News Letter .....

ECE BUZZ

JUNE 2023

ISSUE 01

CARE
COLLEGE OF ENGINEERING

Department of Electronics and Communication Engineering

EDITOR
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(3rd year)
HANISH K.A
(3rd year)

VISION AND MISSION

VISION OF THE INSTITUTION

Transform lives through Education and Research

MISSION OF THE INSTITUTION

To impart quality education to students through critical thinking, creativity, leadership and the spirit of entrepreneurship

VALUES OF THE INSTITUTION

We develop in each member the ability and passion to work effectively for the betterment of humanity with cultural awareness, high ethical and moral values and a sense of social responsibility

DEPARTMENT VISION

To produce globally competent Electronics and Communication Engineers.

DEPARTMENT MISSION

M1 : To Impart Value-based Technical Education with a state of art technologies to meet industry standards.

M2 : To foster critical thinking and creativity through research and experimentation.

M3 : To prepare our students to be a lifetime professional with Creativity and Leadership.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

PEO 1 - Shall pursue higher education and research, or have a successful career in industries or as entrepreneurs.

PEO 2 - Shall have the ability and attitude to adapt to emerging technological changes.

PEO 3 - Shall exhibit leadership abilities, professional ethics, communication skills, interpersonal skills and life-long learning.

PROGRAM OUTCOMES (POs)

PO1 - Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2 - Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3 - Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4 - Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 - Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6 - The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 - Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 - Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 - Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10 - Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11 - Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 - Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OBJECTIVE (PSOs)

Students of the Electronics and Communication Engineering Program

PSO 1 - Shall have Potential to analyze, design, synthesize and provide technical solutions in the field of VLSI, Embedded Systems, Communication, Networking and Real Time Processing.

PSO 2 - Shall exhibit leadership skills and pursue entrepreneurship and contribute in the field of Electronics and Communication Engineering.

CEO'S MESSAGE

SHRI.B.PRATIVE CHEND

Greetings! As the CEO of our institution, I am delighted to connect with you through our newsletter.

The field of Electrical and Communication Engineering (ECE) is one of relentless innovation and rapid evolution. Our department remains at the forefront of these advancements, thanks to the dedication and hard work of our students, faculty, and partners.

One of the cornerstones of our success is our strong association with the Electronics and Communication Students Association (ECSA). ECSA plays a pivotal role in enriching the academic and professional lives of our students. Through their initiatives—ranging from hands-on workshops, industry talks, and mentorship programs to networking events—ECSA provides invaluable opportunities that help bridge the gap between classroom learning and real-world application. I encourage all students, faculty, and industry partners to actively engage with ECSA's activities.

PRINCIPAL'S MESSAGE

Dr.S.Shanthi M.E, Ph.D

Greetings! As we dive into another exciting term at CARE College of Engineering, I am filled with optimism and enthusiasm about the opportunities that lie ahead for our community. Each new semester brings with it a chance for growth, learning, and innovation, and this one is no exception.

I am particularly excited about the upcoming events and activities that will allow us to come together as a community. From guest lectures and workshops to student-led projects and departmental initiatives, there will be numerous opportunities to engage, learn, and contribute.

Thank you for your continued dedication and hard work.

" ALL OUR DREAMS CAN COMES TRUE IF WE HAVE THE COURAGE TO PURSUE THEM

HOD'S MESSAGE

Dr.J.Jeyarani
M.E,ph.D

As we embark on a new academic term at the Electronics and Communication Engineering (ECE) department, I am both excited and optimistic about the opportunities and challenges that lie ahead. Our department continues to be a dynamic and innovative hub, dedicated to advancing the field of electronics and communication and providing our students with a comprehensive and forward-thinking education.

We are thrilled to introduce several new initiatives and enhancements to our curriculum. Our updated courses, cutting-edge research opportunities, and industry partnerships are designed to give you practical experience and exposure to the latest technological advancements. We are also expanding our collaboration with industry leaders to bring real-world insights and networking opportunities directly to you.

