3/4 B.Tech. FIFTH SEMESTER

EE5L2 **LDIC Lab** **Credits: 2**

Lecture : -- **Internal assessment: 25 marks**

Lab : 3 periods/week **Semester end examination: 50 marks**

Course Objectives:

- To understand the design procedures for linear and non-linear applications of Op-amp.
- To understand the design concepts industrial timing applications using 555 timer.
- To study about the various types of digital ICs

Course Outcomes:

Student will be able to

1. Build design concept of Op-amp related applications.
2. Develop different order active filters and digital ICs
3. Validate and verify various applications of 555 timer.

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. OP -AMP Applications – Adder, Subtractor, Comparator Circuits.
2. Op-amp inverting and non-inverting amplifiers for desired gain and bandwidth.
3. Practical active integrator and differentiator using IC741.
4. IC 741 Wien Bridge Oscillators and phase shift oscillator for the desired frequency.
5. Schmitt Trigger Circuit using IC 741.
6. Function Generator using OP AMPs.
7. Active Filter Applications –Design LPF, HPF (first order) for desired value of gain and bandwidth.
8. IC 555 Timer – Monostable and astable Operation Circuit.
9. Verify the functionality of 3-8 Decoder -74138
10. Verify the functionality of D Flip-Flop 7474
11. Verify the functionality of 8 x 1 Multiplexer -74151
12. Verify the functionality of Decade counter-7490