Exercícios CA/CC

exc 1 ii)

$$i_{o\,médio} = \frac{1}{\pi}\int_{0,4792}^{2,6622} \frac{230\sqrt{2}}{10}\,sen(\theta) - \frac{150}{10}\,d\theta \;;\quad \pi = \pi$$

$$= 7,9509 \quad [A]$$

$$P = \frac{1}{\pi} \times \int_{0,4792}^{2,6622} 230\sqrt{2}\,sen(\theta) \times \left(\frac{230\sqrt{2}}{10}\,sen(\theta) - \frac{150}{10}\right) d\theta$$

$$= 2297,8118 \quad [W]$$

$$P = \frac{1}{\pi}\int_0^{\pi} p(t)\,dt$$

$$P = U \times I$$

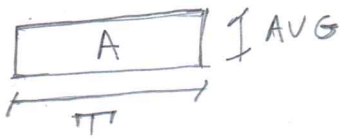
$$U(\theta) \times I(\theta)$$

$$\downarrow$$

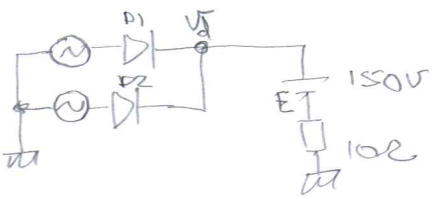
$$\int_0^{\pi} U(\theta) \times I(\theta)$$

$$\downarrow$$

$$P_{AVG} = \frac{1}{\pi} \times \int_0^{\pi} U(\theta) \times I(\theta)$$



iii)



i)b) $V_m = 207,072$ ⇒ iii)b)

c) $P = R\,I_{d\,rms}^2 + E\,I_{d\,médio}$

$= 10 \cdot 5,7^2 + 150 \cdot 5,7$

$= 1180 [W]$

comanda uma carga constante

$\therefore I_{om} = \frac{V_m - E}{10}$

$= \frac{207,072 - 150}{10}$

$\approx 5,7\,A$

$P = \frac{1}{2\pi}\int_0^{2\pi} V_d(\theta)\,I_d(\theta)\,d(\theta)$

$= 5,7 \times 207,072$

$= 1180 [W]$