves as a powerful tool to balance both body and mind, particularly in the demanding academic environment. The Student Council Members emphasized the importance of making yoga a regular practice, not just for physical health but also as a means to foster emotional resilience and mindfulness.

This initiative reflects the department’s commitment to nurturing the overall well-being of its students, promoting a lifestyle that supports academic excellence as well as personal growth and harmony.

Achievement

Papers Published by Faculty during (2021-2022)

Sl. No	Paper title	Name of the faculty	Journal	Year of publication	Link to paper	Indexing
1	Dr. Sujata	Slit Loaded Compact Shaped Patch Antenna for 5GHz Wireless Application	International Journal of Applied Engineering and Management Letters Vol 6 pg260-266	June- 2022	https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4137450	Scopus
2.	Dr. Basanti Ghanti	Deep graph neural network optimized with fertile field algorithm based detection model for uplink multiuser massive multiple-input and multiple-output system.	Research Article, Wiley, Trans Emerging Tel Tech.	2022	https://onlinelibrary.wiley.com/doi/abs/10.1002/ett.4614	Scopus
3.	Mrs. Sangeeta Patil	Brain tumor detection and classification using clustering and comparision with FCM	International conference on innovative computing, intelligent communication and smart electrical systems	July 2022	https://ieeexplore.ieee.org/document/9914252	Scopus
4	Mrs. Sujata K	Inset-fed Multiband Square Patch Antenna on Flexible substrate for Fifth-Generation Wireless Communication	International Journal of Applied Engineering and Management	Nov, 2021		Scopus

Patents Published by the faculty (2021-2022)

Sl.No	Name of the faculty	Title	Application No.	Publication Date
1.	Dr. Anuradha Patil	Image processing & Machine Learning Based Detection of Malignant Skin Cancer Using Support Vector Machine (SVM) Classifier.	202141036593	24/09/2021
2.	Dr. Lakshmi Patil	A novel VLSI Based architecture for stroke detection using optimized resource allocation.	202141047825	3/12/2021
3.	Dr. Asharani Patil	A nanotechnology based system for boosting the fertility using IONT	202141048434	29/10/2021
4.	Mrs. Nagaveni K	Artificial intelligence based health monitoring and prevention system to monitor and diagonize heart attack using IoT	202231007780	11/3/2022
5.	Mrs. Nagaveni K	Artificial intelligent IoT based detection and prevention disease tissues brain ,kidney, lungs and heart using machine learning for health care management	202241011081	25/3/2022
6.	Mrs. Ratnamala S Patil	Diagnosing image classification using deep convolution neural network with big data applications.	202241025889	13/5/2022
7.	Dr. Lakshmi Patil	Parameter optimization for 5g transmission	202241003819	4/2/2022

Student achievements

We are delighted to announce that our department's student project have been approved for sponsorship by the **Karnataka State Council for Science and Technology (KSCST)** under the 45th Series of the **Student Project Programme**.

1. **TITLE:** "DESIGN & SIMULATION OF 5G MULTIBAND ANTENNA WITH PHASE SHIFT OPERATION"


Ms. Prathiksha Mane
(SW18ECE015)


Ms. Shreya Rawoor
(SW18ECE026)


Ms. Priyanka
(SW18ECE018)


Ms. Savita Desai
(SW18ECE022)

Guide:
Prof. Laxmi Patil
Co-Guide:
Prof. Shobhana

1. **TITLE:** "SMART STAND UP WHEELCHAIR USING RASPBERRY PI AND BLUETOOTH"


Rajeshwari Malipatil
(SW18ECE020)


Varshini J T
(SW18ECE035)


Umashree
(SW19ECE501)

Guide:
Prof. Nagaveni K
Co-Guide:
Prof. Anuradha Patil

ARTICLES

Digital India

Aishwarya (Batch 2018-22)

Digital India, launched in 2015, aims to make India a digitally empowered society and knowledge economy. It enhances digital infrastructure, promotes e-Governance, and boosts digital literacy. Key objectives include universal internet access, digital identity (Aadhaar), and cashless transactions.

