



Sanjivani Pratisthan Mumbai Sanchalit

**S.P.I.T POLYTECHNIC**

**Electronics & Telecommunication**

**Engg. Department**

**[www.spitpolytechnic.com](http://www.spitpolytechnic.com)**



# TECHNOWAVE

**OUR DEPARTMENT'S GROWTH  
&  
SUCCESS IN 2024-25**

As we enter the new year, we are  thrilled to announce that our department has experienced significant growth and success in 2024-2025.

Our hardworking team has successfully implemented new strategies and projects, resulting in an increase in students confidence & performance.

# **SANJIVANI PRATISTHAN INSTITUTE OF TECHNOLOGY DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING**

## **Our Vision**

Become a

"Centre Of Excellence in Electronics & Telecommunication Engineering to Facilitate Professional Education & Research keeping Higher Level of Value Systems"

## **Our Mission**

"Impart Quality & Value based Education to Raise Satisfaction of all Industries".



## **PROGRAM EDUCATIONAL OBJECTIVES (PEOS)**

**PEO1:** Work as an Electronics and Communication professional in the area of Software Development, Networking, Electronic and Communication Industries by applying Fundamental and Practical knowledge.

**PEO2:** Engage in higher studies or Entrepreneurship by adopting emerging technology and trending scientific knowledge.

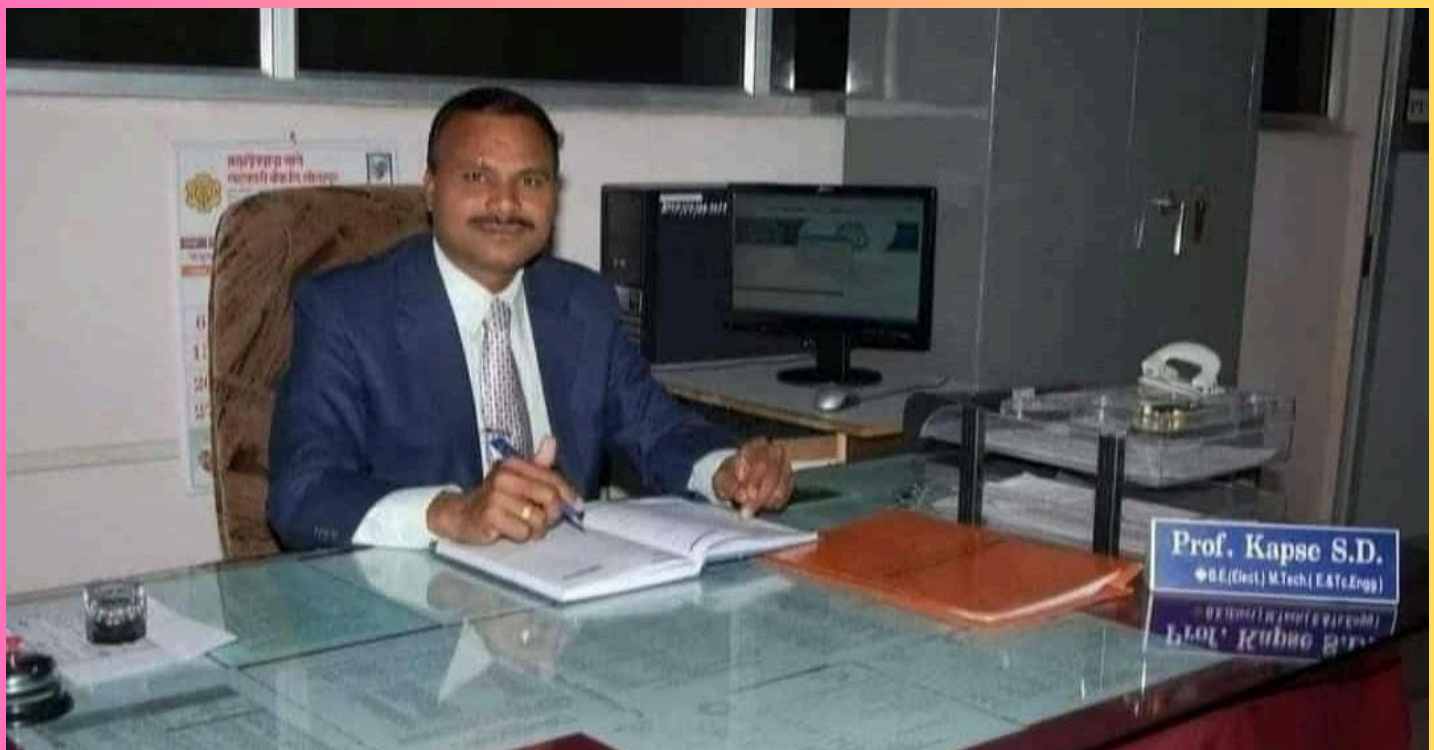
**PEO3:** Use Acquired knowledge of Electronics and Communication Engineering to provide Real-Life solutions to Technical problems with Social, Environmental and Ethical Responsibility.

