



Vidyalkar Institute of Technology

An Autonomous Institute affiliated to University of Mumbai

Bachelor of Technology in Electronics & Telecommunication Engineering

Programme Structure (R-2026)

(As per NEP 2020, with effect from the Academic Year 2026-27)

Preamble

The National Education Policy (NEP) framework aims to break the mould from teacher centric to student centric educational practices. It empowers the students with flexibility in terms of choosing courses across different faculties and mode of learning.

This multidisciplinary approach will encourage learners to follow their passion and inherent interests. The learner is free to learn at a pace that he is comfortable with and this enables life long learning. It also enhances the scope for holistic personality development.

This premise is truly reflected in preamble of the NEP document, "The future of nation is decided in the classrooms of the schools and colleges today".

Details of implementation:

NEP curriculum framework enables us to accelerate change, redesign systems with equity in mind, respond to feedback, encourage collaboration, catch and pollinate ideas and create a culture of research and development. It will allow us to offer the required academic flexibility which will focus on improving competency level of students with diverse strengths.

The curriculum planned by VIT has vertical Program Courses consisting of core courses (PCC) of branch of engineering positioned and sequenced to achieve sequential and integral learning of the entire breadth of the specific branch. This vertical also includes Programme elective courses (PEC) which offer flexibility and diversity to learners to choose specialization from a basket of recent developments in their field of technology. The selection of unique programme elective courses based on industrial requirements and organizing them into tracks is a special feature of this curricula ensuring employability. The vertical Multidisciplinary Courses consists of Open Elective (OE) courses and multidisciplinary minor (MD M) courses. Special vocational and skill development courses are included as a part of Skill courses vertical that make student capable to work in industrial environment.

The student is expected to demonstrate their ability through course in Experiential Learning Courses vertical like internships/On Job Training, Community Engagement Project, Real Industry Project/ research problem. Our curriculum also introduces Social Service Internship and Internship with institutes abroad along with courses like Design Thinking. This will lead to creation of products and/ or patents through this program.

For holistic development of students, apart from technical courses, Ability Enhancement Courses, Entrepreneurship/Economics/Management Courses, Indian Knowledge System and Value Education courses from vertical Humanities and Social Science and Management develop the required soft-skills and attitude amongst learners.

In Liberal Learning vertical. courses like Various Dance Forms, Global citizenship Education, Facets of Astronomy etc. aims to create balance in brain hemispheres and hence improve learners' clarity in thoughts and responses.

In addition to core courses, professional and open electives; our framework offers honor degree in each programme of engineering. It includes specialized courses along with field/ domain study that make student capable of working on industry relevant problems.

Chairman, Board of Studies

Department of Electronics and Telecommunication Engineering
Technology

Vidyalankar Institute of Technology

Chairman, Academic Council

Vidyalankar Institute of

About Electronics and Telecommunication Engineering Department

Established in year 2006, Electronics and Telecommunication Engineering Department currently offers 3 programmes. Undergraduate (B.Tech.) programme with intake of 120, Postgraduate (MTech.) programme with intake of 12 and Doctorate (Ph.D.) programme with intake of 10.

The Department of Electronics and Telecommunication Engineering strives to be at the forefront of innovation and technical excellence, preparing students for dynamic careers in the ever-evolving field of technology. Through a balanced blend of rigorous academic coursework, cutting-edge research, and hands-on experience, the department aims to develop proficient engineers equipped with the knowledge and skills required to solve complex real-world problems.

Vision

To be recognized as a center of excellence in the field of Electronics and Telecommunication engineering where learners are nurtured in a scholarly environment to evolve into competent professionals to benefit society.

Mission

Evolve a curriculum which emphasizes strong engineering fundamentals with the flexibility to choose advanced courses of interest and gain exposure to tools and techniques in Electronics and Telecommunication Engineering. Encourage a teaching learning process in which highly competent faculty share a symbiotic association with the institutes of repute. Facilitate creation and dissemination of Electronics and Telecommunication knowledge through a digitally enabled learning environment. Develop academic and infrastructural facilities with modern equipment and other learning resources and encourage reciprocal sharing with other institutes through networking. Establish a center of excellence to enhance academia – Electronics and Telecommunication industry partnership and work on collaborative projects.

Programme Educational Objectives

PEO1: Equip graduates with a strong foundation in science, mathematics, programming and Electronics and Telecommunication Engineering fundamentals, enabling them to apply knowledge and skills to design, analyze, and solve complex engineering problems in real-world scenarios.

PEO2: Foster a culture of life-long learning and innovation by encouraging graduates to adapt to emerging technologies, pursue advanced studies, and contribute to cutting-edge research and development.

PEO3: Enable graduates to excel as professionals by fostering ethical integrity, strong communication abilities, and leadership skills, empowering them to make meaningful contributions to industry, academia, and society.

Programme Outcomes (PO's)

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change.

Programme Specific Outcomes (PSO's)

PSO1: Students will be able to apply the fundamentals of VLSI, IOT & Embedded systems, Signal Processing, Machine Learning and Advanced Communication Systems in building real life applications.

PSO2: Students will be able to use industry specific tools to design systems in the field of Electronics & Telecommunication Engineering

Laboratory Infrastructure

The Department of Electronics and Telecommunication Engineering at Vidyalkar Institute of Technology, Mumbai, offers well-equipped, modern laboratories that promote experiential learning, innovation, and research. These laboratories support a wide range of Electronics and Telecommunication engineering domains, enabling students to gain hands-on experience with industry-standard hardware, software, and tools. This practical exposure helps bridge the gap between theoretical knowledge and real-world applications, preparing students for academic and Programme success.

Vidyalkar Institute of Technology (An Autonomous Institute affiliated to University of Mumbai)

Highlights of the Laboratories

1. Basic Electronics Design and Simulation

- Electronics Design Circuit Laboratory
- Circuit Simulation Laboratory
- Measurement and Instrumentation Laboratory
- Integrated Circuits Laboratory

2. VLSI Design and Applications

- Analog VLSI Design Laboratory
- Digital VLSI Design Laboratory
- FPGA Implementation Laboratory
- Digital Design with Verilog Laboratory

3. System on Chip (SoC) Applications, Smart systems and Internet of Things

- Embedded Processor Design Laboratory
- Internet of Things (IOT) Laboratory
- Advanced IOT Laboratory
- Smart Systems Laboratory

4. Analog and Digital Communication and Networking

- Analog Communication and design Laboratory
- Digital Communication and design Laboratory

- Modelling and Analysis of Communication System Laboratory
- Computer Networking Laboratory
- Telecommunication Network Management Laboratory

5. Emerging Technologies and Advanced Applications

- Machine & Deep Learning Laboratory
- Cloud Computing Laboratory
- Web Design and Application Laboratory
- Sensor Design and Applications Laboratory

6. Advanced Communication and Applications

- Optical Communication Laboratory
- Mobile Communication Laboratory
- 5G Technology Laboratory

7. RF, Microwave and Antenna Engineering Applications

- RF Characterization and high frequency measurement Laboratory
- RF Simulation Laboratory
- Antenna Design and Planar Antenna Fabrication Laboratory
- Dielectric Measurement Laboratory
- Electromagnetic Interference Testing Laboratory

8. Data Analytics Hub and Research

- Data Preprocessing and Pattern Visualization Laboratory
- Measurement System Analysis Laboratory
- Process Analysis and Process Capability Testing Laboratory
- Manufacturing Analytics Laboratory
- Embedded Systems and Sensor Data Analytics Laboratory
- Business Intelligence Analytics Laboratory

9. Creative and Collaborative Innovation Spaces

- Ideation & Innovation Hub

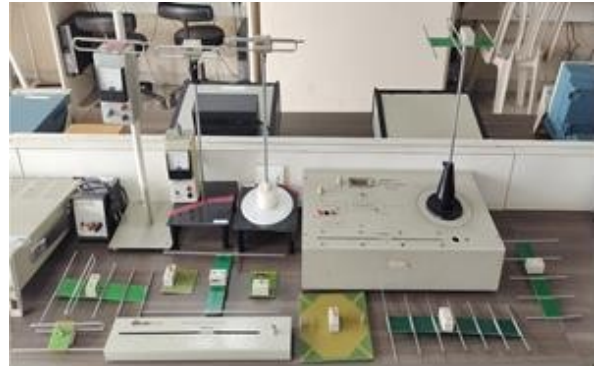
Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

- Immersive Technology & Natural Language Processing Laboratory
- Common Browsing Facility

Our laboratories function as centres for innovation and research, fostering interdisciplinary collaboration, project development, and active engagement with industry. These facilities enable students and faculty to work on impactful projects that drive advancements in the domain of Electronics and telecommunication and contribute to broader technological development.



RF, Microwave and Antenna Engineering



Advanced Communication and Applications



Smart systems and Internet of Things



VLSI Design

Industry Collaboration



In alignment with our vision to bridge the gap between academic learning and industry practices, our institution has established strategic collaborations with renowned organizations such as **GROK Learning, Cloud Counselage, Sublime Enterprises, SCAD Technologies, Drona Aviation Pvt. Ltd.** These partnerships reflect our commitment to fostering a dynamic and immersive learning environment that prepares students for real-world challenges and emerging opportunities.

Through these collaborations, we offer students unparalleled access to **internship programs, specialized training modules, value-added courses, and project-based learning experiences.** These initiatives are designed to provide hands-on exposure to industry trends and best practices, equipping our graduates with the skills and competencies required to excel in a competitive global economy.

By working closely with our industry partners, we ensure that our curriculum remains relevant and innovative, enabling our students to engage with cutting-edge technologies and methodologies. This approach not only enhances their Programme readiness but also instils a mindset of lifelong learning and adaptability, key attributes for success in the evolving workplace.

Department Collaborations and MOU



Placements

At Vidyalankar Institute of Technology, Mumbai, the Electronics and Telecommunication Engineering Department is dedicated to ensuring that our graduates' transit seamlessly from academic excellence to programme success. Our robust placement program is a testament to this commitment, consistently connecting our talented students with leading industry giants and innovative startups alike.

We prioritize creating a nurturing environment where students can develop not only their technical prowess but also the soft skills essential for thriving in today's competitive job market. Through comprehensive career guidance, rigorous training sessions, and extensive internship opportunities, we equip our students with the tools they need to excel. Our dedicated placement cell works tirelessly to organize campus recruitment drives, workshops, and networking events, fostering strong relationships with top-tier employers across various sectors such as software development, data science, cybersecurity, and more.

Top Companies Recruiting



Our graduates have been placed in some of the most sought-after companies, including but not limited to:

- **Tech Giants:** Samsung, Oracle
- **Consulting Firms:** Accenture, Capgemini
- **IT Services and Solutions:** TCS, Infosys, Wipro

- **Specialized Companies:** Vertiv Energy, Godrej boyce, Selec control, Q-spider
- **Startups and Unicorns:** Frootle,

These firms actively recruit for specialized roles and provide exciting career paths in emerging technologies and domains.

Specialization Tracks in Autonomy Curriculum

The Electronics and Telecommunication Engineering Department at Vidyalankar Institute of Technology offers specialized tracks such as **Communication Engineering (CE)**, **Internet of Things (IoT)**, **Data Analytics and Machine Learning (DAML)** and **Very Large-Scale Integration (VLSI)** along with the option to pursue **Advanced Honors** in these domains. These tracks align with cutting-edge industry trends, enabling students to build domain expertise and gain a competitive edge in the job market.

Possible Job Opportunities

1. Internet of Things (IoT)

- **Designations:** Embedded System Engineer, IoT Application Developer, Embedded Software Engineer, IoT Security Analyst, IoT Security consultant, Application Engineer
- **Career Paths:** IoT and Cloud, Cloud Specialist, Cloud Architect, Industrial IoT
- **Estimated Salaries:** ₹5 LPA – ₹15 LPA, with senior roles exceeding ₹20LPA in top firms

2. Data Analytics and Machine Learning (DAML)

- **Designations:** Data Scientist, Data Analyst, Business Intelligence Analyst, Big Data Engineer
- **Career Paths:** Business analytics, Predictive modelling, Data-driven strategy consulting
- **Estimated Salaries:** ₹5 LPA – ₹15 LPA, depending on expertise and roles

3. Communication Engineering (CE)

- **Designations:** Network Engineer, Telecommunication Network Manager, Radio Engineer, Network Tester, Consultant
- **Career Paths:** High frequency antenna Design, Optical Fiber Communication, 5G technology, Wireless Sensor Networks
- **Estimated Salaries:** ₹ 5 LPA – ₹12 LPA, with critical positions in high-demand sectors like mobile communication.

4. Very Large Scale Integration (VLSI)

- **Designations:** Analog VLSI Designer, Digital VLSI Designer, Chip Architect, Testing and Verification Engineer

- **Career Paths:** Front-End Design Engineer, Back-End Design Engineer, Verification Engineer, Analog & Mixed-Signal Design Engineer, Layout Engineer
- **Estimated Salaries:** ₹ 4 LPA – ₹12 LPA, with critical positions in high-demand sectors like semiconductor chip manufacturing

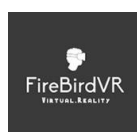
Comprehensive Placement Training

To support students in achieving these milestones, the department offers:

- Rigorous placement training sessions on aptitude, coding, and soft skills
- Industry expert-led workshops and boot camps
- Opportunities for internships and real-world project collaborations

The Electronics & Telecommunication Engineering Department of Vidyalankar Institute of Technology takes pride in nurturing well-rounded professionals, ensuring graduates are well-equipped to embark on a successful career trajectory.

