Experiment 11

Clipper
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Aim:

A. To be able to design a clipper circuit for a desired clipping value.
B. To construct the circuit on the breadboard
C. To observe out-put waveforms on the oscilloscope.
D. To calculate the peak values of waveforms for positive and negative cycles.
E. To plot input and output waveforms on a graph sheet to scale.

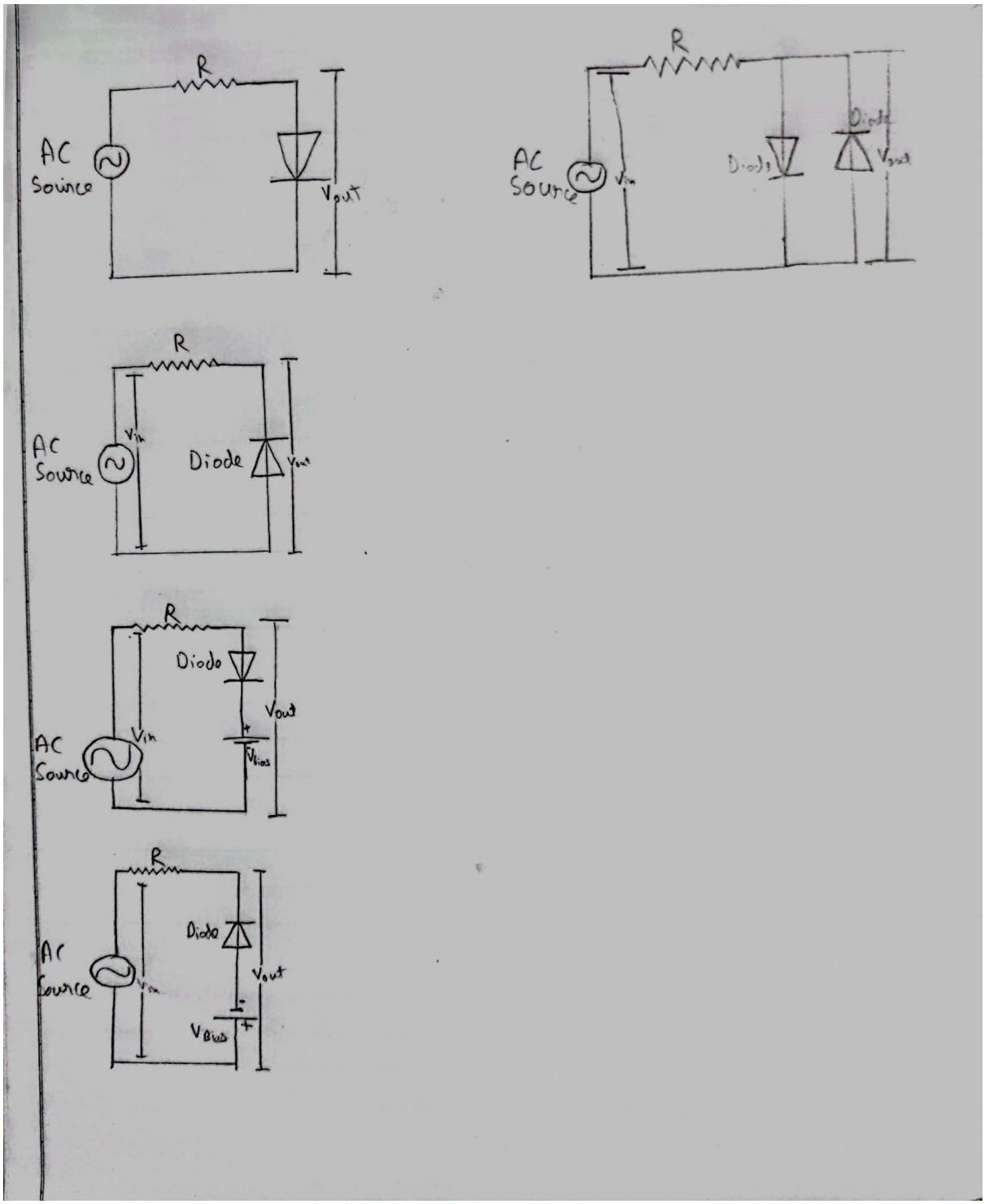
Apparatus required:

