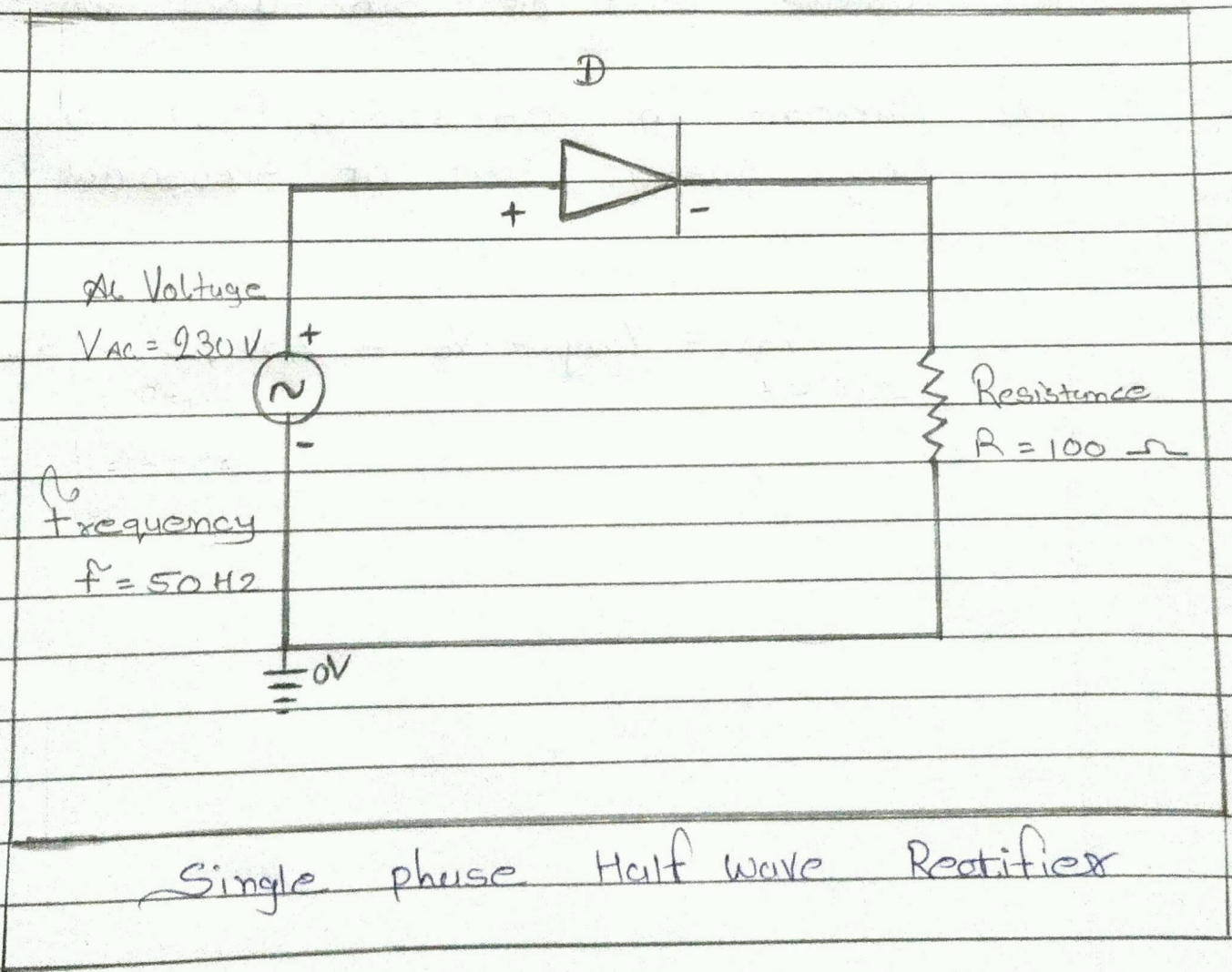


EXP - 1

Date: 26-10-2020

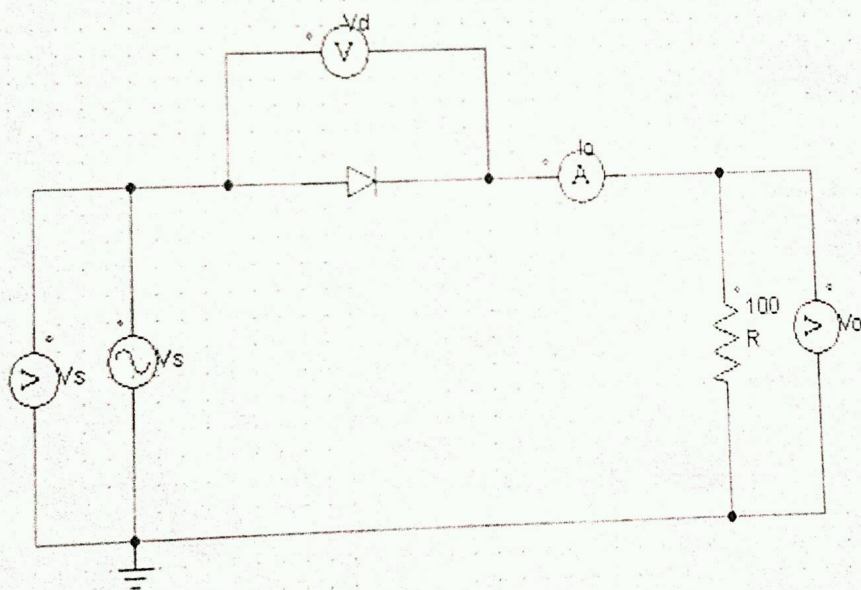
→ AIM: To observe the source voltage across the resistance current in resistance and voltage across the diode of a single phase half-wave rectifier using R load.
It is given that AC voltage = 230 V, $R = 100 \Omega$, $f = 50 \text{ Hz}$

→ Theoretical circuit diagram:

