



Techno College of Engineering Agartala

An Engineering College Approved by AICTE, MHRD, Govt. of India

Affiliated to Tripura University (A Central University),

Department of Electronics and Communication Engineering

List of Laboratory Experiments

Electronic Devices Lab							
Course Code	Hours / Week				Maximum Marks		
PC EC 307	L	T	P	C	CIA	SEE	Total
	0	0	2	1	40	60	100
Number of classes: 24 Hours		Prerequisites: 10+2 Physics					
Branch: ECE		Semester: III					

Course overview:

This course is designed to provide hands-on experience with fundamental semiconductor devices and their characteristics. It bridges theoretical concepts with practical implementation, enabling students to analyse, interpret, and understand the behaviour of various electronic components used in modern electronic circuits. The laboratory emphasizes the IV characteristics of diodes and transistors, including both standard and special-purpose devices, helping students gain a solid foundation in electronic circuit design and analysis.

Course objectives:

- i. To understand the electrical behavior of semiconductor devices.
- ii. To experimentally determine the current-voltage (IV) characteristics of various diodes and transistors.
- iii. To compare and contrast the performance of different transistor configurations (CE, CB, CC).
- iv. To study optoelectronic devices such as LEDs, solar cells, and photodiodes.

Course outcomes:

CO Number	CO Description	K-level
CO-1	Analyze circuits in different biasing modes of PN junction.	K-4
CO-2	Analyze circuits in different breakdown mechanism of PN Junction.	K-4
CO-3	Analyze IV characteristics of optoelectronics devices.	K-4
CO-4	Interpret different modes of BJT.	K-2
Sl. No.	EXPERIMENT NAME	CO
1.	To study and plot the IV Characteristics of P-N Junction Diode.	CO-1
2.	To study and plot the IV Characteristics of Zener Diode.	CO-2
3.	To study and plot the IV Characteristics of Tunnel Diode.	CO-2



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4.	To study and plot the Input and Output Characteristics of Transistor CE Configuration.	CO-4
5.	To study and plot the Input and Output Characteristics of Transistor CB Configuration.	CO-4
6.	To study and plot the Input and Output Characteristics of Transistor CC Configuration.	CO-4
7.	To study and plot the characteristics of Light Emitting Diode.	CO-3
8.	To study and plot the characteristics of Solar Cell.	CO-3
9.	To study and plot the characteristics of Photo Diode.	CO-3