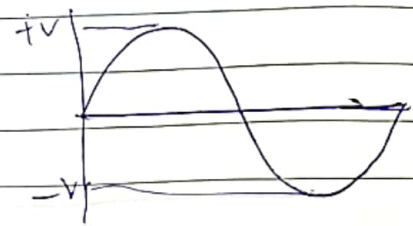
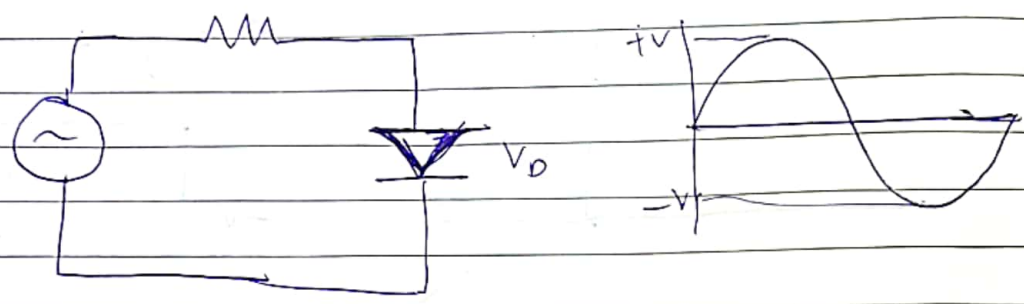


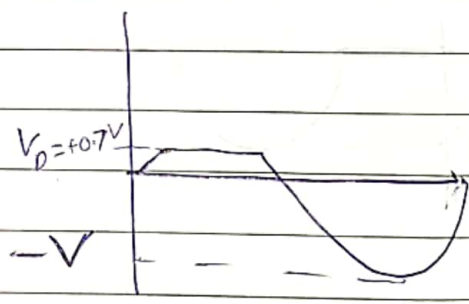
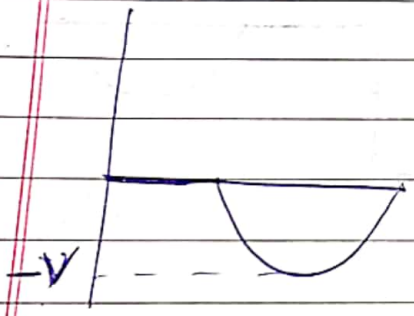
# Clipper & Clamper Circuits

## Clipper

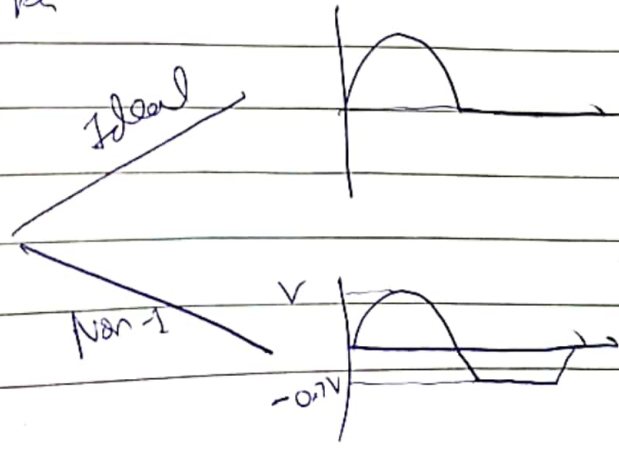
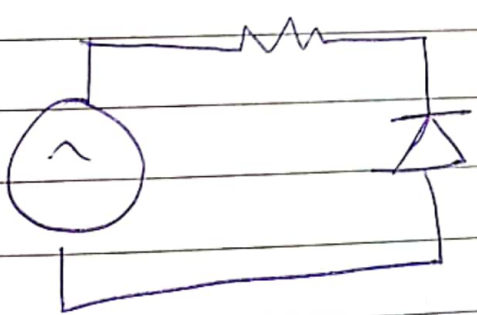
Type 1: +ve Parallel Clipper



