



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA – 533 003, Andhra Pradesh, India
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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| III Year - I Semester | | L | T | P | C |
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| LINEAR INTEGRATED CIRCUITS and APPLICATIONS LAB | | | | | |

List of Experiments: (Minimum Twelve Experiments to be conducted)

1. Study of OP AMPs – IC 741, IC 555, IC 565, IC 566, IC 1496 – functioning, parameters and Specifications.
2. OP AMP Applications – Adder, Subtractor, Comparator Circuits.
3. A. Integrator and Differentiator Circuits.
4. B. Waveform Generator using single OP-AMP with variable duty cycle
5. Active Filter Applications – LPF, HPF (first order)
6. Active Filter Applications – BPF, Band Reject (Wideband) and Notch Filters.
7. Oscillator Circuits – Phase Shift and Wien Bridge Oscillators using single OP-AMP
8. Function Generator using OPAMPs.
9. IC 555 Timer – Monostable Operation Circuit, Astable Operation Circuit
10. Design Schmitt Trigger Circuits – using Single OP-AMP with Reference voltage.
11. PLL Operation and Estimation of Capture and Lock range.
12. IC 566 – VCO Applications.
13. Design of Dual Power Supply using 78XX and 79XX (use full wave Bridge Rectifier with shunt capacitance filters).

Equipment required for Laboratories:

1. Dual TRPS
2. CRO
3. Function Generators 1MHz
4. Multi Meters (Digital, FET input Voltmeters)
5. Analog IC Trainer Kits
7. Bread Boards
8. Components: - IC741, IC555, IC565, IC1496, IC723, 7805, 7809, 7912, 8038 and other

Essential components:

1. Analog IC Tester.



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Add on Experiments:

1. Design a 4-bit R-2R Ladder network with OP-AMP Buffer and Measure the output waveform for various input combinations.
2. Construct Waveform Generator using 8038 for a fixed frequency and trace the output waveform.
3. Design and Construct $\pm 12V$ DC Power Supply using Three terminal Voltage Regulators 7812 and 7912.