Internships



At Vidyalankar Institute of Technology, Mumbai, we recognize the immense value of practical experience in shaping the career paths of our students. Our internship program plays a pivotal role in bridging the gap between academic learning and real-world application. By offering students the opportunity to work with industry professionals and engage in hands-on projects, we ensure they gain invaluable insights into the latest technological advancements and industry practices.

Through internships, students not only apply their theoretical knowledge but also develop critical soft skills such as teamwork, communication, and problem-solving, which are essential for Programme success. Our robust industry ties and strong placement network enable students to secure internships with leading organizations across various sectors, ranging from software development and data science to cybersecurity and digital marketing.

The internship experience empowers students to explore their interests, build their Programme portfolios, and enhance their employability. By providing real-world exposure, our internship program equips students with the confidence and expertise needed to excel in the ever-evolving job market.

Higher Studies



At Vidyalankar Institute of Technology, Mumbai, we believe in empowering our students with opportunities to pursue further education in their chosen fields of interest. The rapidly evolving landscape of technology offers numerous avenues for higher studies, enabling students to deepen their knowledge and enhance their expertise. Our Electronics and Telecommunication Engineering Department provides comprehensive guidance and resources to help students navigate the various options available for advanced studies. Whether it's specialized technical courses, research-oriented programs, or interdisciplinary fields like business management, we ensure our students are well-prepared for the next phase of their academic journey.

Top Universities where our students are admitted:

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1. Higher Studies in Universities (India)

- **Popular Courses:** MTech., M.S. (Research), Postgraduate Diplomas in Automation and robotics, Data Science, Information system, Software Engineering, MBA (Master of Business Administration), Ph.D. (Doctor of Philosophy)
- **Top Universities:** Indian Institute of Technology (IIT), National Institute of Technology (NIT), Vellore Institute of Technology, Birla Institute of Technology, C-DAC, Veermata Jijabai Technological Institute (VJTI)

2. Higher Studies in Universities (Abroad)

- **Top Universities:** Carnegie Mellon, Northeastern University, Boston, University of Texas at Arlington, University of Michigan, TU University Germany, University at Buffalo, Syracuse University, Illinois Institute of Technology, USC-University of Southern California
- **Popular Courses:** M.S. in Computer Science, Data Science, Cybersecurity, Artificial Intelligence, MBA (Master of Business Administration), Ph.D. (Doctor of Philosophy)

Possible Pathways for Higher Studies:

- **M. Tech in Electronics and Telecommunication Engineering**
 - **Specializations:** VLSI, Robotics, Cybersecurity, Embedded Systems, Cloud Computing, Software Engineering
- **M.S. in Computer Science**
 - **Specializations:** Artificial Intelligence, Data Analytics, Robotics, Human-Computer Interaction
- **M.S. in Information system**
 - Focus on niche areas for cutting-edge research and deep domain expertise
- **MBA (Master of Business Administration)/ PGDM (Postgraduate Diploma in Management)**
 - Specializations: Information Technology Management, Business Analytics, Product Management, Digital Transformation
 - Leading Business Schools: Indian Institutes of Management (IIM) Indian School of Business (ISB), XLRI, Harvard Business School, Stanford Graduate School of Business

Entrance Exams for Higher Studies:



- GATE (for M.Tech./ MS in India)
- GRE (for MS abroad)
- TOEFL/IELTS (for specific foreign countries)
- CAT (for MBA in India)
- CET (for MBA/MMS)
- GMAT (for MBA abroad)

Guidance and Support for Higher Studies

The Electronics and Telecommunication Engineering Department provides dedicated Higher Studies Committee, helping students make informed decisions about their higher education options. We offer:

- **Expert Sessions** from alumni and industry professionals who have pursued higher studies
- **Application Assistance** for entrance exams, university applications, and scholarships
- **Preparation for Standardized Exams** (GATE, GRE, TOEFL, IELTS, etc.)
- **Research Opportunities** to help students develop a strong academic profile for higher studies

With the right guidance and support, our students are well-equipped to excel in the global academic landscape, whether they choose to continue their technical education, venture into interdisciplinary fields, or pursue leadership roles in business.

Professional Bodies and Student Chapters



The Electronics and Telecommunication Engineering Department has three technical student chapter committees for organizing technical activities, seminars and workshops to hone the skillset of students trying to excel in their specific domain of interest. Students have the liberty to take part as well as hold the office for these committees in college.

1. Indian Society for Technical Education (ISTE)
2. Electronics and Telecommunication Students Association (ETSA)
3. Institution of Electronics and Telecommunication Engineers (IETE)

Electronics and Telecommunication Engineering department students are also members and hold positions in other Programme bodies that are managed by other departments which includes

1. Institute of Electrical and Electronics Engineers (IEEE)
2. Association for Computing Machinery (ACM)

Various technical activities at VIT Electronics and Telecommunication Engineering Department include Events, Workshops, Seminars, Guest Lectures, Internship Opportunities, Industry Exposure and Industrial visits for the students as well as faculty members. Such holistic approach along with academics help students nourish their soft skills and have a demand over their oratory, management and technical skills.

Event Glimpses:



Participation in Hackathon



ETSA event



Hand on Workshop



ETSA Event

Research

The Department of Electronics and Telecommunication Engineering at Vidyalankar Institute of Technology, Mumbai, actively drives impactful research through publications in reputed journals and conferences, fostering innovation and technological advancements. With a focus on Intellectual Property Rights (IPR), the department has achieved several Indian patents and copyrights while collaborating on consultancy projects with industries and institutes.

Revenue generation through testing, consultancy, training programs, and workshops contributes significantly to the department's growth. Participation in STTPs, FDPs, and Professional workshops ensures continuous development of faculty and students. These initiatives underscore the department's commitment to excellence in research, innovation, and industry collaboration.

To promote the research environment, we have IEEE library subscription and Turnitin for plagiarism checks. Many of our department faculties have presented in renowned National and International

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Conference and published papers in Scopus/SCI/UGC care indexed journals. Many of our faculties also serve as reviewer in Scopus indexed journals. The combination of Faculty Experience and the student's synergy has set the momentum and will enable us to cross the milestones. Vidyalankar Institute of Technology, Mumbai, is marked by significant achievements and impactful contributions:

1. **Research Funding:**

- **Funding Agencies:** TIH IIT Bombay and the University of Mumbai.
- **Total research grants:** INR 42,00,000/-.

Electronics and Telecommunication Engineering Department, Vidyalankar Institute of Technology (VIT) has received 7 project grants under the **CHANAKYA Fellowship Program** from Technology Innovation Hub (TIH) – Internet of Things (IoT), Indian Institute of Technology (IIT) Bombay under the flagship of Department of Science and technology (DST) worth INR 42,00,000/-. The professor along with the student groups mentioned would be working on the industry problem statement under his supervision.

The list of the project is as follows:

Funding Agency: TIH IOT IITB, Department of Science and Technology

Project Type: Research and Consultancy

Amount Granted/Received: 42 Lacs

Name of the faculty	Project Title
Dr. Dhananjay Patel	CFP/2022/A/031 - Design and Fabrication of Onion Harvester
	CFP/2022/A/019 -Trichoscopy and Trichogram Analysis
	CFP/2022/011 -Smart Ploughing Device
	CFP/2022/A/011 – Voice Controlled Robot
	CFP/2023/1/166-Designing and developing a multilingual Sign Language Translation App for Real-Time Interaction with Speech & Hearing-Impaired Individuals
	CFP/2024/1/021- Project title "Precision Soil Erosion Monitoring for Sustainable Land Management
Dr. Sheetal Mapare	Smart Soil Analyzer Integrated sensor and image processing device for accurate soil classification and crop recommendation

2. **Publications and Intellectual Property:**

- **Patents (Granted/Published/Filed):** 3 patents, including international patents granted.
- **Publications:** Over 85 research papers in reputed journals and conferences. We have our publications in SCI Journals, Scopus Indexed Journals, IEEE conferences and other peer reviewed journals.

3. **Research Collaborations:**

The department has established partnerships with renowned institutions, including:

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- CSRE, IIT Bombay
- Infi-Corridor Solutions Pvt. Ltd., Mumbai
- Space Applications Centre, ISRO
- Capella
- University of Cambridge of The Old Schools, Trinity Lane, Cambridge CB2 1TN, UK
FOR COVID-19 dataset for research
- Department of Population Health Sciences, Weill Cornell Medicine, Cornell University,
1300 York Avenue, New York, NY 10065, USA: Research collaboration
- Department of Information Systems, Northeastern University, 360 Huntington Ave,
Boston, MA 02115, USA: Research collaboration
- University of Lorraine, Unnamed Road, 54000 Nancy, France: Research collaboration
- Department of Computer Sciences and Engineering, Institute of Advanced Research,
The University for Innovation, Gandhianagar 382426, India: Research collaboration
- Faculty of Materials Science and Engineering, Gheorghe Asachi Technical University of
Iasi, 700050 Iasi, Romania: Research collaboration
- ATISP, ENET'COM, Sfax University, Tunisia: Research collaboration

4. Industry Engagement:

- **Memoranda of Understanding (MoUs):** Over 30 collaborations with leading industries to foster innovation, internships, and skill development.

Through its robust research ecosystem, the department continues to make meaningful advancements, contributing to academia, industry, and society while preparing students and faculty for global leadership in technology.

Student Projects

The Department of Electronics & Telecommunication Engineering at Vidyalankar Institute of Technology, Mumbai, places a strong emphasis on project-based learning, enabling students to transform theoretical knowledge into practical solutions. Our student projects reflect creativity, innovation, and technical expertise, and are often developed in collaboration with industry experts who provide valuable feedback and guidance. Also, Industry person works as co-guide for final year projects. This interaction ensures that the projects meet real-world industry standards and address current technological challenges.

Students actively participate in various national and international competitions, where they showcase their skills and earn recognition for their problem-solving abilities. Additionally, many of our students engage in research projects, contributing to academic advancements with research papers presented at reputed conferences and published in journals. Several projects have also led to patents and copyrights, demonstrating our students' ability to innovate and create valuable intellectual property.

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The success of these projects is rooted in the rigorous teamwork and collaborative approach fostered within the department. Working together, students develop not only technical skills but also essential soft skills like communication, leadership, and project management, preparing them for successful careers in the tech industry. Through their projects, our students continue to set new benchmarks of excellence and contribute significantly to the field of computer engineering. Few highlights are seen below:



The final year Project group of academic year 2023-24 published the research paper in IEEE **IGARSS 2024** on the topic, **GIS Based Automated tool for urban forest Management using UAV Data.**



The final year project group of academic year 204-25 published a research paper in **ICATM 2024** journal on the topic **Automatic Medicine Vending Machine.**



This Project group received **1st Rank in Trantra - Drishyam 2023 at Vidyalankar Institute of technology** for the Project topic Design and Implementation of Micro inverter for solar conversion using flyback technology.



This project group of Academic year 2024-25 Received **1st rank in Tantra-Vihar 2024** and also participated in **CIIA-3 innovation exhibition held on 31st January 2024 at Nehru Science centre Worli, Mumbai.**



This project group Received 1st rank in Hack fest **JANAKALYAN HACKATHON** in Quasar 2.0 for the topic Building Remote Lab Applications using Raspberry pi board.

Student Achievements

The Department of Electronics and Telecommunication Engineering at Vidyalankar Institute of Technology, Mumbai, is dedicated to the holistic development of its students. Our students excel academically, securing top ranks in university exams and contributing to research and innovation through technical projects and papers presented at conferences.

In addition to academics, our students actively participate in co-curricular activities, such as workshops, hackathons, coding competitions, and seminars, where they apply their knowledge and stay updated on emerging technologies. They also engage in a wide range of extra-curricular activities, winning accolades in sports, cultural events, and leadership roles.

Moreover, many of our students gain admission to prestigious universities worldwide, including the University of California and IITs, for higher studies. The consistent achievements of our students reflect the department's commitment to nurturing well-rounded individuals who are poised to make significant contributions to the tech industry and beyond. Few of them are mentioned below:



Secured 2nd Runner up prize worth rupees 15,000/- in world Robotics Championship held at Delhi in 2023 in Water Rocket category.



Secure 2nd position in State level competition held in April 2023-24 at VIT, Mumbai by EXTC students for the project titled, 'Ace Bot Serve & Collect'.

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering



EXTC department, team of students from VIT, presented research paper in an international Springer Scopus indexed Conference at Jaipur.

