Note: **OE - Open Elective. PE - Program Elective**

	Semester-VI	Semester-VII	Semester-VIII
Computer Engineering	• PE-I • PE-II **Category 1** • Open Elective-I • System Programming and Compiler Construction • Fundamental of Signal and Image Processing • Main Project Stage-I **Category 2** • Research Internship	• Cryptography and System Security • OE-II • OE-III • PE-III • PE-IV • Main Project Stage-I/ Main-Project • SCOPE-IV/Minor-IV/Honors-I	Honors-II **Category 1** • High Performance Computing • OE-IV • PE-V • PE-VI • Main Project Stage-II **Category 2** • Industry Internship/ Major Project
Computer Science and Engineering	**PE-I** • Deep Learning • Big Data Analytics • Data-driven IoT • Digital & Mobile Forensic • User Experience Design **PE-II** • Natural Language Processing • Data Warehousing and Mining • Blockchain Technology • Digital & Mobile Forensic • User Experience Design **Category 1** • OE-I/OE-II • Fundamentals of Signal & Image Processing • Soft Computing • Main Project-Stage-I **Category 2** • Research Internship	**Information and network security** **OE-I /OE-II** **OE-III*** **Main Project Stage-I/ Main Project Stage-II** **PE-III** • Computer Vision • Data Visualization • Cloud Computing • System programming and compiler construction • Mobile & Wireless Network **PE-IV** • Explainable Artificial Intelligence • AI for Healthcare Analytics • Quantum Computing • System programming and compiler construction • Mobile & Wireless Network	**Category 1** Human Machine Interaction OE-IV Main Project Stage-II PE-V and PE-VI • Computer Vision • Data Visualization • Cloud Computing • System programming and compiler construction • Mobile & Wireless Network • Explainable Artificial Intelligence • AI for Healthcare Analytics • Quantum Computing **Category 2** • Industry Internship/ Major Project
EXTC Engineering	• Program Elective-I • Program Elective-II • Mini Project-II **Category 1** • Open Elective-1 • Fundamentals of Antenna/ • Power Electronics • Computer Communication Network **Category 2** • Research Internship	• OE-II • OE-III • PE-III • PE-IV • Main Project Stage-I/ Mini project • LLC-VI • SCOPE-IV/Minor-IV/Honors-I (Optional)	• LLC-VII • Honors-II (Optional) **Category 1** • OE-IV • PE-V • PE-VI • Main Project Stage-II **Category 2** • Industry Internship/ Major Project

Elective as per Stream

	Semester-VI	Semester-VII	Semester-VIII
Computer Engineering	• Soft Computing • Natural Language Processing • Ethical Hacking • Machine Learning • Big Data Analytics and Visualization • Information and System Security • Human Machine Interaction • Computer Vision	• Deep Learning • Foundation of Data Science • Cloud Architecture • Artificial Intelligence for Industrial Application • Data Driven Internet of Things • Digital Forensics and Cyber Security • Robotics and Automation • Blockchain Technology	• Soft Computing • Natural Language Processing • Ethical Hacking • Machine Learning • Big Data Analytics and Visualization • Information and System Security • Human Machine Interaction • Computer Vision • Deep Learning • Foundation of Data Science • Cloud Architecture • Artificial Intelligence for Industrial Application • Data Driven Internet of Things • Digital Forensics and Cyber Security • Robotics and Automation • Blockchain Technology
Computer Science and Engineering	• PE-I • Deep Learning • Big Data Analytics • Data-driven IoT • Digital & Mobile Forensic • PE-II • Natural Language Processing • Data Warehousing and Mining • Blockchain Technology • Digital & Mobile Forensic • User Experience Design	• PE-III • Computer Vision • Data Visualization • Cloud Computing • System programming and compiler construction • Mobile & Wireless Network • PE-IV • Explainable Artificial Intelligence • AI for Healthcare Analytics • Quantum Computing • System programming and compiler construction • Mobile & Wireless Network	• PE-V and PE-VI • Deep Learning • Big Data Analytics • Data-driven IoT • Digital & Mobile Forensic • User Experience Design • Natural Language Processing • Data Warehousing and Mining • Blockchain Technology • Digital & Mobile Forensic • Computer Vision • Data Visualization • Cloud Computing • System programming and compiler construction • Mobile & Wireless Network • Explainable Artificial Intelligence • AI for Healthcare Analytics • Quantum Computing • System programming and compiler construction Mobile & Wireless Network
EXTC Engineering	• Mobile and Wireless communication • Microwave Communication • Wireless Sensor Networks • Next Generation Network • Network Fundamentals of Antenna Information • Theory and Coding Optical fiber Communication & Management	• Speech and Audio Processing • DSP Processors • Image & Video Processing Principles Soft Computing • Digital CMOS VLSI Design • Embedded Systems • Real Time Operating Systems • Analog CMOS VLSI Design	• Power Electronic Converters (Cat2) • IC & MEMS Technology (Cat1) • Embedded System Design for Power Converter Applications • Energy Storage Systems in EV Applications • Power Electronic Converters in EV Applications • Telecom Network Operations

