College Code-22

CET Code-BVCE

BONAM VENKATA CHALAMAYYA ENGINEERING COLLEGE

(AUTONOMOUS)

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ESTD: 1997

IEEE PES SB Chapter 13691

REPORT ON IEEE DAY 2K24

IEEE DAY at BVC Engineering College, Odalarevu is a premier technical event organized by the IEEE student branch of IEEE-BVCE and is exclusively for the B.Tech final year students,offering a platform for students to engage in various technical programs like Paper Presentation, Project Expo, and Technical Quiz. BVC Engineering College is proud to be the only institution in the region hosting such a prestigious event under the IEEE banner. Over the years, IEEE DAY has successfully created opportunities for students to display their talents and innovations. The event has gained significant recognition for its consistent success and contribution to the academic and technical growth of its participants. This commitment to excellence has earned BVC Engineering College accolades, positioning it as a leader in promoting student-led technical initiatives. IEEE DAY aims to help students shed their inhibitions and present their ideas confidently in front of peers and experts. By participating in Paper Presentations, students can showcase their research and technical expertise. The Project Expo allows them to demonstrate practical solutions to contemporary problems, while the Technical Quiz sharpens their technical knowledge and teamwork skills. These activities enhance students' communication, presentation, and managerial abilities, providing them with a solid foundation for their future careers. The unique format and opportunities provided by IEEE DAY have brought many laurels to BVC Engineering College, making it a standout event in the academic calendar. The IEEE Day celebration fostered a spirit of innovation, collaboration, and technical curiosity among students, aligning with the global IEEE mission to advance technology for humanity.

EVENT DETAILS:

Date: 1st October, 2024..

Timings: 10.00 A.M. to 4.00 P.M.

Venue: EEE Department E-Class Room, BVCE

Participants attended: 60

Branch Counselor: Dr. S. Srikanth

Faculty Coordinator: Mr. G. Lovaragu

PE31, IEEE-BVCE SBC13691:

A. Dhathri Sri – Chairperson

M. Venkata Ratnam –Vice Chairperson

P. Naga Manikanta – Secretary

K. Ram Charan - Treasurer

K. Bhanu Prakash – Web Master

M. Solmon Zekarya – Web Master

D. Sai Manikanta – PES Representative

EVENT DESCRIPTION:

IEEE Day 2024 at BVC Engineering College, Odalarevu was a remarkable celebration of technical innovation, collaboration, and intellectual exchange. The event, organized under the banner of the Institute of Electrical and Electronics Engineers (IEEE), brought together students, faculty, and professionals to foster a spirit of learning, discovery, and creativity. The focus of the day was on three major programs: Paper Presentation, Project Expo, and Technical Quiz, each of which highlighted the technical prowess and innovative potential of the participants.

PAPER PRESENTATION

A Platform for Research and Innovation

The Paper Presentation segment of IEEE Day 2024 was designed to provide a platform for students to share their research ideas, technological insights, and innovative concepts. The event attracted participants from across various engineering disciplines, such as electrical, electronics, computer science, mechanical, and civil engineering. The range of topics covered was diverse and reflected current trends in technology and research.

Preparation and Participation:

Participants were invited to submit abstracts of their research papers weeks in advance. These papers were reviewed by a panel of expert faculty members who evaluated the quality of the research, the novelty of the ideas, and the relevance to modern engineering challenges. Selected participants were then invited to present their papers in front of a live audience, which included faculty, students, and industry professionals.

The event started with an inaugural address by the Head of the Department of Electrical Engineering, who emphasized the importance of research in pushing the boundaries of technological innovation. The

keynote speaker, an IEEE Senior Member and an industry expert, delivered an inspiring talk on emerging trends in artificial intelligence and machine learning, setting the stage for the presentations.

Themes and Topics Covered:

The Paper Presentation featured a wide range of topics. Participants presented on areas such as:

Artificial Intelligence and Machine Learning: Several students explored the growing influence of AI and ML in various domains, such as healthcare, agriculture, and automation. One presentation focused on using machine learning algorithms to predict disease outbreaks, while another examined AI's role in autonomous driving systems.

Renewable Energy: With sustainability being a global concern, many papers delved into innovations in renewable energy. Topics included solar energy harvesting, advancements in wind turbines, and energy storage solutions. One standout paper proposed an innovative method for integrating solar panels into urban architecture.

Internet of Things (IoT): The IoT revolution was a popular theme among participants. Students presented papers on smart home systems, IoT-based healthcare monitoring devices, and industrial automation using IoT technology.

Cybersecurity: Given the increasing reliance on digital systems, cybersecurity was another prominent topic. Presenters discussed encryption algorithms, blockchain applications for secure data transmission, and ethical hacking techniques to safeguard against cyber threats.

Robotics and Automation: Papers on robotics and automation showcased innovations in robotic systems, including autonomous drones, industrial robots, and robotic process automation (RPA) for business applications.

Evaluation and Feedback:

Each presentation was followed by a Q&A session where judges and audience members posed questions to the presenters. This interactive element allowed participants to defend their ideas, clarify concepts, and demonstrate their deep understanding of the subject matter.

The judging panel, composed of senior faculty and industry professionals, evaluated the presentations based on several criteria, including:

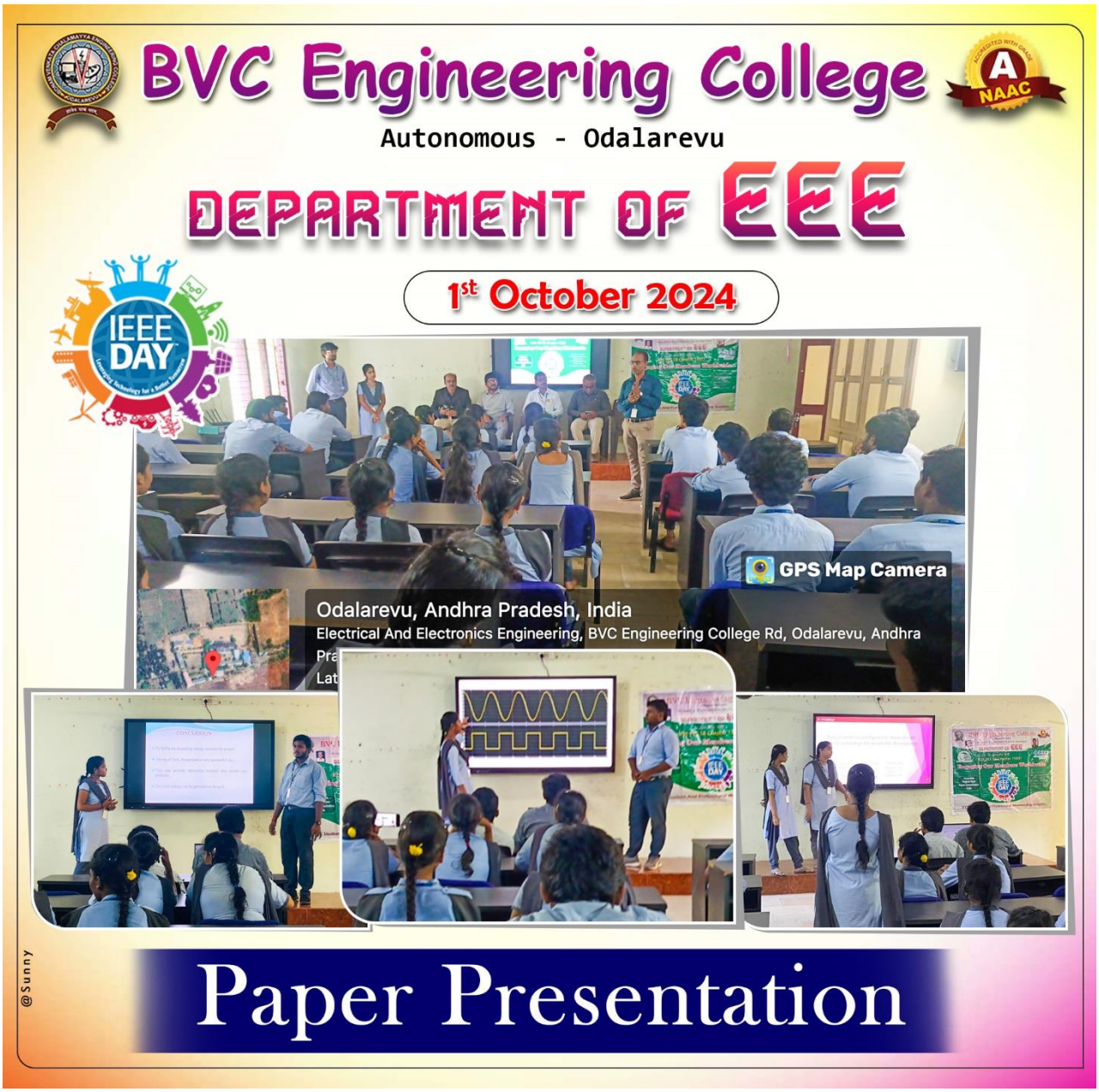
Originality of the idea

Technical depth and rigor of the research

Clarity and effectiveness of the presentation

Practical applicability of the solution or idea

At the conclusion of the session, awards were given for the Best Paper Presentation, recognizing students who excelled in both innovation and communication. The event was a resounding success, with participants gaining valuable experience in presenting their research to a professional audience.



PROJECT EXPO

Showcasing Practical Innovation

The Project Expo was one of the most anticipated events of IEEE Day, offering students a chance to showcase their hands-on technical skills through working models and prototypes. The expo served as a demonstration of the practical application of engineering principles and allowed participants to present their projects to both the academic community and the general public.