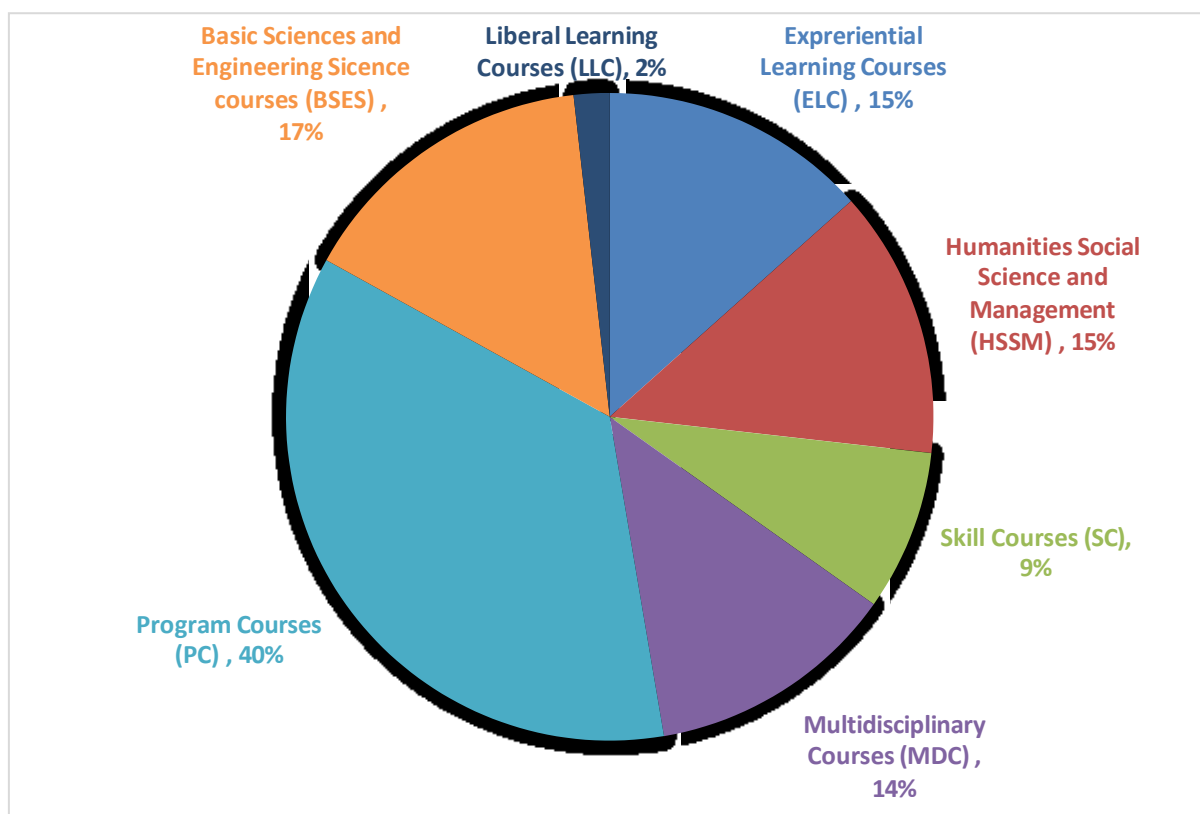


In Dec 2024 (Odd Semester) many students successfully completed an internship in various domains at different places. To name a few 9 students Grok Learning Ltd., 12 Students completed their internship in Embedded systems at Sublime Enterprises and 4 Students completed paid internship at Drona Aviation

CREDIT ALLOTMENT

Sr. No.	Verticals		Sub-Verticals	Minimum Credits Required	Offered Credits
1	Basic Science and Engineering Science Courses (BSES)	1.a	Basic Science Course (BSES_BSC)	15	15
		1.b	Engineering Science (BSES_ESC)	12	12
2	Program Courses (PC)	2.a	Programme Core Course (PC_PCC)	48	48
		2.b	Programme Elective Course (PC_PEC)	18	72
3	Multidisciplinary Courses (MDC)	3.a	Multidisciplinary Minor (MDC_MDM)	14	17
		3.b	Open Elective (MDC_OE)	08	22
4	Skill Courses (SC)		Vocational and Skill Enhancement Courses (SC_VSEC)	08	08
5	Humanities Social Science and Management (HSSM)	5.a	Ability Enhancement Courses (HSSM_AEC)	04	07
		5.b	Entrepreneurship/ Economics/ Management Courses (HSSM_EEMC)	05	05
		5.c	Indian Knowledge System (HSSM_IKS)	02	06
		5.d	Value Education Courses (HSSM_VEC)	03	11
6	Experiential Learning Courses (ELC)	6.a	Research Methodology (ELC_RM)	03	03
		6.b	Comm. Eng. Project/ Field Project (ELC_CEPFP)	02	02
		6.c	Project (ELC_PRJ)	08	08
		6.d	Internship/ OJT (ELC_IOJT)	12	12
7	Liberal Learning Courses (LLC)		Co-curricular Courses (LLC_CC)	04	12
Total				166	258

Contribution of each Vertical in Curriculum



Award of Degree

Learner is expected to successfully complete requirement of 166 credits (with minimum credits under each vertical and/or sub-vertical as mentioned above) for award of degree "B.Tech. in Electronics and Telecommunication Engineering".

Definition of Credit

Duration	Credit
1 Hr. Lecture (L) per week or 15 hours in a semester	1
1 Hr. Tutorial (T) per week or 15 hours in a semester	1
1 Hr. Practical (P) per week or 15 hours in a semester	0.5
30 hours of Internship/ OJT/ CEP/ FP in a semester	1

To empower students to achieve academic depth or breadth, our undergraduate program offers the opportunity to pursue Honours or Minor specializations. These additional credits are not just academic achievements—they are a commitment to curiosity, a mark of distinction, and a gateway to advanced learning and diverse career pathways.

Whether you aim to delve deeper into your core field with an Honours degree or explore a complementary area of interest through a Minor, these programs provide the flexibility, recognition, and challenge to help you stand out. We encourage you to seize this opportunity to shape a richer, more versatile academic journey—one that reflects your ambition and prepares you for a future of limitless possibilities.

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Learners can choose to avail

- i) B.Tech. in Electronics & Telecommunication Engineering
- ii) B.Tech. in Electronics & Telecommunication Engineering with Honors
- iii) B.Tech. in Electronics & Telecommunication Engineering with Double Minors
- iv) B.Tech. in Electronics & Telecommunication Engineering with Honors by Research

by completing requirements of additional 18 credits, which will be over and above the 166 credits required for B.Tech. degree. Details of additional 18 credits are stated in Honours/ Honors by Research/ Double Minor Degree Document applicable for R-2025 curriculum.

Courses Under Various Verticals/ Sub-Verticals

1. Basic and Engineering Science Courses (BSES)

1.1 Basic and Engineering Science Courses>Basic Science Courses (BSES_BSC)

Minimum Credits Required = 15

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	BSC11T*	Engineering Chemistry	√	-	-	-	NIL	NIL	4	K	2	-	-	2	1
2	BSC11P*	Engineering Chemistry Lab	√	-	-	-	NIL	NIL	4	K	-	2	-	1	1
3	BSC12*	Engineering Mathematics-I	√	-	-	-	NIL	NIL	5	S	3	-	-	3	1
4	BS10T*	Engineering Physics	-	√	-	-	NIL	NIL	4	K	2	-	-	2	2
5	BS10P*	Engineering Physics Lab	-	√	-	-	NIL	NIL	4	K	-	2	-	1	2
6	BSC14*	Engineering Mathematics-II	-	√	-	-	BSC02	BSC06	5	K	3	-	-	3	2
7	BSC06*	Engineering Mathematics-III	√	-	-	-	BSC04	NIL	5	K	3	-	-	3	3
Total Offered Credits														15	

*Courses exempted for Direct Second Year (DSY) students who will secure admission through lateral entry from the A.Y. 2026-27 onwards.

1.2 Basic and Engineering Science Courses>Engineering Science Courses (BESC_ESC)

Minimum Credits Required=12

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	ESC02T*	Engineering Mechanics	√	-	-	-	NIL	NIL	4	K	2	-	-	2	1
2	ESC02P*	Engineering Mechanics Lab	√	-	-	-	NIL	NIL	4	S	-	2	-	1	1
3	ESC06T*	Basic Electrical & Electronics Engineering	√	-	-	-	NIL	PCET01T, PCET101T	4	K	2	-	-	2	1

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
4	ESC06P*	Basic Electrical & Electronics Engineering Lab	√	-	-	-	NIL	PCET01P, PCET101P	4	S	-	2	-	1	1
5	ESC07T*	Logic Circuit	-	√	-	-	NIL	PCET102T	4	K	2	-	-	2	2
6	ESC07P*	Logic Circuit Lab	-	√	-	-	NIL	PCET102P	4	S	-	2	-	1	2
7	ESC01T*	Engineering Graphics	-	√	-	-	NIL	NIL	4	K	2	-	-	2	2
8	ESC01P*	Engineering Graphics Lab	-	√	-	-	NIL	NIL	4	S	-	2	-	1	2
Total Offered Credits														12	

*Courses exempted for Direct Second Year (DSY) students who will secure admission through lateral entry from the A.Y. 2026-27 onwards.

2. Programme Courses (PC)

2.1 Programme Courses > Programme Core Courses (PC_PCC)

Minimum Credits Required = 48

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	PCET01T	Electronic Devices and Circuits	√	-	-	-	ESC06T	PCET06T	4	K	2	-	-	2	3
2	PCET01P	Electronic Devices and Circuits Lab	√	-	-	-	ESC06P	PCET06P	4	S	-	2	-	1	3
3	PCET02T	Principles of Communication Engineering	√	-	-	-	NIL	PCET09T	5	K	2	-	-	2	3
4	PCET02P	Principles of Communication Engineering Lab	√	-	-	-	NIL	PCET09P	5	S	-	2	-	1	3
5	PCET03T	Signal and Systems	-	√	-	-	NIL	PCET10T	5	K	2	-	-	2	4
6	PCET03P	Signal and Systems Lab	-	√	-	-	NIL	PCET10P	5	S	-	2	-	1	4
7	PCET101T	Network Theory and	√	-	-	-	ESC06T	NIL	5	K	2	-	-	2	3

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
		Transmission lines													
8	PCET101P	Network Theory and Transmission lines Lab	√	-	-	-	ESC06P	NIL	5	S	-	2	-	1	3
9	PCET102T	Microprocessor & Microcontroller	√	-	-	-	ESC07T	IoT Track	5	K	2	-	-	2	3
10	PCET102P	Microprocessor & Microcontroller Lab	√	-	-	-	ESC07P	IoT Track	5	S	-	2	-	1	3
11	PCET06T	Integrated Circuits	-	√	-	-	ESC06T	VLSI Track	5	K	2	-	-	2	4
12	PCET06P	Integrated Circuits Lab	-	√	-	-	ESC06P	VLSI Track		S	-	2	-	1	4
13	PCET07T	Data Structure & Analysis of Algorithm	-	√	-	-	VSEC01T	NIL	5	K	2	-	-	2	4
14	PCET07P	Data Structure & Analysis of Algorithm Lab	-	√	-	-	VSEC01P	NIL	5	S	-	2	-	1	4
15	PCET09T	Digital Communication	-	√	-	-	PCET02T	NIL	5	K	2	-	-	2	4
16	PCET09P	Digital Communication Lab	-	√	-	-	PCET02P	NIL	5	S	-	2	-	1	4
17	PCET10T	Digital Signal Processing	√	-	-	-	PCET03T	NIL	5	K	2	-	-	2	5
18	PCET10P	Digital Signal Processing Lab	√	-	-	-	PCET03P	NIL	5	S	-	2	-	1	5
19	PCET103T	Electromagnetics and Antenna	√	-	-	-	NIL	PCET104T	5	K	2	-	-	2	5
20	PCET103P	Electromagnetics and Antenna Lab	√	-	-	-	NIL	PCET104P	5	S	-	2	-	1	5
21	PCET104T	RF and Microwave Engineering	-	√	-	-	PCET103T	NIL	5	K	2	-	-	2	6
22	PCET104P	RF and Microwave Engineering Lab	-	√	-	-	PCET103P	NIL	5	S	-	2	-	1	6
23	PCET105T	Optical Communication	√	-	-	-	PCET02T, PCET09T	NIL	5	K	2	-	-	2	7

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
24	PCET1 05P	Optical Communication Lab	√	-	-	-	PCET02P, PCET09P	NIL	5	S	-	2	-	1	7
25	PCET1 4T	Mobile Communication	-	√	-	-	PCET02T, PCET09T	NIL	5	K	2	-	-	2	6
26	PCET1 4P	Mobile Communication Lab	-	√	-	-	PCET02P, PCET09P	NIL	5	S	-	2	-	1	6
27	PCET1 6T	Computer Network	√	-	-	-	NIL	NIL	5	K	2	-	-	2	5
28	PCET1 6P	Computer Network Lab	√	-	-	-	NIL	NIL	5	S	-	2	-	1	5
29	PCET1 8T	Basic VLSI Design	√	-	-	-	PCET06T	VLSI Track	5	K	2	-	-	2	5
30	PCET1 8P	Basic VLSI Design Lab	√	-	-	-	PCET06P	VLSI Track	5	S	-	2	-	1	5
31	PCET1 06T	Mathematical theory of Communication	-	√	-	-	BSC06	NIL	5	K	2	-	-	2	4
32	PCET1 06P	Mathematical theory of Communication Lab	-	√	-	-	BSC06	NIL	5	S	-	2	-	1	4
33	PCET0 8P	Instrumentation and Control Lab	-	√	-	-	NIL	NIL	5	S	-	2	-	1	4
Total Offered Credits														48	