Department of Electronics and Telecommunications Engineering

The Department was established in 2005 and offers B. Tech. degree in Electronics and Telecommunications Engineering with a dream to provide a broad liberal education as well as to impart both knowledge and skills to strengthen the foundation in engineering sciences, mathematical and scientific fundamentals, and to gain expertise in various domains of electronics, communications, and computing. This dream achieved a new pedestal when the first batch of students of Masters in Electronics and Telecommunications Engineering started in the academic year 2010 with an intake of 18 students. The department is scaling new heights by launching a Ph.D. program in 2012.

Programs and Intake offered:

Undergraduate	Postgraduate	Ph.D.
120 students+ 10% lateral entry	18 students	20 students
Bachelor of Technology **(B.Tech.)** Duration: 4 years	Master of Technology **(M.Tech.)** Duration: 2 years	Doctoral of Philosophy **(Ph.D.)** Duration: 3 years

Vision:

To produce Telecommunication Engineers capable of effectively using scientific and technical knowledge for the betterment of society.

Mission:

- Provide high-quality teaching, state-of-the-art research, and creative activity to acquire innovation and next-generation technologies.
- Develop educational and career goals, decision-making skills, and job search strategies needed to manage their professional and academic pursuits.
- Promote interaction and exchange with industry and other institutions of higher learning.

Faculty Strength:

The department currently consists of 21 highly qualified, dedicated, and sincere teaching faculty members. There are 11 faculty members who are doctorate in their respective academic field and 8 faculty members are pursuing Ph. D.

- Total Teaching Experience of the department: 43 years.
- Average Teaching Experience of the department: 19.19 years.

Publications:

The research work has been published in reputed international journals like IEEE, IET, AIP, ASP, Elsevier, Springer, ASME, Taylor & Francis, etc. and also in international conferences.

International Conference	Journal	Patents	Book Chapter
61	08	05	01

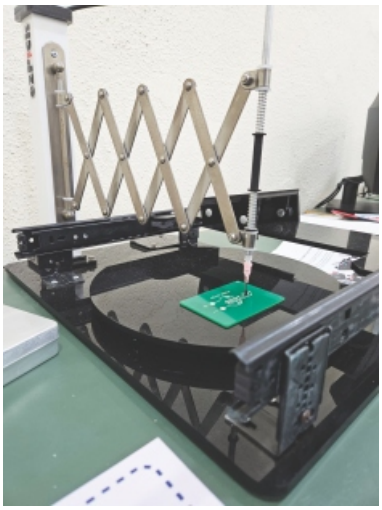
Departments Labs

- ICT Enabled Laboratories with 200+ Desktop Pcs
- Cutting Edge Tools - Matlab, Mentor Graphics, National Instruments and more
- Branded Equipment - Dynalog, Tektronix, Texas Instruments
- Industry Sponsored Laboratories by Texas Instruments, Silicon Labs, Microchip, Cypress
- System-on-chip design lab with the support of AICTE.