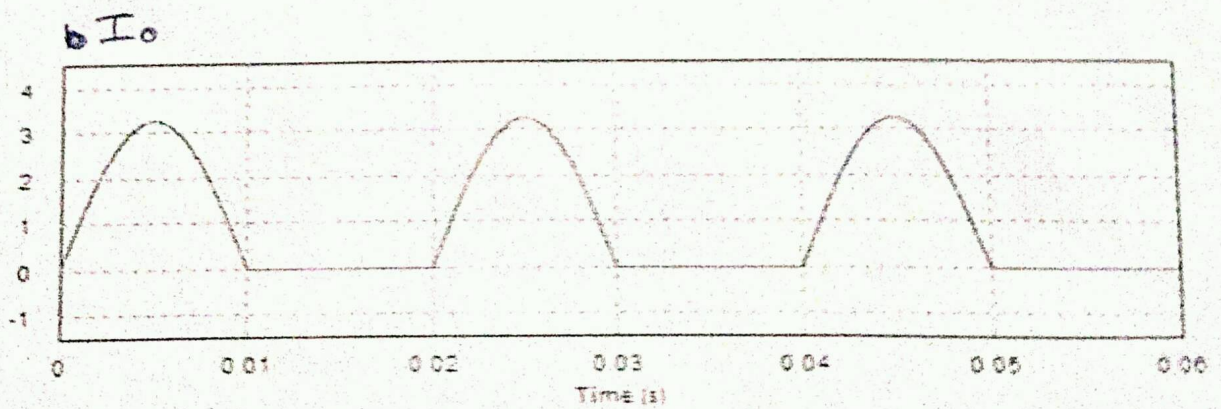
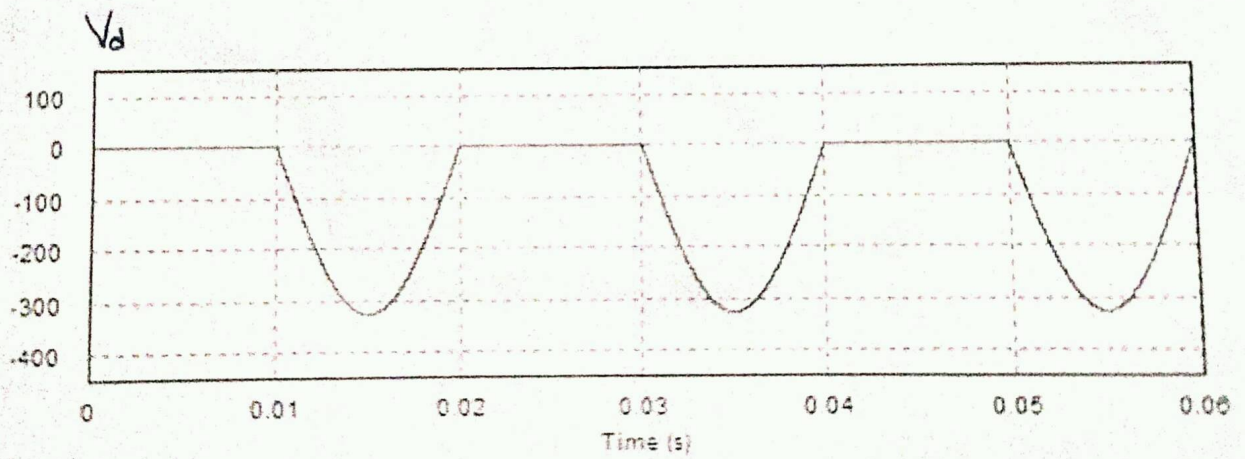
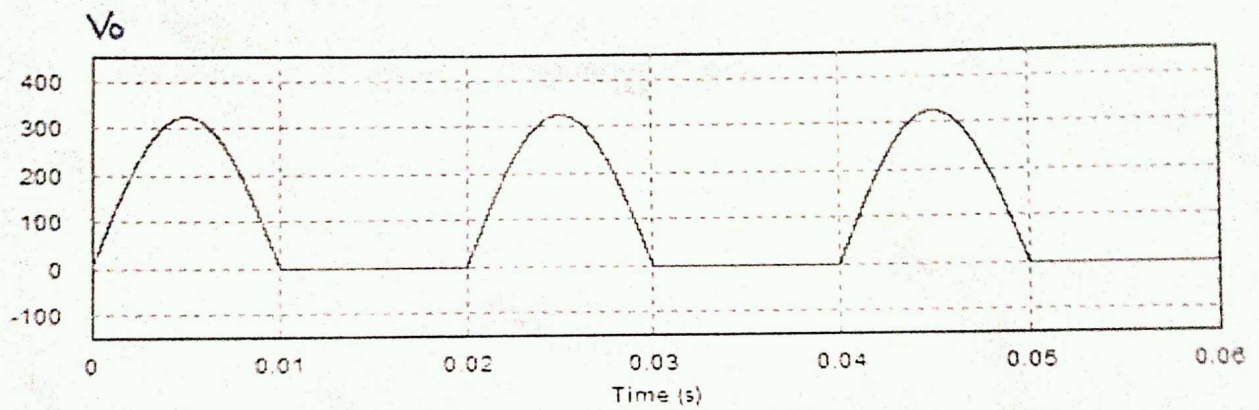
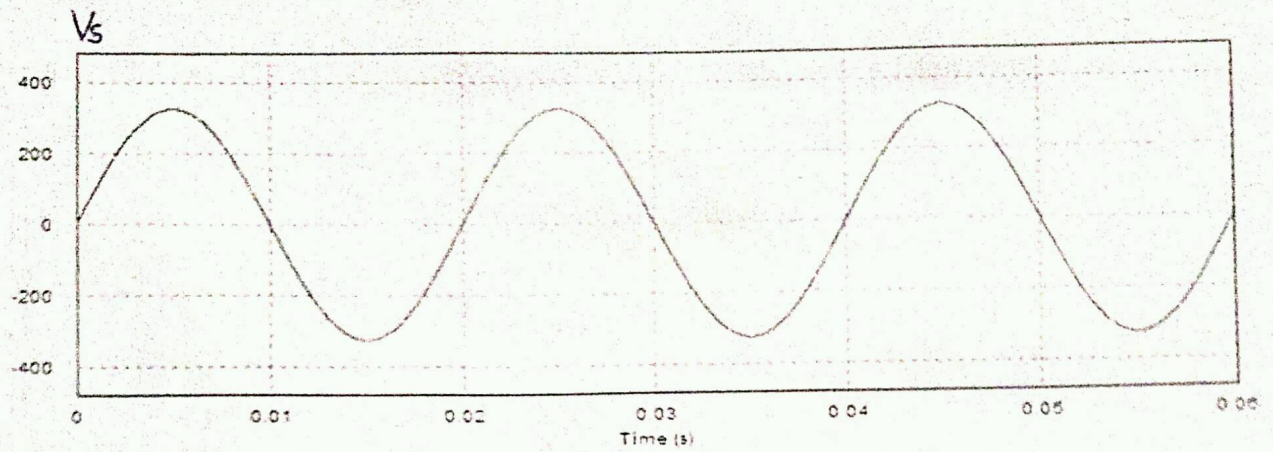


Simulation circuit diagram :

EXP- Single phase halfwave rectifier using $R=100\ \Omega$



Observation of wave forms ÷



and Conclusion :

- i) Source Voltage (V_s) has sinusoidal wave form.
- ii) Voltage across the diode (V_d) has only negative part of sinusoidal waveform.
- iii) Voltage across resistance (V_o) has only positive part of sinusoidal wave form.
- iv) Current in resistance (I_o) also has only positive part of sinusoidal wave form.

