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

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Objective :

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

Setup:

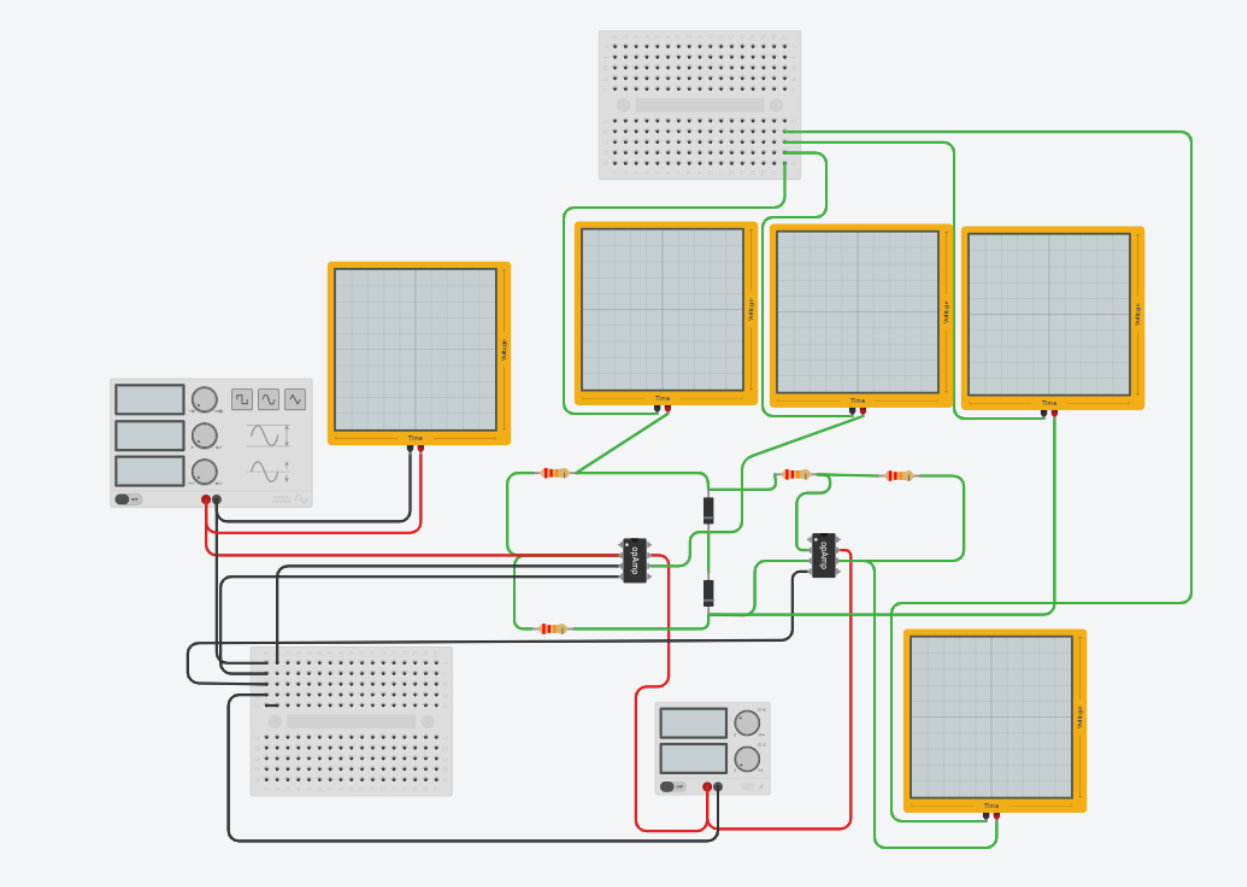