Project Selection and Preparation:

Students were invited to submit project proposals in the weeks leading up to IEEE Day. These proposals were reviewed, and the most innovative and technically sound projects were selected for exhibition. Participants worked in teams to design, build, and refine their projects, often working late into the night to perfect their models.

The Project Expo featured a wide range of projects, reflecting the multidisciplinary nature of engineering. Students from electrical, electronics, computer science, and mechanical engineering came together to collaborate on projects that addressed real-world problems and provided creative solutions.

Project Themes and Highlights:

The projects on display were diverse, covering various areas of engineering and technology. Some of the standout projects included:

Smart Irrigation System: A team of electronics and computer science students presented a smart irrigation system that used IoT sensors to monitor soil moisture and automatically regulate water supply based on environmental conditions. This project aimed to reduce water wastage in agriculture and improve crop yield, making it highly relevant in today's climate-conscious world.

Autonomous Drone for Search and Rescue: Another team showcased an autonomous drone designed to aid in search and rescue missions in disaster-hit areas. Equipped with advanced sensors and computer vision algorithms, the drone could navigate through challenging terrain and locate survivors, sending live feed to rescue teams. This project highlighted the potential of drones in emergency situations.

Energy-Efficient Electric Vehicle: A mechanical engineering team presented a prototype of an energy-efficient electric vehicle. The team had designed a lightweight, aerodynamically optimized body for the vehicle, along with a

custom-built electric motor that maximized energy efficiency. Their project aimed to contribute to the growing field of sustainable transportation.

Smart Home Automation: Several teams focused on IoT-based smart home systems that allowed users to control appliances, lighting, and security systems remotely using a smartphone app. One standout project featured voice-controlled automation, integrating artificial intelligence to enhance the user experience.

Medical Monitoring Devices: A group of biomedical and electronics engineering students demonstrated a wearable medical device that continuously monitored vital signs such as heart rate, blood pressure, and oxygen levels. The device could send real-time data to a doctor's dashboard, enabling remote patient monitoring.

Impact and Learning:

The Project Expo was not only a showcase of technical talent but also an opportunity for students to learn from each other and gain insights into different areas of engineering. The interaction between participants and visitors, including faculty, industry professionals, and fellow students, led to a rich exchange of ideas.

Judges evaluated the projects based on criteria such as:

Innovation and creativity

Technical complexity

Practical applicability and real-world impact

Presentation and demonstration skills

At the end of the expo, awards were given for the Best Project and Most Innovative Project, recognizing teams that had demonstrated exceptional technical skill and creativity. The Project Expo was hailed as a great success, with many visitors praising the innovative spirit of the students and the practical relevance of their projects.

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Project Expo

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TECHNICAL QUIZ

A Test of Knowledge and Problem-Solving

The Technical Quiz was the final event of IEEE Day and was designed to test participants' knowledge of engineering concepts, technology, and general science. The quiz attracted teams from different departments, who competed against each other in a fast-paced and intellectually stimulating environment.

Format and Structure

The quiz was conducted in multiple rounds, with each round increasing in difficulty. The rounds included:

Basic Engineering Concepts: The first round focused on fundamental engineering concepts, testing participants' knowledge of subjects such as physics, mathematics, and basic electrical and electronics engineering principles.

Advanced Technical Topics: The subsequent rounds covered more advanced topics, such as digital electronics, control systems, communication technologies, and computer programming.

Current Trends and Technologies: A dedicated round was focused on current trends in technology, including AI, blockchain, renewable energy, and the latest innovations in hardware and software.

Rapid-Fire Round: The final round was a rapid-fire session where teams had to answer as many questions as possible within a limited time. This round tested not only technical knowledge but also the ability to think quickly and respond under pressure.

Participant Engagement

The quiz was highly competitive, with teams showcasing their deep understanding of engineering concepts and their ability to think critically. The audience, too, was engaged, as they were allowed to answer questions that the teams were unable to answer. This created an interactive and lively atmosphere, with both participants and spectators actively involved in the proceedings.

Awards and Recognition

The quiz concluded with the top three teams being awarded prizes for their performance. The Winning Team was recognized for their technical acumen and quick thinking, while the Runners-Up were commended for their effort and knowledge.

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Technical Quiz

Conclusion:

A Day of Learning and Innovation

IEEE Day 2024 at BVC Engineering College, Odalarevu, was a resounding success. The Paper Presentation, Project Expo, and Technical Quiz not only provided students with a platform to showcase their knowledge and skills but also fostered a sense of community and collaboration within the engineering fraternity. The event embodied the spirit of IEEE, which is to advance technology for the benefit of humanity. Participants left the event with new ideas, inspiration, and a renewed passion for engineering and innovation.

The success of the event was a testament to the hard work and dedication of both the participants and the organizing committee, and it marked yet another milestone in the college's journey toward becoming a hub of technical excellence.