**Bangladesh University of Engineering and Technology**

**Department of Electrical and Electronic Technology**

**EEE 428**

**Measurement and Instrumentation Laboratory**

**Experiment 4**

**Signal Processing: Precision Rectification**

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Level: 4, Term: 1

Dept. EEE

**Measurement and Instrumentation Laboratory**

**EEE 428**

Experiment No :04

Experiment Title : Signal Processing: Precision Rectification

Objective :

In this report, the aim is to measure AC Voltage sources through integrated circuits.

Setup:

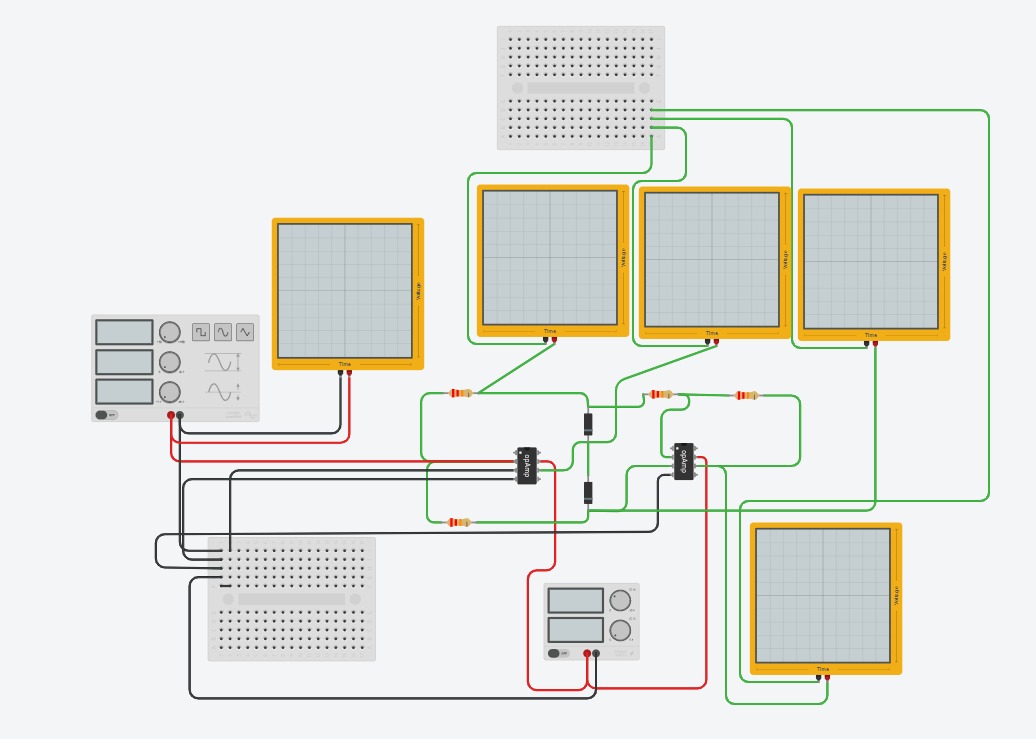


Figure 1 Tinkercad simulation circuit diagram

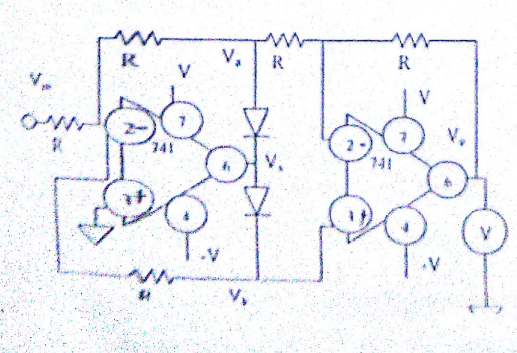


Figure 2 Circuit Diagram

The tinker cad simulation after simulating:

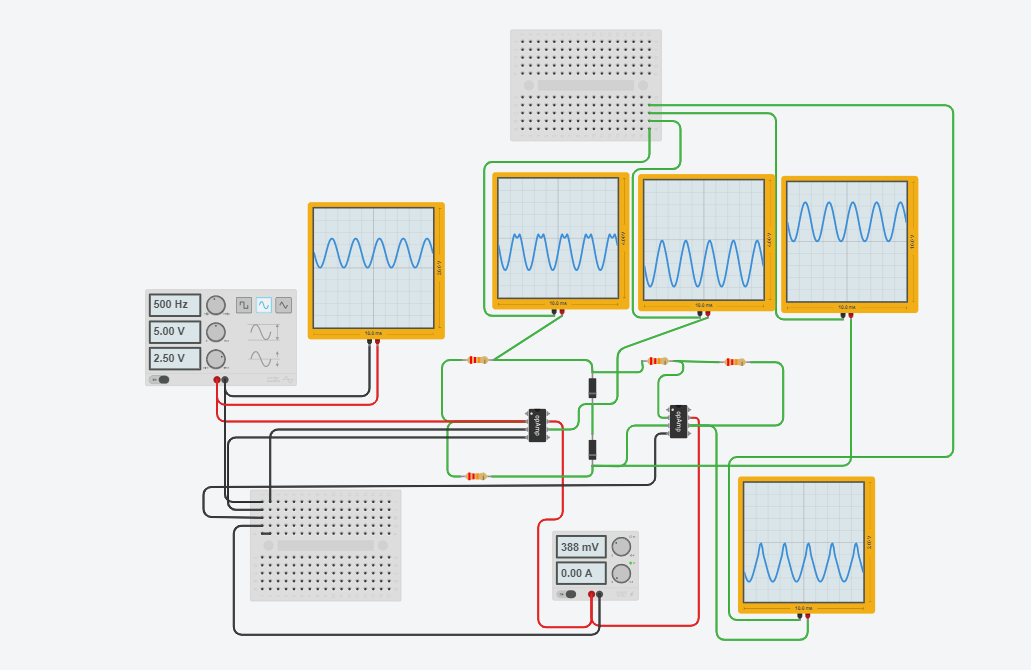
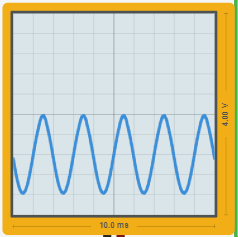
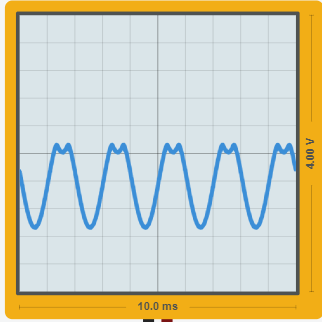
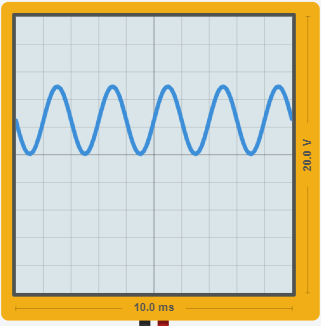


Figure 3 Simulated circuit

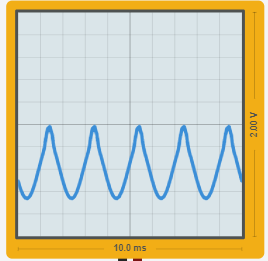
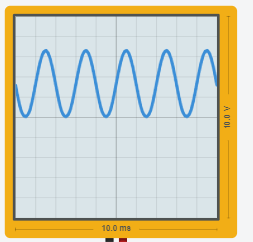
The following outputs were observed for Vin,Va,Vb,Vx,Vo

For Case R = 22k Ohm

Vin Va Vx

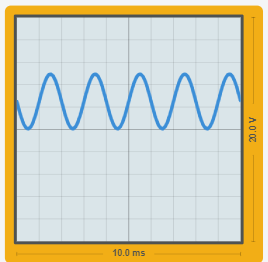
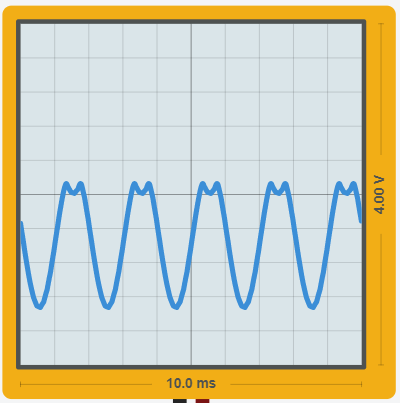
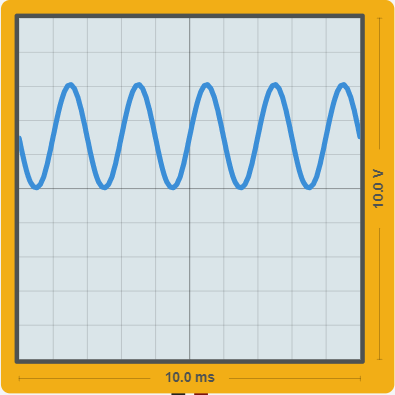


Vb Vo

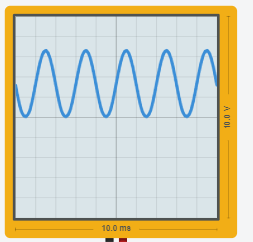
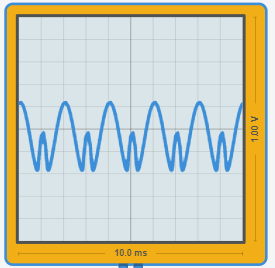


For Case R = 10k Ohm

Vin Va Vx

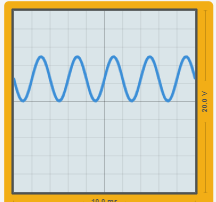
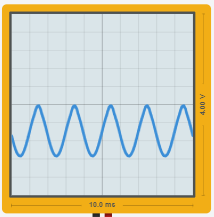
  

Vb Vo

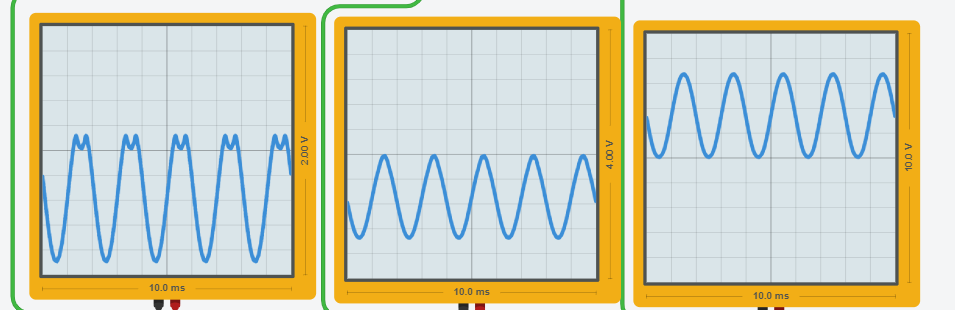
 

For Case R = 100k Ohm

Vin Vo

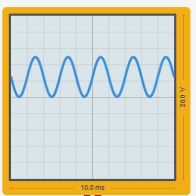
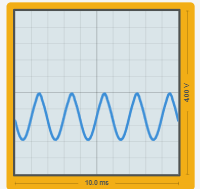
 

Va Vx Vb

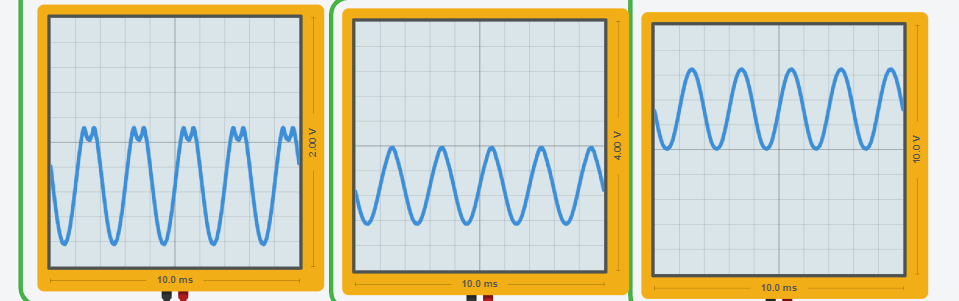


For Case R = 220k Ohm

Vin Vo

Va Vx Vb



Conclusion :

Throughout the experiment,the full have rectification of an ac voltage was observed.