

2/4 B.Tech - THIRD SEMESTER

EC3L1

Analog Electronic Circuits Lab

Credits: 2

Lecture : ---

Internal assessment: 25 marks

Lab : 3 periods/week

Semester end examination: 50 marks

Course Objectives:

- To design and verify by simulation using Pspice / Multisim different types of amplifiers and oscillators with BJTs and FETs.
- To conduct experiments on a few amplifiers and oscillators designed by simulation and to test for their expected performance.

Learning Outcomes:

- Students will be able to design by simulation various types of amplifiers using BJT & FETs and conduct tests for their performance with feedback and without feedback.
- Students will be able to conduct tests on few oscillators, and tuned amplifiers.

List of Experiments:

PART-A: Design and Simulation using Multisim or Pspice or Equivalent Simulation Software. (Any six)

1. Common Emitter and Common collector amplifier-Frequency. response, Impedances measurement
2. Current shunt and Voltage shunt Feedback Amplifier- Frequency response, Impedances measurement(with and without feedback)
3. Common source and Common drain amplifier- Frequency response, Impedances measurement
4. Two Stage RC Coupled Amplifier
5. Cascode Amplifier
6. RC Phase Shift Oscillator using Transistors
7. Wien Bridge Oscillator using Transistors
8. Class A Power Amplifier
9. Class B Complementary Symmetry Amplifier
10. Class C Power Amplifier
11. Single Tuned Voltage Amplifier

PART-B: Experiments based on Hardware. (Any six)

1. Common Emitter and Common collector amplifier- Frequency. response, Impedances measurement
2. Current shunt and Voltage shunt Feedback Amplifier- Frequency response, Impedances measurement(with and without feedback)
3. Common source and Common drain amplifier- Frequency response, Impedances measurement
4. Two Stage RC Coupled Amplifier
5. Cascode Amplifier
6. RC Phase Shift Oscillator using Transistors
7. Wien Bridge Oscillator using Transistors