2.2 Programme Courses> Programme Elective Courses

Name of the track: Communication Engineering

Minimum Credits Required = 18

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	PEET20T	Modelling and Analysis of Communication System	√	-	-	-	PCET02 TPCET0 9T	NIL	5	K	2	-	-	2	5
2	PEET20P	Modelling and Analysis of	√	-	-	-	PCET02 PPCET0	NIL	5	S	-	2	-	1	5

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
		Communication System Lab					9PPEET 20T								
3	PEET21T	Telecommunication Network Management	-	√	-	-	PCET02 T PCET09 T	NIL	6	K	2	-	-	2	6
4	PEET21P	Telecommunication Network Management Lab	-	√	-	-	PCET02 PPCET09P	NIL	6	S	-	2	-	1	6
5	PEET22T	Tracking System	-	√	-	-	PCET10 3T	NIL	6	K	2	-	-	2	6
6	PEET22P	Tracking System Lab	-	√	-	-	PCET10 3P	NIL	6	S	-	2	-	1	6
7	PEET23T	OFDM and MIMO Technology	√	-	-	-	PCET02 T PCET09 T	NIL	6	K	2	-	-	2	7
8	PEET23P	OFDM and MIMO Technology Lab	√	-	-	-	PCET02 PPCET09P	NIL	6	S	-	2	-	1	7
9	PEET24T	Satellite Communication	√	-	-	-	PCET10 3T	NIL	6	K	2	-	-	2	7
10	PEET24P	Satellite Communication Lab	√	-	-	-	PCET10 3P	NIL	6	S	-	2	-	1	7
11	PEET25T	Wireless sensor networks	√	-	-	-	PCET16 T	NIL	6	K	2	-	-	2	7
12	PEET25P	Wireless sensor networks Lab	√	-	-	-	PCET16 P	NIL	6	S	-	2	-	1	7

Name of the track: Data Analytics and Machine Learning

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	PEET26T	Database Management System	√	-	-	-	VSEC01 T	PEET27 T	5	K	2	-	-	2	5
2	PEET26P	Database Management System Lab	√	-	-	-	VSEC01 P	PEET27 P	5	S	-	2	-	1	5

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
3	PEET27T	Introduction to Data Analytics	-	√	-	-	VSEC01 TPEET2 6T	NIL	6	K	2	-	-	2	6
4	PEET27P	Introduction to Data Analytics Lab	-	√	-	-	VSEC01 PPEET2 6P	NIL	6	S	-	2	-	1	6
5	PEET28T	Machine Learning	-	√	-	-	VSEC01 T	NIL	6	K	2	-	-	2	6
6	PEET28P	Machine Learning Lab	-	√	-	-	VSEC01 P	NIL	6	S	-	2	-	1	6
7	PEET29T	Data Mining	√	-	-	-	VSEC01 TPEET2 6T	NIL	6	K	2	-	-	2	7
8	PEET29P	Data Mining Lab	√	-	-	-	VSEC01 PPEET2 6P	NIL	6	S	-	2	-	1	7
9	PEET30T	Big data Analytics	√	-	-	-	VSEC01 TPEET2 6T	NIL	6	K	2	-	-	2	7
10	PEET30P	Big data Analytics Lab	√	-	-	-	VSEC01 PPEET2 6P	NIL	6	S	-	2	-	1	7
11	PEET31T	Deep Learning	√	-	-	-	VSEC01 TPEET2 6T	NIL	6	K	2	-	-	2	7
12	PEET31P	Deep Learning Lab	√	-	-	-	VSEC01 PPEET2 6P	NIL	6	S	-	2	-	1	7

Name of the track: Internet of Thing

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	PEET32T	Modern Sensors for Internet of Thing	√	-	-	-	NIL	NIL	5	K	2	-	-	2	5
2	PEET32P	Modern Sensors for Internet of Thing Lab	√	-	-	-	NIL	NIL	5	S	-	2	-	1	5
3	PEET33T	Principles of Internet of Things (IoT)	-	√	-	-	PCET102T, PCET16T	NIL	6	K	2	-	-	2	6
4	PEET33P	Principles of Internet of Things (IoT)Lab	-	√	-	-	PCET102P, PCET16P	NIL	6	S	-	2	-	1	6

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
5	PEET34T	Embedded System Design with Tiny Operating System (OS)	-	√	-	-	PCET102T, PCET16T	NIL	6	K	2	-	-	2	6
6	PEET34P	Embedded System Design with Tiny Operating System Lab	-	√	-	-	PCET102P, PCET16P	NIL	6	S	-	2	-	1	6
7	PEET35T	Internet of Things (IoT) and Edge Computing	√	-	-	-	PCET102T, PCET16T	NIL	6	K	2	-	-	2	7
8	PEET35P	Internet of Things (IoT) and Edge Computing Lab	√	-	-	-	PCET102P, PCET16P	NIL	6	S	-	2	-	1	7
9	PEET36T	Internet of Things (IoT) Security and Trust	√	-	-	-	PCET102T, PCET16T	NIL	6	K	2	-	-	2	7
10	PEET36P	Internet of Things (IoT) Security and Trust Lab	√	-	-	-	PCET102P, PCET16P	NIL	6	S	-	2	-	1	7
11	PEET37T	Industrial Internet of Things (IIoT)	√	-	-	-	PCET102T, PCET16T	NIL	6	K	2	-	-	2	7
12	PEET37P	Industrial Internet of Things (IIoT) Lab	√	-	-	-	PCET102P, PCET16P	NIL	6	S	-	2	-	1	7

Name of the track: Very Large-Scale Integration (VLSI)

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	PEET38T	Digital System Design	√	-	-	-	PCET18T	PEET 41T	5	K	2	-	-	2	5
2	PEET38P	Digital System Design Lab	√	-	-	-	PCET18P	PEET 41P	5	S	-	2	-	1	5
3	PEET39T	Advanced VLSI Design and Technology	-	√	-	-	PCET18T	NIL	6	K	2	-	-	2	6
4	PEET39P	Advanced VLSI Design and Technology Lab	-	√	-	-	PCET18P	NIL	6	S	-	2	-	1	6

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
5	PEET40T	Analog IC Design	-	√	-	-	PCET18T	PEET 43T	6	K	2	-	-	2	6
6	PEET40P	Analog IC Design Lab	-	√	-	-	PCET18P	PEET 43P	6	S	-	2	-	1	6
7	PEET41T	ASIC and Verification	√	-	-	-	PEET38T	NIL	6	K	2	-	-	2	7
8	PEET41P	ASIC and Verification Lab	√	-	-	-	PEET38P	NIL	6	S	-	2	-	1	7
9	PEET42T	System on Chip	√	-	-	-	PEET38T, PCET18T	NIL	6	K	2	-	-	2	7
10	PEET42P	System on Chip Lab	√	-	-	-	PEET38P, PCET18P	NIL	6	S	-	2	-	1	7
11	PEET43T	Mixed signal VLSI	√	-	-	-	PEET40T	NIL	6	K	2	-	-	2	7
12	PEET43P	Mixed signal VLSI Lab	√	-	-	-	PEET40P	NIL	6	S	-	2	-	1	7

3. Multidisciplinary Minor (MDM)

3.1. Multidisciplinary Minor (MDC_MDM)

Minimum Credits Required = 14

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	MDM03	Professional Competency Development 3	√	√	-	-	-	-	6	K & S	-	2	-	1	6
2	MDM04	Professional Competency Development 4	√	√	-	-	-	-	6	K & S	-	2	-	1	7
3	MDM BI01	Introduction to Bioinformatics	√	-	-	-	-	MDM BI02	4	K & S	3	-	1	4	3
4	MDM BI02	Algorithms and Data Structures in Bioinformatics	-	√	-	-	MDM BI01	MDM BI03	5	K & S	3	-	1	4	4
5	MDM BI03	Machine Learning Applications in Bioinformatics	√	-	-	-	MDM BI02	-	5	K & S	3	-	1	4	5
Multidisciplinary Minor in Innovation, Entrepreneurial and Venture Development															

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
6	MDM IE01	Foundations of Innovation and Entrepreneurship	√	-	-	-	-	MDM IE02	4	K & S	3	-	1	4	3
7	MDM IE02	Startup Planning and Development	-	√	-	-	MDM IE01	MDM IE03	5	K & S	3	-	1	4	4
8	MDM IE03	Innovation Management and Scaling Startups	√	-	-	-	MDM IE02	-	5	K & S	3	-	1	4	5
Multidisciplinary Minor in Business Development, Marketing and Finance															
9	MDM BD01	Introduction to Business Development and Marketing Principles	√	-	-	-	-	MDM BD02	4	K & S	3	-	1	4	3
10	MDM BD02	Financial Basics for Engineers and Technopreneurs	-	√	-	-	MDM BD01	MDM BD03	5	K & S	3	-	1	4	4
11	MDM BD03	Strategic Marketing and Business Planning	√	-	-	-	MDM BD02	-	5	K & S	3	-	1	4	5
Multidisciplinary Minor in Robotics															
12	MDM RB01	Fundamentals of Robotics and Control	√	-	-	-	-	MDM RB02	4	K & S	3	2	-	4	3
13	MDM RB02	Machine Vision and Robotic Perception	-	√	-	-	MDM RB01	MDM RB03	5	K & S	3	2	-	4	4
14	MDM RB03	Intelligent Mobile Robotics	√	-	-	-	MDM RB02	-	5	K & S	3	2	-	4	5
Multidisciplinary Minor in Computer Science															
15	MDM CS01	Computational Logic and Data Structures	√	-	-	-	-	MDM CS02	4	K & S	3	2	-	4	3
16	MDM CS02	Operating Systems and Computer Networks	-	√	-	-	MDM CS01	MDM CS03	5	K & S	3	2	-	4	4
17	MDM CS03	Database Systems and Introduction to Data Mining	√	-	-	-	MDM CS02	-	5	K & S	3	2	-	4	5
Total Offered Credits														62	

3.2 Open Elective Courses (MDC_OE)

Minimum Credits Required = 08

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	OEC02	Cyber Law	-	√	-	-	NIL	NIL	6	K	2	-	-	2	8
2	OEC03	Project Management	-	√	-	-	NIL	NIL	6	K	2	-	-	2	8
3	OEC04	Product Lifecycle Management	-	√	-	-	NIL	NIL	6	K	2	-	-	2	8
4	OEC05	Sustainability Management	-	√	-	-	NIL	NIL	6	K	2	-	-	2	8
5	OEC06	Renewable Energy Management	-	√	-	-	NIL	NIL	6	K	2	-	-	2	8
6	OEC01*	Collaborative Inter- Institute Studies	-	-	√	-	NIL	NIL	5	K	4	-	-	4	4 - 5
Total offered Credits														14	

* **For OEC01-** Collaborative Inter-Institute Studies: Internship with other reputed institutes equivalent to 4 credits is recommended to be done by learner during second year inter semester break (i.e. summer break between semester 4 and semester 5).

NOTE: As per Institute guidelines, the results of courses completed in inter-semester break will appear in the marksheet of the next semester.

4. Skill Courses (SC)

4.1 Vocational and Skill Enhancement Course (SC_VSEC)

Minimum Credits Required = 08

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	VSEC01T*	Structured Programming *	√	-	-	-	NIL	DAML Track	4	K	2	-	-	2	1
2	VSEC01P*	Structured Programming Lab *	√	-	-	-	NIL	DAML Track	4	S	-	2	-	1	1
3	VSEC02T*	Object Oriented Programming *	-	√	-	-	VSEC01T	DAML Track	4	K	2	-	-	2	2
4	VSEC02P*	Object Oriented Programming Lab *	-	√	-	-	VSEC01P	DAML Track	4	S	-	2	-	1	2
5	VSEC05	Skill Based Lab 1	√	-	-	-	VSEC02T	NIL	5	S	-	2	-	1	3
6	VSEC06	Skill Based Lab 2	-	√	-	-	VSEC06	NIL	5	S	-	2	-	1	6
Total offered Credits														08	

* Courses exempted for Direct Second Year (DSY) students who will secure admission through lateral entry from the A.Y. 2026-27 onwards.

