

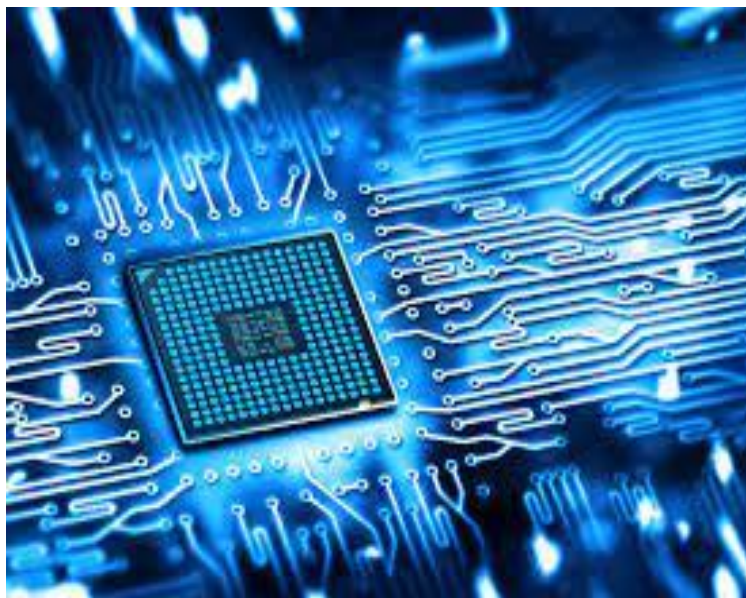
Pimpri Chinchwad Education Society's

**Pimpri Chinchwad College of Engineering and
Research, Ravet, Pune**

Department of Electronics & Telecommunication

Electronica – 2025

A.Y. 2025-26 (Sem-I)





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Electronica – 2025-26

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Chief Editor: Dr. Santosh Randive
(HOD E&TC Department)

Editors: Mrs. Smita Sunil Kadam
(Assistant Professor E&TC Department)

Student Members: Ms. Shreya Kadam
Ms. Utkarsha Wagh
Ms. Divya Mahajan

Department at a Glance

Department of Electronics & Telecommunication

About Department

The Bachelor of Engineering Program in Electronics and Telecommunication has commenced from the academic year 2014-15. The current student intake capacity is 60. The department is consisting of 03 class rooms and 09 well-equipped laboratories in the department. The Electronics and Telecommunication department is having online access to top journals through J-GATE. The department is having latest software's needed as per the academic curriculum. One practical batch is limited to 15 students and students are encouraged to perform practical individually. For each experiment a group of maximum 02 students performs the practical.

Vision of the Department:- To be a globally recognized center of excellence in Electronics and Telecommunication Engineering through quality education, innovation, and research, fostering professionals who contribute ethically and effectively to society and industry.

Mission of the department-

Mission 1: To impart cutting-edge knowledge and practical skills in Electronics and Telecommunication Engineering through innovative and experiential learning to enhance employability and lifelong learning.

Mission 2: To foster research, innovation, and collaboration with industry and academia at national and international levels for technological advancement and societal benefit.

Mission 3: To cultivate ethical values, leadership qualities, and a sense of social and environmental responsibility among students for holistic professional development.

Message from HOD's Desk

Prof. Dr. Santosh Randive



Dear All,

Greetings for the E&TC department....

The Department of Electronics & Telecommunication at Pimpri Chinchwad College of Engineering & Research, Ravet, Pune is located on the fourth floor. Our core objective is to solve critical challenges faced by industry, society, and academia. We have 9 well-equipped labs — 4 software and 5 hardware — covering Signal Processing, Power Electronics, Antenna & Wave Propagation, Digital Communication, and Embedded Systems. All labs have the necessary infrastructure and instruments for hands-on learning. Our faculty team brings diverse expertise across Electronics, Communication, Signal Processing, VLSI, Embedded Systems, and Wireless Sensor Networks. We focus on quality teaching through innovative methods, along with soft-skill training for students. For students who need extra academic support, we provide personalized counseling and remedial classes.