- A DST-assisted full-fledged prototype development facility with Rs. 1 crore invested in state-of-the-art fabrication and development equipment is available to all students working on research projects of S.P.I.T.
- Completed consultancy projects of Rs. 18 Lakhs and projects of Rs. 8 Lakhs are ongoing for industries and other organizations.
- Received a research grant of around Rs. 1.2 Million from government bodies like DST NIDHI Prayas, DST Trainer Development Programme (TDP), AICTE MODROB, IEEE etc. in the form of Modernization of laboratories, IDEA Lab, Distributed Sensor Technology and Education Imitative (DSTEI) R10 Region for the project on Smart Drone to IEEE-AESS Student Branch.
- Received funds of around Rs. 3.13 Lakhs under the title of AICTE SPICES, AICTE ATAL FDP, IEEE-AESS student Chapter etc. for conducting various developmental activities for students & faculty members.

Significant milestone achieved by the department

Faculty members were awarded Ph.D.	students completed a 6-months Industry Internship.	students completed a 6-months Research Internship.	MoUs signed for collaborative research and other development activities.
03	138	24	08



Dr. Y. S. Rao
Dean, Academics & Dean, Research & Development,
EXTC Department

Dr. K. T. Talele
Dean, Student Affairs,
EXTC Department

Career Opportunities for Students

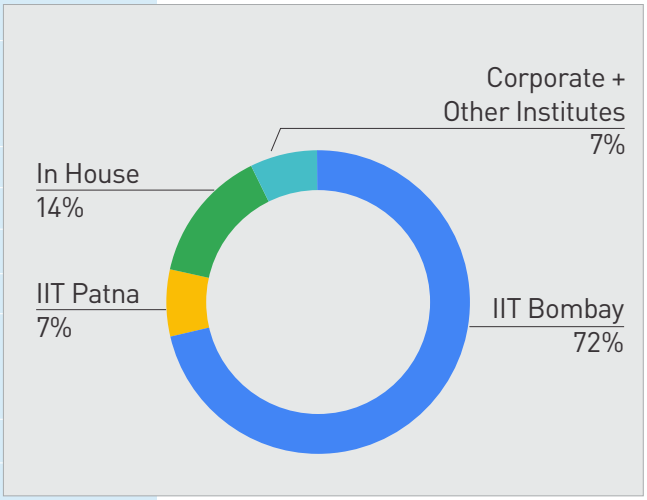
Graduates of Electronics and Telecommunication department students have opportunities to excel in various profiles like Telecom Engineer, Electronic Design Engineer, Desktop Support Engineer, Technical Director, Network Planning Engineer, Sales Manager, R&D Software Engineer, Software Analyst etc. at esteemed organizations like STM, Qualcomm, Intel, Google, etc. In the past, graduates of the department have been consistently recruited by communications and networking companies, and in technology-driven fields such as financial services and consulting practices in which computing and information management are central to the operation of the enterprise.

EXTC Head of Department:
Dr. Reena Sonkusare
reena_kumbhare@spit.ac.in

Research Internship

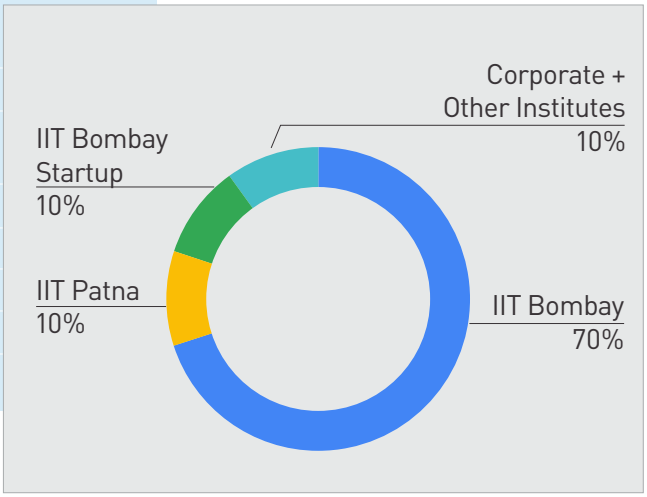
Department of Electronics and Telecommunications Engineering