5. Humanities Social Science and Management (HSSM)

5.1 Ability Enhancement Courses (HSSM_AEC)

Minimum Credits Required = 04

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	AEC01T	Effective Communication	-	-	-	-	NIL	NIL	4	S & A	2	-	-	2	1
2	AEC01P	Effective Communication Lab	-	-	-	-	NIL	NIL	4	S & A	-	2	-	1	1
5	AEC04	Technical Communication	-	-	-	-	NIL	NIL		K	-	2	-	1	3
Total offered Credits														4	

5.2 Entrepreneurship/ Economics/ Management Courses (HSSM_EEMC)

Minimum Credits Required = 05

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	EEMCO 3	Engineering Economics	-	√	-	-	NIL	NIL	5	K	2	-	-	2	6
2	EEMCO 1	Design Thinking	-	√	-	-	NIL	NIL	5	s	3	-	-	3	2
Total offered Credits														5	

5.3 Indian Knowledge System Courses (HSSM_IKS)

Minimum Credits Required = 02

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	IKS03	Exploring Indian Art	-	-	-	-	NIL	NIL		K	2	-	-	2	Any
2	IKS01	Indian Traditional Knowledge System	-	-	-	-	NIL	NIL		K	2	-	-	2	Any
3	IKS02	Indian Constitution	-	-	-	-	NIL	NIL		K	2	-	-	2	Any
Total offered Credits														6	

5.4 Value Education Courses (HSSM_VEC)

Minimum Credits required = 3

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	VEC02	E-Waste and Environmental Management	-	-	-	-	NIL	NIL	4	K	2	-	-	2	Any

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
2	VEC01 T	Professional Skills	-	-	-	-	NIL	NIL	4	K	2	-	-	2	Any
3	VEC01 P	Professional Skills Lab	-	-	-	-	NIL	NIL	4	K	-	2	-	1	Any
4	VEC03	Universal Human Values	-	-	-	-	NIL	NIL		K	2	-	-	2	Any
5	VEC04	Responsibility towards sustainable environment	-	-	-	-	NIL	NIL		K	2	-	-	2	Any
6	VEC05	Four Pillars of Democratic Nation	-	-	-	-	NIL	NIL		K	2	-	-	2	Any
Total offered Credits														11	

6. Experiential Learning Courses (ELC)

6.1 Research Methodology (ELC_RM)

Minimum Credits Required = 03

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	RM01	Research Methodology	-	-	-	-	NIL	NIL	6	K	3	-	-	3	7 or 8
Total offered Credits														3	

6.2 Comm. Eng. Project (CEP)/ Field Project (FP) (ELC_CEPFP)

Minimum Credits Required = 02

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	CEP01 #	Social Service Internship/ Project	-	√	-	-	NIL	NIL	5	S	-	4	-	2	4
Total offered Credits														2	

#For CEP01- Social Service Internship/ Project: 1 hour / week slot will be provided during the semester (in regular timetable). Additional work of 45 hours needs to be completed during the semester (besides regular timetable).

6.3 Project (ELC_PRJ)

Minimum Credits Required = 08

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	PRJET4 5	Mini Project- 1 (Hardware)	-	√	-	-	All Core courses	NIL	6	K	-	4	-	2	4
2	PRJET1 10	Project-1 (Synopsis)	-	√	-	-	All core and Programm eElectives	NIL	6	K	2	-	-	2	6
3	PRJET1 11	Project-2 (Final)	√	-	-	-	All core and Programm eElectives	NIL	6	K	-	4	-	4	7
Total offered Credits														8	

6.4 Internship/ OJT (ELC_IOJT)

Minimum Credits Required = 12

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	OJT01	Industry Internship [#]	√	-	-	-	NIL	NIL	6	A	-	150	-	5	Sem break between Sem 6 and Sem 7
2	OJT02	Industry Internship	√	-	-	-	NIL	NIL	6	A	-	150+ (Total)	-	7	8
Total offered Credits														12	

[#] to be done during inter semester break between semester 6 and semester 7.

7. Liberal Learning Courses (LLC)

7.1 Co-curricular Courses (LLC_CC)

Minimum Credits Required = 04

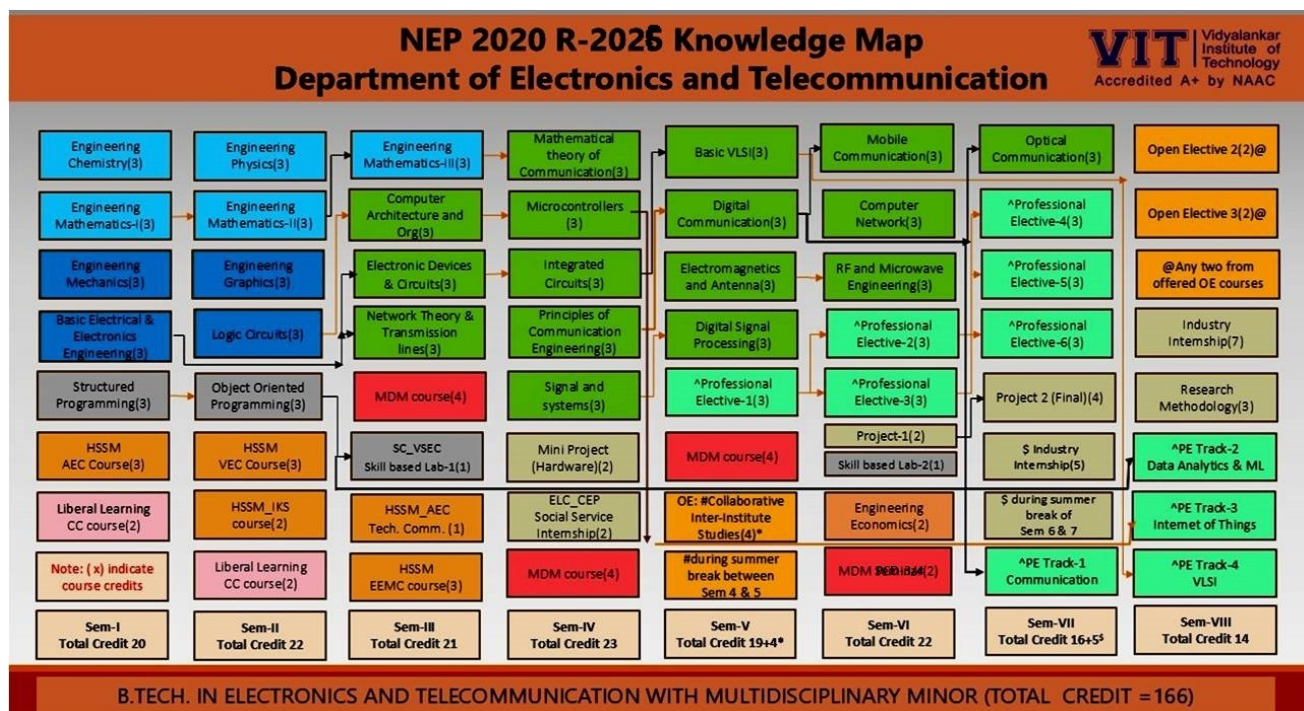
Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCrf)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
1	CC01	Various Dance Forms	√	-	-	-	NIL	NIL	4	A	2	-	-	2	Any
2	CC03	Global Citizenship Education	√	-	-	-	NIL	NIL	4	A	2	-	-	2	Any
3	CC04	Wellness – Body, Mind & Spirit	-	√	-	-	NIL	NIL	4	A	2	-	-	2	Any
4	CC05	IQ vs EQ	-	√	-	-	NIL	NIL	4	A	2	-	-	2	Any
5	CC06	Nutrition and Physical Wellness	-	√	-	-	NIL	NIL	4	A	2	-	-	2	Any
6	CC07	Facets of Astronomy	-	√	-	-	NIL	NIL	4	A	2	-	-	2	Any

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Sr. No.	Course Code	Course Name	Offered in				Required Prerequisite	Prerequisite for	Course Level (as per NCeF)	KSA Mapping	Hours Per Week			Credits	Preferred Semester
			Fall	Spring	Summer	Winter					Theory	Practical	Tutorial		
7	CC08	Railways - Wonders of Infrastructure	√	-	-	-	NIL	NIL	4	A	2	-	-	2	Any
8	CC02	Corporate and Social Etiquettes	√	-	-	-	NIL	NIL	4	A	2	-	-	2	Any
9	CC09	Financial Literacy for Engineers	√	-	-	-	NIL	NIL	4	A	2	-	-	2	Any
10	CC10	Mastering Advanced Excel	√	√	-	-	-	-	4	K	2	-	-	2	Any
11	CC11	Personal Grooming Essentials	√	√	-	-	-	-	4	K	2	-	-	2	Any
12	CC12	Various Music Forms	√	√	-	-	-	-	4	K	2	-	-	2	Any
13	CC13	Wellness: Introduction to MOJO and YOGA	√	√	-	-	NIL	NIL	4	A	-	2	-	0.5	Any
14	CC14	Wellness: Joy of Giving	√	√	-	-	NIL	NIL	4	A	-	2	-	0.5	Any
15	CC15	Wellness: Sports and Hobbies	√	√	-	-	NIL	NIL	4	A	-	2	-	0.5	Any
16	CC16	Wellness: Nutrition and Healthy Eating	√	√	-	-	NIL	NIL	4	A	-	2	-	0.5	Any
Total offered Credits														26	

Knowledge Map of VIT_EXTC_R-2026-27 Curriculum

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering



Knowledge Map of VIT_EXTC_R-2026 Curriculum

Illustrative Semester wise
Credit Distribution Structure and Assessment Guidelines
(Based on NEP 2020 Guidelines)
for
Bachelor of Technology
in
Electronics and Telecommunication Engineering

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Verticals	Sub Verticals	Sem 1		Sem 2		Sem 3		Sem 4		Sem 5		Sem 6		Sem 7		Sem 8		Total Credits
		Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	
Basic Science & Engineering Basic Courses (BSES)	Basic Science Courses (BSC)	6		6		3												15
	Engineering Science Course (ESC)	6	1	6	1													12
Program Courses (PC)	Program Core Courses (PCC)					9	1	15	1	12	1	9	1	3				48
	Program Elective Courses (PEC)									3		6		9	2			18
Multidisciplinary Courses	Multidisciplinary Minor (MDM)					4		4		4		1		1				14
	Open Elective (OE)								1	5						2		8
Skill Courses (SC)	Vocational & Skill Enhancement Courses (VSEC)	3	1	3	1	1						1						8
Humanities Social Science and Management (HSSM)	Ability Enhance Course (AEC)	3				1												4
	Entrepreneurship/Economics/Management Courses (EEMC)					3						2						5
	Indian Knowledge System (IKS)			2														2
	Value Education Courses (VEC)			3														3
Experiential Learning Courses (ELC)	Research Methodology (RM)															3		3
	Comm. Engg Project (CEP) Field Project (FP)							2										2
	Project							2				2		4				8
	Inyernship/OJT															12		12

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

Verticals	Sub Verticals	Sem 1		Sem 2		Sem 3		Sem 4		Sem 5		Sem 6		Sem 7		Sem 8		Total Credits
		Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	Credits	Certification	
Liberal Learning Courses (LLC)	Co-curricular courses (CC)	0.5		2.5		0.5		0.5										4
Total		18.5		22.5		21.5		24.5		24		21		17		17		166

First Year B. Tech. Electronics & Telecommunication Engineering

Preferred Semester: I

Course Structure and Assessment Guidelines

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification [§]
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
BSES_BSC	BSC11T	Engineering Chemistry	NIL	NIL	K	2	-	-	2	15	20	40	075	
BSES_BSC	BSC116P	Engineering Chemistry Lab	NIL	NIL	S	-	2	-	1	25	-	25	050	
BSES_BSC	BSC12	Engineering Mathematics-I	NIL	NIL	K	2	-	-	3	20	30	50	100	
BSES_ESC	ESC02T	Engineering Mechanics	NIL	NIL	K	-	2	-	2	15	20	40	075	
BSES_ESC	ESC02P	Engineering Mechanics Lab	NIL	NIL	S	2	-	-	1	25	-	25	050	
BSES_ESC	ESC06T	Basic Electrical & Electronics Engineering	NIL	PCET01 T, PCET10 1T	K	-	2	-	2	15	20	40	075	Y
BSES_ESC	ESC06P	Basic Electrical & Electronics Engineering Lab	NIL	PCET01 P, PCET10 1P	S	2	-	-	1	25	-	25	050	
SC_VSEC	VSEC01T	Structured Programming	NIL	DAML Track	K	-	2	-	2	15	20	40	075	Y
SC_VSEC	VSEC01P	Structured Programming Lab	NIL	DAML Track	S	2	-	-	1	25	-	25	050	
HSSM_AEC	AECXXT*	Any HSSM_AEC Course	NIL	NIL	K	-	2	-	2	15	20	40	075	
HSSM_AEC	AECXXP*	Any HSSM_AEC Course	NIL	NIL	K	2	-	-	1	25	-	25	050	
LLC_CC	CC013	Wellness: Introduction to MOJO and Yoga	NIL	CEP01	A	-	1	-	0.5	25	-	-	025	
Total						12	12	0	18.5	220	130	375	725	

*Selection based on the subset of courses made available by the Institute for the semester.

§Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

ISA=In Semester Assessment: This will involve evaluation based on thought provoking assignments/ experiments/ class tests/ take home tests/ open book tests/ quizzes/ certification course etc... activities which will be assigned on weekly basis during the semester.