Magazine coordinator



Assistant Prof. Smita Kadam
(Faculty coordinator)



Ms. Shreya Rajkumar Kadam
(Student Coordinator)



Ms. Utkarsha Milind Wagh
(Student Coordinator)



Ms. Divya Mahajan
(Student Coordinator)

Faculty List

Sr. No.	Name of Faculty	Specialization	Designation
1	Dr.Rahul Ganpat Mapari	PhD (Electronics & Telecommunication)	Deputy Director
2	Dr. Santosh Nagnath Randive	M.Tech (Electronics)	Associate Professor &HOD
3	Mrs. Vijayalaxmi Sandeep Kumbhar	ME (Electronics & Telecommunication	Assistant Professor
4	Mrs. Maithili Shailesh Andhare	ME (Electronics)	Assistant Professor
5	Dr. Kiran Malhari Napte	ME (Electronics & Telecommunication)	Associate Professor
6	Mrs. Arti Avinash Tekade	ME (Electronics)	Assistant Professor
7	Dr. Rupali Ramdas Kawade	PhD (Electronics & Telecommunication)	Associate Professor
8	Dr. Dipali Nilesh Dhake	PhD (Biomedical & Signal Processing)	Associate Professor
9	Dr. Kishore B Bhangale	PhD (Affective Computing)	Associate Professor
10	Dr. Priti Rajput	PhD (Electronics & Telecommunication)	Associate Professor
11	Dr. Dipali K.Shende	PhD (Electronics & Telecommunication)	Assistant Professor
12	Mrs. Vijaya A. Yaduvanshi	PhD (Electronics & Telecommunication)	Assistant Professor
13	Mrs. Smita Sunil Kadam	ME(Electronics & Telecommunication)	Assistant Professor
14	Mrs. Sneha Pramod Mali	ME(Electrical Power System)	Assistant Professor

Supporting Staff

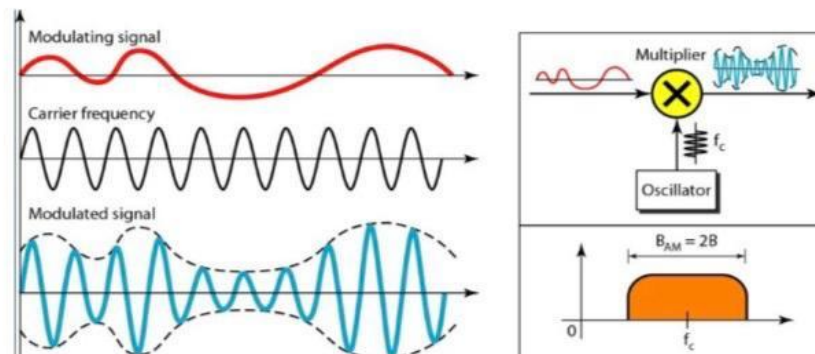
Sr. No.	Name of Faculty	Specialization	Designation
1	Mr. K. D. Bhalekar	Diploma (E&TC)	Lab Assistant
2	Mrs. S. B. Gholap	BE (E&TC)	Lab Assistant
3	Mrs. B. L. Gawali	Diploma (E&TC)	Lab Assistant
4	Mr. M. S. Garade	I.T.I (Electrician)	Peon

Technical Article

Introduction to Modulation Techniques: Types and why it is important?

Introduction to Modulation Techniques

Modulation is a fundamental concept in communication systems that enables the efficient transmission of information over long distances. In simple terms, modulation is the process of modifying a high-frequency carrier signal in accordance with a low-frequency message (information) signal such as voice, audio, or data. In its original form, a message signal cannot travel far due to its low frequency and susceptibility to noise and interference. To overcome this limitation, the message signal is superimposed onto a carrier wave through modulation. This allows the signal to be transmitted efficiently through various media like air, cables, or optical fibers. There are different types of modulation techniques, broadly classified into analog modulation (such as Amplitude Modulation, Frequency Modulation, and Phase Modulation) and digital modulation (such as ASK, FSK, PSK, and QAM). Each technique has its own advantages and is used based on the requirements of the communication system.



Modulation Techniques in Communication Systems:

An Overview Modern communication systems rely heavily on modulation techniques to efficiently transmit information over long distances. Whether it's radio broadcasting, mobile communication, or satellite transmission, modulation plays a crucial role in ensuring signals are transmitted clearly and reliably.

What is Modulation?

Modulation is the process of modifying a carrier signal (usually a high-frequency wave) in accordance with the information signal (message signal). The carrier signal by itself does not contain useful information, but when altered using modulation, it can carry data such as voice, video, or digital information.