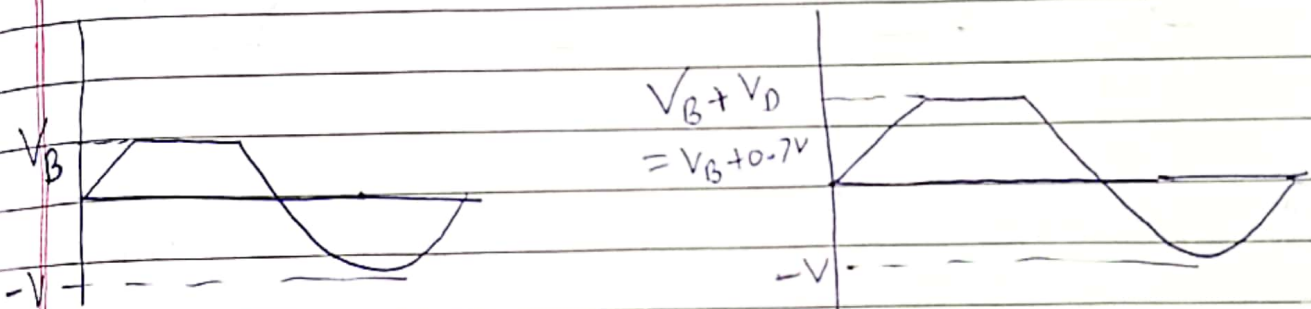
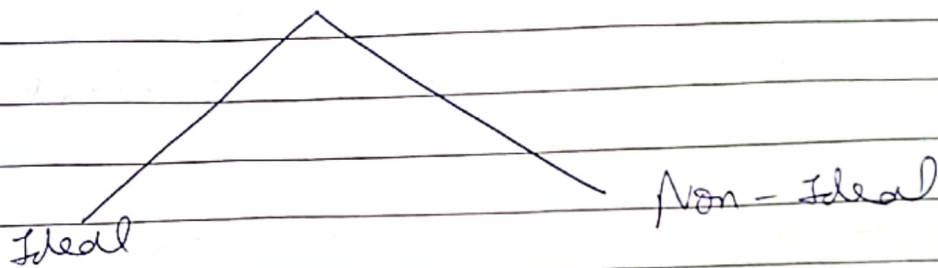
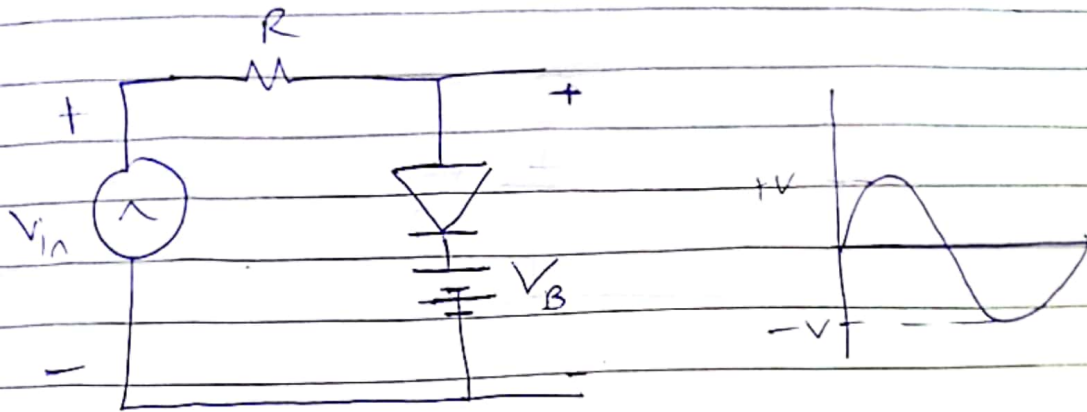
For Ideal                      For Non-Ideal