Major initiatives include BharatNet (rural broadband), UMANG (government services app), DigiLocker (digital document storage), and e-Hospital services. Digital payments via UPI and BHIM have gained momentum, promoting financial inclusion.

The program has improved governance, increased transparency, and generated employment in the IT sector. However, challenges like cyber security threats, digital illiteracy, and rural connectivity gaps remain. Continued investment and awareness are crucial for success. Digital India is paving the way for India's transformation into a global digital leader.

Mems Technology

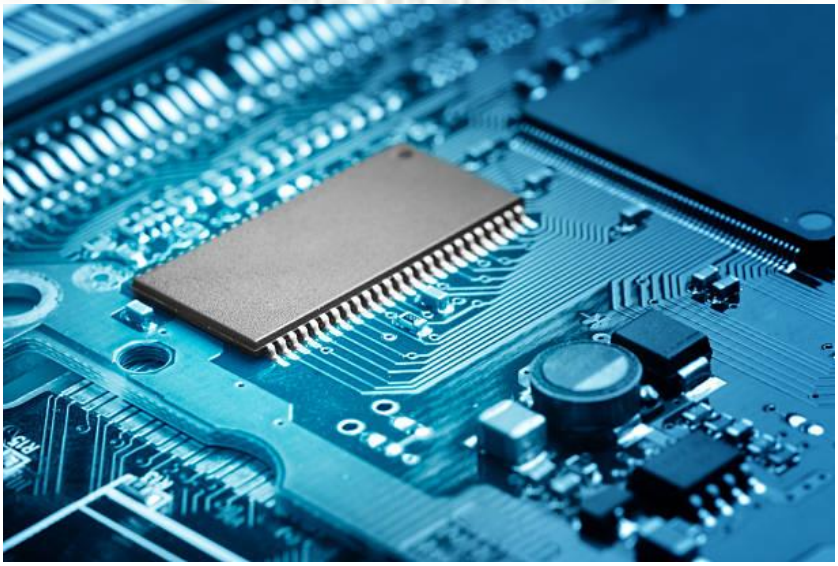
Laxmi (Batch 2018-22)

Micro-Electro-Mechanical Systems (MEMS) technology integrates mechanical and electrical components at a microscopic scale. It iswidely used in sensors, actuators, and biomedical applications.

MEMS devices include accelerometers, gyroscopes, pressure sensors, and micro-mirrors, playing crucial roles in smart phones, automotive systems, and healthcare diagnostics.

This technology enables high precision, low power consumption, and cost efficiency, making it essential in industrial automation, wearable devices, and robotics. Challenges include fabrication complexities, integration issues, and scalability. However, advancements in nanotechnology and material sciences continue to enhance MEMS performance and applications.

MEMS is driving innovation across industries, from aerospace to consumer electronics, paving the way for the future of smart, miniaturized systems.



Internet of Things

Madhura (Batch 2018-22)

The Internet of Things (IoT) refers to the network of interconnected devices that communicate and exchange data via the internet. It integrates sensors, software, and connectivity to enhance automation and efficiency.

IoT is widely used in smart homes, healthcare, industrial automation, and smart cities. Common applications include smart thermostats, wearable health monitors, autonomous vehicles, and connected appliances.

Key benefits of IoT include improved convenience, real-time monitoring, and optimized resource utilization. However, challenges such as cyber security risks, data privacy concerns, and interoperability issues must be addressed.

As IoT continues to evolve, advancements in artificial intelligence, 5G, and edge computing are enhancing its capabilities. This technology is reshaping industries, making the world more connected and intelligent.

Nuclear energy

Laxmi (Batch 2019-2023)

Nuclear energy is a highly efficient source of power generated through nuclear fission, where atomic nuclei split to release vast amounts of energy. It plays a significant role in global electricity production.

Nuclear power plants provide a stable and low-carbon energy source, reducing reliance on fossil fuels and helping combat climate change. Countries worldwide invest in nuclear technology for energy security and sustainability.

Key advantages include high energy output, low greenhouse gas emissions, and continuous power generation. However, concerns include radioactive waste disposal, nuclear accidents, and high initial investment costs.

Advancements in nuclear technology, such as small modular reactors and nuclear fusion research, aim to enhance safety and efficiency. With continued innovation, nuclear energy remains a crucial component of the global energy mix.