The main purpose of modulation is:

- To enable long-distance communication
- To reduce signal interference
- To allow multiple signals to share the same transmission medium

Types of Modulation:

Modulation techniques are broadly classified into analog modulation and digital modulation.

1. Analog Modulation

In analog modulation, the carrier signal is varied continuously based on the message signal.

- a) Amplitude Modulation (AM)
- b) Frequency Modulation (FM)
- c) Phase Modulation (PM)

2. Digital Modulation

Digital modulation involves transmitting digital data using carrier signals.

- a) Amplitude Shift Keying (ASK)
- b) Frequency Shift Keying (FSK)
- C) Phase Shift Keying (PSK)
- d) Quadrature Amplitude Modulation (QAM)

Why Modulation is Important

Without modulation, transmitting signals directly would face several challenges:

- Large antenna size would be required
- Signals would suffer from interference
- Transmission range would be very limited

Divya Mahajan
Student Coordinator-E&TC Dept.

SAE AeroTHON 2025

Special Award for obstacle navigation course and fragile payload delivery in SAE AeroTHON 2025



Departmental Activities (25-26)

Innovations and MATLAB Solutions:-

A one-week International Level Faculty Development Program (FDP) on AI Innovations and MATLAB Solutions was organized by the Department of Electronics and Telecommunication Engineering, Pimpri Chinchwad College of Engineering and Research, Ravet, Pune, in collaboration with DesignTech Systems and MathWorks India, with technical sponsorship from IETE Pune Section. The program was conducted online through Microsoft Teams from 23rd September to 28th September 2025 for TE and BE (E&TC) students. The FDP aimed to introduce participants to recent trends in Artificial Intelligence and practical applications of MATLAB, provide hands-on experience in model building, data processing and analysis, develop problem-solving skills, and encourage the integration of AI and MATLAB tools into academics and research.

Resource persons from DesignTech Systems Pvt. Ltd. and MathWorks India guided the participants through expert sessions and practical learning activities. The event was coordinated by Dr. Dipali Shende along with the IETE student branch members and the E&TC department team. The FDP successfully enhanced participants' technical knowledge and exposure to AI-driven solutions.



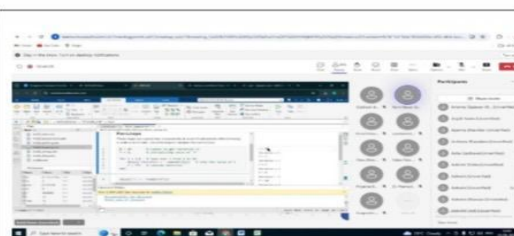
IETE PCCOER Team



Chief Guest- Hon. Pratap Gawande



Secretary, IETE Pune Section



Guest of Honor:- Mahmooduz Zafar[Design Tech,Delhi]



**Dr. Dipali Shende
FDP Coordinator and
In charge IETE PCCOER Team**



Drone-hands on Workshop:- A Drone Hands-on Workshop was organized by the Department of Electronics and Telecommunication Engineering at Pimpri Chinchwad College of Engineering and Research, Ravet, Pune on 11th August 2025 for Second Year (SE) E&TC students. The workshop was conducted at Class 415, Lab 424, and the college campus. The event aimed to provide students with practical exposure to drone technology, its components, working principles, and real-world applications. The workshop was conducted by Team ValorX (Drone Club) members along with SAE members, who guided students through theoretical concepts as well as hands-on demonstrations of drone assembly, operation, and control.

The workshop began with an introduction to drone technology, covering topics such as types of drones, components of drones (motors, propellers, flight controllers, sensors, and batteries), aerodynamics, and basic flight control mechanisms. Participants were also introduced to drone safety regulations and operating procedures.

The workshop was coordinated by Mrs. D. N. Dhake, Dr. Dipali Shende, IETE student branch members, and the E&TC department team. Through interactive sessions and practical activities, students gained knowledge about drone systems, flight mechanisms, and emerging opportunities in unmanned aerial technology. The event successfully enhanced technical awareness and encouraged innovation among participants.