- Cathode Ray Oscilloscope (CRO)
- Signal generator
- Multimeter
- DC power supply
- Bread board
- Probes
- Connecting wires

Theory:

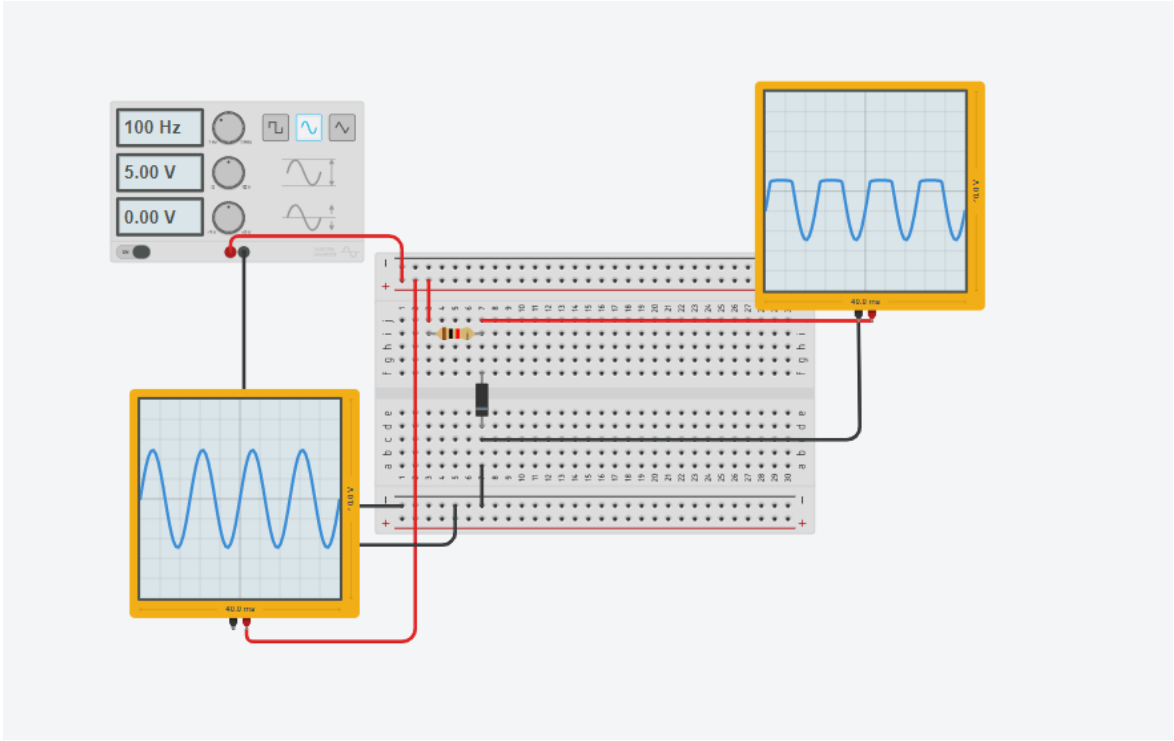
Circuit with which waveforms can be shaped by removing a portion of the signal is known as clipper circuit. There are used as limiters/slicers to chip the waveform above/ below a certain level.

