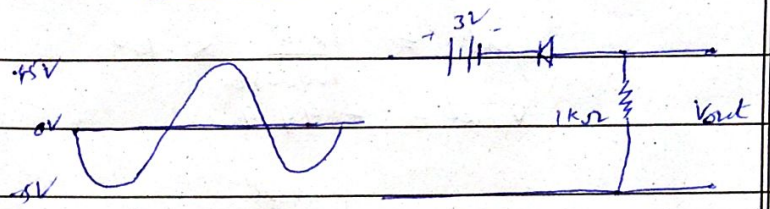
C.W ☐
H.W ☐
TEST ☐

Day: ☐☐☐☐☐☐
Date: ☐☐☐☐☐☐☐

Umar Hayyat
2019-EE-360

Assignment

Q1.



For -Ve half cycle.

$V_{out} = -5 - (V_{bias} - 0.7)$

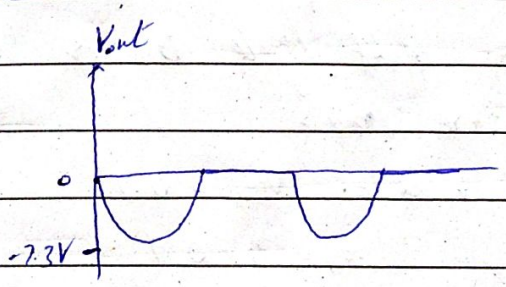
$= -5 - (3 - 0.7)$

$= -5 - 2.3$

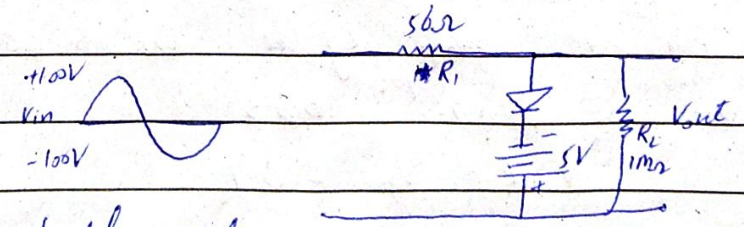
$V_{out} = -7.3V$

For +Ve half cycle.

$V_{out} = 0$ because diode is reverse biase.



Q.2



For +Ve half cycle

$V_{out} = V_{bias} - 0.7$

$V_{out} = 5 - 0.7$

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$V_{out} = 5 - 0.7$

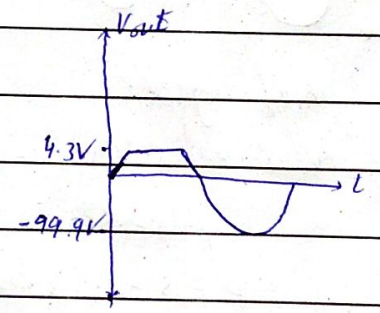
$V_{out} = 4.3V$

For -ve half cycle.

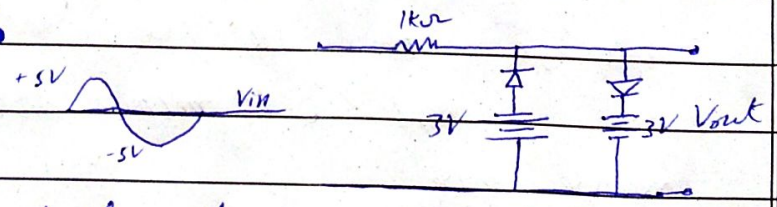
$$V_{out} = \left(\frac{1M\Omega}{56 + 1M}\right) V_{in}$$

$$V_{out} = \frac{1 \times 10^6}{1000056} \times -100$$

$V_{out} = -99.9V$



Q No. 3



For +ve half cycle. D_2 is forward and D_1 is reverse bias

$V_{out} = V_{bias}^{(D_2)} + 0.7$

$= 3 + 0.7$

$V_{out} = 3.7V$

For -ve half cycle. D_2 is reverse and D_1 is forward bias.

$V_{out} = V_{bias} + 0.7$

$= 3 + 0.7$

$V_{out} = 3.7V$

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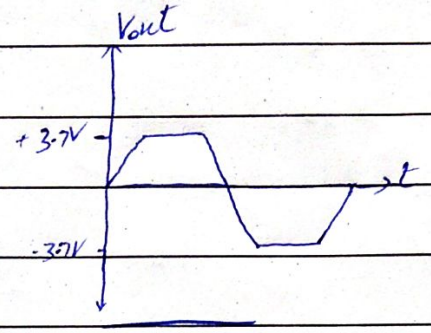
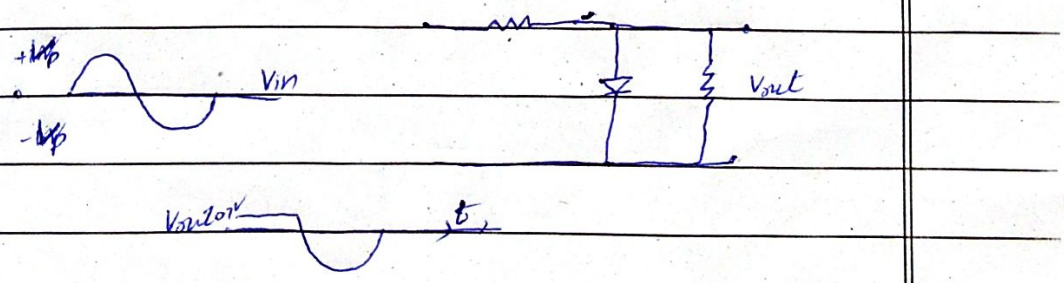


QNo.4

Positive limiter:

A positive limiter limits or clips the positive part of input voltage and negative part remain same. In positive limiter diode is in forward bias for positive half cycle and reverse bias for negative half cycle.



Negative clamper:

Negative clamper convert the positive half cycle of input into negative part. ex: