

# Techno College of Engineering Agartala

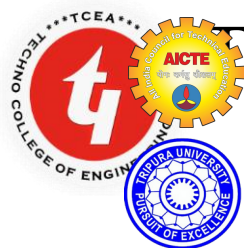
An Engineering College Approved by AICTE, MHRD, Govt. of India

Affiliated to Tripura University (A Central University),

Department of Electronics and communication Engineering

## List of Laboratory Experiments

Analog Circuits Lab							
Course Code	Hours / Week				Maximum Marks		
PC EC 407	L	T	P	C	CIA	SEE	Total
	0	0	2	1	40	60	100
Number of classes: 20-24 Hours			Prerequisites: Basics of electronics devices				
Branch: ECE			Semester: IV				
<b>Course overview:</b> This course helps students understand and build basic analog electronic circuits using diodes, transistors, and operational amplifiers. Students will learn about rectifier circuits, transistor biasing, op-amp applications, and oscillator circuits. They will also study power amplifiers like Class A and Class B.  By performing hands-on experiments, students will develop skills to construct and analyze various circuits, understand their working, and test their outputs. This will prepare them to apply analog electronics concepts in real-world applications.							
<b>Course Objectives:</b>  I. To introduce the fundamental concepts of analog electronics and circuit behavior using diodes and transistors. II. To provide hands-on experience in designing and analyzing rectifier and biasing circuits. III. To familiarize students with the applications of operational amplifiers in various analog circuits. IV. To develop the ability to construct and analyze different types of oscillators and amplifiers. V. To enhance practical knowledge using both physical lab kits and simulation tools.							
<b>Course outcomes:</b>							
CO Number	CO Description						K-level
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CO-1	Construct and analyze different rectifier circuits using diode.						K2
CO-2	Explain the knowledge of transistor biasing methods.						K2
CO-3	Construct and analyze different op-amp circuits.						K3
CO-4	Analyze transistorized Phase Shift, Wein Bridge, Hartley, and Colpitts oscillators.						K4



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CO-5	Analyze the output of Class A (Transformer-less) and Class B Power Amplifiers.	K4
<b>Sl. No.</b>	<b>EXPERIMENT NAME</b>	<b>CO</b>
1	Study of diode rectifier circuits (half wave, full wave, bridge with/without filters)	CO-1
2	Study of transistor biasing methods for BJT (CE, CB, CC)	CO-2
3	Study of transistor biasing methods for FET (CS, CG, CD)	CO-2
4	OP AMP Applications as Adder, Subtractor, Comparator Circuits	CO-3
5	Integrator and Differentiator Circuits using IC 741	CO-3
6	Schmitt Trigger Circuits using IC 741	CO-3
7	IC 741 Oscillator Circuits – Phase Shift and Wien Bridge	CO-4
8	Study of Transistorized Phase Shift Oscillators	CO-4
9	Study of Class A Power Amplifier (Transformer less)	CO-5
10	Study of Class B Complementary Symmetry Amplifier	CO-5