Our dedicated faculty members are here to support and guide you through your academic journey. Their expertise and commitment are instrumental in helping you achieve your goals and excel in your chosen field.

Thank you for your enthusiasm and dedication. Together, we will continue to push the boundaries of what's possible in electronics and communication engineering.

MOU WITH VI MICROSYSTEMS

- CARE College of Engineering, Trichy (CARE) and Vi microsystems Pvt. Ltd. signed a Memorandum of Understanding (MoU) on 13.01.2023 for collaborative initiatives with the Industry.
- Vi Microsystems provides opportunities for opening up a host of new challenges for the students with mini projects, Industrial visit, Internship, Certification courses etc., which mould the students to the next level.
- The MoU was signed in the presence of the following Dignitaries.
- Dr. S.Shanthi, M.E., Ph.D, Professor and Principal,
- Dr. J.Jeyarani M.E., Ph.D., Professor & Head
- Dr. A.Pasumpon Pandian, M.E., Ph.D., MIEEE, MIEI, MISTE, Professor and Dean (R&D)
- ECE Department Faculties

A FIVE DAYS WORKSHOP ON "AUTOMATION : IMPACT OF INTERNET OF THINGS"

- The Department of ECE conducted the winter workshop of Academic Year 2022-23, entitled as "a Five Days Workshop on "Automation: Impact of Internet of Things" from 31.01.2023 to 03.02.2023. The Main stream and topics of the workshop were decided by subject experts in the field of IOT by considering student feedback from the previous summer workshop of AY 2021- 22.
- Day 01 (30.01.2023) started with the Inauguration and workshop introduction was given to students by Dr.J.Jeyarani, HoD of ECE, She explained about the importance of IOT in all the fields of Engineering. In Day 01 and Day 02, students did presentations about their interested topics/projects they want to do/learn in the Workshop.
- ay 03 (01.02.2023) session was handled by Mr.Mohammed Nizarudeen of CSE department, the topic was C and Python language Programming in IOT softwares/devices. They learnt a lot about coding and programming that will be useful for the next handson session.

WORKSHOP ON "AUTOMATION: IMPACT OF INTERNET OF THINGS"

- Day 04 (02.02.2023) Introduction to Arduino/ IOT was given by Mrs.R.Vanitha, Assistant
- Professor of ECE and followed by the introduction Mrs.R.Deepalakshmi, Assistant Professor of ECE gave the hands-on session of Arduino and IOT. The session was very useful and they did some basic examples and mini projects Day 05 (03.02.2023) of the workshop ended with the Industrial visit in CoE in Manufacturing, NIT Trichy. On Day 05, the morning session was handled by the CoE in manufacturing technical persons. They explained a lot about ESP32 modules and the afternoon session was Industrial visit, they visited all the lab facilities in the CoE in Manufacturing.
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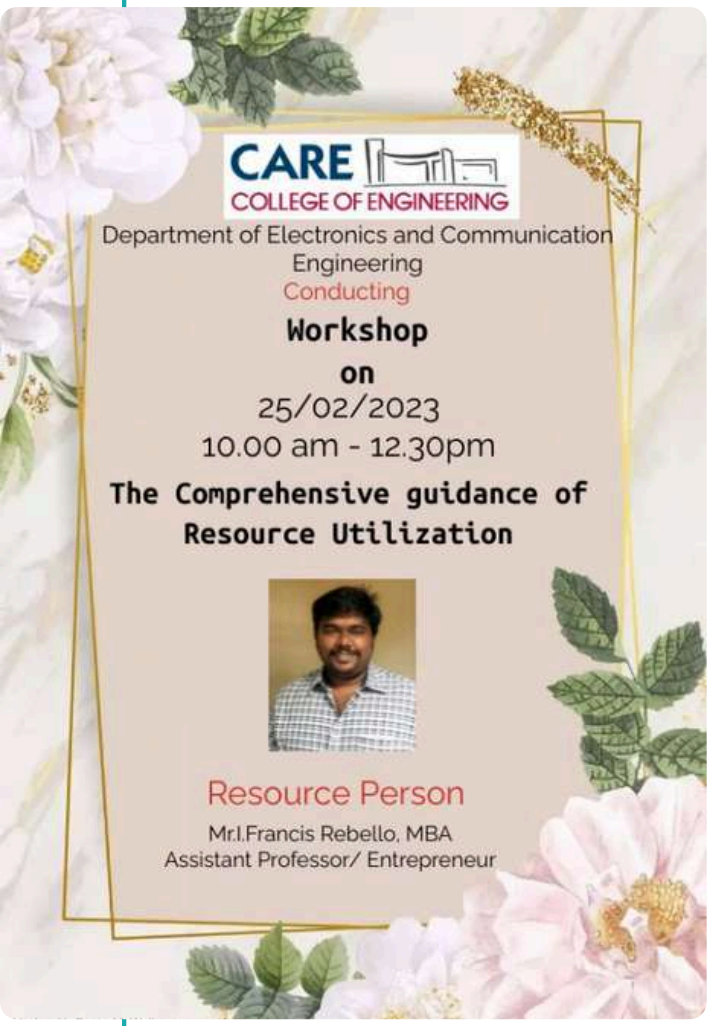
IETE STUDENTS FORUM – INAUGURATION

