

# ELECTRONIC CIRCUITS AND PULSE CIRCUITS LAB

## List of Experiments:

### PART-1: ELECTRONIC CIRCUITS

#### Minimum 8 experiments to be conducted

- I) **DESIGN AND SIMULATION IN SIMULATION LABORATORY USING ANY SIMULATION SOFTWARE (MINIMUM 6 EXPERIMENTS):**
  1. COMMON EMITTER AMPLIFIER
  2. COMMON SOURCE AMPLIFIER
  3. TWO STAGE RC COUPLED AMPLIFIER
  4. CURRENT SHUNT AND VOLTAGE SERIES FEEDBACK AMPLIFIER
  5. CASCODE AMPLIFIER
  6. WEIN BRIDGE OSCILLATOR USING TRANSISTORS
  7. RC PHASE SHIFT OSCILLATOR USING TRANSISTORS
- II) **TESTING IN THE HARDWARE LABORATORY (MINIMUM 2 EXPERIMENTS)**
  1. SINGLE TUNED VOLTAGE AMPLIFIER
  2. HARTLEY & COLPITT'S OSCILLATORS
  3. DARLINGTON PAIR

### PART-II: PULSE CIRCUITS

#### Minimum 8 experiments to be conducted

1. LINEAR WAVE SHAPING
  - A. RC LOW PASS CIRCUIT FOR DIFFERENT TIME CONSTANTS
  - B. RC HIGH PASS CIRCUITS 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 REFERENCE VOLTAGE
3. SWITCHING CHARACTERISTICS OF A TRANSISTOR
4. DESIGN A BISTABLE MULTIVIBRATOR AND DRAW ITS WAVEFORMS
5. DESIGN AN ASTABLE MULTIVIBRATOR AND DRAW ITS WAVEFORMS
6. DESIGN A MONOSTABLE MULTIVIBRATOR AND DRAW ITS WAVEFORMS
7. RESPONSE OF SCHMITT TRIGGER CIRCUIT FOR LOOP GAIN LESS THAN AND GREATER THAN ONE
8. UJT RELAXATION OSCILLATOR
9. THE OUTPUT-VOLTAGE WAVEFORM OF BOOTSTRAP SWEEP CIRCUIT

**Note:** Minimum of 16 experiments to be conducted.