

Experiment 12

Clamper

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Batch: EB05

Enrolment no. : E21CSEU0001

Aim:

- A. To design a clamper circuit for various clamping values
- B. To observe the out-put waveforms on the oscilloscope.
- C. To plot the input and output waveforms on a graph sheet to scale.

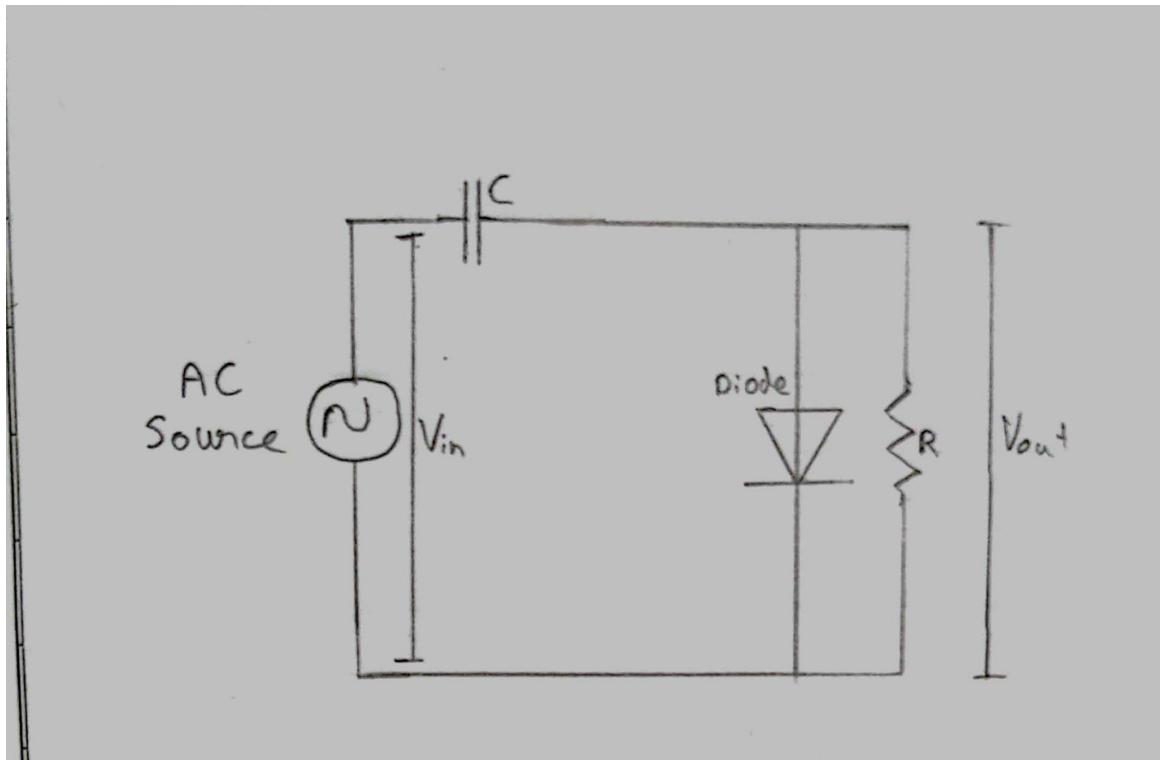
Apparatus required:

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

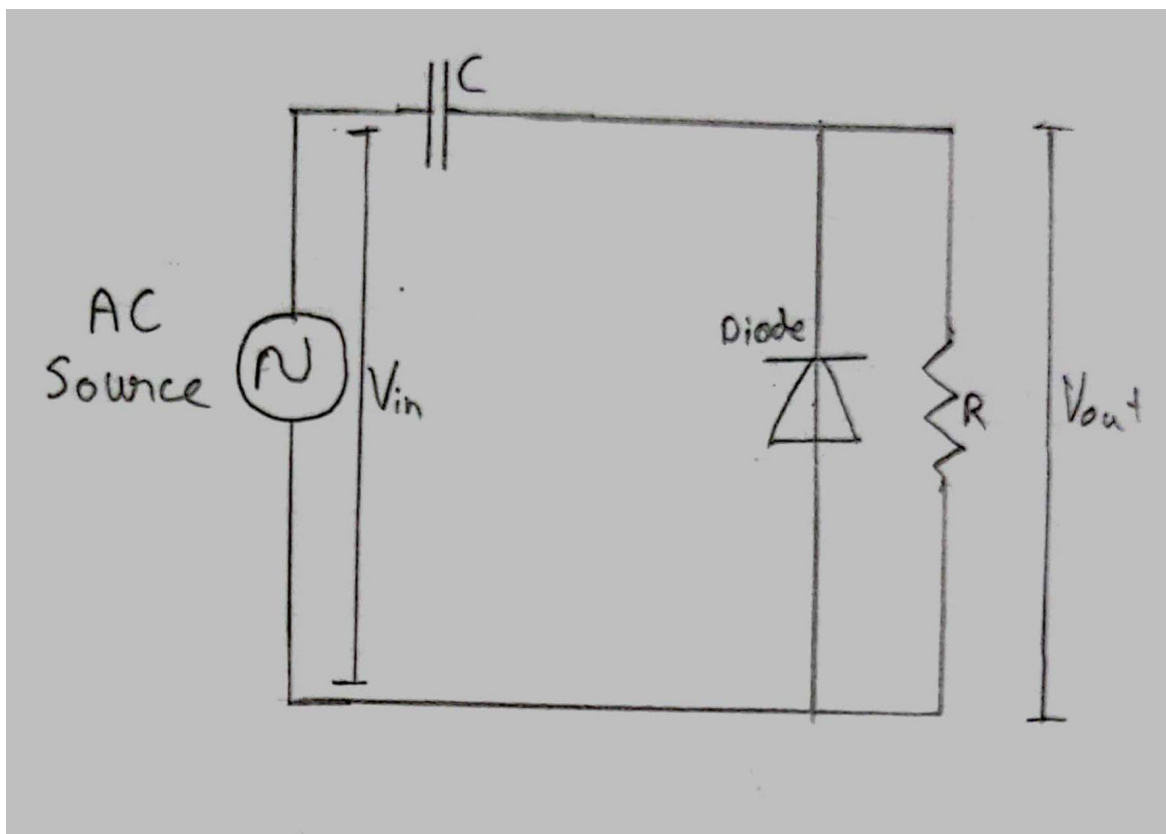
Theory:

Clamping circuits are used to change the dc levels of an alternating