

Department of Electrical & Electronics Engineering

Sl No	Name of the Laboratory	Discription	Lab View
1	Electrical Machines Lab-1(15EEL37)	<p>This lab is included in order to analyze the load characteristics of Transformers and Induction Machines and to evaluate the performance of machines using various techniques. This lab is essential for understanding & analyzing the basic characteristics of electrical machines.</p>	
2	Electronics Lab(15EEL38)	<p>Electronics Laboratory gives the complete knowledge of analog electronic components and digital applications such as counters, adders etc. The experiments give an exposure to understand and work on different amplifiers, oscillators and so on. The hands on is given on logic gates which are the backbone of any digital applications like computers.</p>	

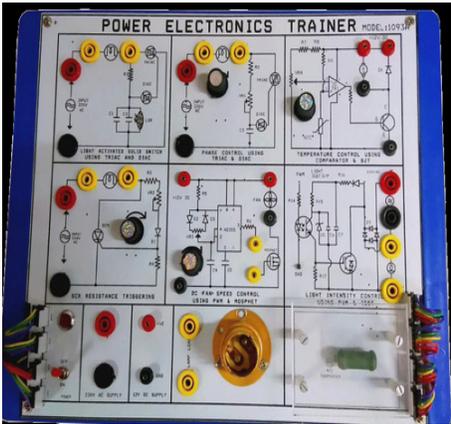
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3	Electrical Machines Lab- 2(15EEL47)	<p> This lab is included to perform various tests on DC Motor, Three Phase Induction Motor, Single Phase Induction Motor, Synchronous Motor and Induction Generator and to evaluate their performance and control speed from their characteristics by conducting various tests. This Lab is vital for understanding and analyzing the basic concepts, how to determine and pre-determine the performance characteristics of electrical machines through lab demos and practical orientation </p>	
4	OP-AMP and Linear IC's		

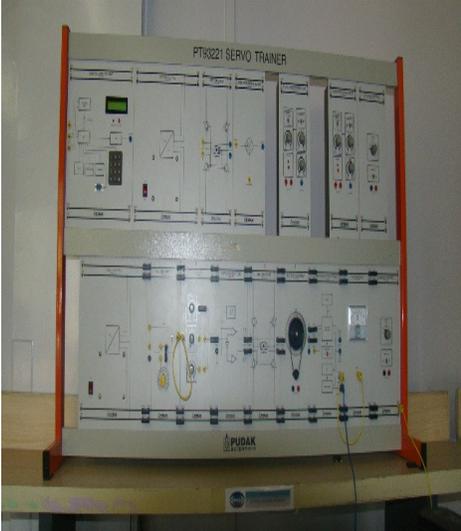
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	<p>Lab(15EEL48)</p>	<p>To understand the importance of op-amp in various applications like Precision Rectifiers, Filters, and DAC. ,To design the non-linear application of op-amp such as Schmitt circuit. , To study and design the application of 555 timer like monostable multivibrator. , Familiarize the conversion of data from Analog to Digital and Digital to Analog. , Design and construct waveform generation circuits using op-amp.</p>	
<p style="text-align: center;">5</p>	<p>Microcontroller Lab(15EEL57)</p>	<p>Write assembly language programs for data transfer, arithmetic, Boolean and logical instructions. Write ALP for code conversions.,Write ALP using subroutines for generation of delays, counters, configuration of SFRs for serial, communication and</p>	

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		<p>timers. Perform interfacing of stepper motor and dc motor for controlling the speed, Generate different waveforms using DAC interface, Work with a small team to carryout experiments using microcontroller concepts and prepare reports that present lab work</p>	
<p style="text-align: center;">6</p>	<p style="text-align: center;">Power Electronics Lab(15EEL58)</p>	<p>This laboratory throws light on the techniques of designing and building power electronic circuits. Our lab is fully equipped with advanced power electronic circuits and modules like three phase IGBT based inverter, MOSFET choppers, DC-DC converter etc. This lab requires a special non conventional teaching approach. It is mainly used to conduct experiments in the domain of power and digital electronics</p>	
<p style="text-align: center;">7</p>	<p style="text-align: center;">Control System Lab(15EEL67)</p>	<p>A control system consisting of interconnected components is designed to achieve a desired purpose, to understand the purpose of a control system. In this lab</p>	

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		<p>analysis of Speed torque Characteristics of AC & DC Servo motors, study of synchro pair characteristics , Lag-Lead compensator network, frequency response, effect of PID controllers, MATLAB programming for second order, third order & DC Position control system and various plots are brought out for students to understand the stability studies of the systems. A control system plays a vital role in studying the stability studies of all electrical systems, which is highlighted in this lab</p>	
8	<p>Digital Signal Processing - 15EEL68</p>	<p>The VTU has newly introduced Digital Signal Processing laboratory to provide excellent opportunities to the undergraduate students to enhance their understanding of DSP concepts using MATLAB through, Introduction to DSP, Discrete and Fast Fourier Transform, Circular convolution, and filtering via the DFT, Design and</p>	

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		Implementation of FIR and IIR Filter.	
9	Relay and High Voltage Lab(15EEL77)	<p>This lab is concentrated on all types of relays, protection schemes for electrical machines, measurement of HVAC & HVDC, breakdown strength of transformer oil & field mapping using electrolytic tank for capacitor and Transmission lines. Various protective schemes, measurements of HVAC and HVDC are dealt in this lab.</p>	
10	Power System Simulation Lab(15EEL78)	<p>MATLAB fundamentals, Power System Analysis like Load Flow, short circuit & transient analysis, and Economic load dispatch are simulated and analyzed using powerful software package MATLAB & Mi Power in this lab</p>	