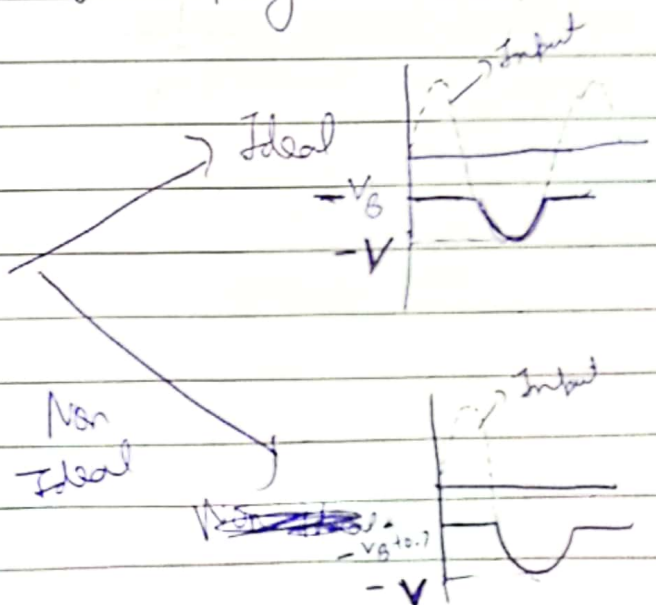
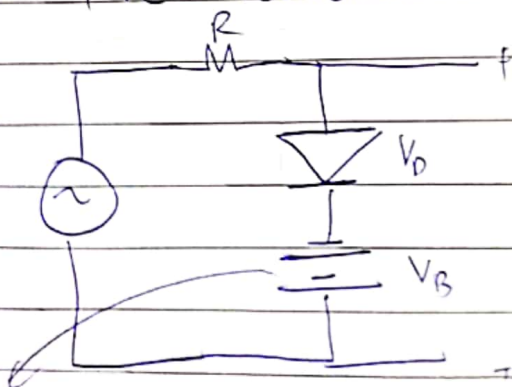
-ve Parallel clipper



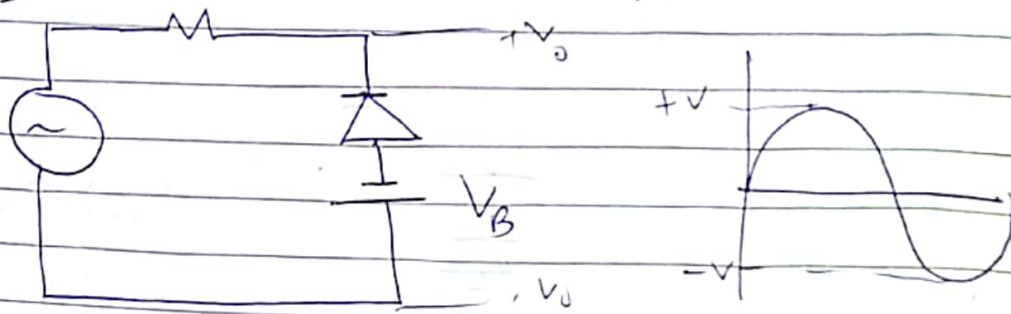
# Type-12 +ve Parallel Clipper with ~~positive bias~~ positive bias



