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

NAAC A GRADE

NBA NATIONAL BOARD OF ACCREDITATION

AICTE APPROVED | AFFILIATED TO JNTUA, ANANTAPURAMU

SPECTRUM

Signals of Innovation, Waves of Excellence

ECE DEPARTMENT NEWSLETTER | VOL. 2 | ISSUE 3 | AY 2022-23 | JAN-MAR 2023

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 2022-23 | JAN-MAR 2023

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Department of ECE

INNOVATE | CONNECT | TRANSFORM

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

www.srecnandyal.edu.in

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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

SANTHIRAM ENGINEERING COLLEGE
NANDYAL
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SPECTRUM

A DEPARTMENT NEWSLETTER

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PROGRAMS ORGANISED

1 IoT and its Applications

16 – 21 January 2023

Hands-on programme organised by ECE.
Resource person: Mr. Jackson, Technical Trainer and Developer.

2 Deep Learning

6 – 11 February 2023

One-week short-term training programme organised by ECE.
Resource person: Mr. Jackson.

3 SIGMA 2K23

3 – 4 March 2023

Flagship student technical symposium organised by the departments of SREC.

4 Project Expo

3 March 2023

Ms. V. Nagamani organised the ECE project expo for 28 students during SIGMA 2K23.

5 Robotics

13 – 18 March 2023

One-week short-term training programme.
Resource person: Mr. Jackson.

6 Digital Circuits Simulation Using LOGISIM

27 March – 3 April 2023

ECE add-on programme.
Resource persons: Dr. Y. Mallikarjuna Rao, Dr. Shivnath and Mr. N. Srinivasa Rao.
Continued into April.

FACULTY DEVELOPMENT AND PARTICIPATION

1. **Ms. B. Alekya Himabindu**
   NIPAM one-day awareness/training programme, 11 January 2023.
2. **Dr. G. Sowmya, Mr. M. Mahesh Kumar, Ms. V. Nagamani and Ms. S. Jayamangala**
   Two-day seminar on Quality Sustenance Initiatives with Digital Transformation and its Impact on Higher Educational Institutions in Light of NEP 2020, SREC, Nandyal.
   21 January 2023.
3. **Dr. G. Sowmya**
   Recent Advancements in Sustainable Energy Storage & Conversion, online national FDP, 23 – 27 January 2023.
   G. Pulla Reddy Engineering College, Kurnool.
4. **Mr. P. Surendra Babu**
   High-frequency Antennas for Real-time Applications (DHARA 2023), 14 – 18 March 2023.
   ECE, GMR Institute of Technology.
5. **Ms. B. Alekya Himabindu**
   Blockchain Technology FDP, 27 March – 2 April 2023.
   Make Skilled, Hyderabad.
6. **Ms. N. Jyothsna**
   Embedded Systems masterclass, 27 March – 27 April 2023.
   Pantech e-Learning Pvt. Ltd., Chennai.

NPTEL PROGRAMMES • CONTINUED INTO APRIL

1. **Mr. K. Vinod Kumar**
   Internet of Things, 2 February – 20 April 2023.
   IIT Kharagpur.
2. **Mr. M. Mahesh Kumar**
   Internet of Things, January – April 2023.
3. **Mr. S. Feroz Shah Ahmed**
   Optical Wireless Communications for Beyond 5G Networks and IoT, January – April 2023.
   NPTEL FDP certification reported.
4. **Mr. S. Munawwar**
   Introduction to Machine Learning, January – April 2023.

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FACULTY PUBLICATIONS

1 **Dr. Shivnath Choudari**
"An IoT-Enabled E-Nose for Remote Detection and Monitoring of Airborne Pollution Hazards Using LoRa Network Protocol"
Sensors | Vol. 23, Issue 10 | pp. 1–18
ISSN: 1424-8220 | March 2023

2 **Dr. Shivnath Choudari**
"Spatial Upscaling-Based Algorithm for Detection and Estimation of Hazardous Gases"
IEEE Access | Vol. 11 | pp. 17731–17738
ISSN: 2169-3536 | March 2023

STUDENT ACHIEVEMENTS

1 **B. Yashawini**
First Prize — Best Project Paper Presentation
PRADARSHAN 2023 | 25 February 2023
Department of ECE, VNITSW, Guntur

2 **M. Lakshmi Saraswathi**
First Prize — Best Project Paper Presentation
PRADARSHAN 2023 | 25 February 2023
Department of ECE, VNITSW, Guntur

3 **S. Safiya Thasleem**
First Prize — Project Expo Presentation
SIGMA 2023 | 3 March 2023
Department of ECE, Santhiram Engineering College, Nandyal

4 **N. Swetha**
First Prize — Best Project Expo Presentation
SIGMA 2023 | 3 March 2023
Department of ECE, Santhiram Engineering College, Nandyal

5 **J. Anuja**
First Prize — Technical Quiz
SIGMA 2023 | 3 March 2023
Department of ECE, Santhiram Engineering College, Nandyal

6 **Y. Sravani**
Third Prize — Paper Presentation
SIGMA 2023 | 3 March 2023
Department of ECE, Santhiram Engineering College, Nandyal

No dated faculty patent or student journal/conference entries were supplied for January–March 2023.

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DEPARTMENT GALLERY

SANTHIRAM ENGINEERING COLLEGE









