



# Techno India NJR Institute of Technology

Academic Administration of Techno NJR Institute

## Lab Deployment

Name of Faculty: Dr.Vivek Jain

Subject Code: 6EC4-23

Subject Name: Electronics Design Lab

Semester: VI

Department: Department of Electronics and Communication Engineering

Total No. of Lectures Planned: 13

### **COURSE OUTCOMES**

At the end of this course students will be able to:

CO1: Understand the functionality & datasheet of Op-Amp & 555 timer IC.

CO2: Design Linear ICs based circuits using IC 741 such as amplifier , filter etc.

CO3: Design Timer circuits using IC 555.

Lab No.	Topic
1	Op-Amp characteristics and get data for input bias current measure the output-offset voltage and reduce it to zero and calculate slew rate.
2	Op-Amp in inverting and non-inverting modes.
3	Op-Amp as scalar, summer and voltage follower.
4	Op-Amp as differentiator and integrator.
5	Design LPF and HPF using Op-Amp 741
6	Design Band Pass and Band reject Active filters using Op-Amp 741.
7	Design Oscillators using Op-Amp (i) RC phase shift (ii) Hartley (iii) Colpitts
8	Design (i) Astable (ii) Monostable multivibrators using IC 555 timer

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9	Design Triangular & square wave generator using 555 timer.
10	Design Amplifier (for given gain) using Bipolar Junction Transistor.
11	Op-Amp characteristics and get data for input bias current measure the output-offset voltage and reduce it to zero and calculate slew rate.
12	Op-Amp in inverting and non-inverting modes.
13	Op-Amp as scalar, summer and voltage follower.

### TEXT/REFERENCE BOOKS

1. Op-Amps & Linear Integrated Circuits, R.A Gayakwad, Prentice Hall of India
2. Linear Integrated Circuit, D.Roy Choudhary & Shail B. Jain, New age International Publishers
3. Microelectronic Circuits, A.S Sedra & K.C. Smith, Saunder's College1 publishing.

For Techno India NJR Institute of Technology  
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