

Name of the laboratory: Pulse and Digital Circuits

Course Outcomes:

- After Completion of the course the student is able to Design various multivibrators and their applications
- Design and Verify Linear and Non Linear Wave shaping
- Design transistor Switch

List of the equipment:

1. Regulated Power supplies (RPS) : 0-30 V
2. CRO's: 0-20 MHz.
3. Function Generators: 0-1 MHz.
4. Multimeters
5. Decade Resistance Boxes/Rheostats
6. Decade Capacitance Boxes
7. Ammeters (Analog or Digital): 0-20 μ A, 0-50 μ A, 0-100 μ A, 0-200 μ A, 10 mA.
8. Voltmeters (Analog or Digital): 0-50V, 0-100V, 0-250V
9. Trainer Boards

List of experiments:

1. Linear wave Shaping
 - a. RC Low Pass Circuit for different time constants
 - b. RC High Pass Circuit for different time constants
2. Non-linear wave shaping
 - a. Transfer characteristics and response of Clippers:
 - i) Positive and Negative Clippers
 - ii) Clipping at two independent levels
 - b. The steady state output waveform of clampers for a square wave input
 - i) Positive and Negative Clampers
 - ii) Clamping at different reference voltage
3. Comparison Operation of different types of Comparators
4. Switching characteristics of a transistor
5. Design a Bistable Multivibrator and draw its waveforms
6. Design an Astable Multivibrator and draw its waveforms
7. Design a Monostable Multivibrator and draw its waveforms
8. Response of Schmitt Trigger circuit for loop gain less than and greater than one
9. UJT relaxation oscillator
10. The output- voltage waveform of Boot strap sweep circuit
11. The output- voltage waveform of Miller sweep circuit
12. Pulse Synchronization of An Astable circuit
13. Response of a transistor Current sweep circuit
14. Sampling gates
 - a. Response of Unidirectional gate

b. Response of Bidirectional gate using transistors
15. Study of logic gates