## +ve Parallel Clipper with Negative bias

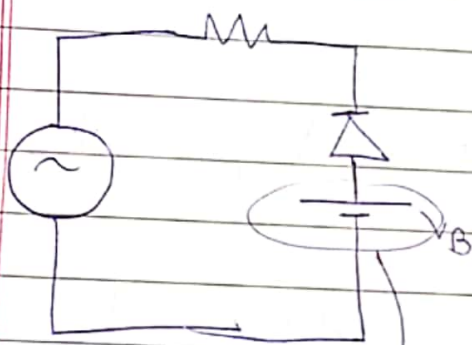
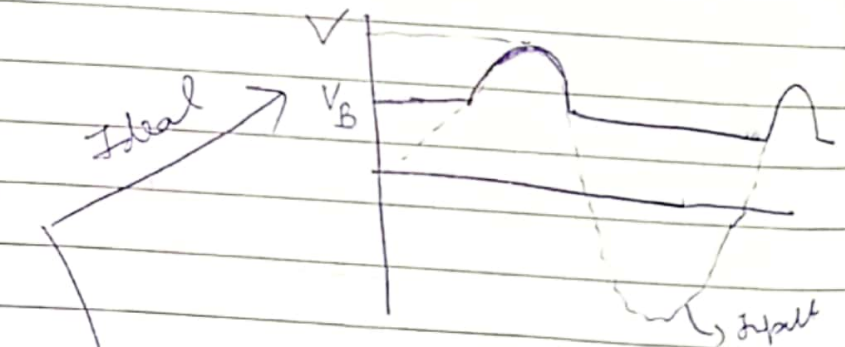
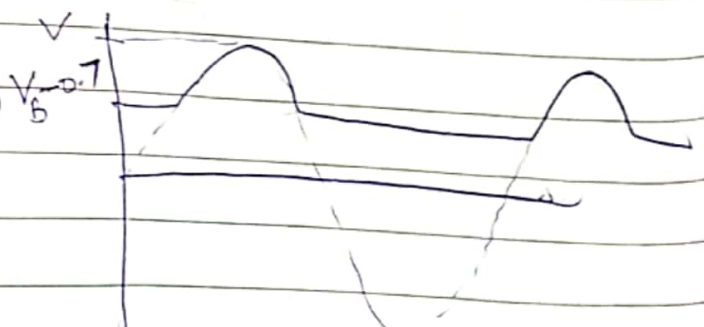


Students  
Connected  
Opposite

Type-3 -ve Parallel Clipper with positive bias

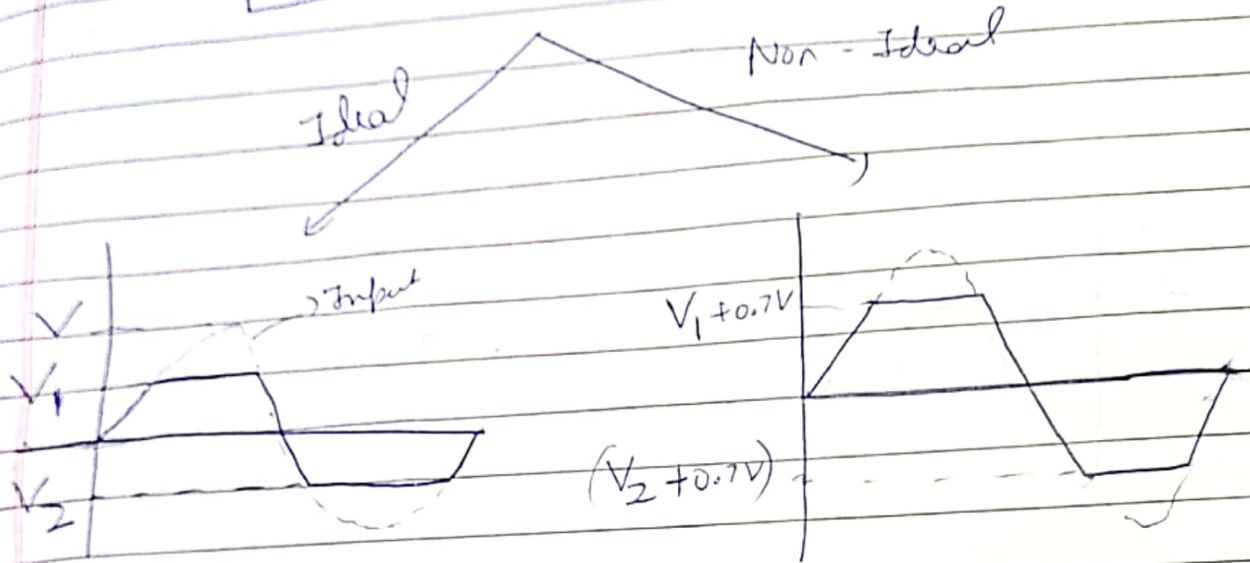
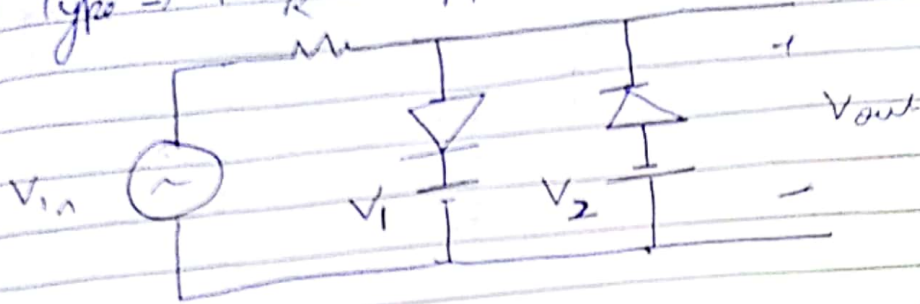
Ideal