Figure 1 Tinkercad simulation circuit diagram

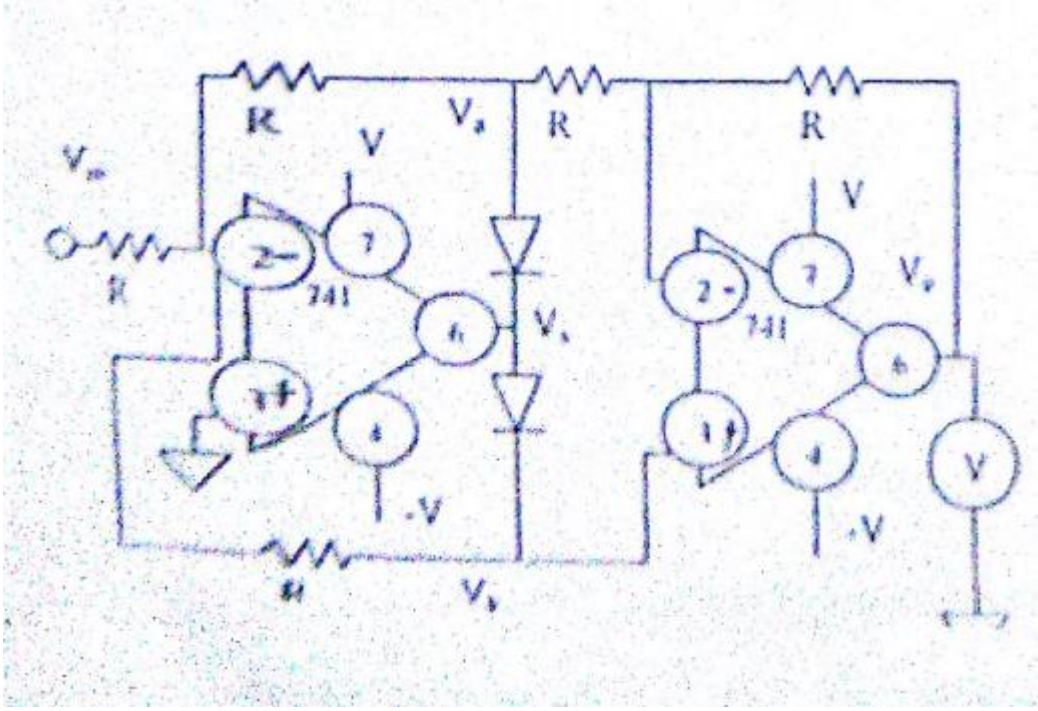


Figure 2 Circuit Diagram

The tinker cad simulation after simulating:

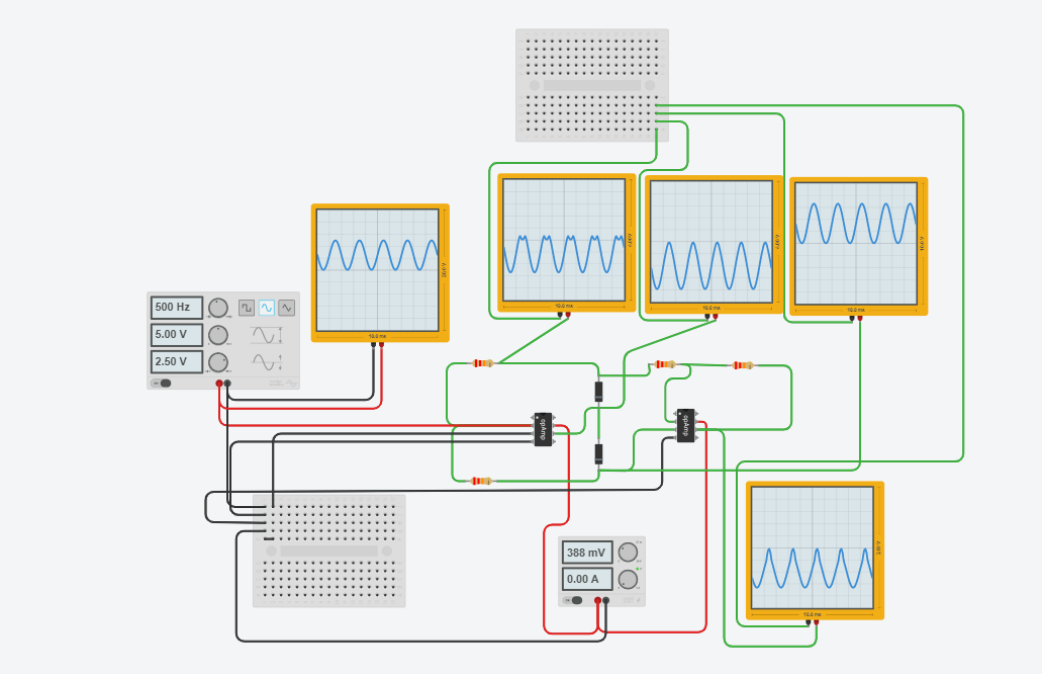
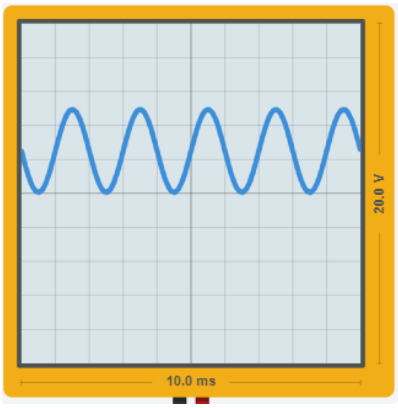


