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
ContinuousInternal 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	Evaluate the performance of single and multi-stage amplifiers.	L5
CO2	Analyze the parameters of feedback amplifiers.	L4
CO3	Analysis of oscillator circuit configurations	L5
CO4	Evaluate the performance of power amplifiers.	L5

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of Correlations (3:High, 2:Medium, 1:Low)													
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
CO1			2		3			2	2		2	2	
CO2			3		3			2	2		2	2	
CO3			2		3			2	2		2	2	
CO4			3		3			2	2		2	2	
Avg.			3		3			2	2		2	2	

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	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	CO1
2	Two-stage amplifiers (Determination of parameters for a given circuit with BJT/ FET). RC Coupled Amplifier, Darlington Pair Amplifier, Bootstrapped Emitter Follower etc.	CO1
3	Feedback amplifiers for different topologies (Design for a given specifications/ Determination of parameters for a given circuit with BJT/ FET).	CO2
4	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.	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, 2nd Ed., 2009. 2. Robert L. Boylestad and Louis Nashelsky, Electronic Devices and Circuits Theory Pearson/PrenticeHall, 10th 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/