Non-Ideal

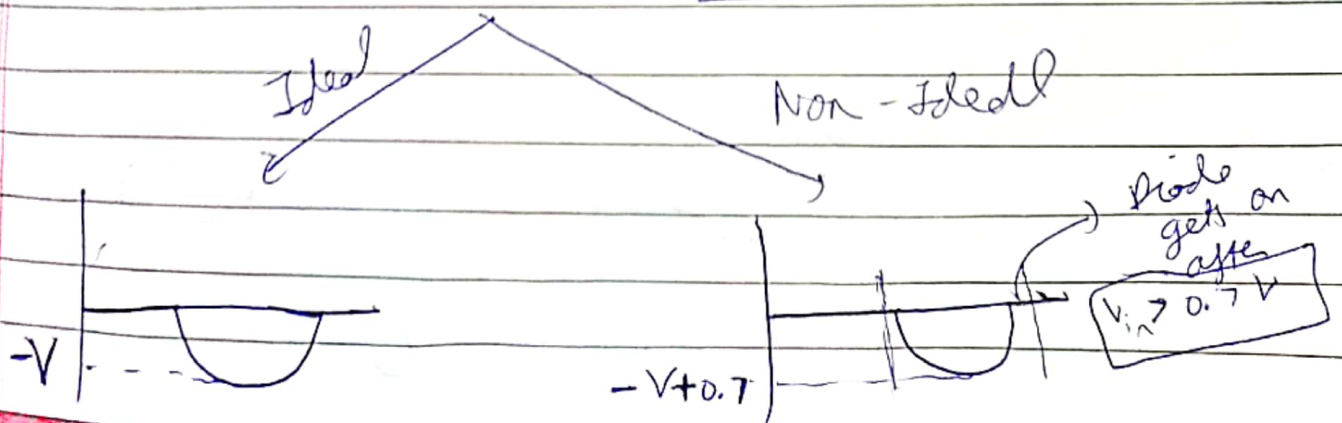
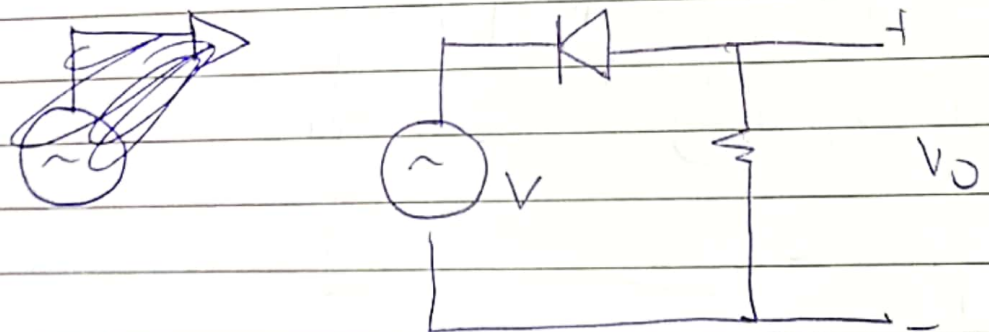
-ve Parallel Clipper with Negative biasBattery  
is reversedNon  
Ideal



