

Electronic Circuit Analysis Lab

Course Code	23EC3452	Year	II	Semester	II
Course Category	PC	Branch	ECE	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	EDC
Continuous/Internal Evaluation:	30	Semester End Evaluation:	70	Total Marks:	100

Course Outcomes		
Upon successful completion of the course, the student will be able to		BL
CO1	Analyze the parameters of feedback amplifiers.	L4
CO2	Analysis of oscillator circuit configurations.	L4
CO3	Evaluate the performance of single and multi-stage amplifiers.	L5
CO4	Evaluate the performance of power amplifiers.	L5

Note: The students are required to design the circuit and perform the simulation using Multisim/ Equivalent Industrial Standard Licensed simulation software tool. The students are required to verify the result using necessary hardware equipment.

List of Experiments: (Minimum of Ten Experiments has to be performed)

Syllabus		
Expt. No.	Contents	Mapped CO
1	Feedback amplifiers for different topologies (Design for a given specifications/ Determination of parameters for a given circuit with BJT/ FET).	CO1
2	Oscillator circuit configurations (Design for a given specifications/ Determination of parameters for a given circuit with BJT/ FET). RC Phase Shift/ Wien Bridge Oscillator/ Hartley/ Colpitt's Oscillator etc.	CO2
3	Single-stage amplifiers (Design for a given specifications/ Determination of parameters for a given circuit with BJT/ FET). BJT amplifier/ FET amplifier with different values for load R_L	CO3
4	Two-stage amplifiers (Determination of parameters for a given circuit with BJT/ FET). RC Coupled Amplifier, Darlington Pair Amplifier, Bootstrapped Emitter Follower etc.	CO3
5	Power Amplifiers (Design for a given specifications/ Determination of parameters for a given circuit with BJT/ FET). Class A Series-fed/ Transformer-coupled Class A/ Class B Push-Pull Complementary Symmetry Class B Push-Pull Power Amplifiers	CO4

Learning Resources	
Text Books	
1. J. Millman, C. Halkias, and Ch. D. Parikh, Millman's Integrated Electronics, Mc-Graw Hill Education, 2 nd Ed., 2009.	
2. Robert L. Boylestad and Louis Nashelsky, Electronic Devices and Circuits Theory Pearson/PrenticeHall, 10 th Ed., 2009.	
e-Resources & other Digital Material	
1. https://onlinecourses.nptel.ac.in/noc24_ee106/preview	
2. https://ocw.mit.edu/courses/6-002-circuits-and-electronics-spring-2007/	