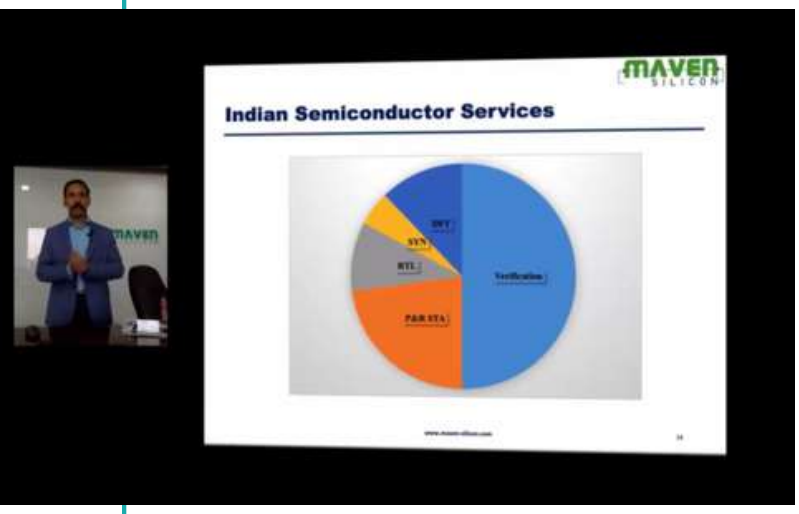
- The Department of Electronics and Communication Engineering of CARE College of Engineering formally inaugurated the 'IETE – The Institution of Electronics and Telecommunication Engineers Students Forum' on 31/01/23. Ms.Rajarajeswari, IV ECE welcomed the gathering.
- Principal Dr. S. Shanthi addressed the gathering and spoke about how important Electronics and Communication Engineering plays a role in enhancing the interdisciplinary engineering branches. She insisted the students take active part in organizing various events through this professional society membership.
- The guest of honor for the event Mr. MuthukumarRamalingham, Founder & CEO, Dextrasys & Hello leads, Trichy delivered a talk on 'Emerging trends in Electronics and Communication for better tomorrow' after the inaugural ceremony. He insisted the students drive events and get guidance.
- The newly elected members of the IETE Student Forum were introduced by the ISF Coordinator Dr.J.Jeyarani, to the gathering and they promised to lead the students in the various activities throughout the year.

COMPREHENSIVE GUIDANCE OF RESOURCE UTILIZATION

- The Department of ECE organized a workshop “Comprehensive Guidance of Resource Utilization” on 25.02.2023 at 10 am, and it was coordinated by Dr.J.Jeyarani, Professor & HoD /ECE.
- Dr.J.Jeyarani, Professor & HoD/ECE delivered the welcome address and introduced the guest Mr. Francis Rebello I, Assistant Professor/MBA.
- The workshop was planned to provide the managerial aspects that are beyond the syllabus of Principles of Management MG8651 and the knowledge of the resources available in the college. He conducted various activities to understand the resources available in the college and the department and guided them to utilize them effectively. This workshop will support self-learning and motivate life-long learning for them.The vote of thanks to the speaker was given by Ms.R. Elavarasi AP/ECE.