No.	Name	Internship Organization
1	Harish Balasubramanian	IIT Bombay
2	Atharva Chaudhari	IIT Bombay
3	Janhavi Dangle	IIT Bombay
4	Tanmay Gadgil	In-house internship under Prof. Rajendra Sawant
5	Aarnav Joshi	IIT Patna
6	Sarthak Kambli	IIT Bombay
7	Aditya Charudatta Kulkarni	IIT Bombay
8	Guruprasad Parasnis	IIT Bombay
9	Monish Rane	In-house internship under Prof. Rajendra Sawant
10	Rushikesh Sangole	IIT Bombay
11	Kunal Thakur	Inter-University Centre for Astronomy and Astrophysics, Pune
12	Vrushali Varude	IIT Bombay
13	Mitali Sudhir Sherkhane	IIT Bombay
14	Rina Prakash Pachkale	IIT Bombay



Department of Electronics Engineering

No.	Name	Internship Organization
1	Bhagwat Atharav Rajendra	IIT Bombay
2	Rajas Bhope	IIT Bombay
3	Samuelson D'souza	Electrical Engineering dept. of IIT Bombay
4	Tanishq Khairnar	IIT Patna
5	Neeraj Kokane	Haldex Anand India Pvt. Ltd. (R n D)
6	Arpit Sanjay Patil	IIT Bombay
7	Devashish Rairikar	IIT Bombay
8	Nidhi Samant	IIT Bombay
9	Nikhil Saraf	IIT Bombay
10	Chirag Vidyut Vasani	Acuradyne (IIT Bombay)



Department of Electronics and Telecommunications Engineering Competitions & Awards

S.P.I.T Innovation Cup-2023:
An Ideation and Project Competition

Peripherathon 1.0:
AI-Powered IoT Hardware Hackathon

Techo-Hunt-2022: A treasure hunt-based electronic circuit designing event

Participation at the National level Dr. APJ Abdul Kalam Satellite Launch Vehicle Mission-2023

Received award at National level "Chanakya Competition" conducted by IIM, Indore.

Received prestigious Industry award for student's project at "The Inventors Challenge-2022" by Arm Education and STMicroelectronics with support from AICTE's ATAL

Department of Computer Engineering

Department of Computer Engineering was established in the year 1995 and it is one of the earliest departments of the Institute. Strong placement record and results, highly qualified staff and laboratory facilities, research publications are some of the strengths of the department.

The department has also received accreditation from the National Board Accreditation (NBA). In the recent past, we had benchmarked our curriculum with selected institutions of higher learning around the world and we are reviewing the impact of these consequent changes with a view to make our programs even more strong and competitive. The department provides training to the students in the IT industry.

Programs and Intake offered:

Undergraduate	Postgraduate	Ph.D.
240 students+ 10% lateral entry	18 students	30 students
Bachelor of Technology **(B.Tech.)** Duration: 4 years	Master of Technology **(M.Tech.)** Duration: 2 years	Doctor of Philosophy **(Ph.D.)** Duration: 3 years

Vision:

To build strong teaching and research environment to provide quality education in Computer Engineering.

Mission:

- To serve society by producing globally competent computer Professionals.
- To foster relationship with leading Institutes as well as Industries to inculcate the spirit of cooperative and collaborative learning.

Faculty Strength:

The department currently consists of 20 highly qualified, dedicated, and sincere teaching faculty members. There are 8 faculty members who are doctorate in their respective academic field and 6 faculty members are pursuing Ph. D.