## **PROGRAM SPECIFIC OUTCOMES (PSOS)**

**PSO-1:** The ability to Create, Design and Test specifies Electronic & Telecommunication systems for Analog and Digital Communication, Mechatronics, Control System as per industry requirements.

**PSO-2:** The ability to Formulate, Solves, Design and Implement the Realistic problems of society relevance to VLSI and embedded industries.

**PSO-3:** Diploma Students will be able to Formulate, solve and adopt rapid changes in tools and technology with appropriate consideration of Social and Environmental issues.



## **MESSAGE FROM PRINCIPAL**

Dear students, Faculty and Readers, It is with great pride and enthusiasm that I introduce "TECHNOWAVE" . The official technical magazine of E&TC Department, S.P.I.T Polytechnic .This magazine is a Testament to the Innovation, and Continuous learning in ever-evolving field of E&TC Engineering .This edition highlights cutting-edges, research, students projects, faculty contributions and industry insights, offering valuable perspective on the future of engineering.

My sincere appreciation to E&TC Engineering Department, faculty, and editorial team for their dedication in bringing this initiative to life. I look forward to seeing "TECHNOWAVE" grow as a beacon of knowledge and inspiration for entire engineering community.

Best wishes!

**Prof. Mr. Sunildatta Deoram Kapse**  
**Principal**  
**(S.P.I.T. Polytechnic , Kurund)**





**Prof. Mr. K.G. Kokane**  
**H.O.D**  
( E&TC Engg. Dept.  
S.P.I.T Polytechnic Kurund)

## Message from Head Of Department

Dear Students, Faculty and readers, It gives me immense pleasure to present "TECHNNOWAVE", The official technical magazine of the "Electronics & Telecommunication" department, S.P.I.T Polytechnic. The department often collaborates with industries, governments, and academic Institutions on research in areas such as Wireless Communication standards, Data compression techniques, and the Development of new hardware.

It blends the worlds of electronics, communication, and innovation and its influence continues to shape the future of both industries and societies globally. As technology advances, this field will likely remain central to the development of new, efficient, and smarter communication systems..

A heartfelt appreciation to the editorial team, faculty, and students who have worked tersely to bring this magazine to life. may TECHNOWAVE continuous to ignite passion, innovation, and excellence in our E&TC Engineering.

## Message from Editor

We delve into the latest advancements in electronics and telecommunication, highlighting the cutting-edge technologies that are shaping our digital future. From 5G and IoT to innovations in signal processing, We aim to bring you insightful articles, expert opinions, and in-depth analyses.

Stay tuned as we continue to explore the world of technology, where innovation never stops!

Best regards,

**Prof. Miss. S.A. Gaikwad**  
(Lecturer in E&TC Engg. Dept.)







**Prof. Miss. A.B. Pathare**  
(Lecturer in E&TC Engg. Dept.)

My views are In electronics, practical skills are as important as theoretical knowledge. I strongly emphasize hands-on learning through lab work and real-world projects.

This helps students understand how concepts are applied in real scenarios and prepares them for industry challenges.

According to my opinion E&TC Engineering field is constantly evolving with the introduction of new technologies like 5G, IoT, and artificial intelligence, students have the opportunity to work with the latest tools and technologies. This constant change makes the department an exciting place to teach, as new trends and innovations keep the curriculum fresh and relevant.



**Prof. Miss. A.G. Salve**  
(Lecturer in E&TC Engg. Dept.)

Here are some common views and perspectives shared by students regarding the department



Myself Naravade Vinay Balu. I am studying in Electronics & Telecommunication Department in our college. My experience in our college in all years is very good.

The staff of our department is very supportive. They always guide us in each & every activity. They always solve our problems any time. Our college provide all new & updated facilities to us

Different types of reference books, magazines, other books are available in our library .

I thankful to our principal and all faculty of our college.