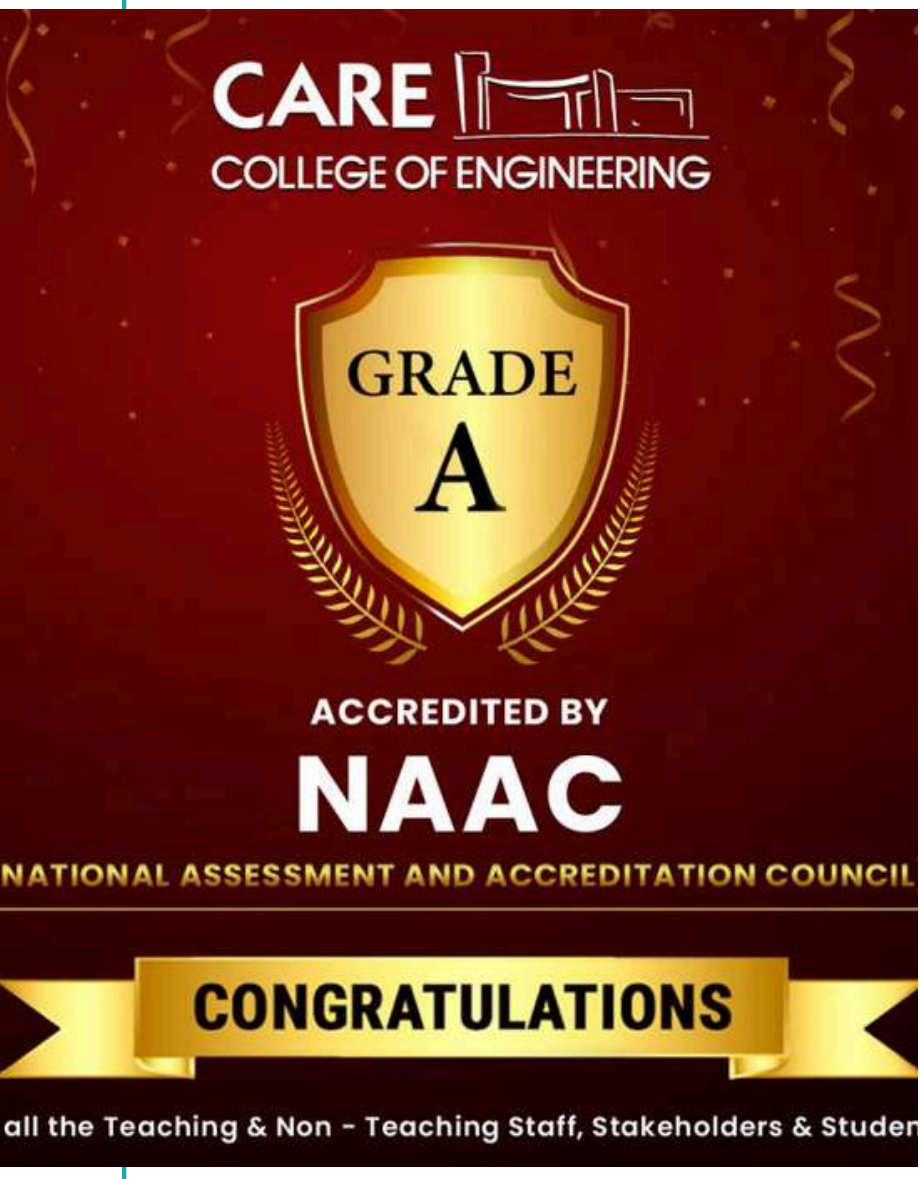


VLSI SOC DESIGN USING VERILOG HDL



- The Department of Electronics & Communication Engineering, CARE college of engineering , Trichy organized a workshop on **"VLSI SoC Design using Verilog HDL "**, on 27.02.2023. The speaker of this event was Mr. P R Sivakumar – Founder & CEO, Maven Silicon who has 20+ years of experience in Semiconductor Industry. It was attended by all the faculty members and students of ECE, Department.
- During the session Mr. P R Sivakumar motivated and inspired the students towards the role and importance of VLSI design and application in Industry. He briefed about the Overview of VLSI Design, Chips and SoCs , SoC Design, RTL Design using Verilog HDL, Data Types, Data type concepts, Verilog Operators . Students found the session useful.