Publications:

International Conference	International Journal	Patents
25	09	04

Departments Labs

Computer engineering department provides contemporary and sophisticated equipment that are constantly upgraded. Our aim is to provide students a conceptual as well as practical understanding of the subject through hands-on training. The Computing facility for Computer Engineering Department comprises of the following laboratories:

- Project Lab (Room=607-B)
- Networking Lab (Room=602)
- Algorithms Lab (Room=603)
- Database Systems Lab (Room=606)
- Computer Graphics & Multimedia Lab (Room=606)
- System Programming Lab (Room=608)
- Postgraduate Research Lab (Room=603)
- Data Science Lab (Room= 702)
- Machine Learning Lab (Room= 702)
- IIC Cell

The laboratories are also equipped with Drone, IOT and machine learning devices in order to provide hands-on practice to the students.

Wi-Fi: The Department is fully Wi-Fi enabled which can be accessed by students and staff members in the academic block, tutorial block and corridors. Users are provided secure access with a login ID and password for using Wi-Fi facility through laptops.

The department has received a grant of Rs. 15 lacs from AICTE for development of AICTE Idea Lab jointly with Dr. B. N. Chaudhari, Dr. Y. S. Rao and Dr. D. R. Kalbande(2021-22).

Funded Research Projects 2021-22

Project Title	Funding Agency	Duration
Project sanctioned vide letter (APD/ICD/2019-20/762 Project No. 914)	University of Mumbai	1 Year
Project sanctioned vide letter (APD/ICD/2019-20/762 Project No. 974)	University of Mumbai	1 Year
Event detection in social media streams (APD/ICD/2019-20/762 Project No. 911)	University of Mumbai	1 Year

E learning - Departmental library (content based learning)

The department has a Content Based Learning, E-Learning facility to lend relevant technological support to the ongoing instructional activities as well as the in-service education programmes. It has a rich library of educational films, film-strips, video recording and audio cassettes besides the requisite hardware.

Currently, the department is trying to be equipped with the facilities of digitizing the video and audio cassettes. The functions of the E-Learning cell are: To provide audio resource support to the pre and in-service training programmes of the Institute; and To develop prototype audio educational software and E-content in different subject areas for wider dissemination to students, faculties and institutions.

No. of Titles	No. of books	No. of CBTs	No. of Video Courses
330	357	38	19

Dr. Sudhir Dhage
Dean, Administration,
Computer Engineering Department

Career Opportunities for Students

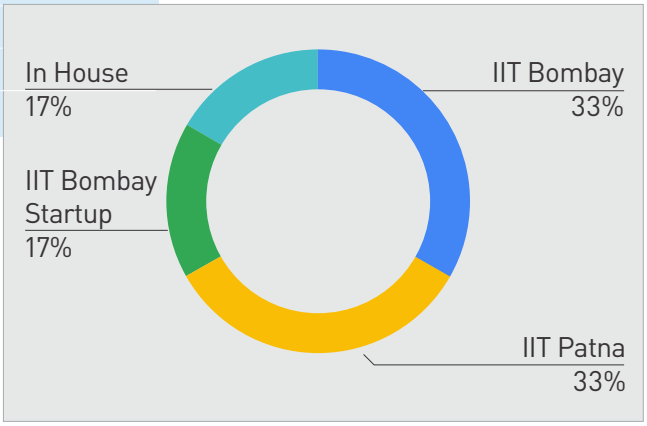
The department holds impressive placement records for students in companies such as Microsoft, Amazon, Oracle, Barclays, Morgan Stanley, JP Morgan Chase, Credit Suisse, Deutsche Bank, BookMyShow and many more. Students also pursue internships in reputed giants; Amazon, JP Morgan Chase, ICICI Lombard and Siemens are few to mention. Apart from that students can also pursue research internship in institutes such as IIT's and research facilities like Acuradyne Systems. Many of the graduates choose to join some of the best institutions of higher learning around the world such as Stanford, Carnegie Mellon University, UC Berkeley and management schools like IIM. Still some others choose to chase their dream by opening their own start-ups like PhonePe, Work India and Viola-Digi where some chose a totally different field of passion such as sports or entertainment.