waveform without changing the shape of the waveform. This is one more application of diode circuits.

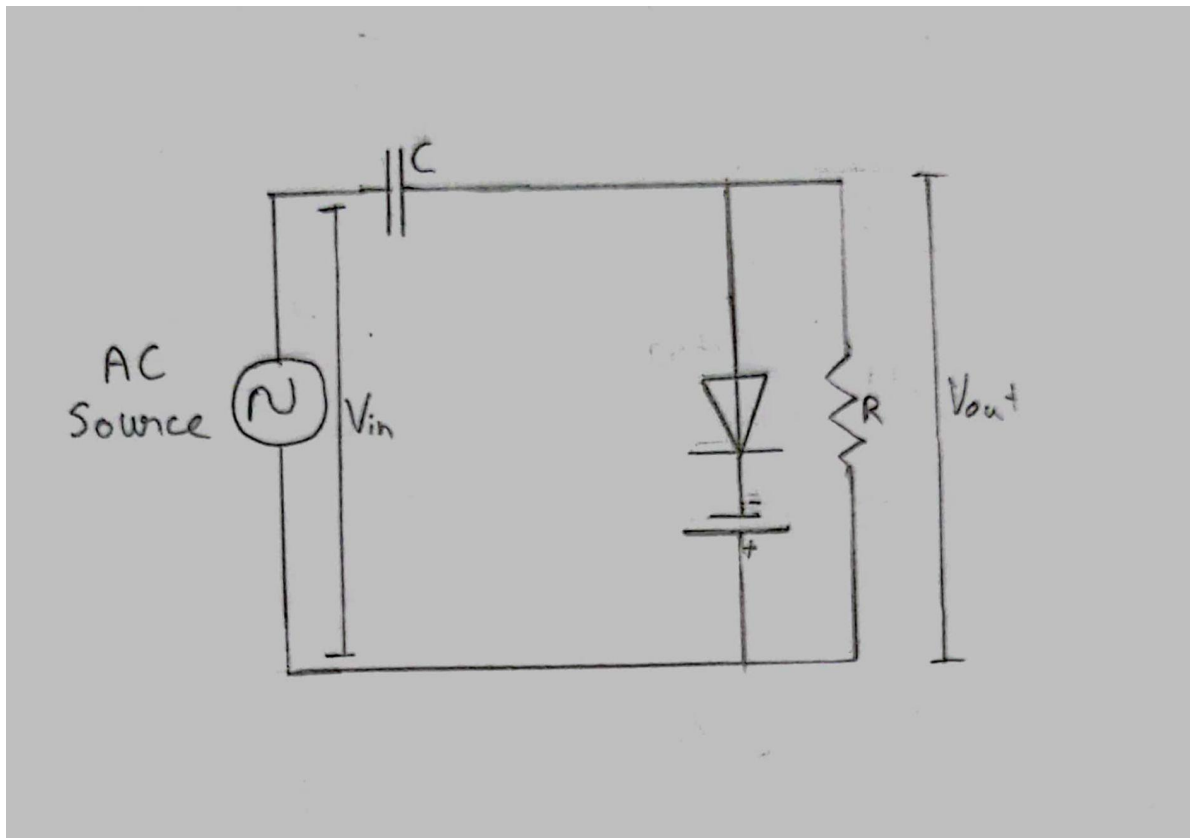
Circuit Diagrams:



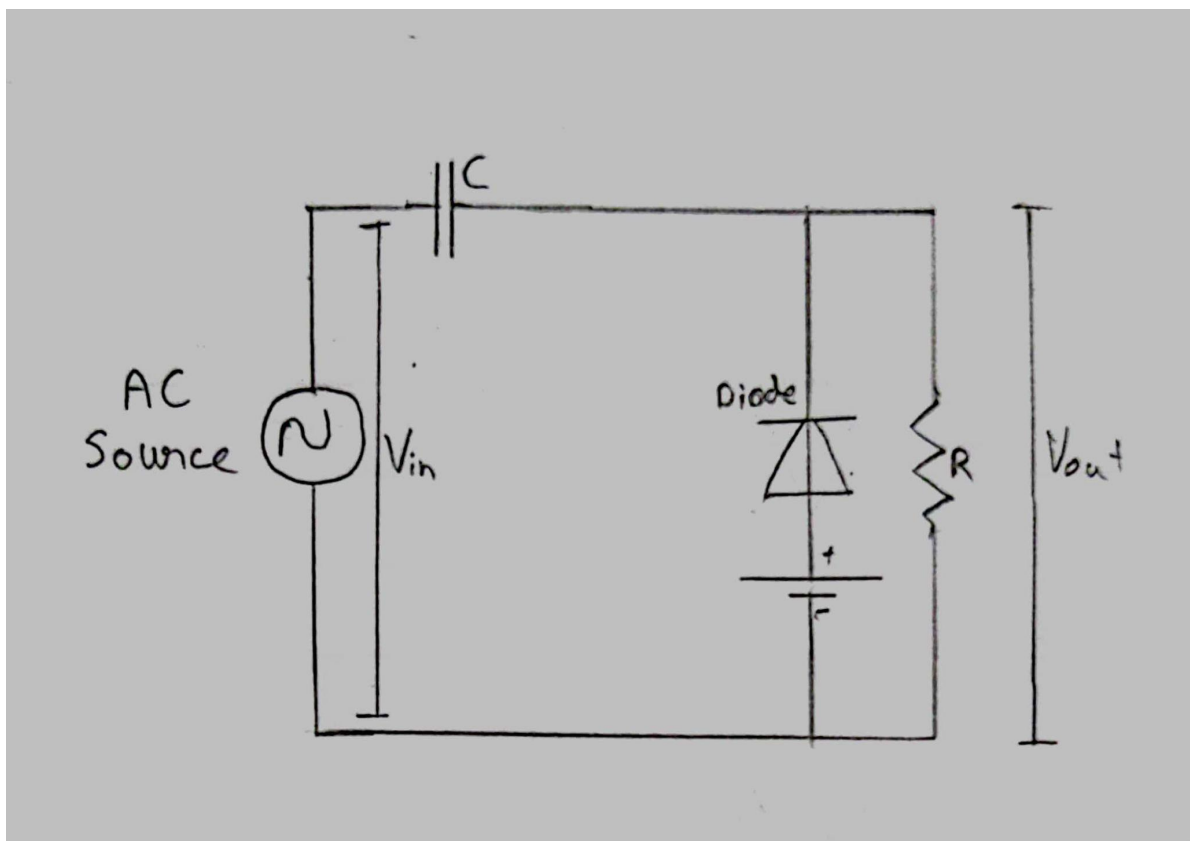
Positive Diode



Negative Diode

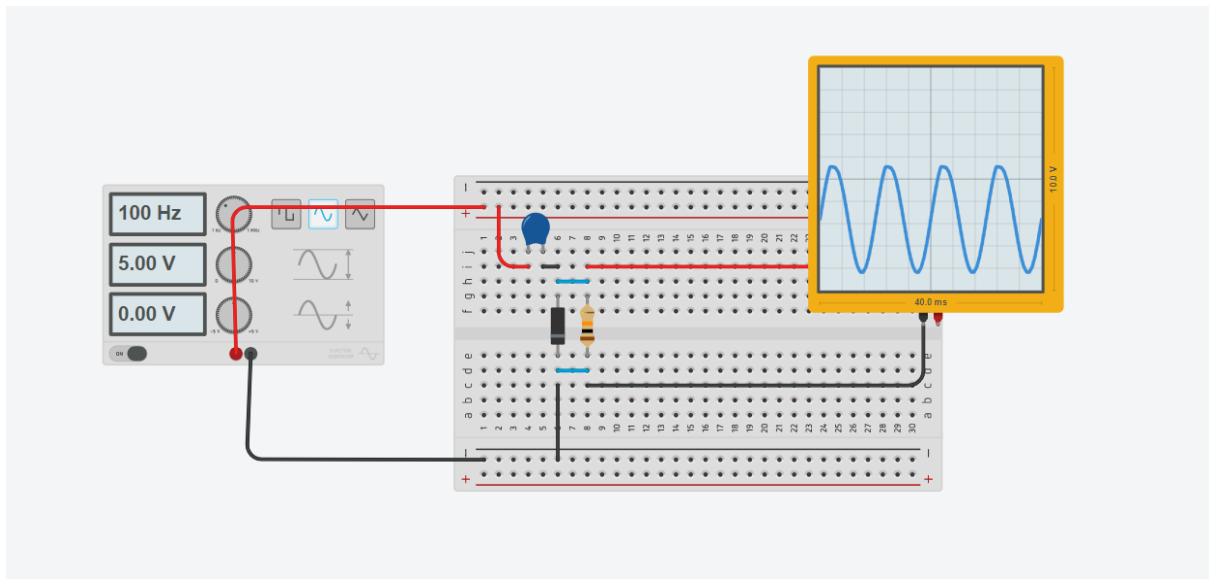


Positive Diode with bias