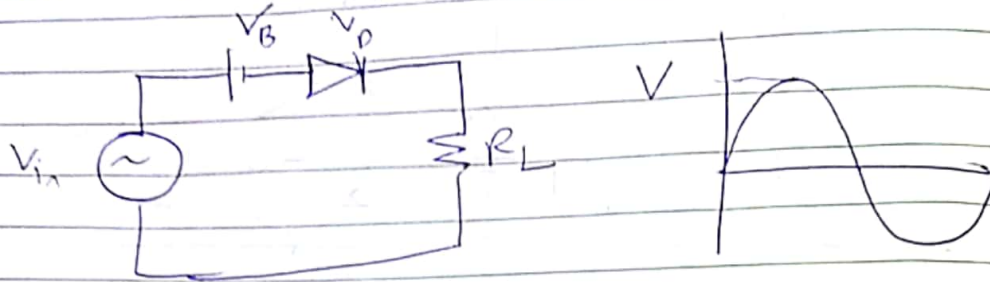
Type - 4 Clipper Circuit



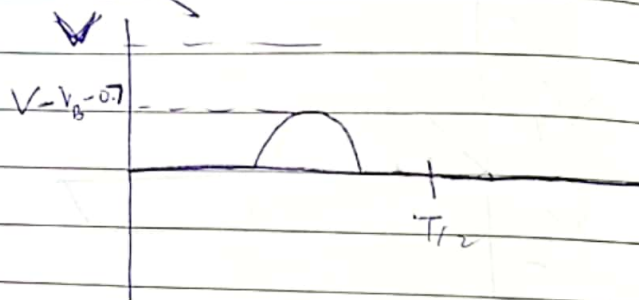
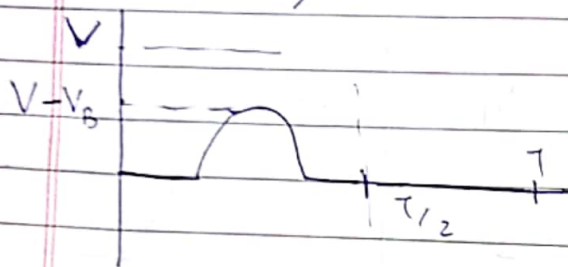
Type - 5 +ve Series Clipper Circuit



