



SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

(Established under Section 3 of the UGC Act, 1956) | Re-accredited by NAAC with 'A++' grade | Awarded Category - I by UGC



Celebrating 50 Years of Excellence

Electronics and Telecommunication Engineering Department

August 2024 (AY2024-25)

Newsletter

Department Vision:

To emerge as a leading source for Electronics and Telecommunication engineering, fostering globally proficient engineers to meet the demands of evolving industry and society.

Department Mission:

- **M1:** Foster collaboration with industry to facilitate the acquisition of cutting-edge technologies and contribute to the generation of up-to-date knowledge, enhancing employability and sustainability.
- **M2:** Encourage innovation, research, and development, creating an environment conducive to higher education, entrepreneurship, and lifelong learning.
- **M3:** Cultivate leadership qualities infused with social and ethical values, providing a platform for their development.

Program Educational Objectives (PEOs):

- **PEO1:** Graduates will possess a strong foundation in science and engineering fundamentals, along with analytical skills to effectively solve real-world problems.
- **PEO2:** Graduates will gain technical proficiency in Electronics and Telecommunication fields and scale new heights in profession through lifelong learning.
- **PEO3:** Graduates will embrace professionalism, ethical conduct at all levels and constantly evolve in a multidisciplinary approach leading towards sustainability.
- **PEO4:** Graduates will leverage their engineering knowledge, effective communication skills, leadership qualities, and teamwork spirit to serve society and contribute positively to their community.

Student Participation:



Alankar Tripathi from the Batch 2022-26 participated in the DD_Robocon Bootcamp 2024 held on December 16-17, 2023 at Indian Institute of Technology, Delhi.



Mansi Kulkarni presented a research paper titled "Flight Price Prediction for Enhanced Recommendations via Machine Learning Web Application" in ICSCSS 2024.



Ayush Churi from the Batch 2021-25 presented a research paper titled "Stock Price Prediction using Deep Learning and Sentiment Analysis" in the INCOFT 2024.



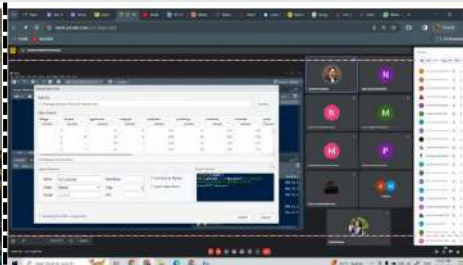
Bharti Pareek presented a research paper titled "Advanced Driver Assistance System (ADAS) Based on Sensor Fusion" in the 7th IET Smart Cities Symposium.

Guest Lectures:

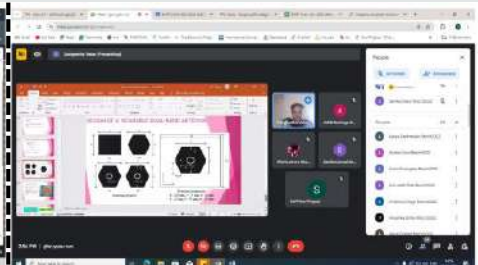
The Department of Electronics and Communication Engineering has organized a series of illuminating industry guest lectures, strategically designed to elevate the educational experience of our students.



Mr. Shidhar Dudam, CTO of Smart Logic Technologies Pvt Ltd, Pune, have delivered an intensive seminar on 'FPGA Architecture and FPGA Based Design' as part of the 'Digital Design with Verilog' course



Mr. Prashant Priyadarshi captivated the audience with an enlightening Guest Lecture on Introduction to Data Science. He explored foundational concepts, practical applications, and emerging trends.



Dr. V. Sangeetha, R&D Manager (Networking and Communications), presented an expert-talk on 'Advanced Antenna Design: Requirements, Specifications, and Advantages' as part of the Electromagnetic Field Theory course

Industrial Visits:

Industrial Visit to FLASH Electronics



Industrial Visit to RAPTECH Engineering Pvt. Ltd



Value added course:

The value-added course titled "Foundations in Electronics Engineering" was conducted for the batch of 2023-27, spanning from July 4-9 and continuing on July 13, 2024. This course was meticulously designed to impart a comprehensive understanding of foundational principles and practical applications in electronics engineering. It aimed to equip students with essential knowledge in areas such as circuit theory, digital electronics, and semiconductor devices, crucial for their academic and professional development. Concurrently, the course "Recent Trends in Industrial Instrumentation, IoT and 5G" catered to the batch of 2022-26 during the same dates. It focused on cutting-edge developments in industrial instrumentation techniques, IoT applications in various industries, and the transformative impact of 5G technology. Participants gained insights into real-world applications, hands-on experience with advanced instrumentation tools, and an understanding of the integration of IoT and 5G in modern industrial settings, ensuring they were well-prepared for the evolving technological landscape.