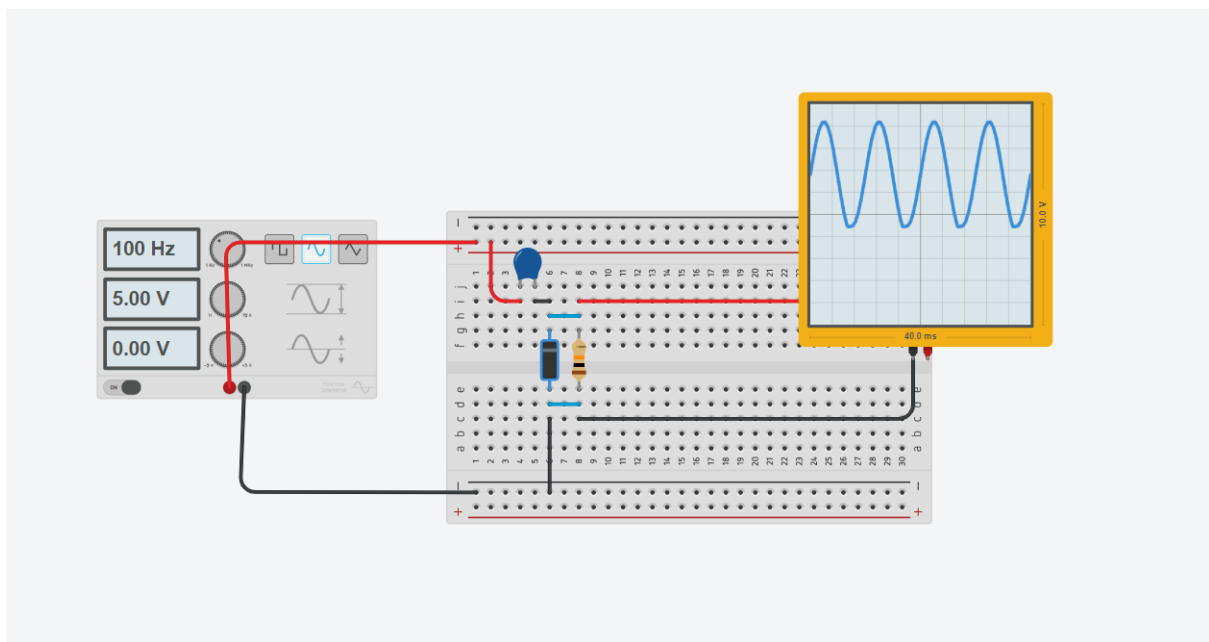


Negative Diode with bias

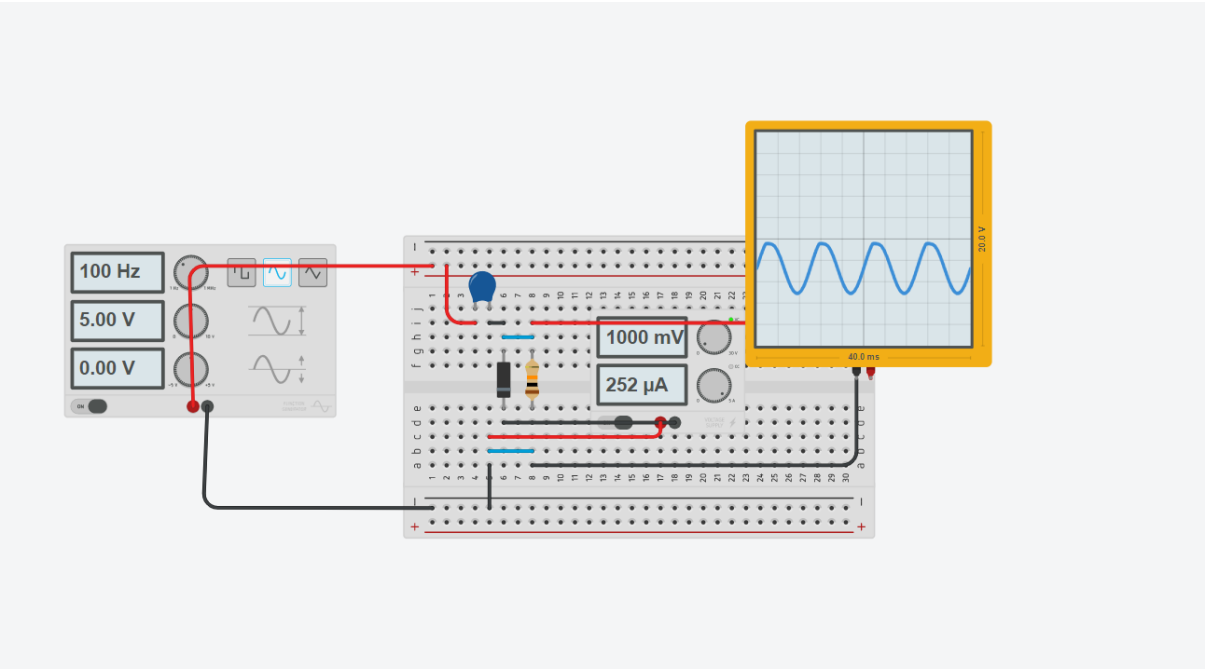
Circuits Screenshots:



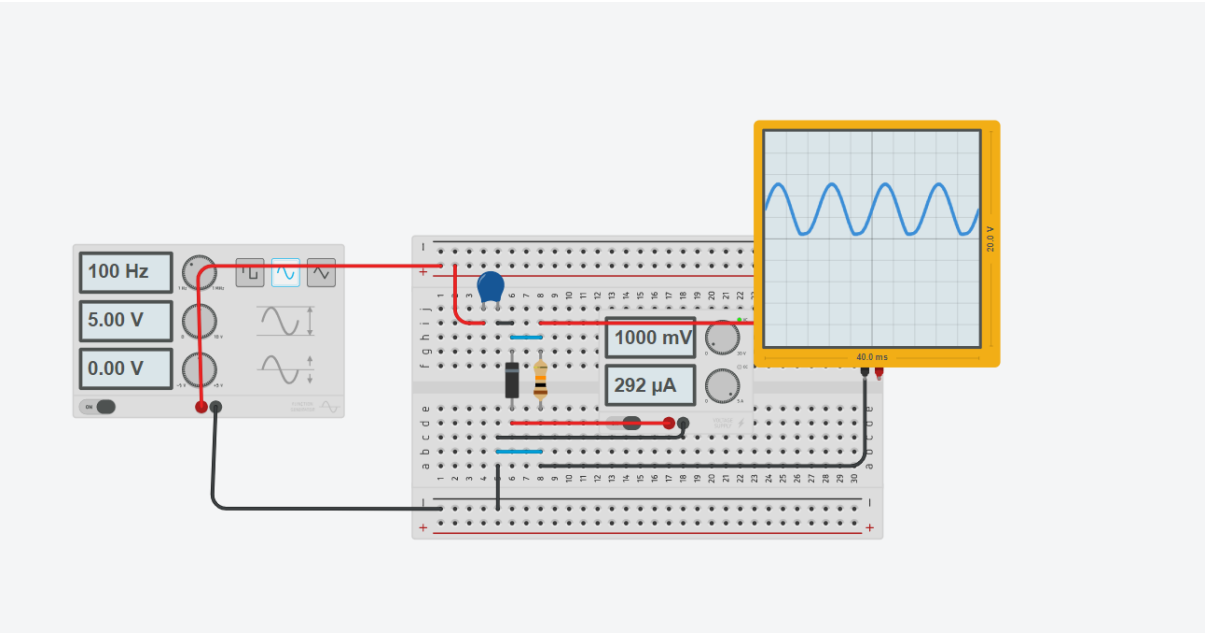
Positive Diode



Negative Diode

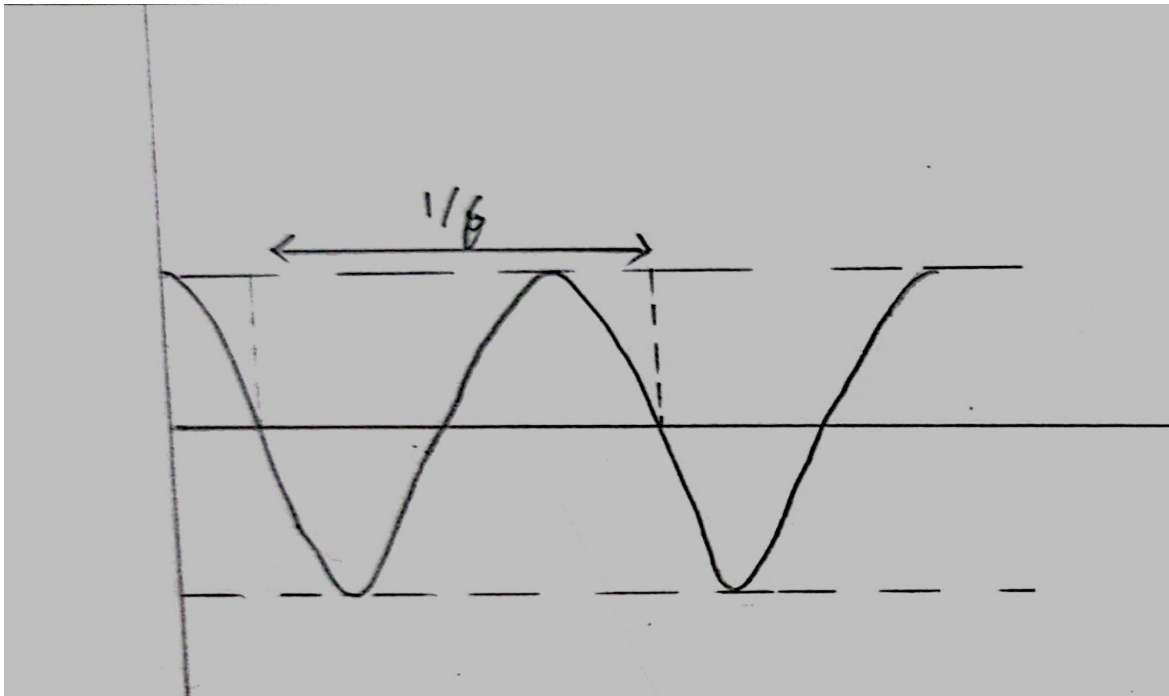


Positive Diode with bias

