LINEAR INTEGRATED CIRCUITS LAB

(Core Subject)

Course Code:	**17B17EC571**	**Semester:**	**5th Semester, B. Tech (ECE)**
Credits:	**1**	**Contact Hours:**	**L-0, T-0,P-2**

Course Objectives

1. Familiarize the students with linear integrated circuits (IC 741, IC555).
2. In depth knowledge of applying theoretical concepts on circuit design applications.
3. To provide experience in handling integrated circuits and design hardware applications using linear ICs on bread board.
4. To introduce the students to software (PSPICE) using which they can simulate various circuits based on linear ICs.
5. Impart ability to handle the apparatus and trouble shoot various linear circuit applications**.**

Course Outcomes

1. Ability to use Op- amp IC 741 to design various applications like amplifiers, comparator, active filters and waveform generator etc.
2. Ability to simulate various circuits using IC741 and IC 555 in PSPICE for DC bias point and AC sweep settings.
3. Experience to identify problems and troubleshoot various linear and nonlinear circuits.
4. Ability to handle the apparatus required to design linear circuit applications.

List of Experiments

1. Design of Inverting and Non-Inverting Amplifiers using OPAMP.
2. Design of Adder and Subtractor circuits using OPAMP.
3. Design of Integrator and Differentiator using OPAMP.
4. Design and simulate triangular/square waveform generator using IC 741.
5. Design and simulate voltage regulator using op-amp.
6. Design and simulate Frequency response of 1st order HPF and LPF filter.
7. Design and simulate Schmitt trigger using IC 741 for given values of UTP and LTP.
8. Design and simulate monostable multivibrator for required pulse width using IC 741.
9. Design and simulate astable multivibrator for required frequency and duty cycle using IC 741.
10. Design and simulate of RC oscillators for required frequency.

Evaluation Scheme

1. Mid Sem Evaluation 20 Marks
2. End Sem Evaluation 20 Marks
3. Attendance 20 Marks

4. Class response	20 Marks
5. File	20 Marks
Total Marks	**100 Marks**

Text Books

1. Op-Amps And Linear Integrated Circuitsby R. A. Gayakwad