NAAC ACCREDITATION



- We are happy to share with you all that CARE College of Engineering has been accredited with “A” grade by the National Assessment and Accreditation Council (NAAC). Thank You Staff, Students and Stakeholders.

PLACEMENT TRAINING PROGRAM

- The Department of ECE conducted a placement training program for second year and third year ECE students on 03.03.2023.
- Mr. T. Vijayakumar, Aptitude trainer from CARE College of Engineering taught an analytical problem (Time & Work) and logical reasoning (Coding & Decoding) in an effective manner. Students learnt how to solve problems and shortcuts. This session was very helpful for students to solve the problem in a short duration of time.
- Ms. Amba Bharti S Desai, Communication trainer from CARE College of Engineering taught how to introduce yourself. Also, What is Group Discussion and how to talk in group discussion. The topic of GD is Technology: A boon or a bane for society? Students were very much interested to talk in GD. This session is very interactive and very useful for placement.

GUEST LECTURE ON CHANNEL CODING THEOREM

Department of ECE organized a guest lecture for the Second year ECE Students to understand the topic Channel coding Theorem in EC 3491- Communication Systems. In the unit-3 the above topic was planned to handle through guest lecture to make the students for better understanding. The guest lecture was conducted on 18.03.2023 at 10.30 a.m in II ECE Classroom with invited speaker Dr.B.Karthiga, Associate Professor, Department of ECE, from Dhanalakshmi Srinivasan Engineering College (Autonomous), Perambalur. The lecture was conducted successfully presided by Dr.J.Jeyarani\HOD,ECE and ended with a thanks note by Mrs.M.Shiva Shankari, AP\EC.

HERTZ 23

The Department of ECE and Student Association (ECSA) organized a National Level Hybrid Symposium Hertz 23 on 23rd March 2023 for the academic year 2022-23. The chief guest for the event was Shri. Balakrishnan Islavath, MIEEE & AP-S and SEMCEI, Deputy Director/Scientist, Senate Member (UoM) Executive Member, Center for IOT (Anna University) Center for Electromagnetics, Chennai, R&D Lab Ministry of Electronics and Information Technology (MeitY).

Totally 54 registrations, with 40 papers, were done for this event from various colleges. Papers were received from the people who published patents and many awards.

