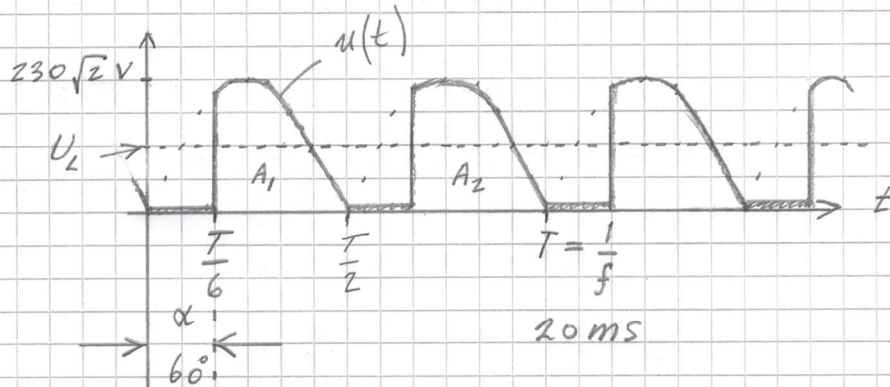
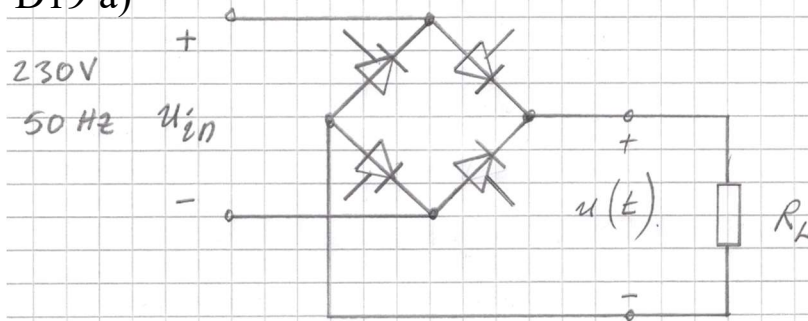


D19 a)



$$\begin{aligned}
 U_L &= \frac{1}{T} \int_0^T u(t) dt = |A_2 = A_1| = \\
 &= \frac{2}{T} \int_{\frac{T}{6}}^{\frac{T}{2}} 230\sqrt{2} \sin(\omega t) dt = \left| T = \frac{2\pi}{\omega} \right| = \\
 &= \frac{2 \cdot 230\sqrt{2} \omega}{2\pi} \left[\frac{-\cos(\omega t)}{\omega} \right]_{\frac{\pi}{3}}^{\frac{\pi}{2}} = \\
 &= \frac{230\sqrt{2}}{\pi} \left[-\cos\pi + \cos\frac{\pi}{3} \right] = \underline{155V}
 \end{aligned}$$

b) $\alpha = 180^\circ \Rightarrow U_L = 0$

$\alpha = 0^\circ$ (SEUPPEIFT DIB) $\Rightarrow U_L = 207V$

ALLTSA $\underline{U_L = 0 - 207V}$