## Type - 6 Negative Series Clipper circuit with +ve Biassing Voltage

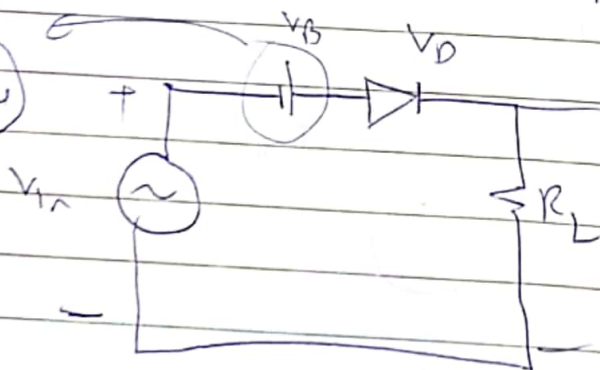


Ideal Non-Ideal



## Type - 7 Negative Series Clipper with -ve Biassing Voltage

Battery  
polarity  
is opposite



For +ve cycle  
 When  $V_i > V_B + V_d$

$$\Rightarrow V_o = V_{in} + V_B - V_d$$

When  $V_i < V_B + V_d$

For -ve cycle

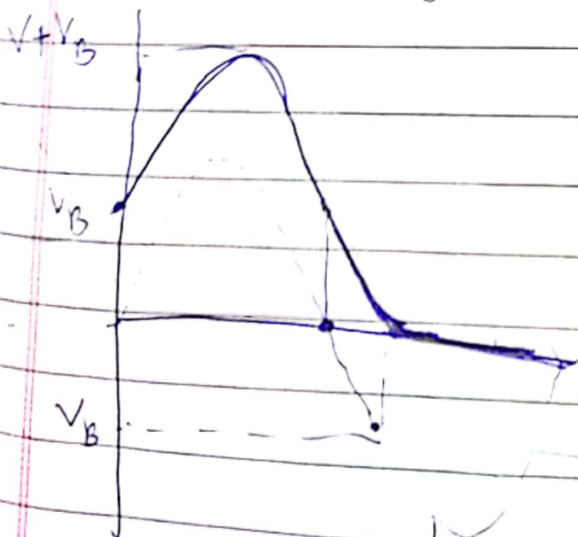
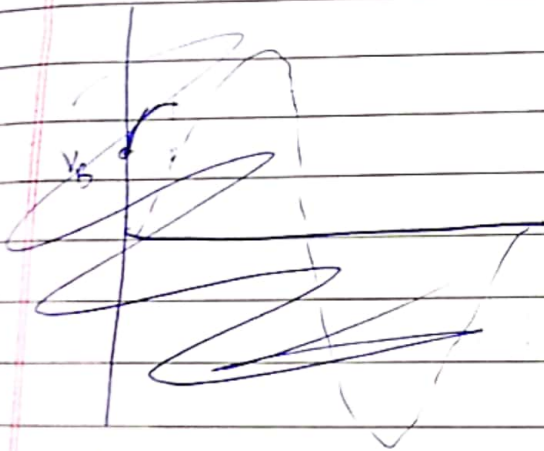
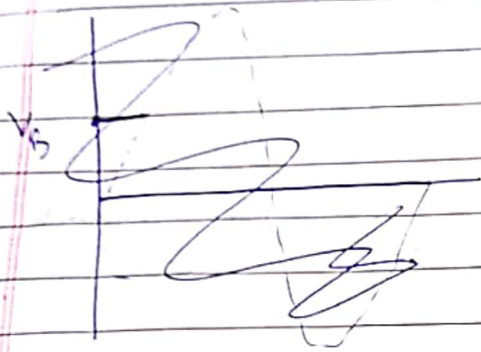
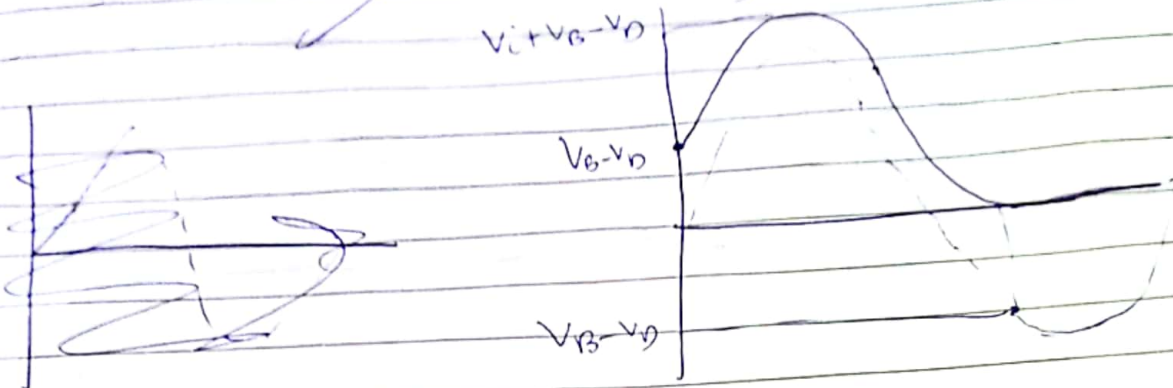
$$V_i < V_B - V_d \Rightarrow V_o = V_B - V_i - V_d$$