Circuit Diagrams:

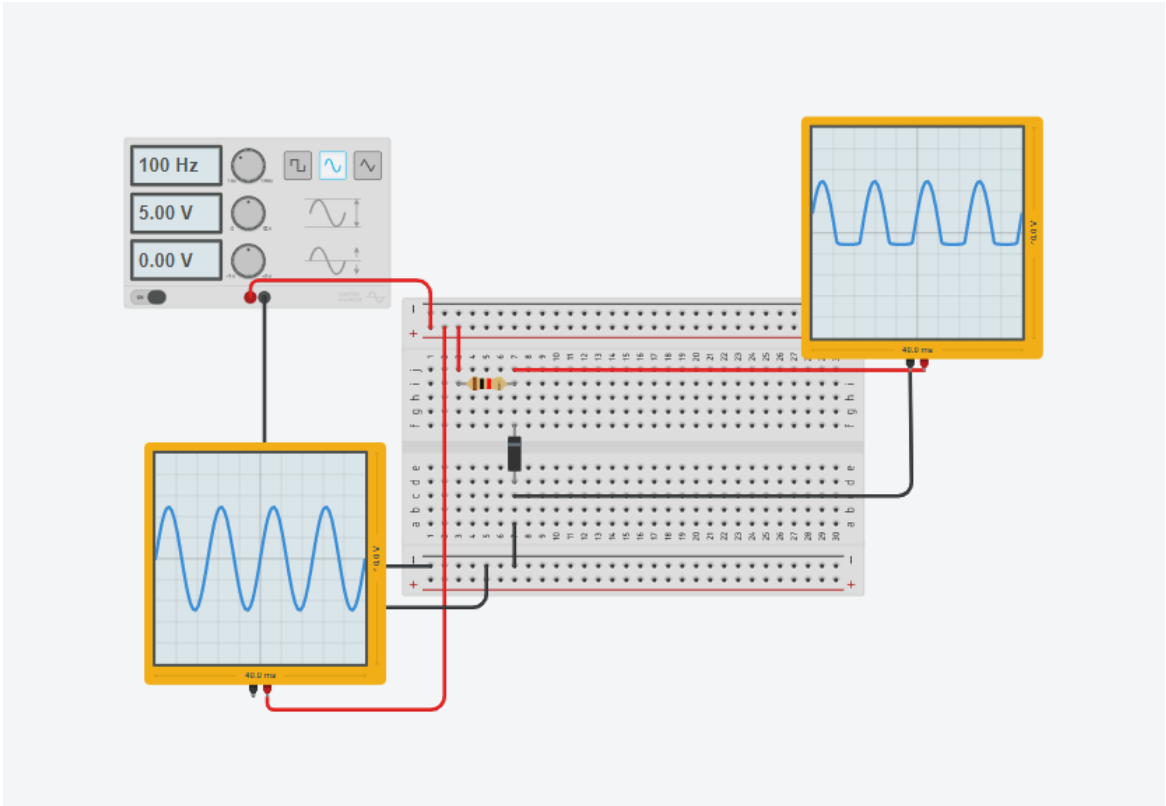


Readings with circuits in tinkercad:

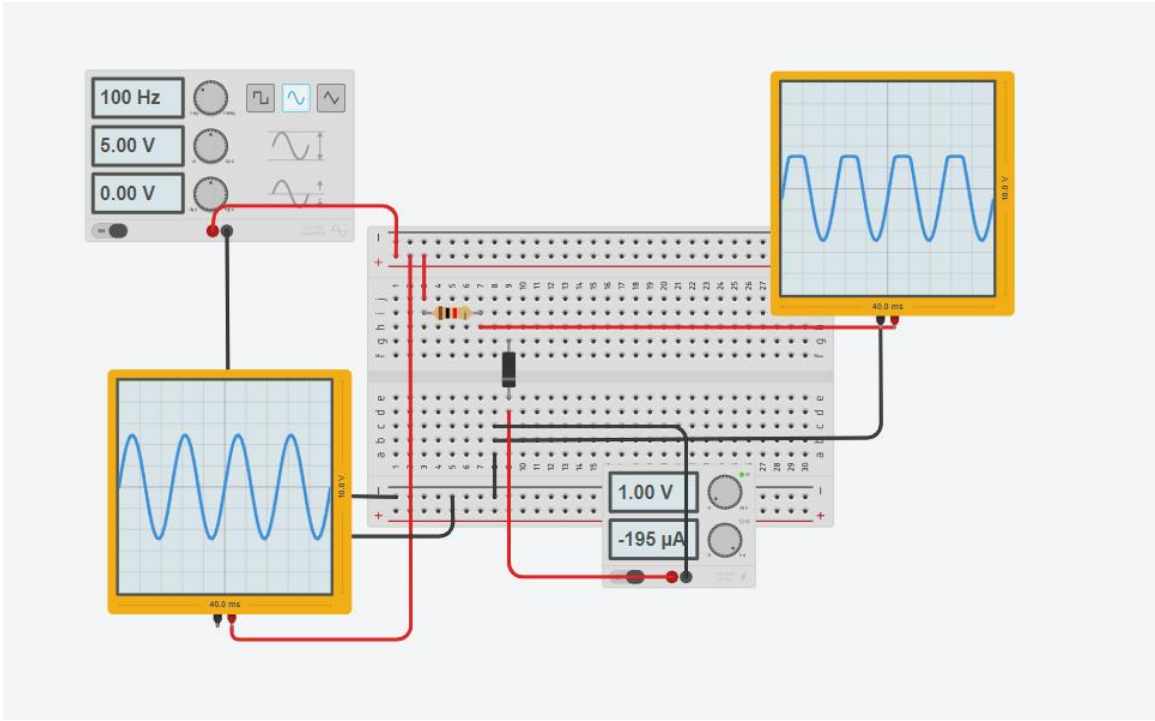
For all Vin = 5 V



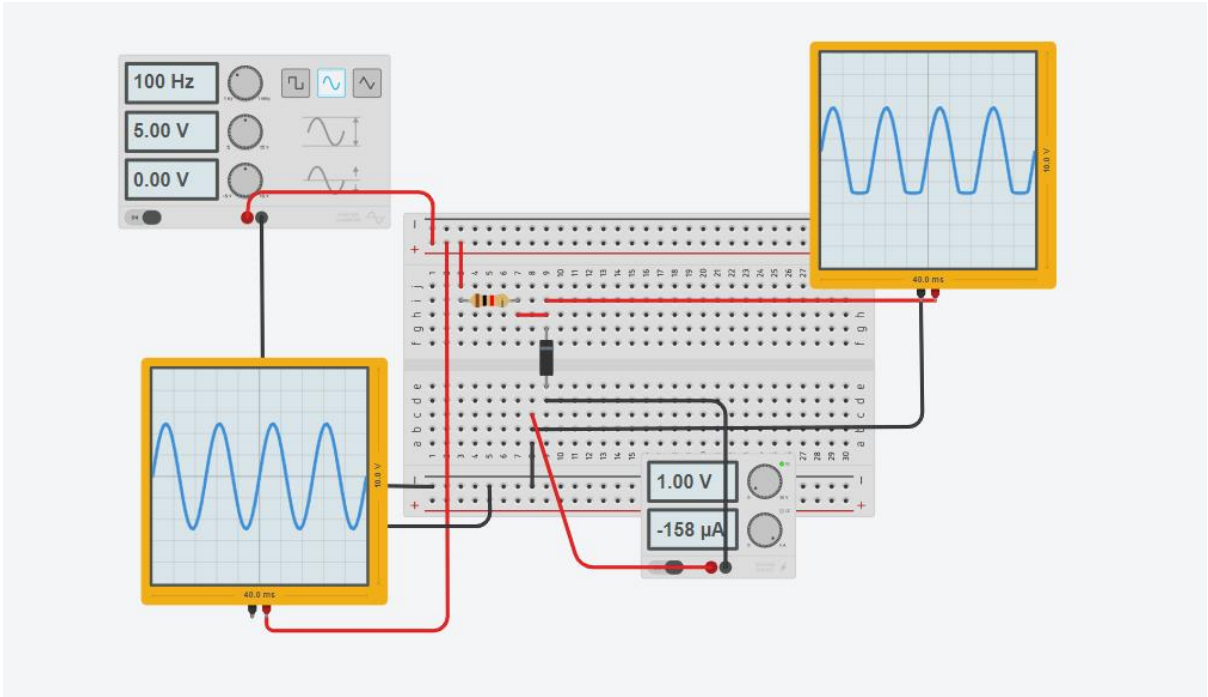