Smart Agriculture

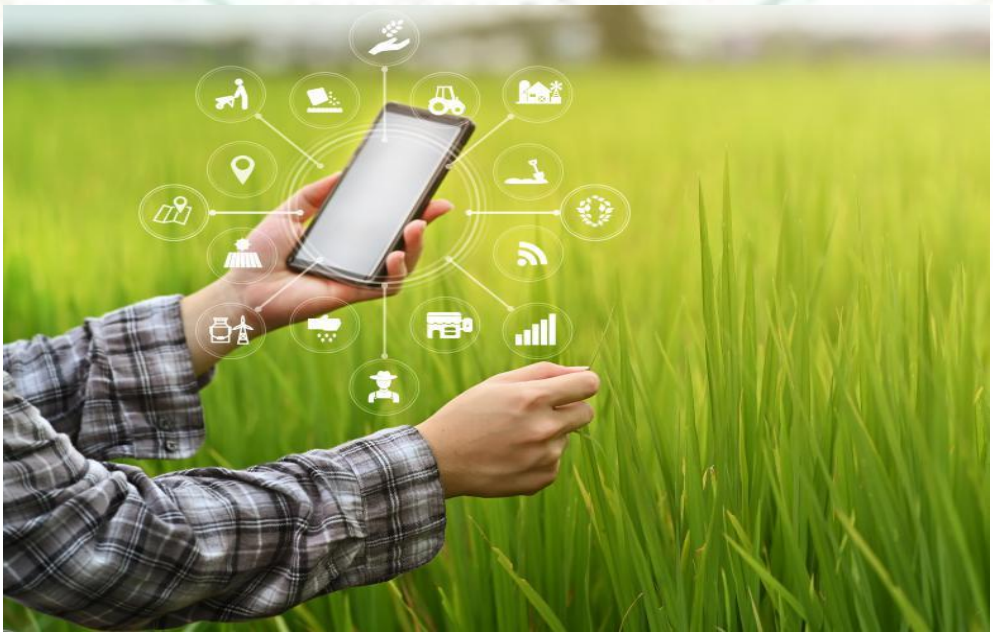
Sarika (Batch 2019-23)

Smart agriculture integrates advanced technologies such as IoT, AI, and big data to enhance farming efficiency and productivity. It enables precision farming by using real-time data for better decision-making.

Key innovations include automated irrigation systems, drone monitoring, soil sensors, and smart greenhouses. These technologies help optimize water usage, reduce pesticide use, and improve crop yields.

Benefits of smart agriculture include increased productivity, resource conservation, and cost reduction. However, challenges such as high implementation costs, lack of technical knowledge, and connectivity issues hinder widespread adoption.

With continuous advancements, smart agriculture is transforming the agricultural landscape, ensuring sustainable and efficient food production for the future.



The Future of Money

Soundarya (Batch 2019-2023)

The future of money is shifting towards digital currencies, block chain, and cashless transactions. Crypto currencies like Bit coin and Ethereum are challenging traditional financial systems by offering decentralized alternatives.

Central Bank Digital Currencies (CBDCs) are being explored by governments to provide secure and regulated digital money. Mobile payments, digital wallets, and fin tech innovations are reducing reliance on physical cash.

Key benefits include faster transactions, enhanced security, and greater financial inclusion. However, challenges such as cyber security threats, regulatory concerns, and digital divides must be addressed.

As technology evolves, artificial intelligence, smart contracts, and quantum computing will further shape financial transactions. The future of money lies in a seamless, efficient, and digitally-driven financial ecosystem.

5 G Technology

Veena (Batch 2021-2025)

5G technology is the fifth generation of mobile networks, offering significantly faster speeds, lower latency, and higher capacity than its predecessors. It operates on a broader range of frequency bands, including millimeter waves, enabling ultra-fast data transmission.

One of its key benefits is enhanced connectivity, allowing seamless communication between billions of devices, driving the Internet of Things (IoT). Industries such as healthcare, automotive, and manufacturing benefit from 5G through innovations like remote surgeries, self-driving cars, and smart factories.