Engineers Day Celebration under

Electronics & Telecommunication Engg. Student's Association (ETeSA)

Engineers' Day is celebrated on September 15th in honor of Bharat Ratna Sir Mokshagundam Visvesvaraya and to inspire students to explore emerging fields in engineering under the Guidance of Dr.V.A.Yaduvanshi, ETeSA Co-coordinator, Dept. of E&TC. It has provided insights into the field of RF Engineering and the career opportunities it offers. Event Includes Felicitation of Ex-ETeSA student members for their valuable contribution and achievements, Felicitation of the ValoreX team for their outstanding performance and representation and Felicitation of Toppers of the Academic Year 2024-25 in recognition of their academic excellence.



Teacher's Day Celebration in Department of E&TC

Teachers' Day is celebrated on 15th September 2025 as a mark of respect and gratitude towards teachers for their continuous guidance, dedication, and support. To acknowledge the vital role of teachers in shaping students' academic growth, values, and overall personality. To strengthen the bond between students and teachers through interactive and joyful activities. To create a pleasant and positive environment by honoring teachers with gifts and engaging them in fun activities.



Fresher's Party for SE E & Tc Students

The Event is organised to welcome the newly admitted 2nd year students and help them interact with their peers and seniors. Event helps build confidence, teamwork, and communication skills through fun and engaging activities, Provides a platform for students to showcase their talents and personalities. Event includes activities like Ice-Breaker Game, Ramp-walk, “Mr. & Miss Fresher” titles.



E&TC Faculty Publications in Scopus /SCI Indexed Journal, International Conferences , Books and Books Chapter (A.Y. 2025-26)

Sr.No.	Name of Faculty	Title	Volume/Issue ISSN No/DOI	Name of the Journal
1	Vijayalaxmi Kumbar	Development of an intelligent mathematical model for n-channel FinFET using improved MobileNet architecture	Vol. 18, Issue 2, Page 138-153 https://doi.org/10.1504/IJES.2025.149255	International Journal of Embedded Systems
2	Vijayalaxmi Kumbar	Improving FinFET Device Parameters Through an Integrated Method of Particle Swarm and Whale Optimization Techniques	Vol. 2025, Issue 1, Page 1-16 DOI-10.1049/cds2/7035085	IET Circuits, Devices & Systems
3	Kadam S.S	Gesture Controlled Robotic Arm Using OpenCV	Volume 4, Issue 7, Page 1-4, DOI: 10.55041/ISJEM04698	International Scientific Journal of Engineering and Management (ISJEM)
4	Kadam S. S.	Multi-Branch Company with Hybrid Cloud	Volume 7, Issue 6, Page 4941-4944, DOI - https://www.doi.org/10.56726/IRJMETS80297	International Research Journal of Modernization in Engineering Technology

				and Science (IRJMETS)
5	Priti Rajput	DESIGN AND ANALYSIS OF SPIN-BASED LOGIC GATES FOR ENHANCING COMPUTATIONAL EFFICIENCY	Vol.103. No.9, Issue 9,Pages 3866-3876 DOI: https://www.jatit.org/volumes/Vol103No9/22Vol103No9.pdf	Journal of Theoretical and Applied Information Technology
6	K Napte	Autism spectrum disorder detection using parallel DCNN with improved teaching learning optimization feature selection scheme	Volume 116,Page 89-100 10.23919/SAIEE.2025.11090064	SAIEE Africa Research Journal
7	Kishor Bhangale	Diabetes Prediction from Clinical Data Using Deep Convolution Neural Network.	Vol. 12, Page 2761-2770,Issue 8, https://doi.org/10.18280/mmep.120817	Traitement du Signal
International Conferences				
Sr.No.	Name of Faculty	Title	Name of the Conference	Venue
1	Vijayalaxmi Kumbar	Design and Performance Evaluation of Current Starved VCO using 14nm FinFET Technology	2025 IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation latmsi 2025	Gwalior, India

2	Kishor Bhangale	Detection of AI-Generated Images using Deep Learning	CCWC 2026 International Conference on Computing Theory and Wireless Communications	Ichalkaranji, Maharashtra
3	Rupali Kawade	Sortify- An Autonomous Voice Controlled 6 DOF Robotic Arm For Object Detection And Sorting	2025 5th International Conference on Intelligent Technologies (CONIT)	HUBBALI, India
4	Smita Kadam	Role of Sampling frequency in BiLSTM Driven ECG Heart Disease Dignosis	4 IEEE DELCON 2025 International Conference on Recent Smart Technologies in Engineering for Sustainable Development	Jamia Millia Islamia, New Delhi

