# Power Electronics and Simulation Lab:

The Power Electronics and Simulation Lab is an integral part of the electrical engineering curriculum, providing students with hands-on experience and practical knowledge in power electronic devices and simulation techniques. This lab focuses on conducting experiments related to power electronic devices such as SCR, MOSFET, and IGBT, as well as simulation using tools like PSPICE. Students gain a deeper understanding of the characteristics and applications of these devices, enabling them to design and analyze power electronic circuits and systems.

In the Power Electronics and Simulation Lab, students perform experiments on gate firing circuits for SCR's, study the characteristics of different power electronic devices, and analyze circuits such as single-phase AC voltage controllers, fully controlled bridge converters, and forced commutation circuits. They also delve into simulation techniques using software tools like PSPICE, which allow them to validate and analyze the behaviour of power electronic circuits. Through these hands-on experiences, students develop skills in circuit design, analysis, and troubleshooting. They gain practical insights into the operation of power electronic devices, their switching characteristics, and the control techniques employed in various applications. Overall, the lab equips students with the necessary knowledge and skills to excel in the field of power electronics and simulation.