$$V_i > V_B - V_d \Rightarrow V_o = 0V$$

Voltage

Ideal

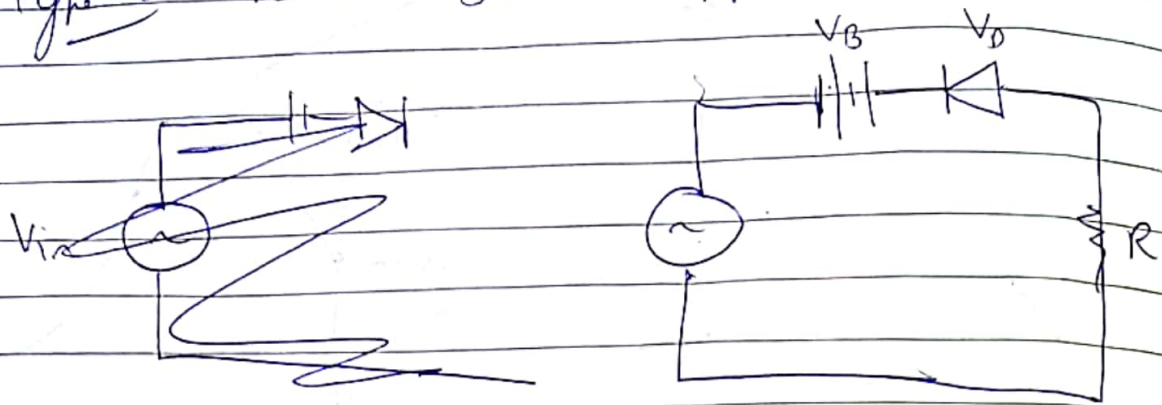
Non-Ideal



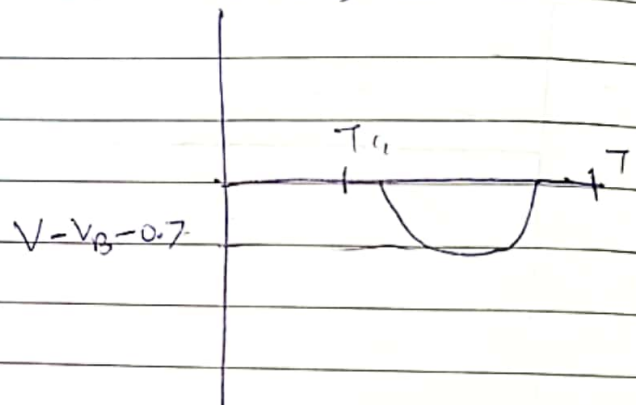
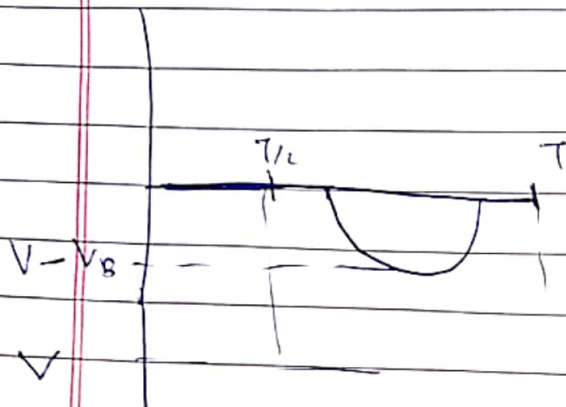
Input



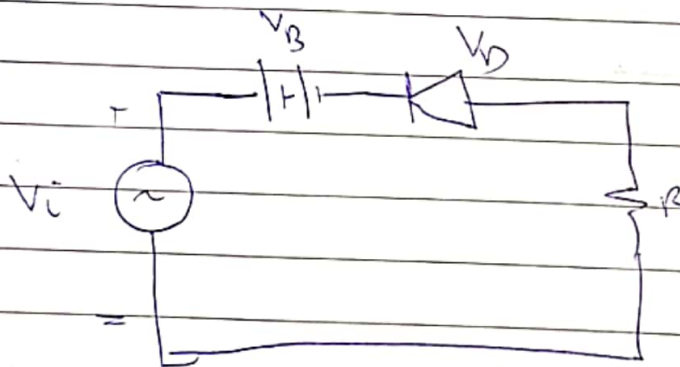
## Type - 8 Positive Series Clipper with +ve Biasing Voltage



Ideal Non-Ideal



## Type - 9 Positive Series Clipper with -ve biasing voltage



Ideal Non-Ideal