Books and Book Chapter

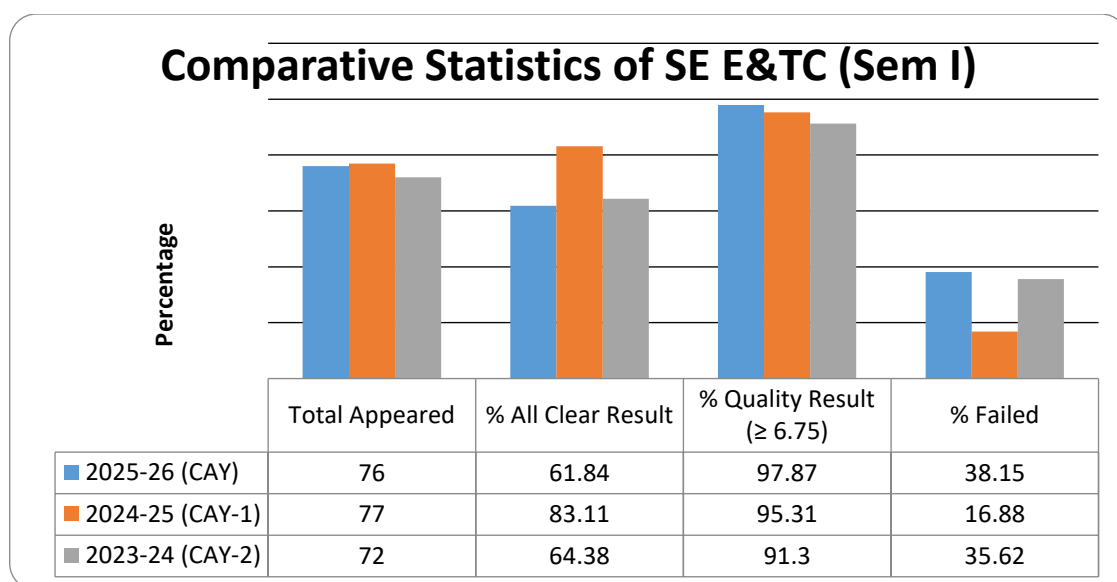
Sr.No.	Name of Faculty	Title	Name of the Conference/ISBN	Name of the Publisher/ Proceeding
1	Dr.Dipali Dhake	Deep Learning Techniques	ISBN: 978-93-7196-333-6	Scientific International Publishing House
2	Dr.Kishor Bhangale	Data Structures and Algorithms	ISBN : 978-93-7196-399-2	Scientific International Publishing House (SIPH)

Result Analysis

Overall Result Summary: SE E&TC SEM-(I)

Academic Year	2025-26 (CAY)	2024-25 (CAY-1)	2023-24 (CAY-2)
Total Appeared	76	77	72
% All Clear Result	61.84%	83.11%	64.38%
% Quality Result (≥ 6.75)	97.87%	95.31%	91.30%
% Failed (ATKT)	38.15%	16.88%	35.62%