**Mr. Vinay Naravade**



**"Innovision"** State Level Technical Event on  
7th March 2K25  
TYEJ students got 3rd prize in  
Project Competition

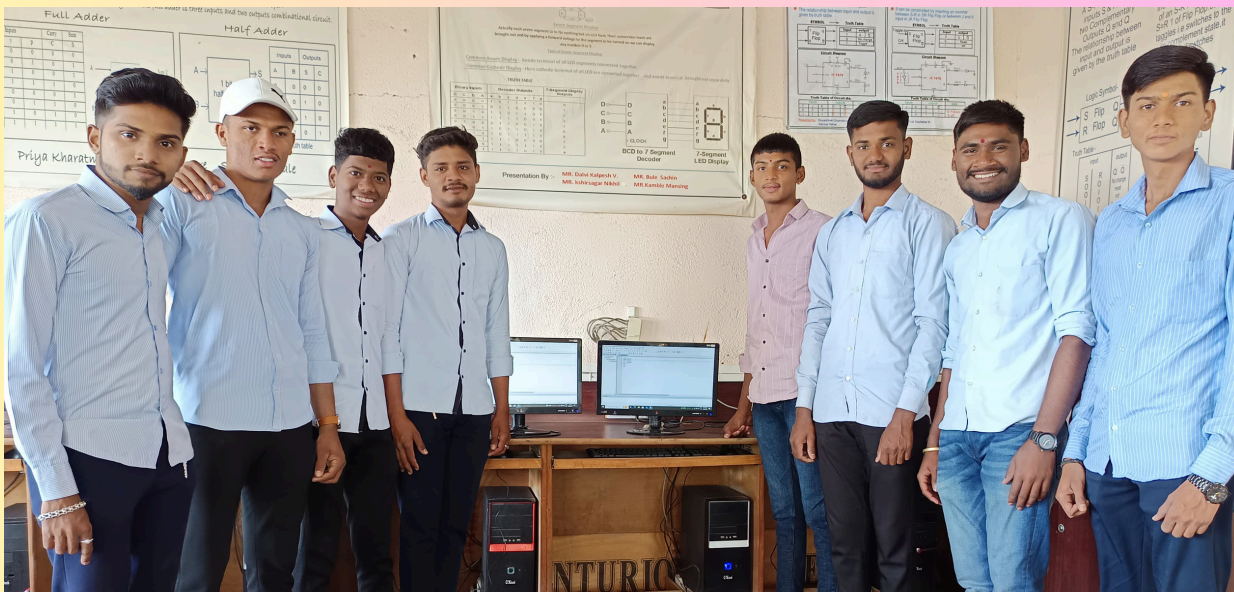




**FYEJ**



**SYEJ**



**TYEJ**

## Students of E&TC Engg. Department

Many students feel supported by faculty members who are passionate about the subject and willing to help them overcome academic challenges, guide them through projects, and provide career advice.





**Conducting Guest Lecture on topic  
"Internet of things by Engineering Funda "  
For E&TC Engineering Students on 27th January 2025.**





Conducting one week workshop on topic **"Technical Skill Development Program for faculty & students"** to E&TC engineering department students from 28th January 2025 to 1st February 2025.



**Workshop Conducted by Prof. Mr. Kulkarni. He have 37 years work experience regarding electronics field.**

**Also he have own manufacturing company which name is "Supronics Servicing center, Loni "**





**Social Activities done by E&TC Engineering department Students, they are presented different plants to the department.**





E&TC Engineering department's students participated in **"Zonal IDESSA Sports"**.  
Team of S.P.I.T. Polytechnic Students being a Winner in **"Carrom Event"**.





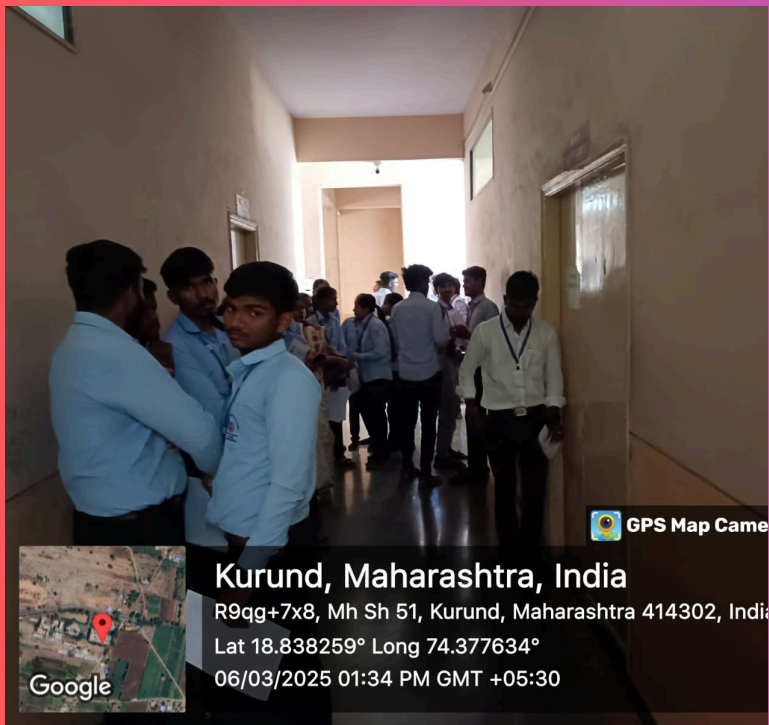
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## Industrial Visit

