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Vidyavardhini's College Of Engineering & Technology, Vasai Road

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(Approved by AICTE, DTE Maharashtra and Affiliated to University of Mumbai)

NBA & NAAC Accredited

Electronics Engineering (VLSI Design and Technology)

Home»Electronics Engineering (VLSI DESIGN AND TECHNOLOGY)

Vidyavardhini?s College of Engineering and Technology (VCET) is a renowned institution known for its dedication to academic excellence. Within the realm of electronic engineering, VLSI Design and Technology stands out as a specialized branch. This field specifically focuses on the intricate design and implementation of integrated circuits (ICs) housing thousands to millions of transistors on a solitary chip. VLSI Design and Technology entails the process of crafting an integrated circuit by amalgamating thousands or millions of transistors onto a singular chip.VLSI Design Technology plays a transformative role in today?s tech-driven world, driving innovation, enabling connectivity, and shaping the future of electronics. Its importance spans across industries, from computing and communication to entertainment and emerging technologies, making it a critical field for technological progress and economic development.

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? To promote technological innovation, develop a skilled workforce, foster entrepreneurship.? To enhance the nation?s competitiveness in the global semiconductor industry.? To contribute to economic growth and advancements across various sectors.

High demand:High demand:? The increasing complexity of electronics and demand for energy efficiency drive a high need for VLSI professionals.
Emerging technology:? VLSI plays a pivotal role in shaping emerging technologies such as AI, IoT, and 5G, establishing the foundation for interconnected systems.

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Career opportunities:? VLSI Engineers in India and overseas are in great demand because of their competence in high-end chip design.

Specialized Expertise:? VLSI necessitates mastery in semiconductor design and fabrication, drawing skilled professional?s adept at intricate circuitry for high-performance integrated circuits.? The increasing complexity of electronics and demand for energy efficiency drive a high need for VLSI professionals.

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RTL Design Engineer:RTL design engineer involves creating and implementing designs using Verilog. They must know the complete ASIC/SoC design flow and must be good at debug.SoC Verification Engineer:A SoC verification engineer verifies a design?s functionality; this is done using a High-Level Verification Language such as System Verilog and UVMPhysical Design Engineer:A Physical Design Engineer is responsible for working with computer chips, circuits, and related components. They are in charge of analysing semiconductors, creating processor layout circuits, developing microchipsProcess Integration Engineer:A process integration engineer is responsible

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for designing, implementing, and maintaining integrated systems and processesTest Engineer:Test engineers in VLSI are responsible for developing and implementing test strategies and plans for ensuring the quality and reliability of ICs.Product Validation Engineer:ensuring the product meets the required standards and specifications. they help companies minimize defects and improve product quality, ultimately leading to customer satisfactionTechnical Manager:oversees the development, implementation and maintenance of technological company systems and processes, including troubleshooting any potential issues.Application Engineer:An AE role is the best choice for this role if he/she is communicative, a strong presenter, good at developing relationships, and good at technology,CAD Engineer:A CAD engineer must be very conversant with the complete design flow from spec. to tape out and have mastery over EDA tool usage, scripting.Field Application Engineer:A career as a Field Application Engineer (FAE) requires the person to be proficient in technology. FAEs are the bridge between the customers and the R&D department.Analog/Mixed-Signal IC Designer:A mixed signal design engineer contributes to the entire life cycle of a mixed signal integrated circuit. Your duties include the design of analog cells, performing verification tasks, validation and simulation of device assembly.FPGA Design Engineer:FPGA Design Engineers develop complex designs with advanced algorithms in HDL that will be deployed in unique, complex systems for our customers. They perform requirements development and definition, design architecture and implementation, design simulation, and hardware test and validation.Research And Development Engineer:focuses on Training, Incubating, and Building Capacity thru an VLSI Engineering Development program.

RTL Design Engineer:RTL design engineer involves creating and implementing designs using Verilog. They must know the complete ASIC/SoC design flow and must be good at debug.