$$V_{dc} = V_{avg} = V_o = 230\sqrt{2} = 325.26 \text{ V}$$

EXP - 9

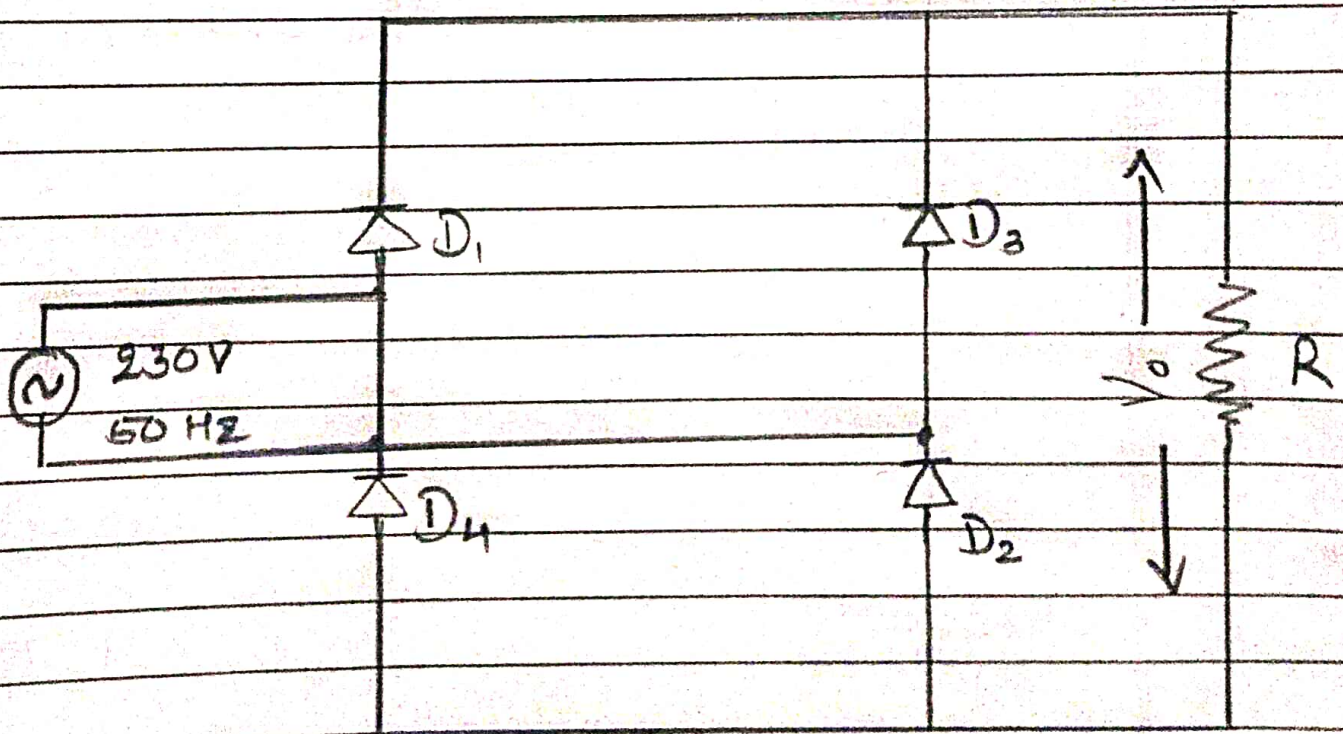
Date: 2-11-2020

AIM : To study single phase Full wave diode Rectifier with

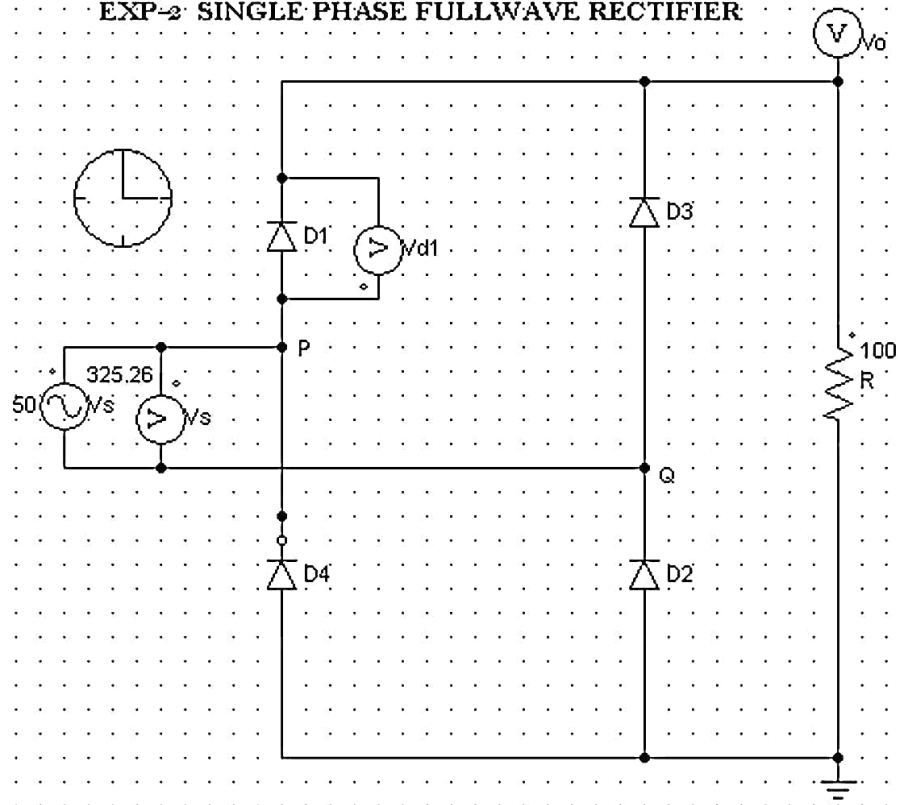
