SANTHIRAM ENGINEERING COLLEGE
(AUTONOMOUS)
Nandyal - 518501, Nandyal Dist., Andhra Pradesh
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
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SPECTRUM

Signals of Innovation, Waves of Excellence

ECE DEPARTMENT NEWSLETTER | VOLUME 3 | ISSUE 2 | ACADEMIC YEAR 2023-24

IGNITING IDEAS, EMPOWERING FUTURES.

Driving innovation in Electronics & Communication Engineering for a smarter, connected tomorrow.



TECHNOLOGY
Emerging Technologies

COMMUNICATION
Wireless & Networks

INNOVATION
Research & Projects

ACHIEVEMENT
Student Success

ECE DEPARTMENT NEWSLETTER

TECHNOLOGY • COMMUNICATION • INNOVATION • ACHIEVEMENT

IGNITING IDEAS, EMPOWERING FUTURES



SANTHIRAM ENGINEERING COLLEGE
(AUTONOMOUS)
NANDYAL, ANDHRA PRADESH
AY 2023-24 | OCTOBER - DECEMBER 2023

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING
Santhiram Engineering College (Autonomous), Nandyal

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ABOUT THE COLLEGE



Santhiram Engineering College (SREC), Nandyal, sponsored by M/s Sri Shirdi Sai Educational Academy, was established in 2007 under the able guidance of Dr. M. Santhiramudu, Chairman, with the noble motto "Education for Peace and Progress." The institution is autonomous from the academic year 2023–24 and is accredited by NAAC with Grade A (3.2/4.0) and by NBA for its B.Tech. programmes in ECE and CSE. Approved by AICTE, New Delhi, recognised by UGC under Sections 2(f) and 12(B), and permanently affiliated to JNTUA, Ananthapuramu, SREC is also a recognised research centre and spot evaluation centre of JNTUA. Spread across a serene 10.5-acre green campus, the college offers digitally equipped classrooms, state-of-the-art laboratories, quality research, publications, patents, funded projects, excellent placement opportunities, and secure hostel facilities for both boys and girls. With 19 years of academic excellence, University Gold Medals, State Prathibha Awards, and a wide range of undergraduate, postgraduate, MBA, and MCA programmes, SREC continues to nurture competent, innovative, and socially responsible professionals.

VISION

To become a nucleus for pursuing technical education and pool industrial research and developmental activities with social-conscious and global standards.

MISSION

To provide Advanced Educational Programs and prepare students to achieve success and take leading roles in their chosen fields of specialization by arising a self-sustained University.

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ABOUT DEPARTMENT



Anticipating the growing importance of electronics and wireless communication in modern society, the Department of Electronics and Communication Engineering was established in 2007 with a vision to impart quality technical education and nurture innovation among young minds. The department began with an initial intake of 60 students, which was increased to 90 in 2008 and further to 120 in 2009, reflecting the rising demand for skilled electronics and communication engineers. To meet the expanding needs of the industry and academia, the department introduced a Master of Technology (M.Tech) program in VLSI System Design in 2011 with an intake of 18 students, recognizing the immense potential in the area of Very-Large-Scale Integration (VLSI) design. In tune with the advancements in embedded technology and its applications, a new postgraduate program. The department's B.Tech-ECE program has been accredited by the National Board of Accreditation (NBA) for a period of three years, from the academic year 2023–24 to 2025–26, in recognition of its robust academic framework, quality teaching, and outcome-based education.

VISION

Emerge as a centre for quality education in Electronics & Communication Engineering to create competent professionals

MISSION

1. Offer quality programs in Electronics & Communication Engineering aimed at fulfilling the needs of society and industry.
2. Impart skills and develop scientific temper to solve complex technological problems of current times.
3. Nurture ethics, talent, and entrepreneurship to inculcate professional development of students.

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PROGRAMME OUTCOMES (POs) & PSOs

1. **PO1: Engineering Knowledge:** Apply knowledge of mathematics, science, engineering fundamentals, and ECE specialisation to solve complex engineering problems.
2. **PO2: Problem Analysis:** Identify, formulate, review research literature, and analyse complex engineering problems to reach appropriate conclusions.
3. **PO3: Design and Development of Solutions:** Design solutions for complex engineering problems and develop system components or processes that meet specified needs, considering public health, safety, culture, society, and the environment.
4. **PO4: Conduct Investigations:** Use research-based knowledge and methods, including experimentation, analysis, and interpretation of data, to obtain valid conclusions.
5. **PO5: Modern Tool Usage:** Create, select, and apply suitable techniques, resources, and modern engineering and IT tools for modelling, analysis, and solution of complex engineering problems.
6. **PO6: Engineer and Society:** Apply contextual knowledge to assess societal, health, safety, legal, and cultural issues related to professional engineering practice.
7. **PO7: Environment and Sustainability:** Understand the impact of engineering solutions in societal and environmental contexts and demonstrate awareness of sustainable development.
8. **PO8: Ethics:** Apply ethical principles and commit to professional ethics, responsibilities, and norms of engineering practice.
9. **PO9: Individual and Team Work:** Function effectively as an individual and as a member or leader in diverse and multidisciplinary teams.
10. **PO10: Communication:** Communicate effectively with the engineering community and society through reports, documentation, presentations, and clear technical communication.
11. **PO11: Project Management and Finance:** Demonstrate knowledge of engineering and management principles and apply them in individual and team work to manage projects effectively.
12. **PO12: Life-Long Learning:** Recognise the need for and engage in independent and life-long learning to adapt to technological changes.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

- **PSO1:** Apply the principles of electronic devices, circuits, embedded systems, VLSI, and communication engineering to design, analyse, and implement electronic systems.
- **PSO2:** Design and develop solutions in analogue and digital communication, wireless networks, signal processing, and related applications using modern tools.
- **PSO3:** *Develop innovative, sustainable, and industry-oriented solutions through research, teamwork, ethical practice, and continuous learning in emerging areas of Electronics and Communication Engineering.*

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MESSAGES

CHAIRMAN'S MESSAGE



It gives me immense pleasure to present SPECTRUM, the newsletter of the Department of Electronics and Communication Engineering. It reflects the academic achievements, innovative activities, research contributions, and creative spirit of our students and faculty members.

I appreciate the efforts of the Department of ECE in nurturing competent professionals through quality education, innovation, and value-based learning. I extend my best wishes to the editorial team, faculty members, and students for the continued success of SPECTRUM.

Chairman

MANAGING DIRECTOR'S MESSAGE



I am delighted to share my message for SPECTRUM, the newsletter of the Department of Electronics and Communication Engineering. This publication is a proud reflection of the department's commitment to academic excellence, innovation, research, and student development.

I encourage students to make the best use of the opportunities provided by the institution, strengthen their technical knowledge, and develop the skills needed to serve society with responsibility and confidence. I convey my best wishes to the faculty, students, and editorial team.

Managing Director

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MESSAGES

PRINCIPAL'S MESSAGE



It gives me immense pleasure to present SPECTRUM, the newsletter of the Department of Electronics and Communication Engineering. The newsletter reflects the academic achievements, innovative activities, research contributions, and creative spirit of our students and faculty members. I encourage students to pursue knowledge with curiosity, discipline, integrity, and a commitment to excellence. I appreciate the Department of ECE for nurturing competent professionals through quality education, innovation, and value-based learning. My best wishes to the editorial team, faculty members, and students for the continued success of SPECTRUM.

Principal

HoD'S MESSAGE



I am delighted to share my message for SPECTRUM, the newsletter of the Department of Electronics and Communication Engineering. This publication reflects our department's commitment to academic excellence, innovation, research, and student development. We aim to provide a strong learning environment that enables students to build sound technical knowledge, problem-solving ability, professional ethics, and confidence. I encourage every student to participate actively in academic, research, and co-curricular activities. My best wishes to all faculty members, students, and the editorial team.

Head of Department

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PROGRAMMES ORGANIZED

FACULTY DEVELOPMENT PROGRAMME



A one-week Faculty Development Programme on "Recent Trends in VLSI Technologies and Practical Approaches towards IP Using EDA Tools," in association with JNTUA, was conducted by the Department of ECE from 9–13 October 2023. Resource persons from reputed institutes and industries participated, and 30 faculty members attended the programme.

CAREER GUIDANCE PROGRAMMES







1. A webinar on "Recent Trends and Challenges in VLSI and Career Opportunities" was conducted on 5 October 2023. Mr. Sreenivasa Reddy, Founder and Director, VLSIGURU, acted as the resource person.
2. A one-day programme on career opportunities in VLSI design and manufacturing was conducted on 12 October 2023. A total of 85 students attended the programme.
3. A Career Guidance Programme on Embedded Systems by Vector India (Bangalore) was conducted on 5 December 2023. Mr. Mahesh, Senior Trainer, acted as the resource person. A total of 100 students attended the programme.

WORKSHOP PROGRAMME



A three-day workshop on "Innovation on Industrial IoT and Automation" was conducted by the Department of ECE from 23–25 November 2023. Mr. U. Kumar of Silicon Touch Technologies, Vijayawada, acted as the resource person. A total of 125 students were trained.