MSE= Mid Semester Examination: This will be a proctored examination conducted in the semester. Syllabus will be based on the percentage of syllabus completed till the exam.

ESE= End Semester Examination: This examination will be conducted after the end of academic session covering 100% syllabus of the course.

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

The assessment guidelines for the courses of different credits are mentioned above. Notwithstanding the above, each course faculty shall have the choice to propose her/his assessment methodology based on the nature of the course. However, the proposed assessment methodology shall be approved by a panel constituted at Institute level and published to the learners before the commencement of the semester.

List of Liberal Learning Cocurricular Courses

Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
					Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
CC01	Various Dance Forms	-	-	K	2	-	-	2	25	-	50	075	
CC02	Corporate and Social Etiquettes	-	-	K	2	-	-	2	25	-	50	075	
CC03	Global Citizenship Education	-	-	K	2	-	-	2	25	-	50	075	
CC04	Wellness – Body, Mind & Spirit	-	-	K	2	-	-	2	25	-	50	075	
CC05	IQ vs EQ	-	-	K	2	-	-	2	25	-	50	075	
CC06	Nutrition and Physical Wellness	-	-	K	2	-	-	2	25	-	50	075	
CC07	Facets of Astronomy	-	-	K	2	-	-	2	25	-	50	075	
CC08	Railways - Wonders of Infrastructure	-	-	K	2	-	-	2	25	-	50	075	
CC09	Financial Literacy for Engineers	-	-	K	2	-	-	2	25	-	50	075	
CC10	Mastering Advanced Excel	-	-	K	2	-	-	2	25	-	50	075	
CC11	Personal Grooming Essentials	-	-	K	2	-	-	2	25	-	50	075	
CC12	Various Music Forms	-	-	K	2	-	-	2	25	-	50	075	
CC13	Wellness: Introduction to MOJO and YOGA	-	-	K	-	2	-	0.5	25	-	-	025	
CC14	Wellness: Joy of Giving	-	-	K	-	2	-	0.5	25	-	-	025	
CC15	Wellness: Sports and Hobbies	-	-	K	-	2	-	0.5	25	-	-	025	
CC16	Wellness: Nutrition and Healthy Eating	-	-	K	-	2	-	0.5	25	-	-	025	

^{\$}Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

First Year B. Tech. Electronics & Telecommunication Engineering

Preferred Semester: II

Course Structure and Assessment Guidelines

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
BSES_BSC	BSC10T	Engineering Physics	NIL	NIL	K	2	-	-	2	15	20	40	075	
BSES_BSC	BSC10P	Engineering Physics Lab	NIL	NIL	S	-	2	-	1	25	-	25	050	
BSES_BSC	BSC14	Engineering Mathematics-II	BSC12	BSC06	K	2	-	1	3	20	30	50	100	
BSES_ESC	ESC01T	Engineering Graphics	NIL	NIL	K	2	-	-	2	15	20	40	075	
BSES_ESC	ESC01P	Engineering Graphics Lab	NIL	NIL	S	-	2	-	1	25	-	25	050	
BSES_ESC	ESC07T	Logic Circuits	NIL	NIL	K	2	-	-	2	15	20	40	075	Y
BSES_ESC	ESC07P	Logic Circuits Lab	NIL	NIL	S	-	2	-	1	25	-	25	050	
SC_VSEC	VSEC02T	Object Oriented Programming	VSEC01T	NIL	K	2	-	-	2	15	20	40	075	Y
SC_VSEC	VSEC02P	Object Oriented Programming Lab	VSEC01P	NIL	S	-	2	-	1	25	-	25	050	
HSSM_VEC	VECXXT	Any HSSM_AEC Course	NIL	NIL	K	2	-	-	2	15	20	40	075	
HSSM_VEC	VECXXP	Any HSSM_AEC Course	NIL	NIL	K	1	-	-	1	25	-	25	050	
HSSM_IKS	IKSXX*	Any HSSM_IKS course	NIL	NIL	K	2	-	-	2	25	-	50	075	
LLC-CC	CCXX*	Any one CC offered in the semester	NIL	NIL	K	2	-	-	2	25	-	50	075	
LLC_CC	CC014	Wellness: Joy of Giving	NIL	CEP01	A	-	1	-	0.5	25	-	-	025	
Total						17	8	1	22.5	300	130	475	900	

*Selection based on the subset of courses made available by the Institute for the semester.

^{\$}Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

ISA=In Semester Assessment: This will involve evaluation based on thought provoking assignments/ experiments/ class tests/ take home tests/ open book tests/ quizzes/ certification course etc... activities which will be assigned on weekly basis during the semester.

MSE= Mid Semester Examination: This will be a proctored examination conducted in the semester. Syllabus will be based on the percentage of syllabus completed till the exam.

ESE= End Semester Examination: This examination will be conducted after the end of academic session covering 100% syllabus of the course.

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

The assessment guidelines for the courses of different credits are mentioned above. Notwithstanding the above, each course faculty shall have the choice to propose her/his assessment methodology based on the nature of the course. However, the proposed assessment methodology shall be approved by a panel constituted at Institute level and published to the learners before the commencement of the semester.

List of Indian Knowledge System Courses

Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
					Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
IKS01	Indian Traditional Knowledge System	-	-	K & A	2	-	-	2	25	-	50	075	
IKS02	Indian Constitution	-	-	K & A	2	-	-	2	25	-	50	075	
IKS03	Exploring Indian Art	-	-	K & A	2	-	-	2	25	-	50	075	

List of Liberal Learning Cocurricular Courses

Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
					Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
CC01	Various Dance Forms	-	-	K	2	-	-	2	25	-	50	075	
CC02	Corporate and Social Etiquettes	-	-	K	2	-	-	2	25	-	50	075	
CC03	Global Citizenship Education	-	-	K	2	-	-	2	25	-	50	075	
CC04	Wellness – Body, Mind & Spirit	-	-	K	2	-	-	2	25	-	50	075	
CC05	IQ vs EQ	-	-	K	2	-	-	2	25	-	50	075	
CC06	Nutrition and Physical Wellness	-	-	K	2	-	-	2	25	-	50	075	
CC07	Facets of Astronomy	-	-	K	2	-	-	2	25	-	50	075	
CC08	Railways - Wonders of Infrastructure	-	-	K	2	-	-	2	25	-	50	075	
CC09	Financial Literacy for Engineers	-	-	K	2	-	-	2	25	-	50	075	
CC10	Mastering Advanced Excel	-	-	K	2	-	-	2	25	-	50	075	
CC11	Personal Grooming Essentials	-	-	K	2	-	-	2	25	-	50	075	
CC12	Various Music Forms	-	-	K	2	-	-	2	25	-	50	075	

Program Structure (R-2026) for Bachelor of Technology (B.Tech.)
Electronics and Telecommunication Engineering

CC13	Wellness: Introduction to MOJO and YOGA	-	-	A	-	2	-	0.5	25	-	-	025	
CC14	Wellness: Joy of Giving	-	-	A	-	2	-	0.5	25	-	-	025	
CC15	Wellness: Sports and Hobbies	-	-	A	-	2	-	0.5	25	-	-	025	
CC16	Wellness: Nutrition and Healthy Eating	-	-	A	-	2	-	0.5	25	-	-	025	

*Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

Second Year B. Tech. Electronics & Telecommunication Engineering

Preferred Semester: III

Course Structure and Assessment Guidelines

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
BSES_BSC	BSC06	Engineering Mathematics-III	BSC04	NIL	K	3	-	-	3	20	30	50	100	
PC_PCC	PCET108T	Computer architecture and Organization	ESC07T	IoT Track	K	2	-	-	2	15	20	40	075	Y
PC_PCC	PCET108P	Computer architecture and Organization Lab	ESC07P	IoT Track	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET01T	Electronic Devices and Circuits	ESC06T	PCET06T	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET01P	Electronic Devices and Circuits Lab	ESC06P	PCET06P	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET101T	Network Theory and Transmission lines	ESC06T	NIL	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET101P	Network Theory and Transmission lines lab	ESC06P	NIL	S	-	2	-	1	25	-	25	050	
MDM	MDMBDX*	As per MDM course list ^{##}	NIL	NIL	S	3	1	1	4	45	30	50	125	
VSEC	VSEC05	Skill Based Lab	NIL	NIL	S	-	2	-	1	25	-	25	050	Y
HSSM_AEC	AEC04	Technical Communication	NIL	NIL	S	-	2	-	1	25	-	25	050	
HSSM_EE MC	EEMC01	Design Thinking	NIL	NIL	S	2	-	1	3	50	-	-	050	
LLC_CC	CC015	Wellness: Sports and Hobbies	NIL	NIL	A	-	2	-	0.5	25	-	-	025	
Total						14	13	2	21.5	315	120	345	825	

*Selection based on the subset of courses made available by the Institute for the semester.

^{\$}Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

^{##}For details of MDM courses refer program structure for multidisciplinary minor (MDM) program

ISA=In Semester Assessment: This will involve evaluation based on thought provoking assignments/ experiments / class tests/ take home tests/ open book tests/ quizzes/ certification course etc... activities which will be assigned on weekly basis during the semester.

MSE= Mid Semester Examination: This will be a proctored examination conducted in the semester. Syllabus will be based on the percentage of syllabus completed till the exam.

ESE= End Semester Examination: This examination will be conducted after the end of academic session covering 100% syllabus of the course.

The assessment guidelines for the courses of different credits are mentioned above. Notwithstanding the above, each course faculty shall have the choice to propose her/his assessment methodology based on the nature of the course. However, the proposed assessment methodology shall be approved by a panel constituted at Institute level and published to the learners before the commencement of the semester.

Guidelines for Multidisciplinary Elective Courses and Minor Degree – Refer Appendix-B

Learners are required to go through the Appendix-B carefully before selecting the Multidisciplinary Elective courses. Detailed guidelines regarding Multidisciplinary Elective courses, Minor Degree Titles and courses relevant to each MDM Title are given in Appendix-B.

Multidisciplinary Elective Course¹ (MDMXX)

MDM Title	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
Bioinformatics	MDM BI01	Introduction to Bioinformatics	-	MDM BI02	K & S	3	-	1	4	45	30	50	125	
Innovation, Entrepreneurial and Venture Development	MDM IE01	Foundations of Innovation and Entrepreneurship	-	MDM IE02	K & S	3	-	1	4	45	30	50	125	
Business Development, Marketing and Finance	MDM BD01	Introduction to Business Development and Marketing Principles	-	MDM BD02	K & S	3	-	1	4	45	30	50	125	
Robotics	MDM RB01	Fundamentals of Robotics and Control	-	MDM RB02	K & S	3	2	-	4	45	30	50	125	
Computer Science	MDM CS01	Computational Logic and Data Structure	-	MDM CS02	K & S	3	2	-	4	45	30	50	125	

^{\$}Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

Second Year B. Tech. Electronics & Telecommunication Engineering

Preferred Semester: IV

Course Structure and Assessment Guidelines

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
PC_PCC	PCET106T	Mathematical theory of Communication	BSC06	NIL	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET106P	Mathematical theory of Communication Lab	BSC06	NIL	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET109T	Microcontrollers	PCET108T	NIL	K	2	-	-	2	15	20	40	075	Y
PC_PCC	PCET109P	Microcontrollers Lab	PCET108T	NIL	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET06T	Integrated Circuits	ESC06T	VLSI Track	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET06P	Integrated Circuits Lab	ESC06P	VLSI Track	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET02T	Principles of Communication Engineering	PCET01T	NIL	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET02P	Principles of Communication Engineering Lab	PCET01P	NIL	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET100T	Signal and Systems	ESC06T	PCET10T	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET100P	Signal and Systems Lab	ESC06P	PCET10P	S	-	2	-	1	25	-	25	050	
ELC_INT/OJ	PRJET45	Mini Project 1 (Hardware)	All Core courses	NIL	S	-	2	-	2	50	-	50	100	
ELC-CEP	CEP01#	CEP/FP course	NIL	NIL	S	-	4	-	2	50	-	50	100	
MDM	MDMBDX [*]	As per MDM course list ^{##}	NIL	NIL	S	3	1	1	4	45	30	50	125	
MDC_OE	OEC14	Professional Competency Development 1	NIL	NIL	S	-	2	-	1	50	-	-	050	
LLC_CC	CC016	Wellness: Nutrition and Healthy Eating	NIL	NIL	A	-	1	-	0.5	25	-	-	025	
Total						13	20	1	24.5	420	130	475	1025	

^{*}Selection based on the subset of courses made available by the Institute for the semester.

^{##}For details of MDM courses refer program structure for multidisciplinary minor (MDM) program.

^{\$}Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

ISA=In Semester Assessment: This will involve evaluation based on thought provoking assignments/ experiments/ class tests/ take home tests/ open book tests/ quizzes/ certification course etc... activities which will be assigned on weekly basis during the semester.

MSE= Mid Semester Examination: This will be a proctored examination conducted in the semester. Syllabus will be based on the percentage of syllabus completed till the exam.

ESE= End Semester Examination: This examination will be conducted after the end of academic session covering 100% syllabus of the course.

