PCB Design and Prototype Development Laboratory

The **PCB Design and Prototype Development Laboratory** provides Electronics and Communication Engineering (ECE) students with practical exposure to printed circuit board (PCB) design, fabrication, and electronic prototype development. The laboratory enables students to understand the complete PCB design process, including schematic capture, component placement, routing, layout optimization, and circuit testing using modern PCB design software tools. Students learn to design single-layer and multi-layer PCBs for various electronic applications while following industry standards and design guidelines. The laboratory also provides hands-on experience in soldering, assembling electronic components, testing circuits, and developing functional hardware prototypes. Through practical experimentation, students gain skills in circuit implementation, debugging, troubleshooting, and hardware validation. The laboratory enhances creativity, design thinking, and problem-solving abilities required for electronic product development. It supports students in converting theoretical circuit concepts into real-time working models and prototypes.

The knowledge gained in this lab serves as a foundation for advanced areas such as embedded systems, IoT, VLSI hardware development, robotics, and communication system design. Overall, the PCB Design and Prototype Development Laboratory plays a vital role in developing practical hardware design skills and technical competence required for modern Electronics and Communication Engineering applications.

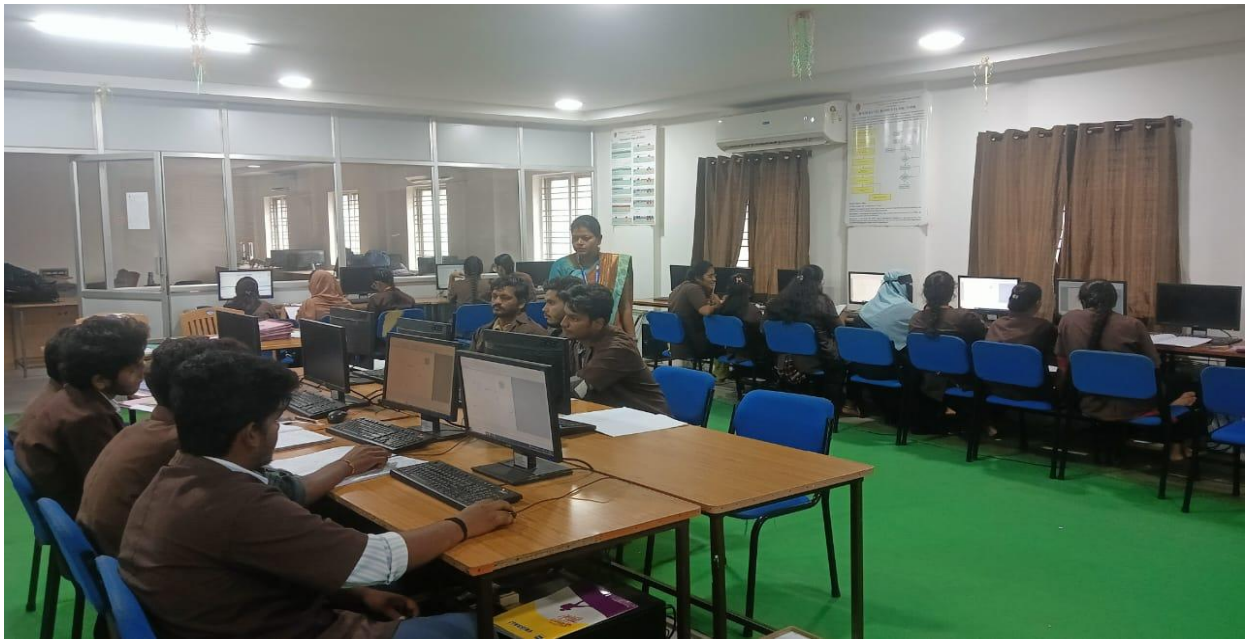


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