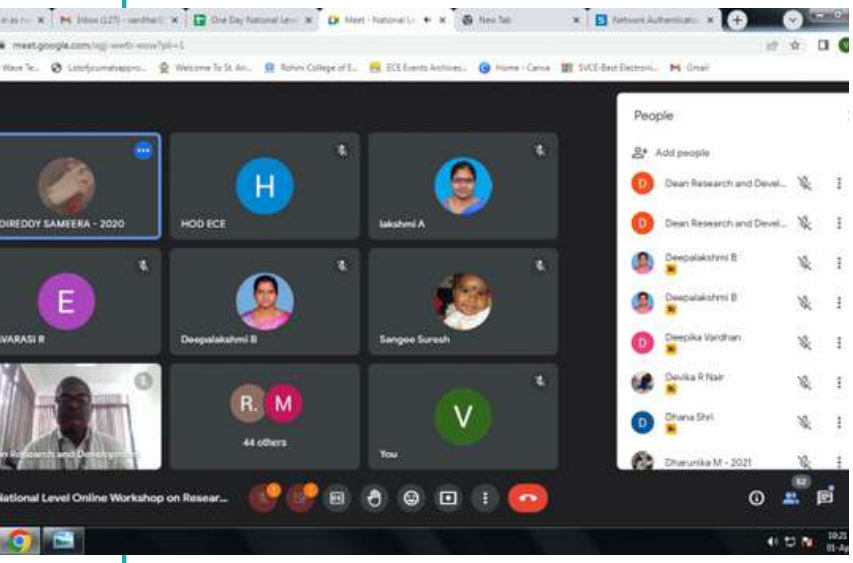
SEMINAR ON 5G AND ITS APPLICATIONS

- Department of Electronics & Communication engineering of CARE College of Engineering in association with IEEE CARE student branch organized “A Seminar on 5G and its applications with invited guest of Shri.Balakrishna Islavath, Scientist, Sameer, Bangalore.
- The seminar focused on the recent research issues, challenges, research trends and emerging applications in 5G Technology. The programme started with the inaugural ceremony on 23, March, 2022 by 10.30 am, co-ordinated by Mrs.R.Vanitha Assistant Professor, ECE. The presidential address was delivered by Dr.J.Jeyarani, HOD\ECE.

LECTURE ON "MODULATION TECHNIQUES FOR WIRELESS COMMUNICATION"

- The program commences with a warm welcome address delivered by R. Elavarasi AP/ECE, followed by an informative and thought-provoking lecture on "Modulation Techniques for Wireless Communication" held on March 29th, 2023. The presentation was splendid and exposed students to field practices, with all students appreciating and benefiting from your views on the subject. This guest lecture is an integral part of the students' course curriculum, allowing them to explore various ideas about Modulation Techniques for Wireless Communication and enrich their knowledge about Wireless Communication. The program concludes with a vote of thanks given by Afrose Jamila III ECE.

ONE DAY NATIONAL LEVEL ONLINE WORKSHOP ON RESEARCH PAPER WRITING



- The Department of ECE organized Workshop on “One Day National Level Online Workshop on Research Paper Writing”. The aim of this workshop was to enable the participants in characterizing research issues, building up a way to deal with research issues and choosing appropriate research design. It would also include insights to statistical tools for analyzing research data and comprehending research paper writing.
- The workshop was attended by many participants from various academic institutions. The key speakers are Dr.Paumpon pandian, Professor, Dean Research & Development from Care College Of Engineering at Trichy, Dr.J.Jeyarani

GUEST LECTURE ON TRANSMISSION LINES AND RF SYSTEMS

- The Department of ECE organized a Guest lecture on "Transmission Lines and RF Systems" on 18.04.2023 @ 3.30 PM , and it was coordinated by Mrs.J.S.Jenin,AP/ECE. Mrs. J.S.Jenin AP/ECE gave the welcome address and introduced the guest Ms. V.Roja, PMRFScholar, Department of ECE,NIT,Trichy.
- The guest lecture is planned to provide the knowledge towards the application oriented TLRF. This is the content beyond the syllabus which will support self-learning and motivate for life-long learning for the student participants.
- The important takeaway of the session was the students learnt about the practical aspects about TLRF –RF system design concepts . The vote of thanks to the speaker was given by Dr. J.Jeyarani, Professor and Head of ECE.

GUEST LECTURE ON "VLSI – DESIGN FOR TESTABILITY"

"Design-for-Testability (DFT) is a critical element in the design of modern, high-performance digital systems." – Jacob A. Abramovici, electrical engineer and computer scientist, and author of the book Digital Systems Testing and Testable Design.

Design for testability is not just a nice-to-have feature anymore. It is essential for ensuring that chips can be tested efficiently and effectively, without compromising on quality or reliability – **Dr. V.Nithish Kumar, Associate Professor Grade I, Vellore Institute of Technology, Vellore.**

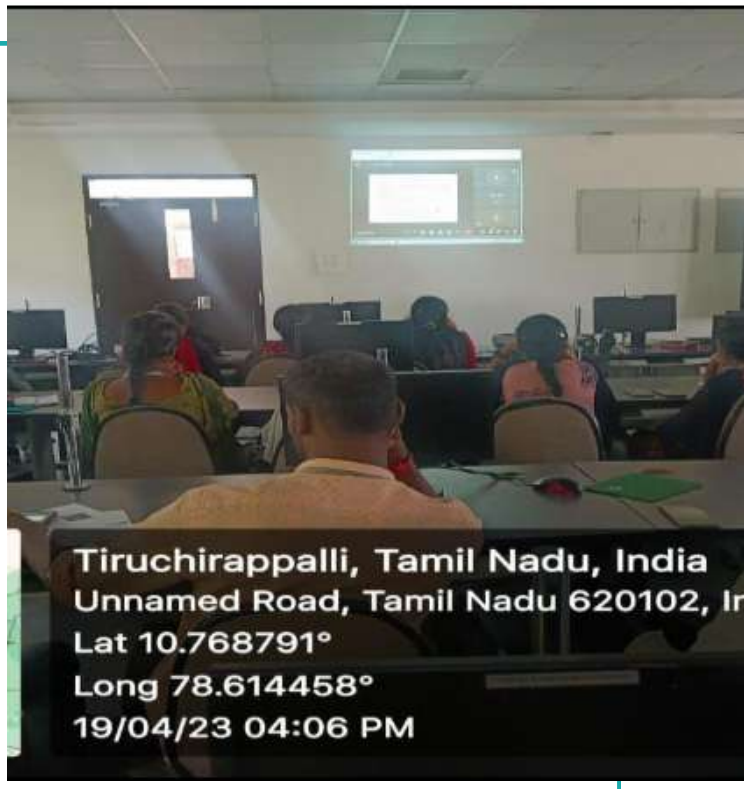
Department of Electronics and Communication Engineering organized a guest lecture "VLSI – Design for Testability" on 19th April, 2023. The guest lecture was given by a well-known expert in the field Dr.V.Nithishkumar, Associate Professor Grade I, Vellore Institute of Technology, Vellore.

The lecture covered various topics related to designing chips for easy testing, including Design for Test (DFT), Scan chains, Built-In Self-Test (BIST), and other related techniques.

The speaker then discussed various DFT techniques, starting with scan chains. The students learned a lot about different DFT techniques and the challenges associated with designing chips for testability.

The lecture was coordinated by **Mr. Sriram Sundar S, Assistant Professor I,** CARE College of Engineering.

EMI/EMC CONCEPTS



The department of ECE organized a Guest Lecture on "EMI/EMC concepts" on 19.04.2023 @ 3.30 PM and it was coordinated by Mrs. J.S. Jenin, AP/ECE. The chief guest Ms. V. Roja, PMRF Scholar, Department of ECE, NIT, Trichy provides the knowledge towards the application-oriented Transmission line concepts. Students gained more in-depth concepts of EMI\EMC Concepts in real-time transmission of different applications in the current scenario. She also explained her experience in Sameer, a Research center in which EMI/EMC Concepts are relevant to application-oriented designing concepts.

INTERNATIONAL CONFERENCE ON INFORMATION AND COMMUNICATION ENGINEERING (ICICE'23)

Our Department of ECE at CARE College of Engineering, Trichy successfully hosted the International Conference on Information and Communication Engineering (ICICE'23) online. The event commenced on 26/04/23 and 27/04/23. The conference started by 10:00 AM with an inauguration ceremony felicitated by the Principal Dr.S.Shanthi and Dean R&D Dr.A.Pasumpon Pandian. Our esteemed chief guest, Dr. Saravanan, Principal Scientist at Intel Corporation, USA, delivered an exceptional lecture on the Future of Computing, sharing his experiences and educating students on the latest trends.

ICICE'23 provided a multidisciplinary platform for scientists, researchers, and academicians to present and exchange ideas on the latest research works and results related to a wide range of topics.

Key experts provided an opportunity for bringing up innovative ideas.

The conference received a total of 93 papers from across India, with submissions from various states such as Kerala, Karnataka, Gujarat, and Maharashtra, among others. Out of these, only 40 papers were accepted and registered for both track 1 and track 2 of our conference, with an acceptance rate of less than 50%. The papers underwent a rigorous review process by subject experts from various reputed institutions and industries, as well as plagiarism and technical English correction tools. We followed the standards and regulations of reputable journal and conference publications.

We express our heartfelt appreciation and gratitude to the Management of CARE College of Engineering for their initiative in organizing this event.

GUEST LECTURE ON WAVEFORM GENERATOR AND SPECIAL FUNCTION ICS

It sounds like the Department of ECE organized a very informative guest lecture on Waveform Generator and Special Function ICs on April 27th, 2023. The lecture covered various topics related to waveform generation, different types of ICs and their applications in real-time scenarios. The lecture also gave importance to different types of amplifiers, filters and fiber optics.

The lecture seems to have been very useful for the students, as it provided them with a lot of valuable information and insights that they can use for their experiments and projects. It's great to hear that the students had the opportunity to have real-time conversations with the guest lecturer, as this would have given them a chance to clarify any doubts they had and gain a deeper understanding of the subject matter.

Overall, it sounds like the guest lecture was a great success and provided the students with a lot of motivation and inspiration to pursue their interests in this field.

14TH ANNUAL DAY

Dear Chief Guest's Mr.Mahesh Chandrasekaran (Erode) ,
We are honored to extend a warm welcome to you as our esteemed Chief Guest for the Annual Day Celebration at CARE College of Engineering. Your presence adds immense prestige and value to our event, and we are truly privileged to have you join us on this special occasion.

It is with great pleasure and enthusiasm that we bring to you the highlights of our much-anticipated Annual Day Celebration. This year's event was a grand success, filled with vibrant performances, academic achievements, and a sense of camaraderie that truly reflects the spirit of our CARE College of Engineering community.

SDG HACKATHON

Sustainable Development Goals (SDG) Hackathon is a one day Tech challenge organized by the CARE College of Engineering, Trichy in association with Native Lead Foundation, Hand in Hand Academy for Social Entrepreneurship, Veritas Finance and Sustainable Development Solutions Network on 27.05.2023.

The SDG Hackathon refers to a hackathon event focused on addressing the United Nations' Sustainable Development Goals (SDGs). The SDGs are a set of 17 global goals adopted by UN member states in 2015, aiming to address major social, economic, and environmental challenges by 2030. The 17 sustainable development goals (SDGs) to transform our world are given below,

- 1No Poverty
- Zero Hunger
- Good Health and Well-being
- Quality Education
- Gender Equality
- Clean Water and Sanitation
- Affordable and Clean Energy
- Decent Work and Economic Growth
- Industry, Innovation and Infrastructure
- Reduced Inequality
- Sustainable Cities and Communities
- Responsible Consumption and Production
- Climate Action
- Life Below Water
- Life on Land
- Peace and Justice Strong Institutions
- Partnerships to achieve the Goal

An SDG Hackathon brings together individuals or teams from various backgrounds, such as software development, design, business, and subject matter expertise, to create innovative solutions that contribute to achieving the SDGs. Participants work intensively over a set period, typically a few days, to develop prototypes, apps, or other tech-based solutions that address specific SDGs or related challenges. The hackathon format encourages collaboration, creativity, and problem-solving, with the goal of creating tangible solutions that can make a positive impact in areas such as poverty alleviation, education, healthcare, clean energy, sustainable cities, and more. Participants often have access to mentors, workshops, and resources to support their development process.

SDG Hackathons provide a platform for individuals and teams to showcase their skills, engage in social entrepreneurship, and contribute to global sustainable development efforts. These events promote cross-disciplinary collaboration and foster a sense of urgency and innovation in tackling complex societal issues.

collective intelligence, SDG Hackathons play a vital role in fostering creative solutions and driving progress towards

In the SDG Hackathon 15 teams from various colleges were participated. Cash prizes awarded to 3 teams by Hand in Hand Academy for Social Entrepreneurship

I Prize – INR 5000
II Prize – INR 3000
III Prize – INR 2000