The assessment guidelines for the courses of different credits are mentioned above. Notwithstanding the above, each course faculty shall have the choice to propose her/his assessment methodology based on the nature of the course. However, the proposed assessment methodology shall be approved by a panel constituted at Institute level and published to the learners before the commencement of the semester.

For CEP01- Social Service Internship/ Project: 2 hours / week slot will be provided during the semester (in regular timetable). Additional work of 60 hours needs to be completed during the semester (besides regular timetable).

NOTE: As per Institute guidelines, course credits completed during the previous inter-semester break will appear in this semester's marksheets

Multidisciplinary Elective Course2 (MDMXX)

MDM Title	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification [§]
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
Bioinformatics	MDM BI02	Algorithms and Data Structures in Bioinformatics	MDM BI01	MDM BI03	K & S	3	-	1	4	45	30	50	125	
Innovation, Entrepreneurial and Venture Development	MDM IE02	Startup Planning and Development	MDM IE01	MDM IE03	K & S	3	-	1	4	45	30	50	125	
Business Development, Marketing and Finance	MDM BD02	Financial Basics for Engineers and Technopreneurs	MDM BD01	MDM BD03	K & S	3	-	1	4	45	30	50	125	
Robotics	MDM RB02	Machine Vision and Robotic Perception	MDM RB01	MDM RB03	K & S	3	2	-	4	45	30	50	125	
Computer Science	MDM CS02	Operating Systems and Computer Networks	MDM CS01	MDM CS03	K & S	3	2	-	4	45	30	50	125	

[§]Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

Second Year B. Tech. Electronics and Telecommunication Engineering - Summer Break

[§]**For OEC01- Collaborative Inter Institute Studies (Credit Transfer):** Internship with other reputed Vidyalankar Institute of Technology (An Autonomous Institute affiliated to University of Mumbai)

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institutes equivalent to 4 credits is recommended to be done by learner during second year inter semester break (i.e. summer break between semester 4 and semester 5).

NOTE: As per Institute guidelines, result of courses completed in inter semester break will appear in marksheet of next semester.

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
OE	OEC01 ^{\$}	Collaborative Inter-Institute Studies	NIL	NIL	K	-	8	-	4	125	-	-	125	-

Third Year B. Tech. Electronics & Telecommunication Engineering

Preferred Semester: V

Course Structure and Assessment Guidelines

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
PC_PCC	PCET18T	Basic VLSI Design	PCET06T	VLSI Track	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET18P	Basic VLSI Design Lab	PCET06P	VLSI Track	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET09T	Digital Communication	PCET01T	NIL	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET09P	Digital Communication Lab	PCET01P	NIL	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET10T	Digital Signal Processing	PCET03T	NIL	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET10P	Digital Signal Processing Lab	PCET03P	NIL	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET103T	Electromagnetics and Antenna	NIL	PCET104T	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET103P	Electromagnetics and Antenna Lab	NIL	PCET104P	S	-	2	-	1	25	-	25	050	
PC_PEC	PEETXXT	Programme Elective-1	-	-	K	2	-	-	2	15	20	40	075	
PC_PEC	PEETXXP	Programme Elective-1 Lab	-	-	S	-	2	-	1	25	-	25	050	
MDM	MDMBDXX*	As per MDM course list##	NIL	NIL	K	3	-	1	4				125	
MDC_OE	OEC15	Professional Competency Development 2	NIL	NIL	S	-	2	-	1	50	-	-	050	
Total						13	12	1	20				800	

*Selection based on the subset of courses made available by the Institute for the semester.

##For details of MDM courses refer program structure for multidisciplinary minor (MDM) program

\$Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

ISA=In Semester Assessment: This will involve evaluation based on thought provoking assignments/ experiments/ class tests/ take home tests/ open book tests/ quizzes/ certification course etc... activities which will be assigned on weekly basis during the semester.

MSE= Mid Semester Examination: This will be a proctored examination conducted in the semester. Syllabus will be based on the percentage of syllabus completed till the exam.

ESE= End Semester Examination: This examination will be conducted after the end of academic session covering 100% syllabus of the course.

The assessment guidelines for the courses of different credits are mentioned above. Notwithstanding the above, each course faculty shall have the choice to propose her/his assessment methodology based on the nature of the course. However, the proposed assessment methodology shall be approved by a panel constituted at Institute level and published to the learners before the commencement of the semester.

Guidelines for Programme Elective Courses and Specialization Certificate – Refer Appendix-A

Learners are required to go through the Appendix-A carefully before selecting the Programme Elective courses. Detailed guidelines regarding Programme Elective courses, specialization tracks and courses relevant to each track are given in Appendix-A.

Programme Elective-1 Courses (PEETXXT and PEETXXP)

Specialization Track Name#	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification\$
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
Communication Engineering	PEET20T	Modelling and Analysis of Communication System	PCET02T, PCET09T	NIL	K	2	-	-	2	15	20	40	075	
	PEET20P	Modelling and Analysis of Communication System Lab	PCET02P, PCET09P	NIL	S	-	2	-	1	25	-	25	050	
Data Analytics and Machine Learning	PEET26T	Database Management System	VSEC01T	PEET27T	K	2	-	-	2	15	20	40	075	
	PEET26P	Database Management System Lab	VSEC01P	PEET27P	S	-	2	-	1	25	-	25	075	
Internet of Things	PEET32T	Modern Sensors for Internet of Thing	NIL	NIL	K	2	-	-	2	15	20	40	075	
	PEET32P	Modern Sensors for Internet of Thing Lab	NIL	NIL	S	-	2	-	1	25	-	25	075	
Very Large Scale Integration	PEEC38T	Digital System Design	PCET18T	PEET41T	K	2	-	-	2	15	20	40	075	
	PEEC38P	Digital System Design Lab	PCET18P	PEET41P	S	-	2	-	1	25	-	25	075	

\$Details regarding Industry-Level Certification(s) can be obtained from syllabus of respective course.

Multidisciplinary Elective Course3 (MDMXX)

MDM Title	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification ^{\$}
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
Bioinformatics	MDM BI03	Machine Learning Applications in Bioinformatics	MDM BI02	-	K & S	3	-	1	4	45	30	50	125	Y
Innovation, Entrepreneurial and Venture Development	MDM IE03	Innovation Management and Scaling Startups	MDM IE02	-	K & S	3	-	1	4	45	30	50	125	Y
Business Development, Marketing and Finance	MDM BD03	Strategic Marketing and Business Planning	MDM BD02	-	K & S	3	-	1	4	45	30	50	125	Y
Robotics	MDM RB03	Intelligent Mobile Robotics	MDM RB02	-	K & S	3	2	-	4	45	30	50	125	Y
Computer Science	MDM CS03	Database Systems and Introduction to Data Mining	MDM CS02	-	K & S	3	2	-	4	45	30	50	125	Y

Guidelines for Award of Honours/ Honours by Research / Double Minor Degree

Before the end of Semester 5, learners are required to go through the Honours/ Honours by Research/ Specialization Minor Degree Programme document carefully to opt for Honours/ Honours by Research/ Double Minor Degree. Learners willing to opt for Honours/ Honours by Research/ Specialization Minor degree programme are required to satisfy the eligibility criteria stated in the document.

Third Year B. Tech. Electronics & Telecommunication Engineering

Preferred Semester: VI

Course Structure and Assessment Guidelines

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry-Level Certification [§]
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
PC_PCC	PCET14T	Mobile Communication	PCET02T / PCET09T	NIL	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET14P	Mobile Communication Lab	PCET02P, PCET09P	NIL	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET104T	RF and Microwave Engineering	PCET103T	NIL	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET104P	RF and Microwave Engineering Lab	PCET103P	NIL	S	-	2	-	1	25	-	25	050	
PC_PCC	PCET107T	Computer Network	PCET09T	NIL	K	2	-	-	2	15	15	20	40	Y
PC_PCC	PCET107P	Computer Network Lab	PCET09P	NIL	K	-	2	-	1	25	25	-	25	
PC_PEC	PEETXXT	Programme Elective-2	Listed Below	Listed Below	K	2	-	-	2	15	20	40	075	
PC_PEC	PEETXXP	Programme Elective-2 Lab	Listed Below	Listed Below	S	-	2	-	1	25	-	25	050	
PC_PEC	PEETXXT	Programme Elective-3	Listed Below	Listed Below	K	2	-	-	2	15	20	40	075	
PC_PEC	PEETXXP	Programme Elective-3 Lab	Listed Below	Listed Below	S	-	2	-	1	25	-	25	050	
MDC_MDM	MDM03	Professional Competency Development 3	NIL	NIL	K	-	2	-	1	50	-	-	050	
SC-VSEC	VSEC06	Skill Based Lab 2	NIL	NIL	S	-	2	-	1	50	-	-	50	
HSSM_EEM C	EEMC03	Engineering Economics	NIL	NIL	K	2	-	-	2	15	20	40	075	
ELC_INT/OJ T	PRJET110	Project-1 (Synopsis)	All core and Elective courses	NIL	S	-	4	-	2	50	-	25	075	
Total						12	18	-	21	365	140	345	815	

*Selection based on the subset of courses made available by the Institute for the semester.

##For details of MDM courses refer program structure for multidisciplinary minor (MDM) program

ISA=In Semester Assessment: This will involve evaluation based on thought provoking assignments/ experiments/ class tests/ take home tests/ open book tests/ quizzes/ certification course etc... activities which will be assigned on weekly basis during the semester.

MSE= Mid Semester Examination: This will be a proctored examination conducted in the semester. Syllabus will

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be based on the percentage of syllabus completed till the exam.

ESE= End Semester Examination: This examination will be conducted after the end of academic session covering 100% syllabus of the course.

The assessment guidelines for the courses of different credits are mentioned above. Notwithstanding the above, each course faculty shall have the choice to propose her/his assessment methodology based on the nature of the course. However, the proposed assessment methodology shall be approved by a panel constituted at Institute level and published to the learners before the commencement of the semester.

Programme Elective-2 Courses (PEETXXT and PEETXXP)

List of Programme Elective 2 Courses (PEETXXT and PEETXXP)

Specialization Track Name#	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry Level Certification \$
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
Communication Engineering	PEET21T	Telecommunication Network Management	PCET02T, PCET09T	NIL	K	2	-	-	2	15	20	40	075	
	PEET21P	Telecommunication Network Management Lab	PCET02P, PCET09P	NIL	S	-	2	-	1	25	-	25	050	
Data Analytics and Machine Learning	PEET27T	Introduction to Data Analytics	VSEC01T, PEET26T	NIL	K	2	-	-	2	15	20	40	075	
	PEET27P	Introduction to Data Analytics Lab	VSEC01P, PEET26P	NIL	S	-	2	-	1	25	-	25	075	
Internet of Things	PEET33T	Principles of Internet of Things (IoT)	PCET102T, PCET16T	NIL	K	2	-	-	2	15	20	40	075	Y
	PEET33P	Principles of Internet of Things (IoT)Lab	PCET102P, PCET16P	NIL	S	-	2	-	1	25	-	25	075	
Very Large Scale Integration	PEEC39T	Advanced VLSI Design and Technology	PCET18T	NIL	K	2	-	-	2	15	20	40	075	Y
	PEEC39P	Advanced VLSI Design and Technology Lab	PCET18P	NIL	S	-	2	-	1	25	-	25	075	

#For details of Specialization Certificate refer Appendix A

List of Programme Elective 3 Courses (PEETXXT and PEETXXP)

Specialization Track Name#	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry Level Certification \$
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
Communication Engineering	PEET22T	Tracking Systems	PCET103 T	NIL	K	2	-	-	2	15	20	40	075	
	PEET22P	Tracking Systems Lab	PCET103 P	NIL	S	-	2	-	1	25	-	25	050	
Data Analytics and Machine Learning	PEET28T	Machine Learning	VSEC01 T	NIL	K	2	-	-	2	15	20	40	075	
	PEET28P	Machine Learning Lab	VSEC01 P	NIL	S	-	2	-	1	25	-	25	075	
Internet of Things	PEET34T	Embedded System Design with Tiny Operating System	PCET102 T, PCET16T	NIL	K	2	-	-	2	15	20	40	075	Y
	PEET34P	Embedded System Design with Tiny Operating System Lab	PCET102 P, PCET16 P	NIL	S	-	2	-	1	25	-	25	075	
Very Large Scale Integration	PEEC40T	Analog IC Design	PCET18T	PEET4 3T	K	2	-	-	2	15	20	40	075	
	PEEC40P	Analog IC Design Lab	PCET18 P	PEET4 3P	S	-	2	-	1	25	-	25	075	

#For details of Specialization Certificate refer Appendix A

Final Year B. Tech. Electronics & Telecommunication Engineering

Preferred Semester: VII

Course Structure and Assessment Guidelines

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry Level Certification \$
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
PC_PCC	PCET105T	Optical Communication	PCET02T / PCET09T	NIL	K	2	-	-	2	15	20	40	075	
PC_PCC	PCET105P	Optical Communication Lab	PCET02P, PCET09P	NIL	S	-	2	-	1	25	-	25	050	
PC_PEC	PEETXXT	Programme Elective-4	Listed Below	Listed Below	K	2	-	-	2	15	20	40	075	
PC_PEC	PEETXXP	Programme Elective-4 Lab	Listed Below	Listed Below	S	-	2	-	1	25	-	25	050	
PC_PEC	PEETXXT	Programme Elective-5	Listed Below	Listed Below	K	2	-	-	2	15	20	40	075	
PC_PEC	PEETXXP	Programme Elective-5 Lab	Listed Below	Listed Below	S	-	2	-	1	25	-	25	050	
PC_PEC	PEETXXT	Programme Elective-6	Listed Below	Listed Below	K	2	-	-	2	15	20	40	075	Y
PC_PEC	PEETXXP	Programme Elective-6 Lab	Listed Below	Listed Below	S	-	2	-	1	25	-	25	050	
Project	PRJET111	Project 2 (Final)	All core and Elective courses	NIL	S	-	8	-	4	75	-	50	125	
MDC_MDM	MDM04	Professional Competency Development 4	-	NIL	S	-	2	-	1	50	-	-	50	
Total						10	10	-	17	285	80	310	675	

ISA=In Semester Assessment: This will involve evaluation based on thought provoking assignments/ experiments/ class tests/ take home tests/ open book tests/ quizzes/ certification course etc... activities which will be assigned on weekly basis during the semester.