Figure 3 Simulated circuit

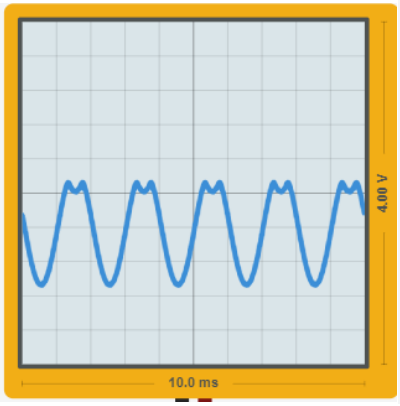
The following outputs were observed for Vin,Va,Vb,Vx,Vo

For Case R = 22k Ohm

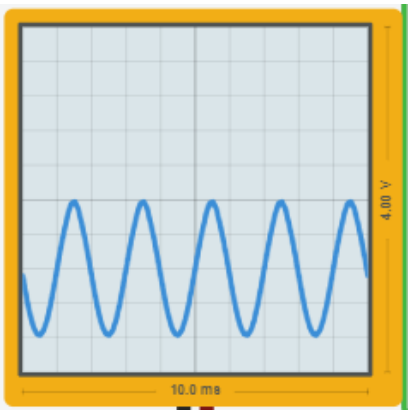
Vin



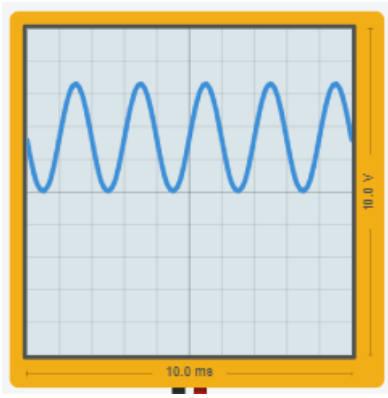
Va



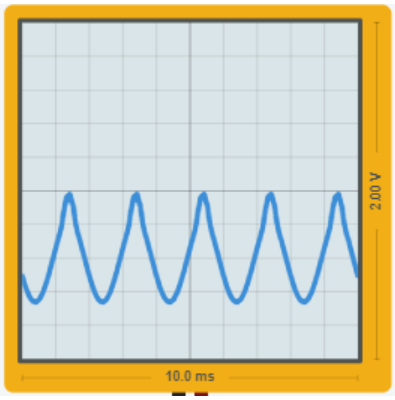
Vx



Vb

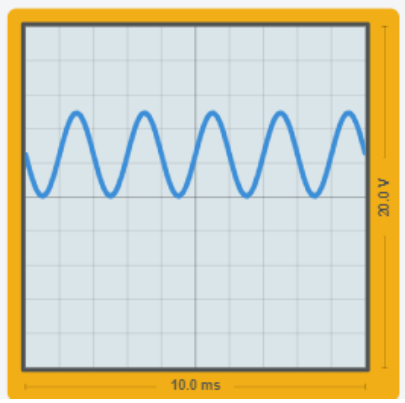


Vo

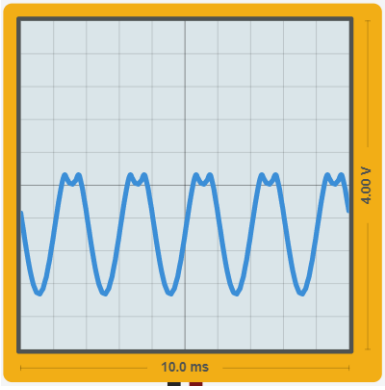


For Case R = 10k Ohm

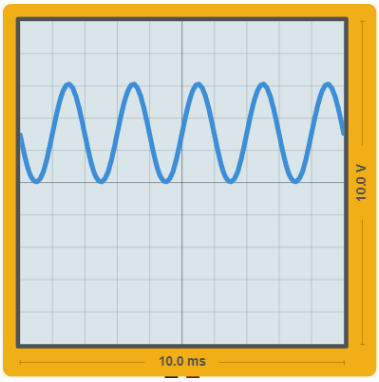
