

2/4 B.Tech - FOURTH SEMESTER

EC4L2

Pulse Circuits & IC Applications Lab

Credits: 2

Lecture : ---

Internal assessment: 25 marks

Lab : 3 periods/week

Semester end examination: 50 marks

Course Objectives:

- To get the practical exposure of the Op-amp applications.
- To study the practical limitations of the Op-amp.
- To study Linear & Non linear wave shaping.
- To design Multivibrators.

Learning Outcomes:

- The students are able to design Op-amp circuits.
- The students are able to design Multivibrators.
- The students familiarize with wave shaping circuits.

NOTE: Minimum of 10 experiments has to be performed and recorded by the candidate to attain eligibility for External Practical Examination.

List of Experiments:

1. Linear Wave Shaping.
2. Non Linear Wave Shaping: Clippers, Clampers.
3. Voltage Regulator using IC 723.
4. Bistable Multivibrator using Transistors.
5. Monostable Multivibrator using Transistors.
6. Astable Multivibrator using Transistors.
7. OP -AMP Applications – Adder, Subtractor, Comparator Circuits.
8. Op-amp inverting and non-inverting amplifiers for desired gain and bandwidth.
9. IC 741 Oscillator Circuits – Phase Shift and Wien Bridge Oscillators for the desired frequency.
10. Schmitt Trigger Circuit using IC 741.
11. Function Generator using OP AMPs.
12. Phase-shift oscillator using IC 741.
13. Active Filter Applications using IC 741 – Design LPF, HPF (first order and second order) for desired value of gain and bandwidth.
14. Active Filter Applications using IC741 – BPF, Band Reject (Wideband) and Notch Filters (first order) for desired value of gain and bandwidth.
15. 4 bit DAC using OP AMP.