Q1 @ $V_{in} > 0$:

$0.7 - 0.8 + V_{out}$ ∴ $V_{out} = \boxed{0.1 V}$

@ $V_{in} < 0$: $-0.7 + 0.8 + V_{out} \rightarrow V_{out} = \boxed{-0.1 V}$

700mV
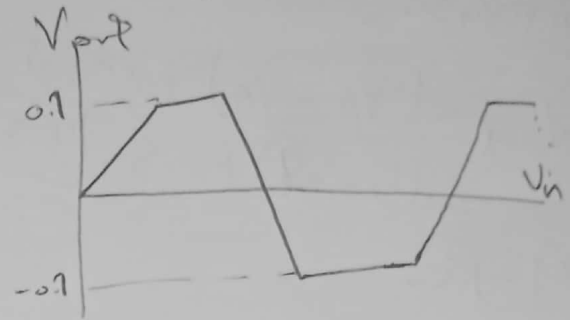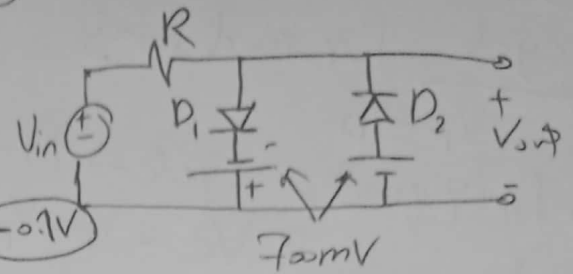
Q2 During +ve cycle of V_{in}:

Diodes D_2, D_3 are off Due to reverse biased

So $\boxed{V_{out} = 0}$
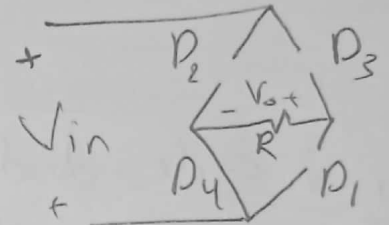
During -ve cycle of V_{in}:

D_1, D_3 are Conducting (short circuit)

$\boxed{V_o = 0 \text{ Volt}}$ no current flows through load Resistor
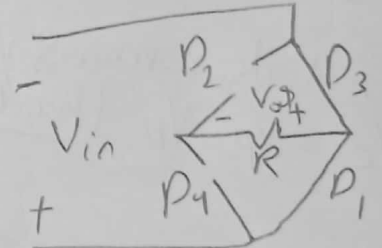
⇒ The full wave rectifier will not work properly, as $\boxed{V_o = 0 V}$ the V_o is Zero in both (+ve) & (-ve) cycles.
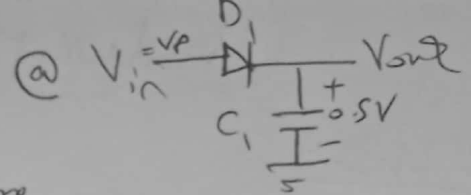
Q3

+ve cycle : forward bias

$\varepsilon\ V_c = V_p - V_D$
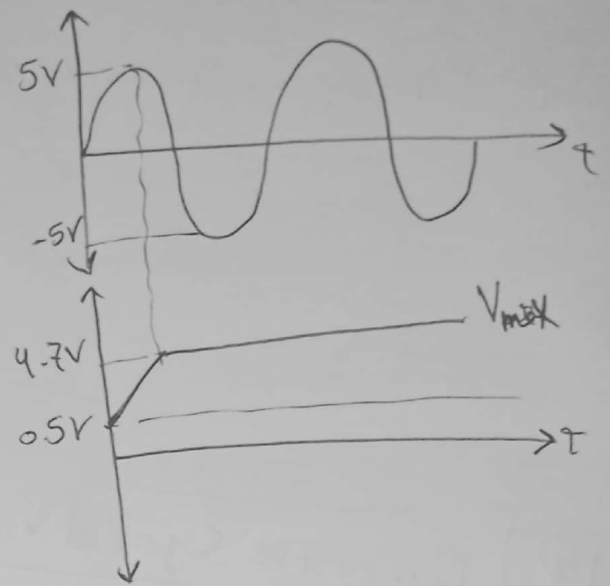after first quarter cycle → the diode become
in reverse bias & $V_c = V_p - V_D$

$V_{max} = (V_p - V_D) + \text{intial } V_c$
$\quad = (5 - 0.8) + 0.5 = \boxed{4.7\ V}$

$T = RC$

@ $V_{in}^{=ve}$ ———▷|——— V_{out}
$C_1 \doteq$ + 0.5V
$\quad -$

5V

−5V

4.7V ——————————— V_{max}

0.5V ——————————→ t

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for −ve cycle : diode in forward bias

$V_c = V_p - V_D$, after 1st quarter cycle
→ diode remains in reverse bias
$V_c = V_p - V_D$ (hards)

$V_{max} = (V_p - V_D) - \text{intial } V_c$
$\quad = (5 - 0.8) - 0.5 = \boxed{3.7\ V}$ #

ⓑ V_{in} ———|◁——— o V_{out}
$\quad\quad\quad + 0.5V$
$\quad\quad\quad -$

V_{in}

5V

−5V

0.5V

−3.7V ——————————— V_{max}