Vin



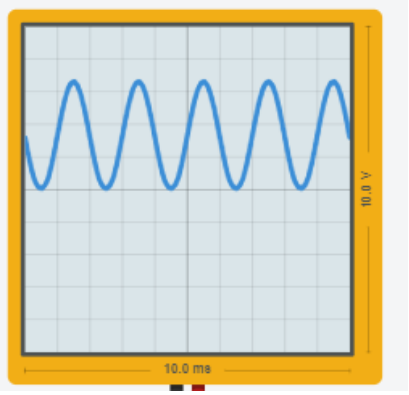
Va



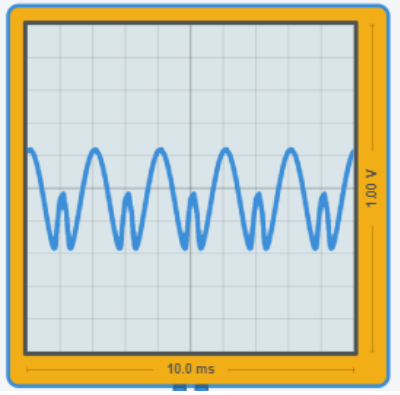
Vx



Vb

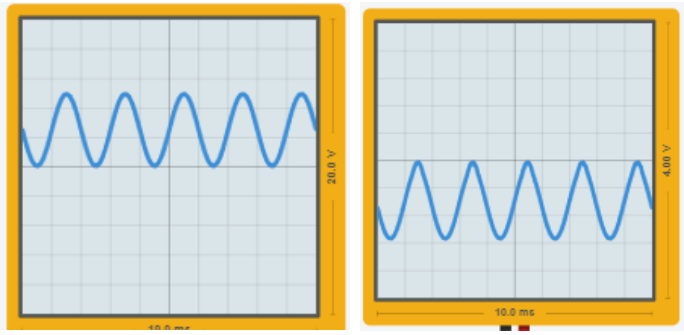


Vo

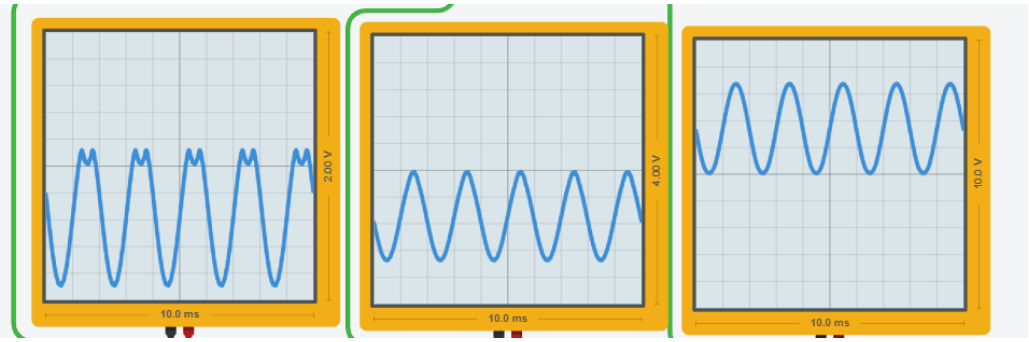


For Case R = 100k Ohm

Vin Vo

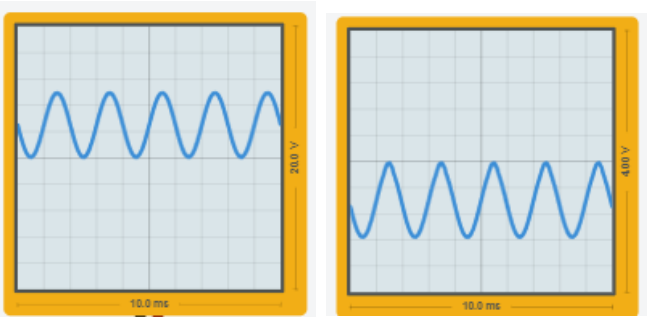


Va Vx Vb

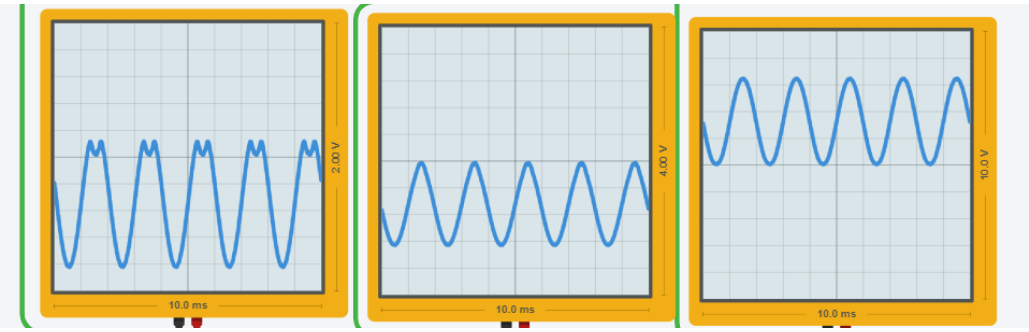


For Case R = 220k Ohm

Vin Vo



Va Vx Vb



Conclusion :

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