FACULTY ACHIEVEMENT



Dr. Y. Mallikarjuna Rao

Professor

Qualified UGC–NET 2023.

Congratulations on this academic achievement.

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FACULTY & STUDENT ACHIEVEMENTS

FACULTY ATTENDED PROGRAMMES

1. Dr. Sowmya Gali, Ms. V. Nagamani, Ms. Bikkili Alekya Himabindu and Ms. Nagella Jyosna attended the ATAL FDP on Artificial Intelligence during 16–21 October 2023, organised by Rajeev Gandhi Memorial College of Engineering and Technology, Nandyal.
2. Dr. G. Sowmya, Mr. N. Sreenivasa Rao, Mr. Syed Munawwar and Ms. Jayamangala Sristi attended the FDP on Recent Trends in VLSI Technologies and Practical Approaches towards IP Using EDA Tools during 9–13 October 2023, organised by Santhiram Engineering College, Nandyal.
3. Mr. Shankarna, Assistant Professor, attended National Education Policy-2020: Education for Sustainability during 30 October–4 November 2023, organised by Santhiram Engineering College, Nandyal.
4. Ms. Jayamangala Sristi, Assistant Professor, attended Machine Learning and Predictive Analysis using Python during 20–24 November 2023, organised by NITTTR, Chandigarh.
5. Ms. Jayamangala Sristi, Assistant Professor, attended the One Week FDP on RFIC Low-Power Analog Circuit Techniques during 26–30 December 2023, organised by CVR College of Engineering.
6. Ms. Sowmya Gali, Ms. Nagella Jyosna and Ms. P. Mary Swetha attended the 5-Day Online SPSS in Research programme during 26–30 December 2023, organised by the International Foundation for Research and Education.

FACULTY PUBLICATION

Dr. Y. Mallikarjuna Rao et al., "Deep Learning Based Classification of COVID-19 Severity Using Hierarchical Deep Maxout Model," Biomedical Signal Processing and Control, November 2023. DOI: 10.1016/j.bspc.2023.105653.

STUDENT JOURNALS / CONFERENCES

1. N. Vimala et al., "DLAU: A Scalable Deep Learning Accelerator Unit on FPGA," Advanced Engineering Science, Vol. 55, No. 2, pp. 92–106, November 2023.
2. T. Vani et al., "VLSI Design of a Novel Area-Efficient FIR Filter Design Using ROBA Multiplier," Advanced Engineering Science, Vol. 55, No. 2, pp. 107–128, November 2023.
3. P. Syed Anjum Taaslim et al., "Efficient Low Latency Signed Multipliers," Advanced Engineering Science, Vol. 55, No. 2, pp. 122–128, November 2023.
4. G. Jayalakshmi et al., "VERTIX 7 FPGA Implementation," Advanced Engineering Science, Vol. 55, No. 2, pp. 129–144, November 2023.
5. B. Ashok Kumar et al., "Reversal Logic," Advanced Engineering Science, Vol. 55, No. 2, pp. 129–147, November 2023.

STUDENT ACHIEVEMENTS

1. E. Yaswanth secured second place in the National-Level Technical Paper Symposium at Technobrain-2K23, held on 25 November 2023 at St. John's Engineering College, Yemmiganur.
2. K. Akhil secured second place in the National-Level Technical Paper Symposium at Technobrain-2K23, held on 25 November 2023 at St. John's College of Technology, Yemmiganur.
3. K. Akhil and P. Murthujavali participated in the workshop at IEEE Hyderabad Section Student Congress 2023, held on 25 November 2023.
4. P. Murthujavali participated in student activities at UMANG-2K23, held on 25 November 2023.
5. R. Harshitha secured first place in the Chess Tournament held on 27 October 2023 at KSRN Trophy-2K23.
6. 105 students completed Introduction to Internet of Things through NPTEL-SWAYAM; 24 completed Cyber Security and Privacy; 2 completed Digital Image Processing; 34 completed Fundamentals of Artificial Intelligence; 5 completed An Introduction to Machine Learning; and 1 completed Programming in Java.

OTHER DEPARTMENT ACTIVITIES

JNTUA FDP SUPPORT



The Department of ECE received ₹97,500 from JNTUA for conducting the Faculty Development Programme.

REGIONAL IIC MEET



ECE faculty members attended the Regional IIC Meet held in Hyderabad.

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ALUMNI ENGAGEMENT



DIGITAL LEARNING



STUDENT PARTICIPATION



STUDENT RECOGNITION



CELEBRATING ACHIEVEMENT

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