

ANALOG CIRCUITS LAB

Course Code	19EE3453	Year	II	Semester	II
Course Category	Program Core	Branch	EEE	Course Type	Lab
Credits	1.5	L-T-P	0-0-3	Prerequisites	Nil
Continuous Internal Evaluation:	25	Semester End Evaluation:	50	Total Marks:	75

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Design and analyze feedback amplifiers
CO2	Design and analyze Power amplifiers and oscillators
CO3	Realize linear and non-linear applications using op-amp
CO4	Design and understand various applications related to filter circuits and IC 555
CO5	Compare the performance of various types of ADC and DAC using Op-Amp

Mapping of course outcomes with Program outcomes (CO/ PO/PSO Matrix)														
Note: 1- Weak correlation 2-Medium correlation 3-Strong correlation														
* - Average value indicates course correlation strength with mapped PO														
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	3							2	3	2
CO2	3	3	2	2	3							2	3	2
CO3	3	3	2	2	3							2	3	2
CO4	3	3	2	2	3							2	3	2
CO5	3	3	2	2	3							2	3	2

Syllabus		
Expt. No.	Contents	Mapped CO
1	Feedback Amplifier - calculation of gain, input resistance, output resistance with and without feedback, frequency response characteristic.	CO1
2	Design and Implementation of Two stage RC Coupled amplifier for given voltage, current gain & bandwidth.	CO1
3	RC phase-shift, Wein-bridge ,Colpitts Oscillators	CO2
4	Class A power amplifier.	CO2
5	Class B Push - pull power amplifier.	CO2
6	Tuned voltage amplifier.	CO2
7	Analysis and simulation of RC differentiator/integrator	CO3

8	Operational Amplifier Circuits (Adders, Integrators, Differentiators, Filters)	CO3
9	Opamp based AM/FM Modulator/Demodulator Circuits.	CO3
10	Bistable/Monstable/Astable-multivibrators with 555 timer and using 741	CO4
11	Active Filter Design (LPF AND BANDPASS types)	CO4
12	Data Converters	CO5

Learning Resources
Text Books
<ol style="list-style-type: none"> 1. Adel S. Sedra, Kenneth C. Smith, Arun N. Chandorkar, Microelectronic Circuits, 6/e, Oxford University Press, 2013. 2. D Choudhury Roy, Shail B. Jain, Linear Integrated Circuits, New Age International, 2003 3. Ramakanth Gayakward, Op-Amps and Linear Integrated Circuits, 4/e, Pearson Education, 2007
Reference Books
<ol style="list-style-type: none"> 1. Behzad Razavi, Fundamentals of Microelectronics, 2/e, Wiley Student Edition, 2013. 2. R.F Coughlin, F.F Driscoll, Op-Amps and Linear Integrated Circuits, 6/e, Pearson Education, 2008. 3. Sergio Franco, Design with Operational Amplifiers and Analog Integrated Circuits, 3/e, Tata Mc-Graw Hill, 2002.