Computer Engineering Head of Department:
Dr. Prasenjit B. Bhavathankar
Email ID: p_bhavathankar@spit.ac.in

Research Internship

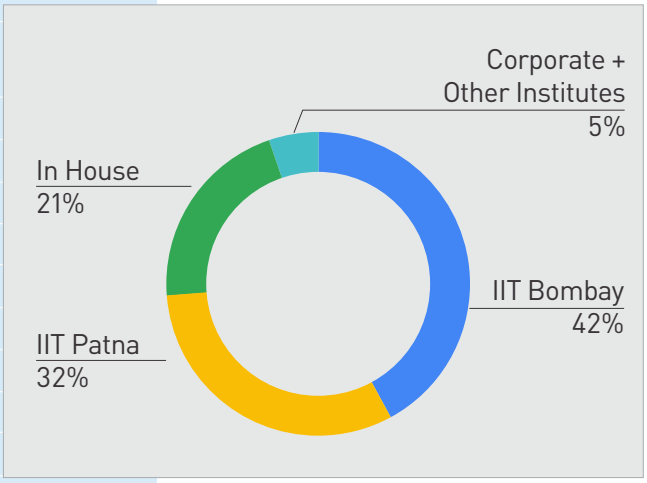
Department of Computer Engineering

No.	Name	Internship Organization
1	Shreyash Dhamane	Skinzy
2	Pratik Pujari	Acuradyne Systems (IIT Bombay)
3	Aaryan Purohit	IIT Patna
4	Omkar Rane	IIT Bombay
5	Krish Shah	IIT Patna
6	Trisha Shishodiya	IIT Bombay



Department of Information Technology

No.	Name	Internship Organization
1	Anmol Chokshi	IIT Bombay
2	Aryan Gwalani	IIT Bombay
3	Vansh Jain	IIT Bombay
4	Kaustubh Kachare	SPIT (In-house) under Prof. Narendra Bhagat
5	Dhruv Khut	IIT Patna
6	Aaditya Prashant Mehar	IIT Bombay
7	Siddhant Meshram	Autobuddys
8	Sahil Nawale	IIT Patna
9	Adish Padalia	IIT Bombay
11	Abhishek Pai	IIT Patna
12	Atharv Raotole	IIT Patna
13	Kaival Shah	IIT Patna
14	Mirat Shah	IIT Bombay
15	Tanish Shah	IIT Bombay
16	Dhruvi Sheth	SPIT under Dr Pooja
17	Sailee Shirodkar	IIT Patna
18	Rahul Shukla	IIT Bombay
19	Ayush Singh	J.P. Morgan Chase
20	Bhavisha Sondagar	SPIT under Dr Pooja



Department of Computer Engineering Competitions & Awards

Winners of Smart India Hackathon 2022:

FACE cup :

Department of Computer Science and Engineering

The Department of Computer Science and Engineering was established in the year 2021 with the aim to provide students with the necessary skills to excel in the rapidly evolving tech industry. The department consists of 14+ faculty members, 3 technical assistants and more than 220 students working towards their Bachelors', Masters' and Doctoral degrees. The department attracts high quality students from all over Maharashtra and also from other parts of the country. In the recent past, we have benchmarked our curriculum with select institutions of higher learning around the world and currently we are carefully reviewing the impact of these consequent changes with a view to make our programs even more strong and competitive. The intake capacity of the department is 120 students.

Programs and Intake offered:

Undergraduate

120 students+

10% lateral entry

Bachelor of Technology

(B.Tech.)

Duration: 4 years

Vision:

To develop globally competent and ethical professionals in the field of Computer Science & Engineering and enable them to serve industry and society at large.

Mission:

- To provide rigorous and interdisciplinary education
- To foster ethical and socially responsible Computer professionals
- To promote cutting-edge research and innovations.

Faculty Strength:

The department, currently, consists of 08 highly qualified, dedicated and sincere teaching faculty members. There are 02 faculty members who are doctorate in their respective academic field and 05 faculty members are pursuing Ph.D.

Departments Labs

The department has the following well-equipped labs with advanced computers and software.