**E&TC Engineering department organized an industrial visit to "Kanhaiya Milk Processing Unit, Nighoj" on 10th March 2025**





## Placement Drive

**S.P.I.T Polytechnic College, Kurund conducted Placement drive on 6th March 2025.**





## Chloride Metal Pvt. Ltd.

1. Kale Abhay Dattatray
2. Naravade Vinay Balu
3. Kale Nikhil Rajendra
4. Midgule Hanumant Shashikant
5. Ghegade Sumit Balasaheb
6. Karhe Soham Gujaba
7. Vaidya Pratiksha Ganesh



## John Deere

1. Naykodi Shivam Santosh
2. Auti Dipak Subhash
3. Gavali Satwik Shyam
4. Mallav Tushar Anand
5. Jadhav Aditya Manoj
6. Padale Akshay Sampat
7. Nawale Shreyash Arun

**TYEJ Students selected in drive  
2024-2025**



Certificate no: UC-589a720e-d6f1-4432-af2e-d9dfc459e27e  
Certificate url: ude.my/UC-589a720e-d6f1-4432-af2e-d9dfc459e27e  
Reference Number: 0004

CERTIFICATE OF COMPLETION

# Arduino Uno 101

Instructors **Vaibhav Jain**

**Satvik Gavali**

Date **March 19, 2025**  
Length **3.5 total hours**



Certificate no: UC-1179e425-b140-4dcb-8a4f-4602ca871db6  
Certificate url: ude.my/UC-1179e425-b140-4dcb-8a4f-4602ca871db6  
Reference Number: 0004

CERTIFICATE OF COMPLETION

# Crash Course Electronics and PCB Design

Instructors **Andre LaMothe**

**Pratiksha Vaidhy**

Date **March 17, 2025**  
Length **112 total hours**

## MOOCS Course Certification

Through platform like NPTEL, Courses, udemy and edx students explored courses. These certification demonstrate their commitment to continuous learning etc.

# Night Vision Security Patrolling Robot with Sound Sensing

Akshay Padale<sup>1</sup>, Abhay Jadhav<sup>2</sup>, Aditya Jadhav<sup>3</sup>, Prof. Miss. Gaikwad S. A<sup>4</sup>

Students, Department of E & T C<sup>1,2,3</sup>

Lecturer, Department of E & T C<sup>4</sup>

S.P.I.T Polytechnic, Aahilyanagar, India

**Abstract:** This project presents a Raspberry Pi-based automated system designed to integrate night vision and audio sensing capabilities for versatile applications such as surveillance and robotics. The system employs a night vision camera for visual data acquisition and a microphone for sound sensing, enabling real-time monitoring and intelligent responses to environmental stimuli. The Raspberry Pi serves as the central processing unit, seamlessly interfacing with the camera, microphone, and motor driver. The motor driver controls DC motors with specifications of 12V and 30 RPM, facilitating precise mechanical movements required for system operation. Powered by an efficient power supply, the system ensures consistent functionality even in resource-constrained environments. The modular design allows adaptability for a wide range of applications, including home security, autonomous robotics, and remote surveillance in low-light conditions. With the integration of a motor driver, the system enables automated movements, making it suitable for mobile applications such as patrolling robots or automated guided vehicles (AGVs). This project emphasizes the practicality and scalability of utilizing Raspberry Pi for cost-effective and efficient solutions in fields requiring simultaneous video and audio processing. Future enhancements could include adding artificial intelligence (AI) for object and sound recognition, wireless connectivity for remote monitoring, and advanced motor controls for more complex operations. The proposed system is a promising step toward accessible and adaptable technologies that combine vision, sound, and mobility in a compact and easy-to-deploy platform. This work contributes to the growing field of IoT-enabled smart systems and robotics by demonstrating an efficient multi-functional solution.

**Keywords:** Camera, DC motor, Raspberry Pi, AI

## I. INTRODUCTION

With the growing advancements in technology, the demand for automated systems that integrate multiple sensory



Third year E&TC students are published their final year project on  
**"Night Vision Security Patrolling Robot with Sound Sensing paper"**  
in IJARSCT, VOLUME 5, ISSUE 2, ISSN NO 2581-9429 .