MSE= Mid Semester Examination: This will be a proctored examination conducted in the semester. Syllabus will be based on the percentage of syllabus completed till the exam.

ESE= End Semester Examination: This examination will be conducted after the end of academic session covering 100% syllabus of the course.

The assessment guidelines for the courses of different credits are mentioned above. Notwithstanding the above, each course faculty shall have the choice to propose her/his assessment methodology based on the nature of the course. However, the proposed assessment methodology shall be approved by a panel constituted at Institute level and published to the learners before the commencement of the semester.

Programme Elective- 4 Courses (PEETXXT and PEETXXP)

Specialization Track name#	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry Level Certification \$
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
Communication Engineering	PEET23T	OFDM and MIMO Technology	PCET02T, PCET09T	NIL	K	2	-	-	2	15	20	40	075	
	PEET23P	OFDM and MIMO Technology Lab	PCET02P, PCET09P	NIL	S	-	2	-	1	25	-	25	050	
Data Analytics and Machine Learning	PEET29T	Data Mining	VSEC01T, PEET26T	NIL	K	2	-	-	2	15	20	40	075	
	PEET29P	Data Mining Lab	VSEC01P, PEET26P	NIL	S	-	2	-	1	25	-	25	075	
Internet of Things	PEET35T	Internet of Things (IoT) and Edge Computing	PCET102T, PCET16T	NIL	K	2	-	-	2	15	20	40	075	
	PEET35P	Internet of Things (IoT) and Edge Computing Lab	PCET102P, PCET16P	NIL	S	-	2	-	1	25	-	25	075	Y
Very Large Scale Integration	PEEC41T	ASIC and Verification	PEET38T	NIL	K	2	-	-	2	15	20	40	075	
	PEEC41P	ASIC and Verification Lab	PEET38P	NIL	S	-	2	-	1	25	-	25	075	

#For details of Specialization Certificate refer Appendix A

Programme Elective- 5 Courses (PEETXXT and PEETXXP)

Specialization Track name#	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry Level Certification \$
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
Communication Engineering	PEET24T	Satellite Communication	PCET103T	NIL	K	2	-	-	2	15	20	40	075	
	PEET24P	Satellite Communication Lab	PCET103P	NIL	S	-	2	-	1	25	-	25	050	
Data Analytics	PEET30T	Big data Analytics	VSEC01T, PEET26T	NIL	K	2	-	-	2	15	20	40	075	

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Specialization Track name#	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry Level Certification \$
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
and Machine Learning	PEET30P	Big data Analytics Lab	VSEC01P, PEET26P	NIL	S	-	2	-	1	25	-	25	075	
Internet of Things	PEET36T	Internet of Things (IoT) Security and Trust	PCET102T, PCET16T	NIL	K	2	-	-	2	15	20	40	075	Y
	PEET36P	Internet of Things (IoT) Security and Trust Lab	PCET102P, PCET16P	NIL	S	-	2	-	1	25	-	25	075	
Very Large Scale Integration	PEEC42T	System on Chip	PEET38T, PCET18T	NIL	K	2	-	-	2	15	20	40	075	
	PEEC42P	System on Chip Lab	PEET38P, PCET18P	NIL	S	-	2	-	1	25	-	25	075	

#For details of Specialization Certificate refer Appendix A

Programme Elective- 6 Courses (PEETXXT and PEETXXP)

Specialization Track Name#	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry Level Certification \$
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
Communication Engineering	PEET25T	Wireless sensor networks	PCET16T	NIL	K	2	-	-	2	15	20	40	075	
	PEET25P	Wireless sensor networks Lab	PCET16P	NIL	S	-	2	-	1	25	-	25	050	
Data Analytics and Machine Learning	PEET31T	Deep Learning	VSEC01T, PEET26T	NIL	K	2	-	-	2	15	20	40	075	Y
	PEET31P	Deep Learning Lab	VSEC01P, PEET26P	NIL	S	-	2	-	1	25	-	25	075	
Internet of Things	PEET37T	Industrial Internet of Things (IIoT)	PCET102T, PCET16T	NIL	K	2	-	-	2	15	20	40	075	Y
	PEET37P	Industrial Internet of Things (IIoT) Lab	PCET102P, PCET16P	NIL	S	-	2	-	1	25	-	25	075	
Very Large Scale Integration	PEEC43T	Mixed signal VLSI	PEET40T	NIL	K	2	-	-	2	15	20	40	075	Y
	PEEC43P	Mixed signal VLSI Lab	PEET40P	NIL	S	-	2	-	1	25	-	25	075	

#For details of Specialization Certificate refer Appendix A

Final Year B. Tech. Electronics & Telecommunication Engineering

Preferred Semester: VIII

Course Structure and Assessment Guidelines

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry Level Certification \$
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
MDC_OE	OECXX*	Any from the offered Open Elective courses	NIL	NIL	K	2	-	-	2	15	20	40	075	
ELC_INT/OJT	OJT02	Industry Internship	NIL	NIL	A	-	24	-	12	300	-	300	600	
ELC_RM	RM01	Research Methodology	NIL	NIL	K	3	-	-	3	20	30	50	100	
Total						5	24	-	17	335	50	390	725	

*Selection based on the subset of courses made available by the Institute for the semester.

ISA=In Semester Assessment: This will involve evaluation based on thought provoking assignments/ experiments/ class tests/ take home tests/ open book tests/ quizzes/ certification course etc. activities which will be assigned on weekly basis during the semester.

MSE= Mid Semester Examination: This will be a proctored examination conducted in the semester. Syllabus will be based on the percentage of syllabus completed till the exam.

ESE= End Semester Examination: This examination will be conducted after the end of academic session covering 100% syllabus of the course.

The assessment guidelines for the courses of different credits are mentioned above. Notwithstanding the above, each course faculty shall have the choice to propose her/his assessment methodology based on the nature of the course. However, the proposed assessment methodology shall be approved by a panel constituted at Institute level and published to the learners before the commencement of the semester.

List of Open Elective Courses (OECXX)

Vertical_Sub-Vertical	Course Code	Course Name	Required Prerequisite	Prerequisite for	KSA Mapping	Hours Per Week			Credits	Assessment Guidelines (Marks)				Preparedness for Industry Level Certification
						Theory	Practical	Tutorial		Total ISA	Total MSE	Total ESE	Total Marks (Passing @40%)	
MC_OE	OEC01	Collaborative Inter-Institute Studies	CEP01 AEC03	OJT01	S	4	-	-	4	75	-	75	150	
MC_OE	OEC02	Cyber Law	NIL	NIL	K	2	-	-	2	15	20	40	075	
MC_OE	OEC03	Project Management	NIL	NIL	K	2	-	-	2	15	20	40	075	
MC_OE	OEC04	Product Lifecycle Management	NIL	NIL	K	2	-	-	2	15	20	40	075	
MC_OE	OEC05	Sustainability Management	NIL	NIL	K	2	-	-	2	15	20	40	075	

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MC_OE	OEC06	Renewable Energy Management	NIL	NIL	K	2	-	-	2	15	20	40	075	
MC_OE	OEC07	Biology	NIL	NIL	K	2	-	-	2	15	20	40	075	
MC_OE	OEC08	Chemistry	NIL	NIL	K	2	-	-	2	15	20	40	075	
MC_OE	OEC09	Psychology	NIL	NIL	K	2	-	-	2	15	20	40	075	
MC_OE	OEC10	Engineering Mathematics-IV	BSC06	PEEC05	K	3	-	-	3	20	30	50	100	
MC_OE	OEC11	Psychology	NIL	NIL	K	3	-	-	3	20	30	50	100	
MC_OE	OEC14	Professional Competency Development-I	NIL	NIL	S	-	2	-	1	50	-	-	050	
MC_OE	OEC15	Professional Competency Development-II	NIL	NIL	S	-	2	-	1	50	-	-	050	
MC_OE	OEC16	Digital Public Infrastructure	NIL	NIL	S	2	-	-	2	15	20	40	075	

Appendix-A

Guidelines for Programme Elective Courses and Specialization Certificate

Programme Elective courses are designed to meet industrial requirements. All learners must opt for 6 Programme Elective courses (both Theory and Practical component) as a part of requirement for B.Tech. degree.

Specialization Certificate is introduced in order to build competency of learners in the chosen domain. Department of Electronics and Telecommunication Engineering offer the following specialization tracks:

1. Communication Engineering (CE)
2. Internet of Things (IoT)
3. Data Analytics and Machine Learning (DAML)
4. Very Large Scale Integration

Learners can take courses from any track. **However, if learners complete all Programme Elective Courses from the same chosen track, they will be eligible to receive a Specialization Certificate from the Institute.**

Learners who choose Programme Elective courses from different specialisation tracks will not be eligible for a Specialization Certificate.

It should be noted that there are no additional credit requirements for these specialisations.

Communication Engineering Track: Courses to be chosen for specialization in Communication Engineering

Semester	Course Code	Course Name
V	PEET20T	Modelling and Analysis of Communication System
V	PEET20P	Modelling and Analysis of Communication System Lab
VI	PEET21T	Telecommunication Network Management
VI	PEET21P	Telecommunication Network Management Lab
VI	PEET22T	Tracking Systems
VI	PEET22P	Tracking Systems Lab
VII	PEET23T	OFDM and MIMO Technology
VII	PEET23P	OFDM and MIMO Technology Lab
VII	PEET24T	Satellite Communication
VII	PEET24P	Satellite Communication Lab
VII	PEET25T	Wireless sensor networks
VII	PEET25P	Wireless sensor networks Lab

Data Analytics and Machine Learning Track: Courses to be chosen for specialization in Data Analytics and Machine Learning

Semester	Course Code	Course Name
V	PEET26T	Database Management System
V	PEET26P	Database Management System Lab
VI	PEET27T	Introduction to Data Analytics
VI	PEET27P	Introduction to Data Analytics Lab

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Semester	Course Code	Course Name
VI	PEET28T	Machine Learning
VI	PEET28P	Machine Learning Lab
VII	PEET30T	Big data Analytics
VII	PEET30P	Big data Analytics Lab
VII	PEET29T	Data Mining
VII	PEET29P	Data Mining Lab
VII	PEET31T	Deep Learning
VII	PEET31P	Deep Learning Lab

IoT track: Courses to be chosen for specialization in Internet of Things

Semester	Course Code	Course Name
V	PECE03T	Modern Sensors for Internet of Things
V	PECE03P	Modern Sensors for Internet of Things Lab
VI	PECE11T	Embedded Systems Design and Tiny OS
VI	PECE11P	Embedded Systems Design and Tiny OS Lab
VI	PECE22T	Principles of Internet of Things
VI	PECE22P	Principles of Internet of Things Lab
VII	PECE17T	IoT & Edge Computing
VII	PECE17P	IoT & Edge Computing Lab
VII	PECE19T	IoT Security & Trust
VII	PECE19P	IoT Security & Trust Lab
VII	PECE20T	Industrial IoT
VII	PECE20P	Industrial IoT Lab

Very Large Scale Integration track: Courses to be chosen for specialization in Very Large Scale Integration

Semester	Course Code	Course Name
V	PEEC38T	Digital System Design
V	PEEC38P	Digital System Design Lab
VI	PEEC39T	Advanced VLSI Design and Technology
VI	PEEC39P	Advanced VLSI Design and Technology Lab
VI	PEEC40T	Analog IC Design
VI	PEEC40P	Analog IC Design Lab
VII	PEEC41T	ASIC and Verification
VII	PEEC41P	ASIC and Verification Lab
VII	PEEC42T	System on Chip
VII	PEEC42P	System on Chip Lab
VII	PEEC43T	Mixed signal VLSI
VII	PEEC43P	Mixed signal VLSI Lab