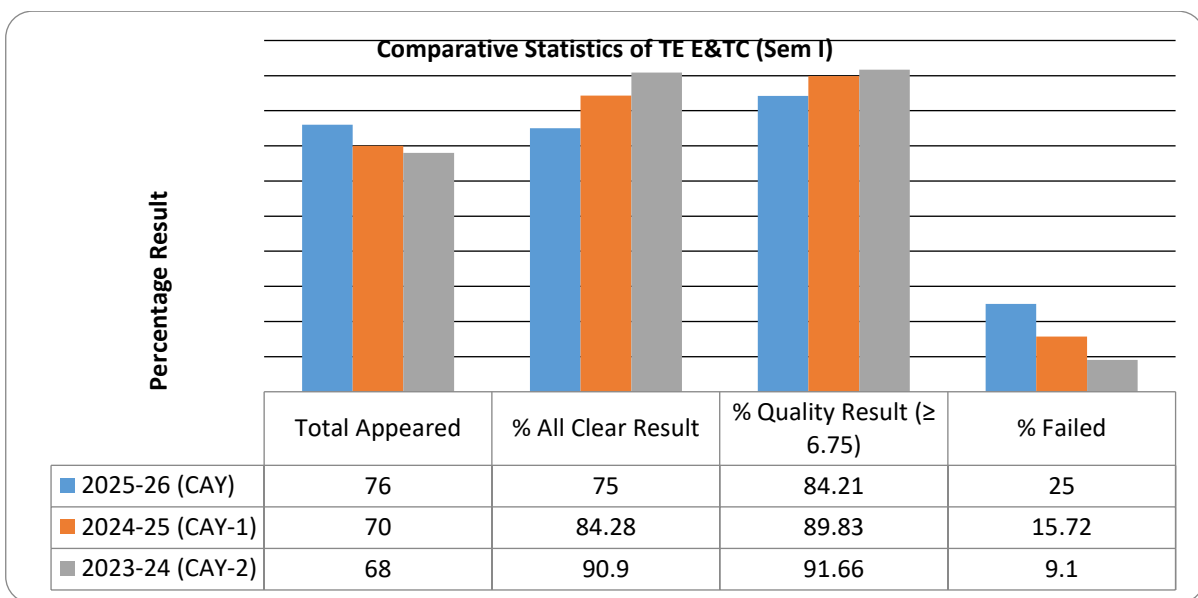
CAY: Current Academic Year CAY-1: Current Academic Year minus 1 (Previous AY)



Overall Result Summary: TE E&TC SEM-(I)

Academic Year –	2025-26 (CAY)	2024-25 (CAY-1)	2023-24 (CAY-2)
Total Appeared	76	70	68
% All Clear Result	75%	84.28%	90.90%
% Quality Result (≥ 6.75)	84.21%	89.83%	91.66%
% Failed (ATKT)	25%	15.72%	9.1%

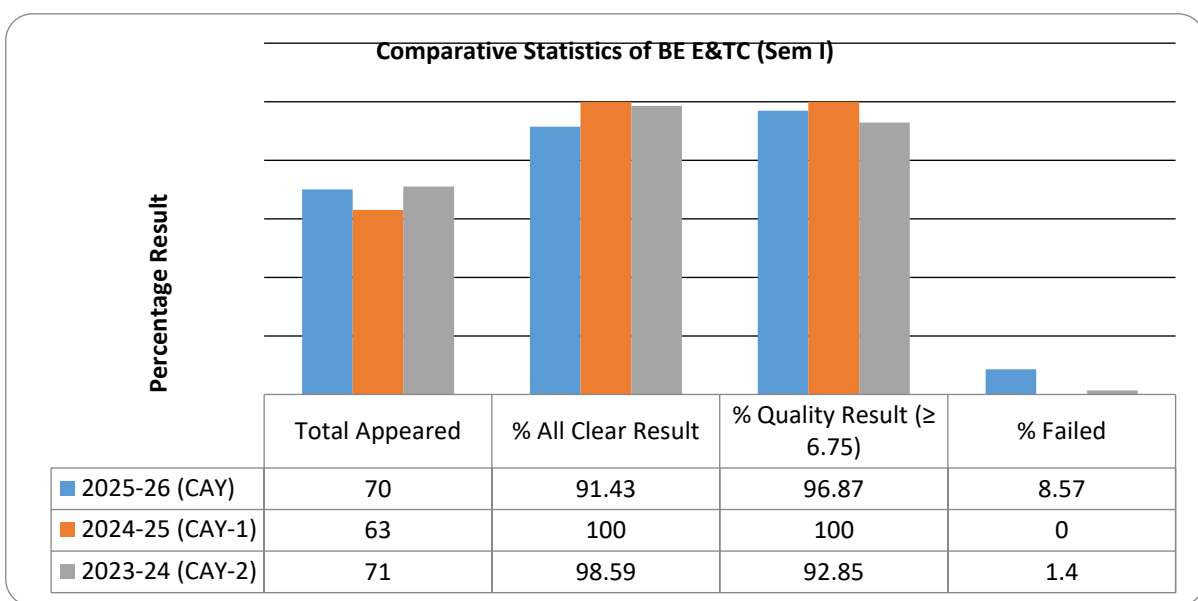
CAY: Current Academic Year CAY-1: Current Academic Year minus 1 (Previous AY)



Overall Result Summary: BE E&TC SEM-(I)

