Control system and simulation Lab

The Control System and Simulation Lab is a crucial component of the electrical engineering curriculum, providing students with hands-on experience in control system analysis and simulation techniques. This lab focuses on conducting experiments related to control systems, programmable logic controllers, temperature control, and simulation using tools such as PSPICE, MATLAB, and LABVIEW. Through these experiments, students gain practical knowledge and a deep understanding of control system principles, analysis methods, and simulation techniques.

In the Control System and Simulation Lab, students explore various experiments, including the time response of second-order systems, characteristics of synchros, transfer functions of DC machines, and stability analysis of control systems using Bode plots, root locus plots, and Nyquist plots in MATLAB. They also delve into topics such as programmable logic controllers, temperature control using PID controllers, and simulation of operational amplifier-based circuits. These hands-on experiences enable students to develop critical thinking skills, problem-solving abilities, and proficiency in utilizing software and hardware tools. By applying theoretical concepts to practical scenarios, students enhance their understanding of control systems and simulation, preparing them for future endeavors in the field of electrical engineering.

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