- i) $R = 100 \Omega$ only
- ii) $R = 100 \Omega$ parallel with $C = 100 \mu F$
- iii) $R = 100 \Omega$ parallel with $C = 1000 \mu F$

With Source Voltage = $230 V$ (rms)

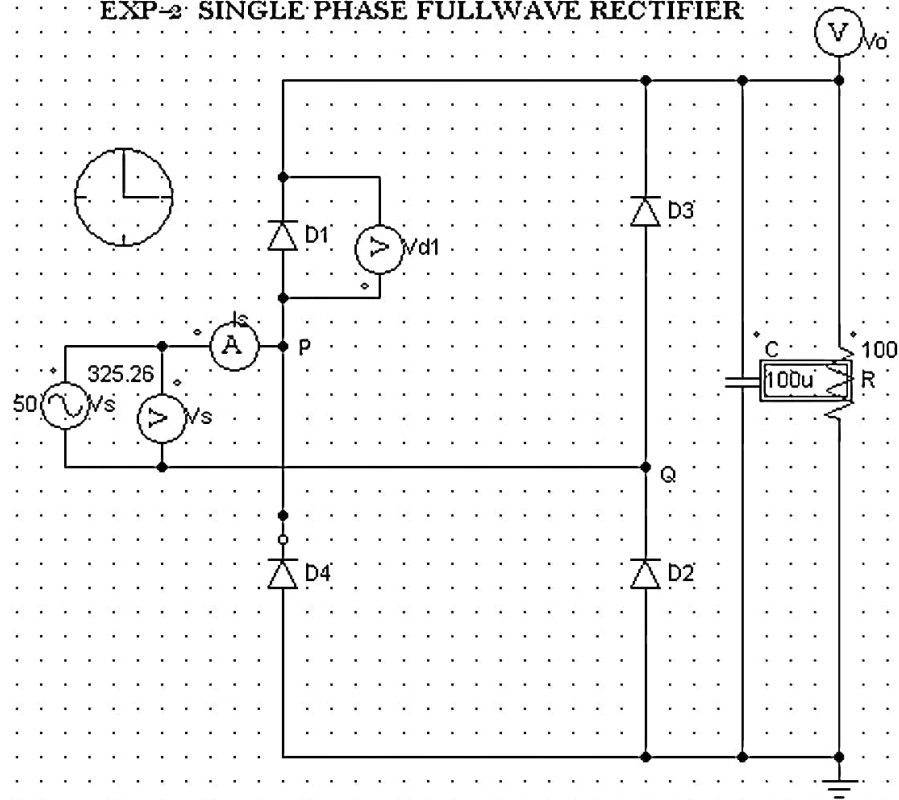
Theoretical circuit diagram:



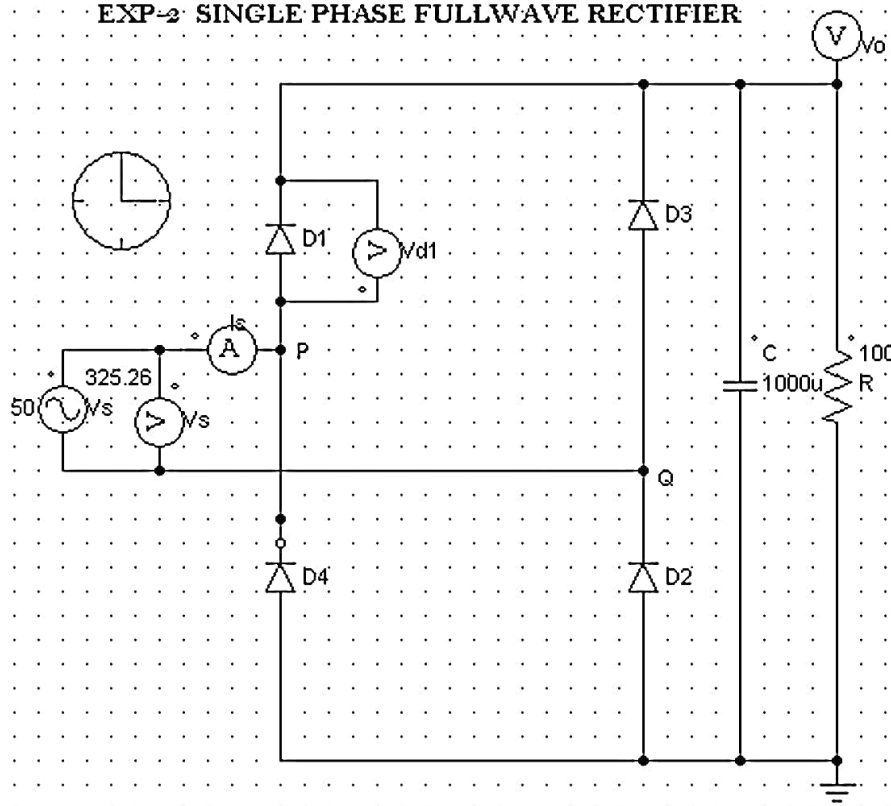
EXP-2 SINGLE PHASE FULLWAVE RECTIFIER

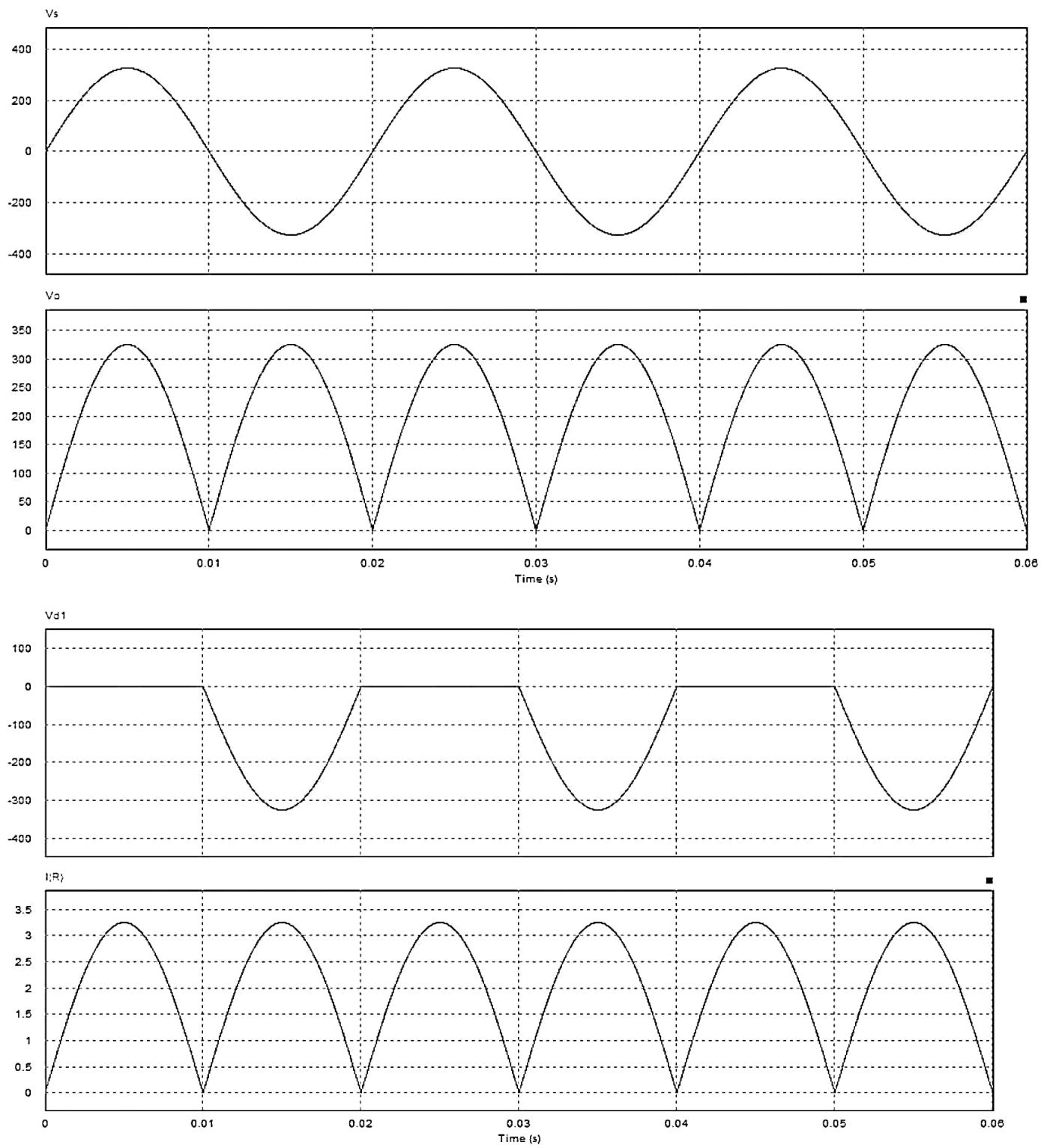


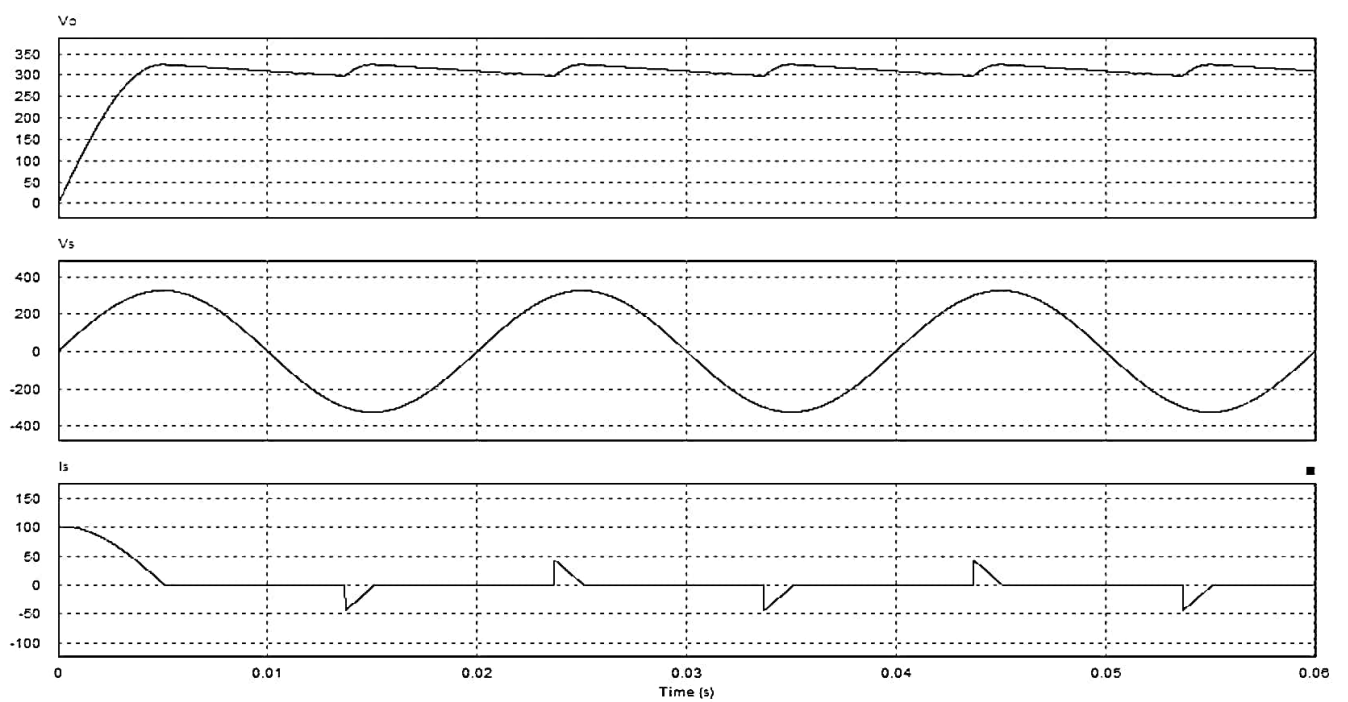