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SoC Verification Engineer:A SoC verification engineer verifies a design?s functionality; this is done using a High-Level Verification Language such as System Verilog and UVM

Physical Design Engineer:A Physical Design Engineer is responsible for working with computer chips, circuits, and related components. They are in charge of analysing semiconductors, creating processor layout circuits, developing microchips

Process Integration Engineer:A process integration engineer is responsible for designing, implementing, and maintaining integrated systems and processes

Test Engineer:Test engineers in VLSI are responsible for developing and implementing test strategies and plans for ensuring the quality and reliability of ICs.

Product Validation Engineer:ensuring the product meets the required standards and specifications. they help companies minimize defects and improve product quality, ultimately leading to customer satisfaction

Technical Manager:oversees the development, implementation and maintenance of technological company systems and processes, including troubleshooting any potential issues.

Application Engineer:An AE role is the best choice for this role if he/she is communicative, a strong presenter, good at developing relationships, and good at technology,

CAD Engineer:A CAD engineer must be very conversant with the complete design flow from spec.

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to tape out and have mastery over EDA tool usage, scripting.

Field Application Engineer:A career as a Field Application Engineer (FAE) requires the person to be proficient in technology. FAEs are the bridge between the customers and the R&D department.

Analog/Mixed-Signal IC Designer:A mixed signal design engineer contributes to the entire life cycle of a mixed signal integrated circuit. Your duties include the design of analog cells, performing verification tasks, validation and simulation of device assembly.

FPGA Design Engineer:FPGA Design Engineers develop complex designs with advanced algorithms in HDL that will be deployed in unique, complex systems for our customers. They perform requirements development and definition, design architecture and implementation, design simulation, and hardware test and validation.

Research And Development Engineer:focuses on Training, Incubating, and Building Capacity thru an VLSI Engineering Development program.

Dr. Amrita Ruperee

Associate Professor & Head of Department

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The Department of Electronics and Telecommunication Engineering (EXTC) was established in the year 1994 with the aim of providing state of the art education in the field of Electronics and Telecommunication Engineering. Since then, the department has evolved to match the ever-changing needs of the industry with highly qualified faculty members and staff. We provide Undergraduate program with an intake of 60 seats. Ensuring the efforts for continuous development the Department is accredited by National Board of Accreditation (NBA) from 2012- 2015, reaccredited fromJuly 2022 to June 2025and is permanently affiliated to University of Mumbai.

The department is equipped with the state-of-the-art laboratories with advance equipment and recent software for academic studies and research along with industry labs set up by Texas Instruments. Highly qualified and experienced faculty members (more than 15 years) are the greatest asset to the department. To make the teaching-learning process interesting and interactive the faculty uses various instructional pedagogies, innovative techniques, and ICT tools.

Department is also associated with international and national students? chapters like IEEE and IETE. Department in association with student chapters, regularly conducts various activities on emerging technology trends. The department strives for all round development of the students by implementing Outcome Based Education systems with regular focus on extra-curricular activities like sports, cultural events, and technical events along with academic schedule.

Department has signed MOUs with 12 industries, enhancing placement support, and fostering career growth of students. The Department encourages industry projects, Internships and organizes industrial visits with the aim of providing practical learning opportunities essential for student development and allowing to experience the working environment and gain awareness of industry

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standards. The consistent placements in renowned national and international Companies have enabled the students to contribute their skills and knowledge globally.

Vision

Mission

The composition of the PAQIC Committee of Electronics & Telecommunication Engineering department for the academic year 2022-23 is as follows::

Members:

Frequency Of Meeting:

Roles and responsibilities:

Program Outcomes (POs):

Program Educational Objectives (PEOs):

Program Specific Outcomes (PSOs):

Dr. Vikas Gupta

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Professor & Dean Academics

Dr. Amrita Ruperee

Associate Professor & Head Of Department

Dr. Sunayana Jadhav

Asst. Prof. & First Year Engg. Co-Ordinator

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Ms. Shaista Khan

Ms. Shraddha Gosavi

Ms. Sandhya Supalkar

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Ms. Ashwini Katkar

Ms. Neha Gharat

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Ms. Ekta Naik

Ms. Trupti Shah

trupti.shah@vcet.edu.in

Mr. Sandeep Pawar

Toppers: 22-23

Toppers: 21-22

Syllabus :R 19

PO PSO CO

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