Academic Year –	2025-26 (CAY)	2024-25 (CAY-1)	2023-24 (CAY-2)
Total Appeared	70	63	71
% All Clear Result	91.43%	100%	98.59%
% Quality Result (≥ 6.75)	96.87%	100%	92.85%
% Failed (ATKT)	8.57%	0	1.4%

CAY: Current Academic Year CAY-1: Current Academic Year minus 1 (Previous AY)



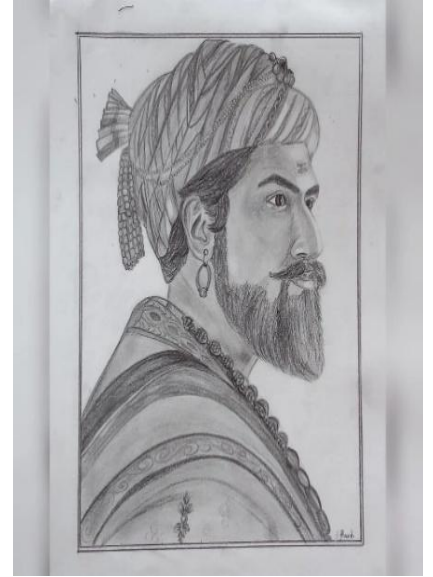
Student Corner



AVANTI KUMBHAR
TE-ENTC

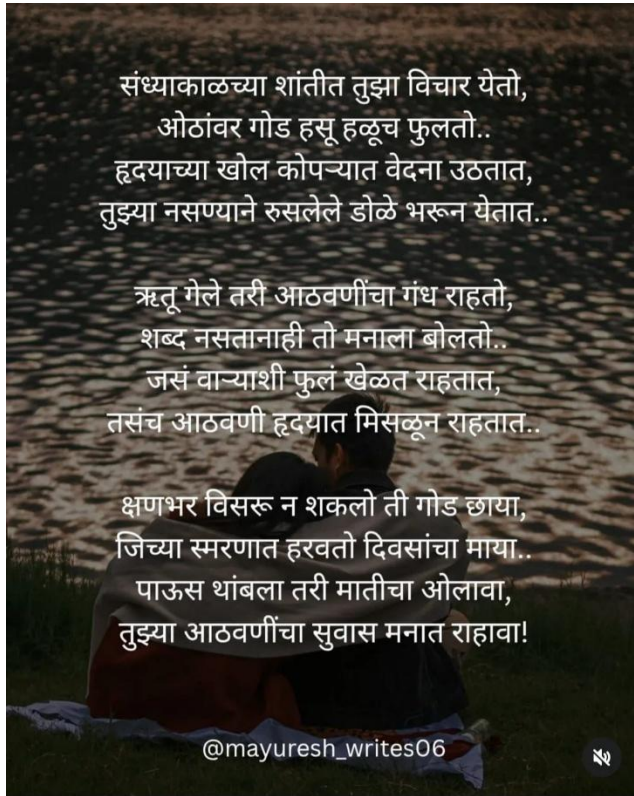


॥ श्री गणेशाय नमः ॥



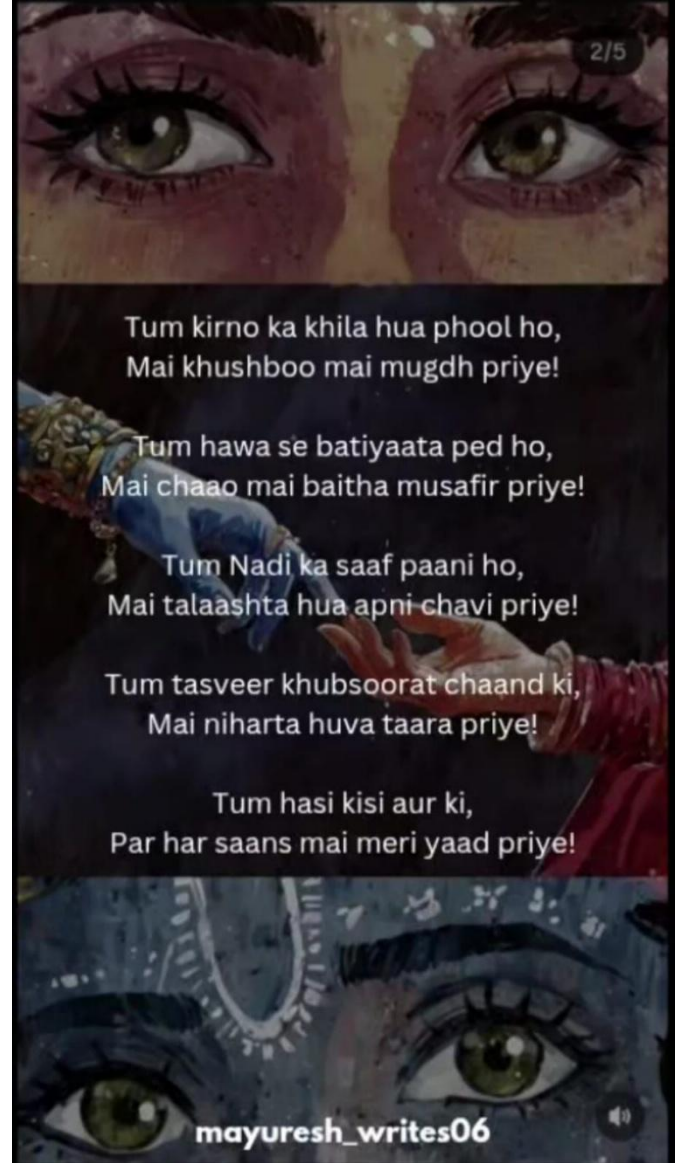


MAYURESH MUDASE
SE- ENTC



हरवलो आहे स्वतः मी
शोधून मला देशील का गं..?
गोंधळलो या गर्दीत मी
नाव माझं हळूच हाकशील का गं..?
जीवनात मागे राहिलो मी
हात धरून पुढे नेशील का गं..?
तुटलो आहे आतून मी
शब्दांत मला सावरशील का गं..?
रडलो तर खूप मी आज
सोबत बसून हसवशील का गं..?
थकलो या प्रवासात मी
खांद्यावर डोकं ठेवू देशील का गं..?
मनात खूप काही दडलं आहे
डोळ्यात पाहून ओळखशील का गं..?
या सर्व आनंदात माझ्या
अखेरस साथ देशील का गं..?

mayuresh_writes06



Testimonials



Neeraj Singh

BE E&TC

My journey at PCCOE&R has been highly rewarding and unforgettable. The E&TC department offered an excellent academic environment that balanced strong theoretical foundations with valuable practical exposure. The faculty members were always approachable, supportive, and motivating, constantly encouraging us to challenge ourselves and enhance our technical abilities as well as self-confidence.

The department's regular training programs, workshops, and placement-oriented activities greatly contributed to shaping my professional readiness and career development. I am truly thankful for the guidance, opportunities, and continuous encouragement provided throughout my academic journey, which have played a vital role in my personal and professional growth.



**Suyash
Chaudhari
BE-E&TC**