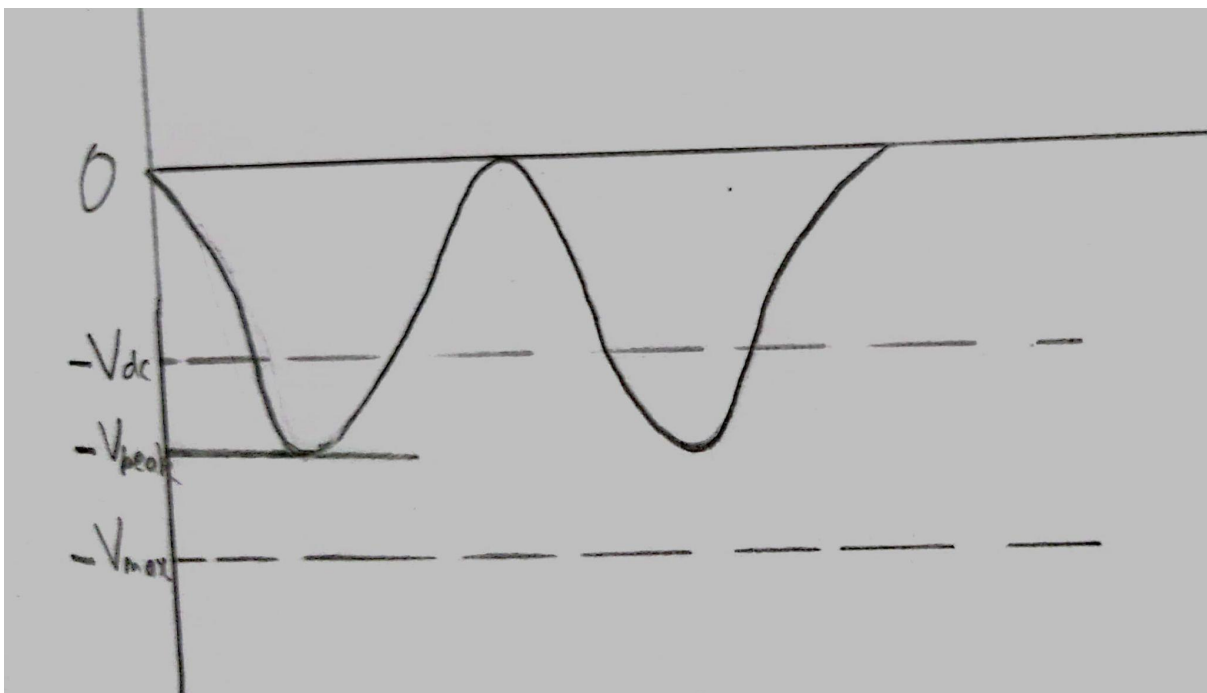


Negative Diode with bias

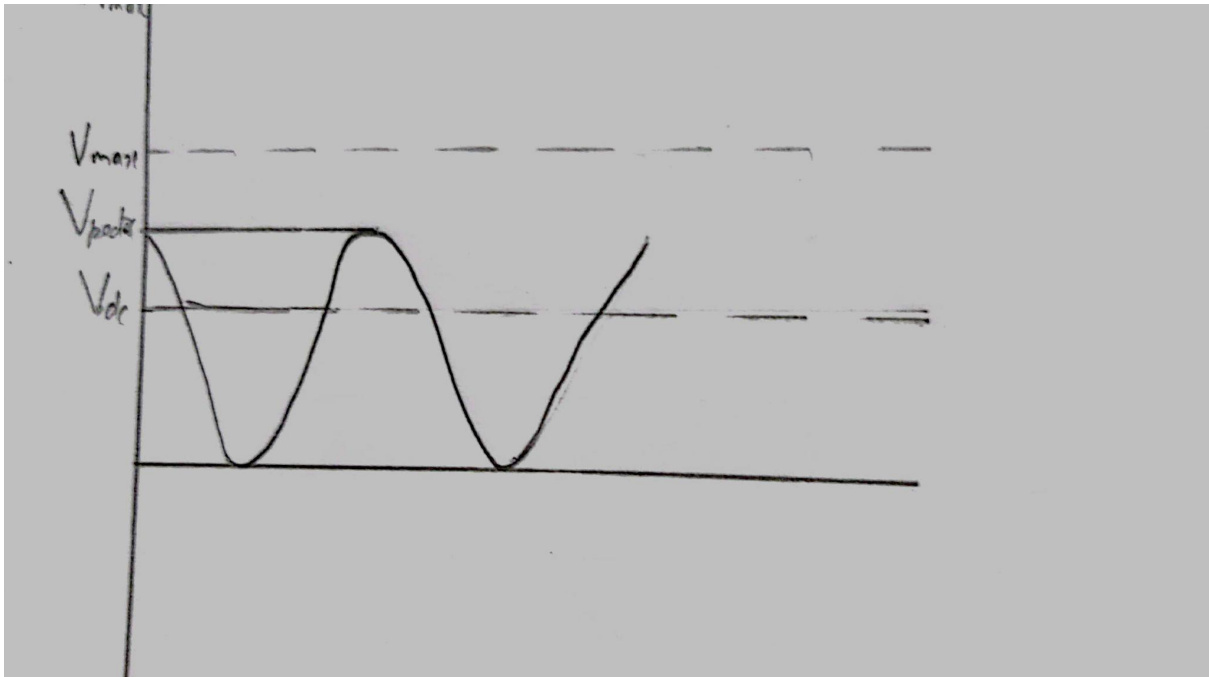
Waveforms:



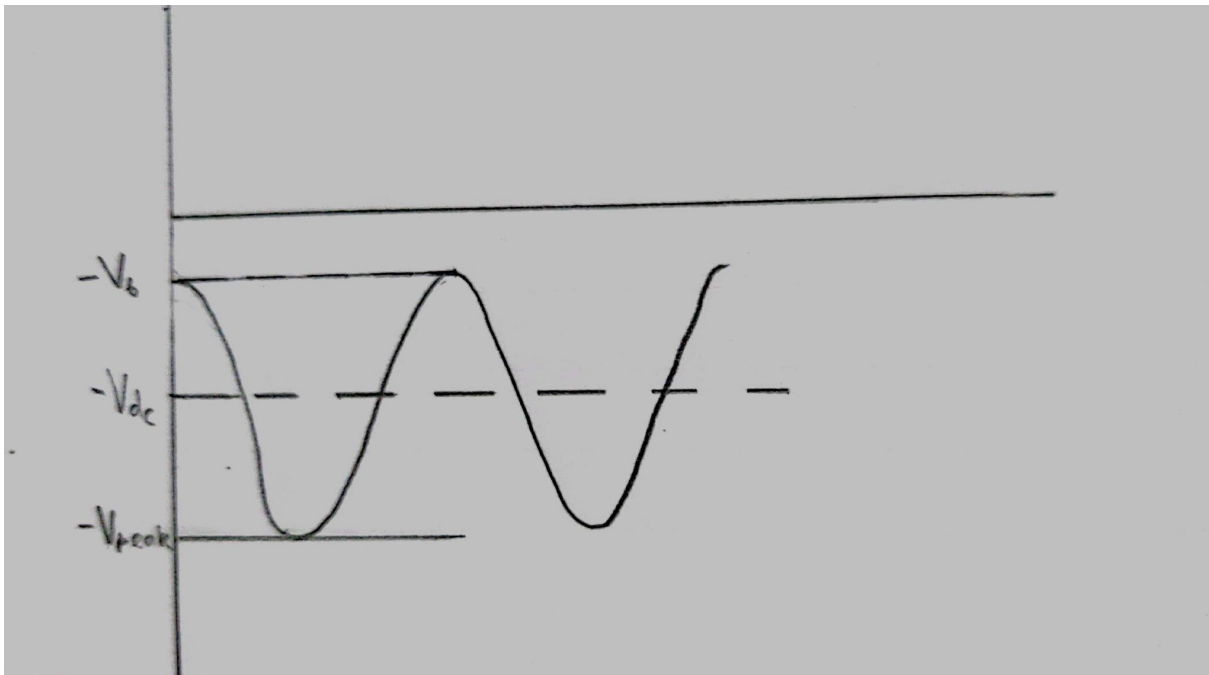
V_{in}



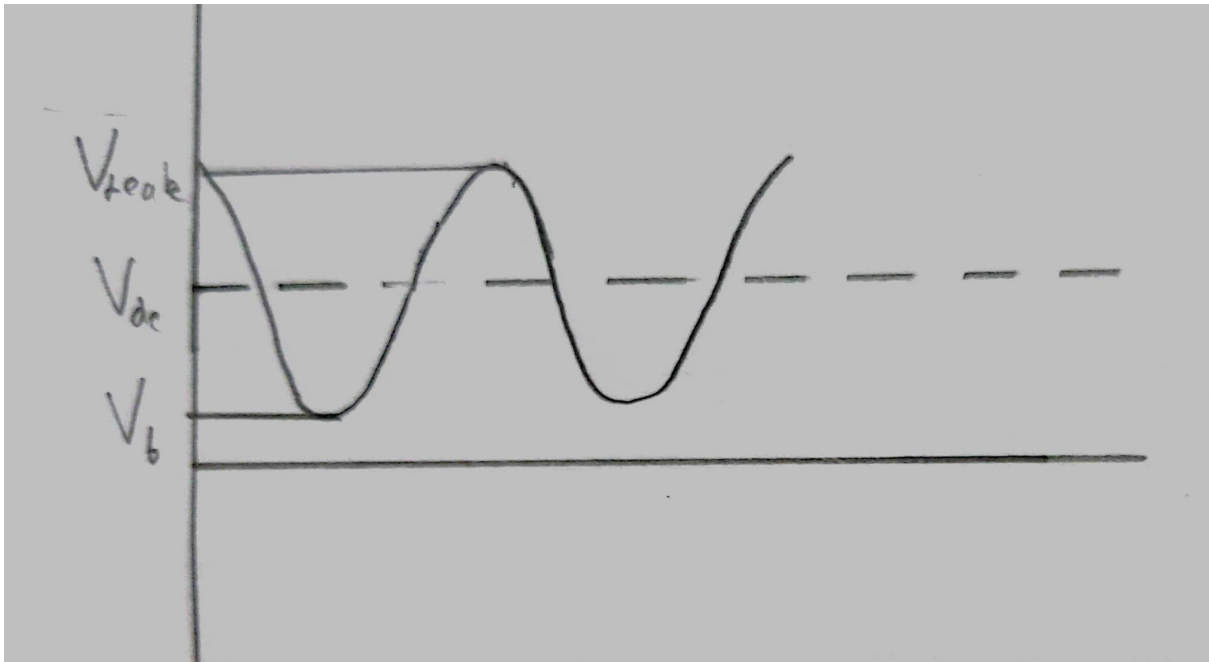
V_{out} of Positive Diode



Vout of Negative Diode



Vout of Positive Diode with bias



Vout of Negative Diode with bias

Results:

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