V out = 3V



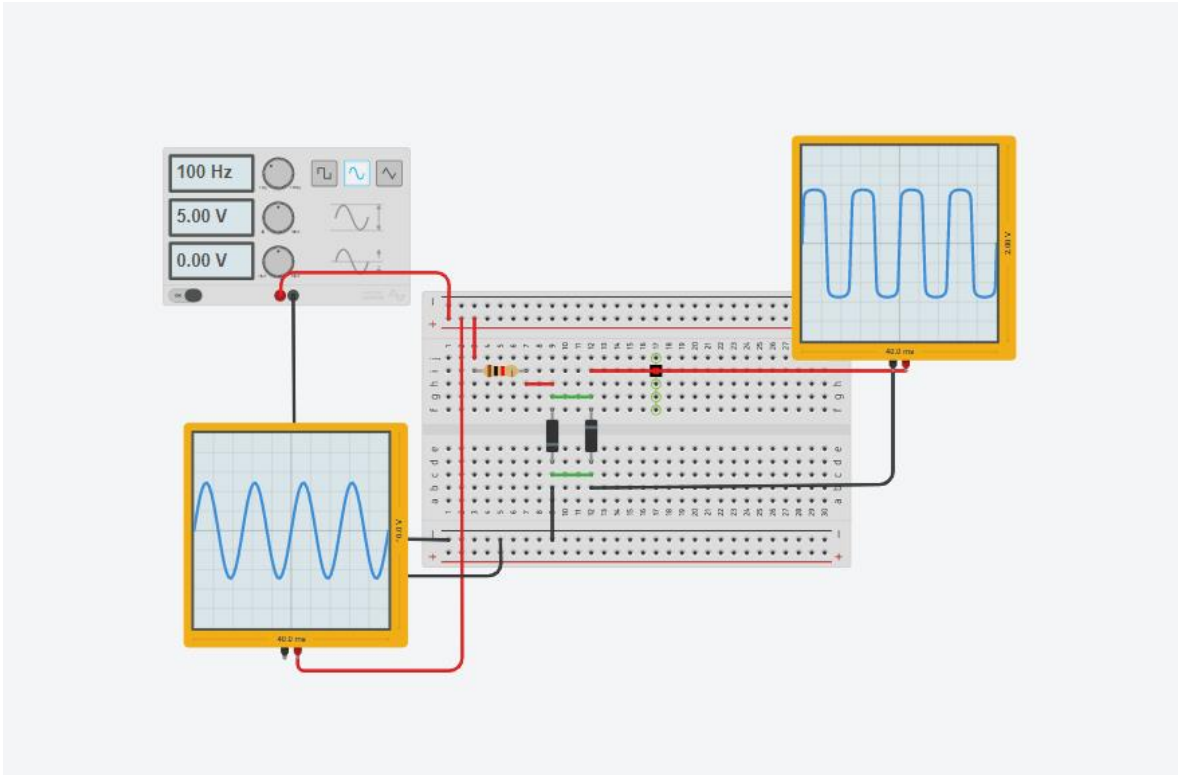
V out = 3V



V out = 4V