5G also enhances mobile broadband, providing users with a smoother experience for streaming, gaming, and virtual reality applications. However, challenges include high infrastructure costs, security concerns, and potential health effects, which remain subjects of research and debate.

As 5G networks continue to expand globally, they pave the way for future advancements like 6G, promising even greater connectivity and technological breakthroughs

Cyber Security

Benezir Khan(Batch 2021-25)

In today's digital age, cyber security has become one of the most crucial aspects of our daily lives. As technology evolves, so do the risks associated with it. With everything from personal data to national secrets stored and shared online, the importance of cyber security cannot be overstated.

Cyber security involves protecting computers, networks, and data from unauthorized access, attacks, and damage. It covers a wide range of practices and technologies, including encryption, firewalls, antivirus software, and secure coding techniques. It's all about making sure that information stays safe and confidential.

Why is Cyber Security Important?

Cyber attacks can have devastating consequences. Hackers can steal sensitive information, spread malware, or even shut down entire systems. In industries like healthcare, finance, and communication, a breach can put lives at risk and cause enormous financial losses. For us as students, it's important to understand that our personal information—like passwords, academic records, and bank details—can also be targeted.

Quantum Computing

Vaishnavi (Batch 2021-2024)

Quantum computing is an innovative field of computing that leverages the principles of quantum mechanics to perform computations far beyond the capabilities of classical computers. It uses quantum bits or qubits, which can exist in multiple states simultaneously, unlike classical bits that are either 0 or 1. This unique property of qubits allows quantum computers to solve complex problems more efficiently. In the realm of cutting-edge technology, quantum computing stands out as a beacon of innovation and potential. Promising to revolutionize computational power beyond the capabilities of classical computers, quantum computing represents a paradigm shift that could redefine industries, solve complex problems faster than ever before, and unlock new frontiers in science and technology. Understanding Quantum computing harnesses the principles of quantum mechanics to perform computations. Unlike classical computers, which use bits to store and process information in binary form (0s and 1s), quantum computers use quantum bits or qubits. Qubits exploit quantum phenomena such as superposition and entanglement, allowing them to represent and manipulate multiple states simultaneously. This capability underpins quantum computing. potential to tackle problems that are infeasible for classical computers due to their exponentially increased computational power.


SEARCH
CANDIDATE
CAREER
RECRUITMENT
SKILLS
APPLICATION
CV
INTERVIEW

PLACEMENTS

STUDENTS PLACED

 **ShreyaRawoor** **SW18ECE026** DXC Technologies 4 LPA C3 technology	 **SyedaMuskan** **SW18ECE032** DXC Technologies 4 LPA, Capgemini 4 LPA	 **Priyanka** **SW18ECE017** DXC Technologies 4 LPA, Infosys 3.6 LPA	 **NirmalaPatil** **SW18ECE012** Accenture 4.5 LPA Wipro 3.5LPA	 **Priyanka** SW18ECE018 Wipro3.5 LPA
 **Debora** **SW18ECE004** Infosys 3.6 LPA	 **SavitaDesia** **SW18ECE022** Qspider 3-3.5 LPA	 **Pallavi M R** **SW18ECE013** Bosch 5LPA	 **SameenaKousar** **SW18ECE021** Qspider3-3.5 LPA	 **Swati** Allsec technology 3LPA Madhupushpa 2LPA
 **Chaitra Hugar** **SW19ECE500** C3 Technology 3LPA ALLSEC 2.5 LPA	 **LAXMI** **SW18ECE009** ALLSEC 2.5 LPA	 **AISHWARYA** **SW18ECE001** ALLSEC 2.5 LPA	 **BHUVANESHWARI** **SW18ECE003** ALLSEC 2.5 LPA	 **SEEMA** **SW18ECE023** ALLSEC 2.5 LPA

 **PRATIKSHA** **SW18ECE015** C3 Technology 3LPA,	 **SUPRIYA** **SW18ECE029** C3 Technology 3 LPA	 **TEJESWINI** **SW18ECE033** ALLSEC 2.5 LPA	 **DEEPA** **SW18ECE005** ALLSEC 2.5LPA	 **RAJESHWARI** **SW18ECE020** C3 Technology 3 LPA

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