- Computer Network Lab (Room 404)
- Database Management Lab (Room 406-A)
- Software Engineering Lab (Room 406-B)
- Operating System Lab Lab (Room 408)
- Project Lab (Room 410-A)
- Programming Cloud Computing Lab (Room 410-B)
- Research & Development Lab (Room 410-C)

Dr. Pooja Raundale
Dean, Quality Assurance,
MCA/CSE Department

Career Opportunities for Students

Graduates from this department will have a deep understanding of both the theoretical and practical aspects of computer science and engineering. They will be well equipped with a broad range of skills that can be applied in many industries, including tech, finance, healthcare, transportation, entertainment, etc. The department offers a comprehensive curriculum that includes both theoretical and practical courses, making it a highly sought-after field of study. The department 's graduates have a wide range of career opportunities in various industries, and their skills are essential to the development of new technologies that drive innovation.

Computer Science and Engineering
Head of the Department:
Dr. Dhananjay Kalbande
Email: drkalbande@spit.ac.in

Masters in Computer Application (MCA)

S.P.I.T. is one of the most sought colleges by students for MCA and is renowned for its ongoing course from 2009 - the year it was established. Though started in the year 2009, the course has managed to excel quickly. With the highest cutoff this year, the course has proven its phenomenal growth. The course has an intake of 60 seats.

Master of Computer Applications (MCA) is a full time two year interdisciplinary Post Graduate Programme with 6 month internships designed to meet the demand of manpower in the field of computer applications/technology in industries or organizations.

Programs and Intake offered:

Postgraduate

60 students+
20% lateral entry

Masters in Computer Application
(MCA)
Duration: 2 years

Ph.D.

10 students

Doctor of Philosophy
(Ph.D.)
Duration: 3 years

Publications:

Conference	Research Journals
21	13

Grants:

Applied	Received
09	01

Departments Labs

The department has the following well-equipped labs with advanced computers and software.

- (Room 402-A)
- (Room 402-B)
- (Room 403-A)
- (Room 403-B)
- (Room 702-A)

Achievements of the Department

- Dr. D. R. Kalbande Published a Patent Title of the Invention: Ai Powered Single Switch Based Remote Health Monitoring System for Elderly, Application No. 202321008008 dated 08/02/2023.
- Dr. D. R. Kalbande received Patent grant for Auto Walas : an app for vehicle management
- Dr. D. R. Kalbande have received IDEA LAB Research Grant worth Rs. 15 Lakh

Dr. Pooja Raundale
Dean, Quality Assurance,
MCA/CSE Department

Career Opportunities for Students

The department recently proposed two new tracks along with Data Science & Software Testing as thread electives named Design and Full stack for MCA. Full-stack development is a highly sought-after skill in the tech industry. With the ever-increasing demand for web applications, full-stack developers are in high demand. UI/UX design is a good career choice for the future for several reasons: Growing Demand: With the increasing use of technology and the internet, the demand for user-friendly and intuitive digital products has never been higher, driving demand for skilled UI/UX designers. MCA Programme curriculum has all the latest technologies and emerging areas such as Artificial Intelligence, Machine Learning, Deep Learning, Blockchain, etc.

Computer Science and Engineering
Head of the Department:
Dr. Dhananjay Kalbande
Email: drkalbande@spit.ac.in

Department of Computer Science and Engineering
Competitions & Awards

E-Summit

ACSES Competition

Department of Applied Sciences, Mathematics and Humanities

The Department of Applied Sciences and Humanities equips the students of first year engineering, across all branches with fundamentals in applied sciences, basic engineering and subjects in the domain of humanities. The curricula of the department have been totally redesigned under autonomy to suit the requirement of the programmes that we offer. The department prides itself on its strong student connect, ensuring that every student who enters the institute adapts to the needs and demands of the engineering course and can acclimatize to the course's hectic schedule in a student-friendly and conducive atmosphere.

Department Objectives

- To strengthen the fundamentals in Applied Sciences, Mathematics and Basic Engineering.
- To develop the ability to communicate effectively as technical professionals.
- To provide an environment for working effectively in groups.
- To sensitise students to environmental and ethical issues.
- To create a good base for further engineering education.