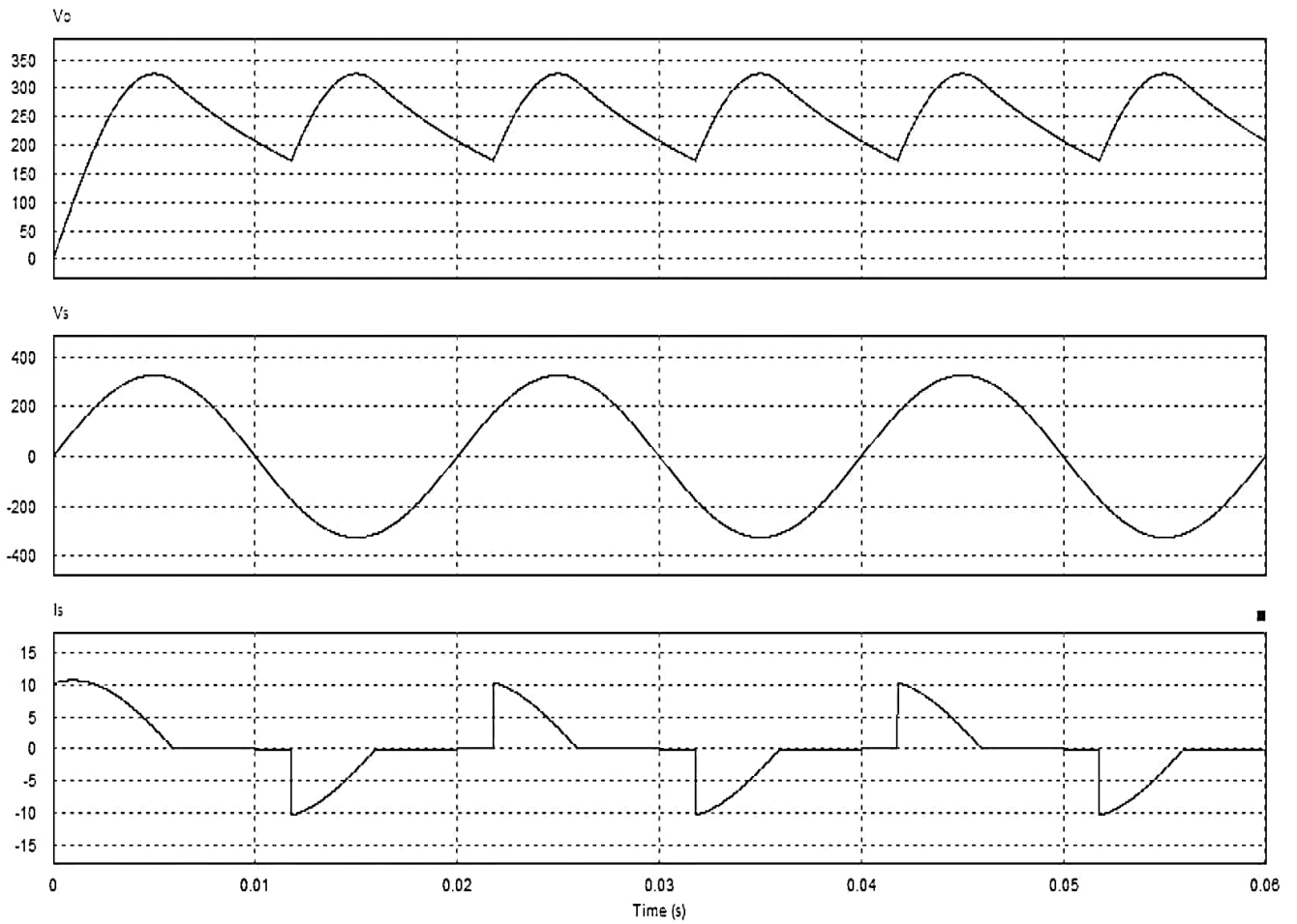
EXP-2 SINGLE PHASE FULLWAVE RECTIFIER



EXP-2 SINGLE PHASE FULLWAVE RECTIFIER







observation table :

load	Voltage
$R = 100 \Omega$	$V_0 = 2.0710117e+0.02$
$R = 100 \Omega$ $C = 100 \mu F$	$V_0 = 2.525889e+0.02$
$R = 100 \Omega$ $C = 1000 \mu F$	$V_0 = 3.039834e+0.02$

measured - $V_0 = V_0 \text{ avg} = V_{dc}$