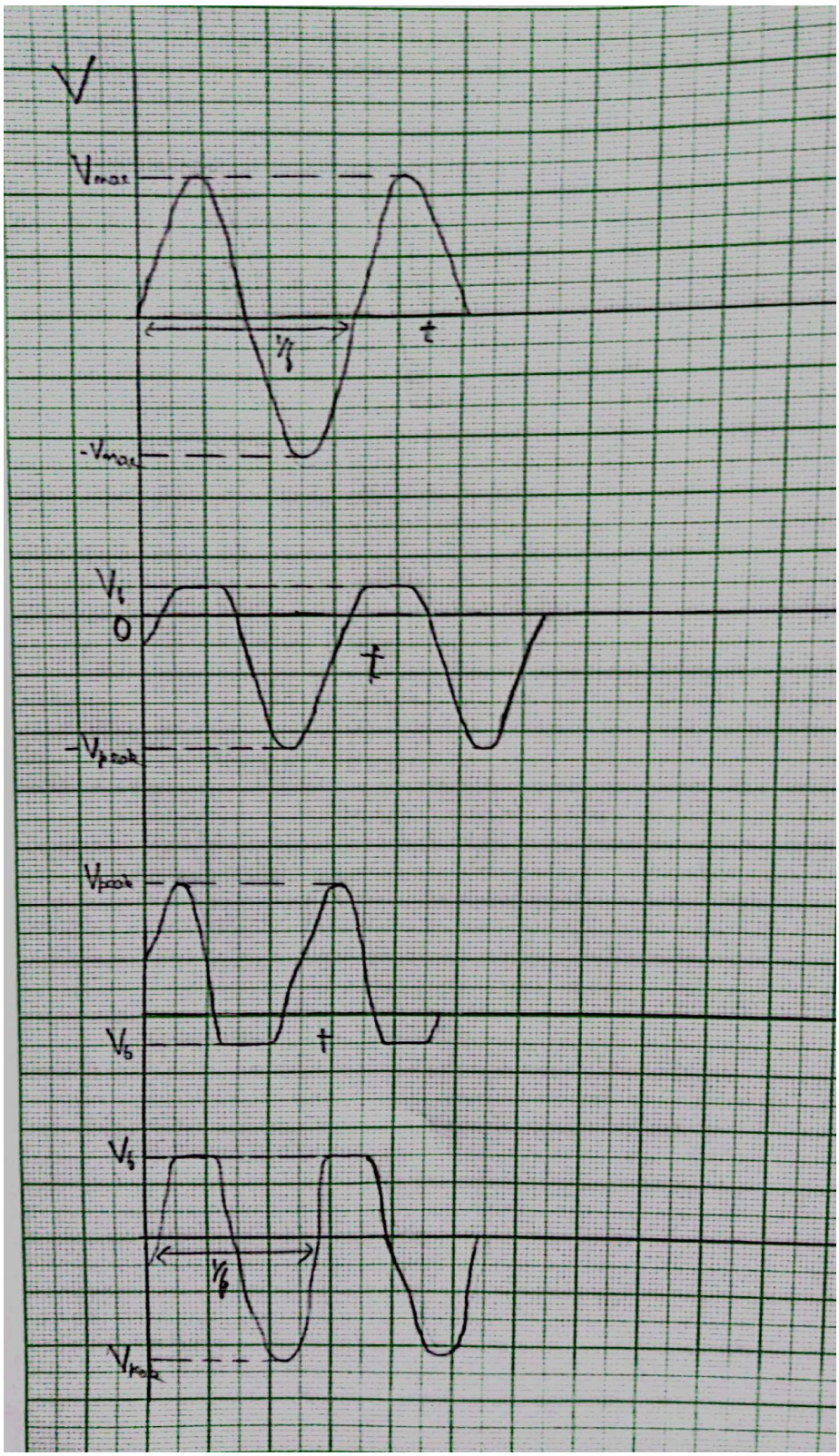


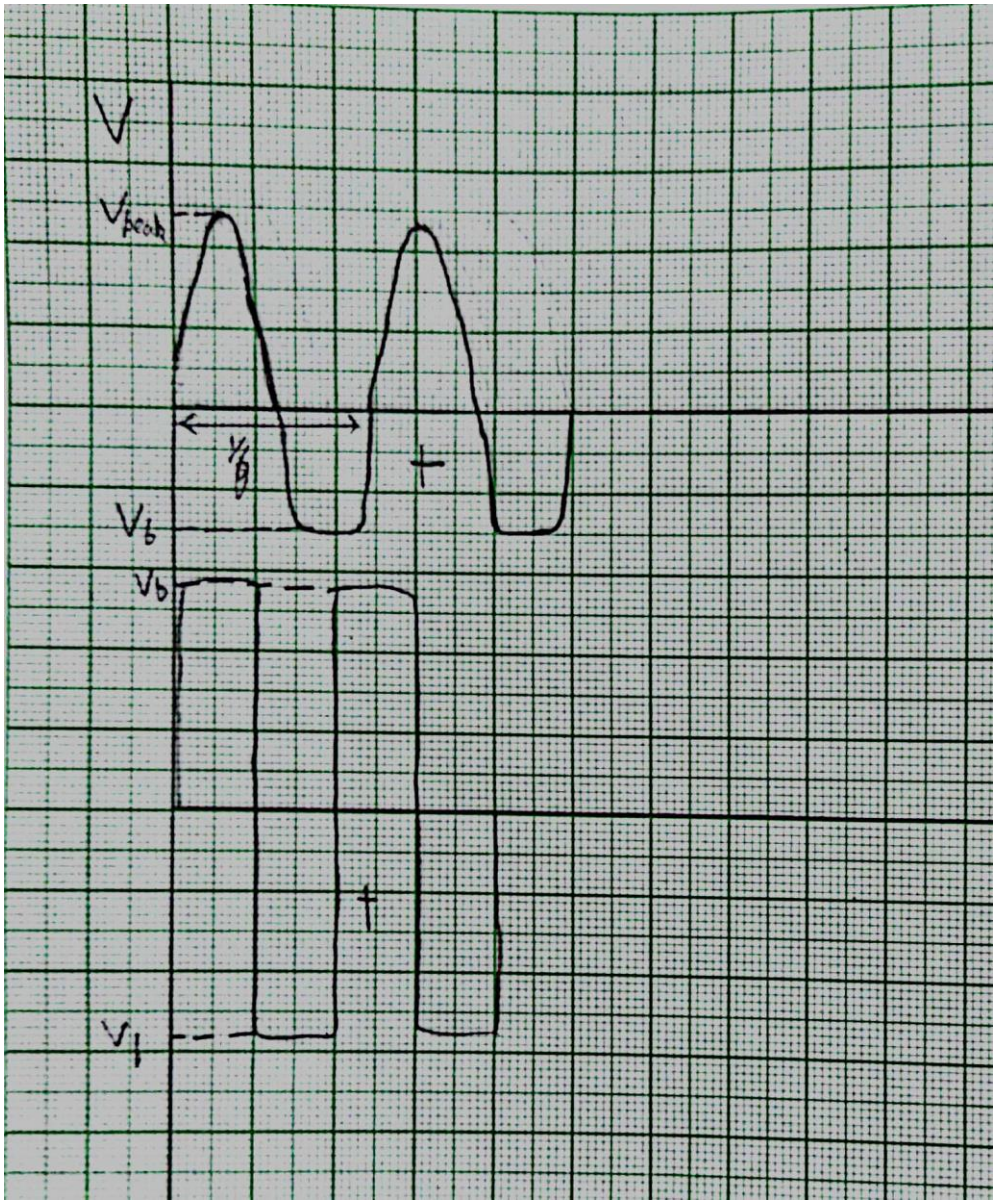
V out = 4V



V out = 1V

Graph of Waveforms:





Conclusion:

The experiment made the working of different types of clipper circuits clear.