Student Development Program (January 2024):

Students have participated in training sessions focused hands-on training on Network Theorems, Rectifiers, Motors, Transformers, Process Control with PID, SCADA etc. at Bajaj Labs conducted by Dr. Chandan Choubey and Dr. Marshiana. They also studied MATLAB basics with hands-on sessions along with 5G and its Use-cases under guidance of Dr. Anurag Mahajan and Dr. Prabhat Thakur respectively. They also undergone through industry training by Mr. Abhijeet Deogirikar, Coopercloud Pvt. Ltd., Pune on topic Embedded Fundamentals using IOT Platform.



Tinkering in E&TC Department

In our Electronics and Telecommunication Engineering Department, we have an exciting place called the Tinker Lab. It's like a playground for trying out new ideas and cool things. Here, you can use the latest tools and gadgets to turn your creative thoughts into real stuff. It's a place where you can learn by doing and make your own projects. With helpful teachers around, you can have fun while learning and making cool things in the world of electronics and communication.



Ham Radio workshop

The Department of Electronics and Tele-Communication SIT conducted learning at Amateur / Ham Radio workshop for the second year E&TC students. A glimpse of the mix of expressions and reactions students had during the hands-on experience of ham radio demonstration and installing an antenna. We are thankful to the resource persons Sooraj Shenoy, Kshitij Mathur Prateek Jha for conducting this workshop.



IEEE Activities

STB13901 (July 23 to June 24) At a glance

- Organized 10+ events under the SIT Student Branch.
- 11 (Students and Faculty) Research articles were published at an Overseas Conference (Free of Cost) (7th SCS, University Of Bahrain)
- Strong IEEE membership base along with 80+ senior Members and 100+ Student Members with various societal involvement.
- Extended our services to fold scope project; through this project, we visited various schools in rural areas and trained students and teachers [A workshop to encourage Health, Hygiene, and Technology through FOLDSCOPE to School Students and Teachers]
- Offered 28 Industrial internships to our SIT Students through the IEEE Bombay Section.
- Received Best Student Branch Award 2023
- Total No. of FOLD Scope Workshops Across India (23-24) : 25



Research publications:

- P. Warriar, P. Shah, R. Sekhar. A Comparative performance evaluation of a complex-order PI controller for DC–DC converters. *Results in Control and Optimization*, 15((2024) 100414.
- P. Shah, R. Sekhar, D. Sharma, H. R. Penubadi. Fractional order control: A bibliometric analysis (2000–2022). *Results in Control and Optimization*, 14((2024) 100366.
- R. Sekhar, H. R. Abdulshaheed, H. R. Penubadi, J. F. Tawfeq, A. S. Abdulbaq, A. D. Radhi, P. Shah, H. M. Gheni, R. Khatwani, N. Nanda, P. K. Mitra, S. Aanand, Y. Niu. Sustainable optimizing WMN performance through meta-heuristic TDMA link scheduling and routing. *Heritage and Sustainable Development*, 6(1) (2024) 111-126.
- M. V. V. P. Kantipudi, N. S. P. Kumar, R. Aluvalu, S. Selvarajan, K. Kotecha. An improved GBSO-TAENN-based EEG signal classification model for epileptic seizure detection. *Scientific Reports*, 14(1) (2024) 843.
- V. Agrawal, J. Jagtap, M. P. Kantipudi. An Overview of Hand-Drawn Diagram Recognition Methods and Applications. *IEEE Access*, 12((2024) 19739-19751.
- V. Agrawal, J. Jagtap, M. V. V. P. Kantipudi. Exploration of advancements in handwritten document recognition techniques. *Intelligent Systems with Applications*, 22((2024) 200358.
- S. Kassa, J. C. Das, V. Lamba, D. De, B. Debnath, S. Mallik, M. A. Shah. Novel design of cryptographic architecture of nanorouter using quantum-dot cellular automata nanotechnology. *Scientific Reports*, 14(1) (2024) 10532.
- S. Kassa, S.-S. Ahmadpour, V. Lamba, N. Kumar Misra, N. Jafari Navimipour, K. Kotecha. A cost- and energy-efficient SRAM design based on a new 5 i-p majority gate in QCA nanotechnology. *Materials Science and Engineering: B*, 302((2024) 117249.
- S. V. Deshpande, R. Harikrishnan, J. Sampe, A. Patwa. An algorithm to create model file for Partially Observable Markov Decision Process for mobile robot path planning. *MethodsX*, 12((2024) 102552.
- K. Shejul, and R. Harikrishnan. Energy consumption optimization of chiller plants with the genetic algorithm based GWO and JAYA algorithm in the dynamic pricing demand response. *Results in Engineering*, 22((2024) 102193.
- Kumar S, Dixit AS, Choubey CK. Design of antipodal vivaldi antenna with patch and corrugations for 5G applications. *MethodsX*. 2024 Apr 27;12:102727. doi: 10.1016/j.mex.2024.
- R. Malekar, S. Kingsly, S. Subbaraj, G. Sachin, H. R. Knowledge-based heuristic optimisation technique for mm-wave 5G antenna. *International Journal of Electronics*, 1-11.
- H. Raut, S. Kingsly, S. Subbaraj, R. Malekar. EBG-based slotted T-shaped antenna for sub-6 GHz 5G application. *International Journal of Electronics Letters*, 1-13.
- C. K. Choubey, A. Pathak, M. K. Tiwari. A method to design a fast chaotic oscillator using CCTA. *MethodsX*, 13((2024) 102801.
- A. Jain, A. Kumar, N. Gupta, K. Kumar, A. K. Goyal, Y. G. Wang. Synergetic improvement in energy storage performance and dielectric stability in lead-free 0.75BaTi0.85Zr0.15O3–0.25Sr0.7La0.2TiO3 relaxor ceramic. *Journal of Materials Science: Materials in Electronics*, 35(19) (2024) 1298.
- N. Gupta, R. Gupta, A. Jain, R. Gupta, B. Choudhary, K. Kumar, A. K. Goyal, Y. Massoud, A. Kumar. Lead-free perovskite CsNaGaBr n-i-p solar cell for higher power conversion efficiency to improved energy storage performance. *Energy Storage*, 6(4) (2024) e665.
- A. Gautam, P. Thakur, G. Singh. Advanced channel coding schemes for B5G/6G networks: State-of-the-art analysis, research challenges and future directions. *International Journal of Communication Systems*, n/a(n/a) e5855.
- P. Mishra, P. Thakur, G. Singh, Performance Analysis of Cellular Internet of Things Using Cognitive Radio. In *Modern Approaches in IoT and Machine Learning for Cyber Security: Latest Trends in AI*, Gunjan, V. K., et al., (eds.) Springer International Publishing, Cham, (2024), pp 185-199.

Placement details:

We are pleased to share the latest placement statistics from our department, reflecting the achievements of our students in securing promising career opportunities.

The packages are equally impressive, with an average placement package of 7.93 LPA. The diversity in offers is apparent from the range of packages, with the maximum offer being 26.19 LPA and the minimum at 4.75 LPA. The median package stands at 6.50 LPA, showcasing a balanced distribution of opportunities offered by the department.

Furthermore, our department has secured 14 core placements, suggesting our commitment to enhancing careers aligned with our core disciplines. These placements shows our students' preparedness and the department's dedication to nurturing talent in specialized fields.

Students corner

I am deeply grateful for the numerous opportunities provided to me by SIT. The enriching 6-month internship, in particular, has been instrumental in broadening my horizons and offering invaluable insights into the professional world. The campus exudes a vibrant and stimulating atmosphere. The university's successes are rightfully attributed to dedicated instructors whose exemplary teaching methods and practical wisdom have significantly boosted my confidence for career advancement. The university's commendable open-door policy, allowing questions at any time of day, has greatly improved my understanding of the subject matter and honed my logical thinking. The memories created during this incredible intellectual journey are unforgettable, and I constantly yearn to relive the wonderful years of my SIT ENTC experience.

Aditya Prakash, E&TC, 2020-24 Batch