My experience at PCCOE&R has been truly fulfilling, particularly within the E&TC department. The department's perfect balance of academic excellence and practical learning helped me develop and strengthen my engineering skills effectively. The constant guidance and mentorship from the faculty members, along with regular technical and placement-oriented sessions, played a crucial role in preparing me for my career journey.

I am sincerely grateful for the continuous support and encouragement provided by the department, which greatly contributed to my overall growth and achievements.



Neel Gandhi
BE-E&TC

My journey at PCCOE&R, especially within the E&TC department, has been truly transformative and enriching. The department provided an ideal blend of strong theoretical learning and practical exposure, enabling me to build the technical skills required for a successful career. The dedicated faculty members consistently guided and motivated us, while the regular focus on technical aptitude, skill development, and placement preparation proved immensely valuable.

I am sincerely grateful for the continuous support, mentorship, and opportunities that have contributed significantly to my personal and professional growth.



PIMPRI CHINCHWAD COLLEGE OF ENGINEERING AND RESEARCH
RAVET, PUNE-412101

Institute Vision & Mission

Vision:

To be a Premier institute of technical education & research to serve the need of society and all the stakeholders.

Mission:

To establish state-of-the-art facilities to create an environment resulting in individuals who are technically sound having professionalism, research and innovative aptitude with high moral and ethical values.



PIMPRI CHINCHWAD COLLEGE OF ENGINEERING & RESEARCH

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