

The Spintronics

J. B. Institute of Engineering & Technology

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NEWSLETTER



Department of ECE

Vision

To be a guiding force enabling multifarious applications in Electronics and Communications Engineering, promote innovative research in the latest technologies to meet societal needs.

Mission

- To provide and strength encore competencies among the students through expert training and industry interaction.
- To promote advanced designing and modeling skills to sustain technical development and lifelong learning

INSIDE HIGHLIGHTS

HOD'S MESSAGE

EVENTS

STUDENTS ACHIEVEMENTS

ARTICLES



Dr. Towheed Sultana
HOD, ECE

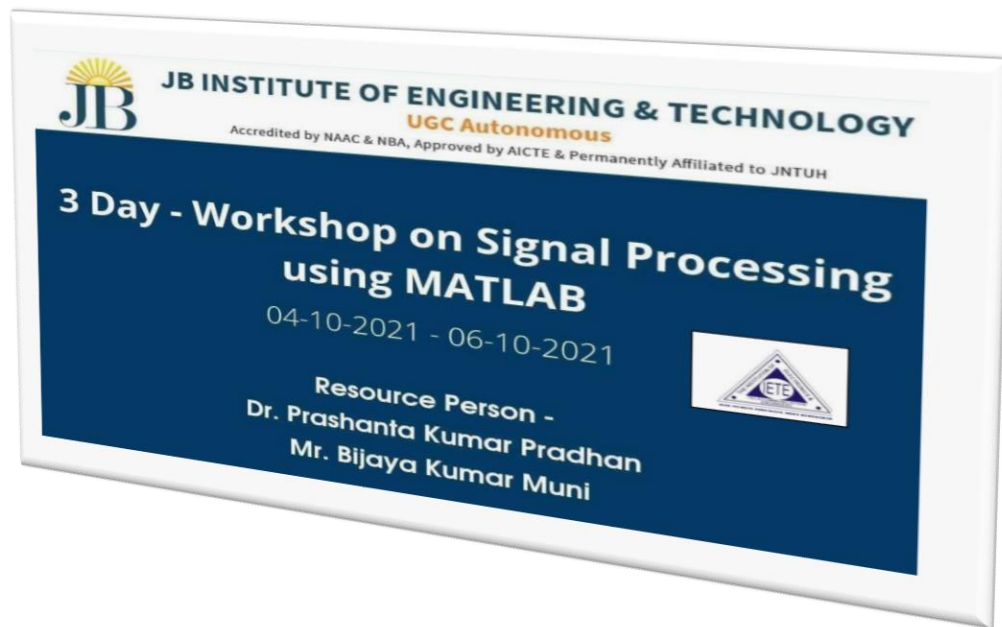
Message from HOD

“I heartily congratulate all the and students for the Newsletter. I also congratulate IEEE Student Chapter for organizing workshops and events in this semester. And especially the conducting of seminars is a great step for our Department.

Events Conducted

- Workshop on Electronic Circuits
- One-week Intensive teaching workshop
- Three-Day Workshop on “Digital Signal Processing using MATLAB
- Latest wireless and Computing Technologies

THREE-DAY WORKSHOP on “DIGITAL SIGNAL PROCESSING USING MATLAB



in this workshop students learn the MATLAB widely in Engineering perspective and students analyzed various signal processing blocks by Dr. Prasanta Kumar Pradhan. Dr. Pradhan has delivered the simulation environment details of MATLAB and also the coding. coding Mr. Bijaya Kumar Muni has delivered multiple sessions on MATLAB, which includes the Fundamentals of MATLAB programming in Electronics & Communication Engineering. And designed the application like Digital Clock and Digital calculator using MATLAB GUI. Further the students have designed their block in MATLAB Programming.

Glimpse of the workshop:



Dr. Pradhan and Mr. Bijaya with Student during the session



During the Practical session

Workshop on Computing Technologies:

Dr. Astha Sharma and Mr. Sai Kumar Tara has graced the occasion with all the topics. Along with Dr. Towheed Sultana delivered the safety methods of living life in current scenario.

The Resource person describes in detail regarding the different computing technologies and the various area of interest of research for students and faculty.

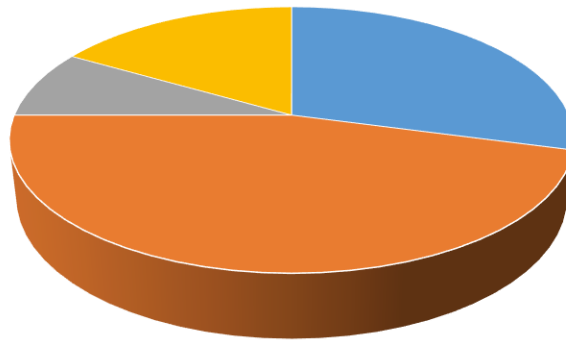
1. **5G Technology:** 5G technology was gaining widespread adoption across the globe. It promised faster data speeds, lower latency, and increased connectivity compared to previous generations of wireless technology. It enabled advancements in various sectors, including autonomous vehicles, IoT, augmented reality (AR), and virtual reality (VR).
2. **Edge Computing:** Edge computing involves processing data closer to the source of generation rather than relying on a centralized data processing warehouse. This technology was becoming increasingly important, particularly in applications where real-time processing and low latency are critical, such as IoT, autonomous vehicles, and industrial automation.
3. **Artificial Intelligence (AI) and Machine Learning (ML):** AI and ML were continuing to drive innovations across various domains, including natural language processing (NLP), computer vision, healthcare, finance, and cybersecurity. Advancements in AI and ML algorithms, coupled with increasing computational power, were pushing the boundaries of what was possible in terms of automation and data analysis.
4. **Quantum Computing:** While still in its early stages, quantum computing held immense promise for solving complex problems that were intractable for classical computers. Companies and research institutions were making significant strides in developing quantum computers and exploring potential applications in areas such as cryptography, optimization, drug discovery, and material science.
5. **Internet of Things (IoT):** The IoT ecosystem was expanding rapidly, with an increasing number of connected devices ranging from smart home appliances and wearables to industrial sensors and infrastructure. This proliferation of IoT devices was driving demand for improved connectivity, security, and interoperability standards.

6. **Blockchain and Cryptocurrency:** Blockchain technology continued to evolve beyond its initial application in cryptocurrencies like Bitcoin. It found use cases in supply chain management, identity verification, decentralized finance (DeFi), and digital voting, among others. Additionally, central banks and financial institutions were exploring the potential of central bank digital currencies (CBDCs) built on blockchain technology.
7. **Extended Reality (XR):** Extended Reality, encompassing virtual reality (VR), augmented reality (AR), and mixed reality (MR), was becoming increasingly sophisticated and accessible. These technologies found applications in gaming, entertainment, education, training, and remote collaboration.
8. **Biometric Authentication:** Biometric authentication methods, such as facial recognition, fingerprint scanning, and voice recognition, were gaining traction as more secure and convenient alternatives to traditional passwords. They were being integrated into various devices and systems, including smartphones, laptops, and access control systems.

WORKSHOP ON ELECTRONIC CIRCUITS



Student and faculty achievements



- Patents published
- Papers published/Faculty in conferences/journals
- Research projects
- Students participated outside college activities(workshops, webinars, internships)

- D.Praveen Kumar, Exceptional performance of Codey in Robotics Course at SP ROBOTICS MAKER LAB, on 09-11-2021

Faculty Research projects

- “IOT based garbage monitoring system, by Dr. Mohd. Salauddin with a gross amount of Rs 50,000/- sponsored by the institute.