Formulário 4 Física Geral 3:

$$L = \frac{N\Phi_B}{i} \quad L = \mu_0 n^2 Al \quad C = \frac{\varepsilon_0 A}{l} \quad L = \frac{\mu_0 N^2 h}{2\pi}\ln\frac{b}{a} \quad \varepsilon_L = -L\frac{di}{dt} \quad i = \frac{\mathcal{E}}{R}(1-e^{-Rt/L}) \quad \tau_L = \frac{L}{R}$$

$$i = \frac{\mathcal{E}}{R}e^{-Rt/L} = i_0 e^{-Rt/L} \quad U_B = \frac{1}{2}Li^2 \quad u_B = \frac{B^2}{2\mu_0} \quad U_E = \frac{q^2}{2C} \quad q = Q\cos(\omega t + \phi) \quad \omega = \frac{1}{\sqrt{LC}}$$

$$q = Qe^{-Rt/2L}\cos(\omega' t + \phi) \qquad V_L = I_L X_L \qquad e = 1.60 \text{ x } 10^{-19}\text{ C}$$

$$\omega' = \sqrt{\omega^2 - (R/2L)^2} \quad \omega_0 = \frac{1}{\sqrt{LC}} \quad \varepsilon = \varepsilon_m \, sen\omega t \quad \mu = 10^{-6} \quad n = 10^{-9} \quad i = I\, sen(\omega t - \phi)$$

$$\mathcal{E} = -N\frac{d\Phi_B}{dt} \quad X_C = \frac{1}{\omega_d C} \quad i_C = \frac{V_C}{X_C}sen(\omega t + 90°) \quad V_C = I_C X_C \quad X_L = \omega L \quad i_L = I_L sen(\omega t - 90°)$$

$$i_R = I_R sen\omega t \qquad \mathcal{E}_m^2 = V_R^2 + (V_L - V_C)^2 \qquad I = \frac{\mathcal{E}_m}{Z} \qquad f = 10^{-15} \qquad \tan\phi = \frac{V_L - V_C}{V_R}$$

$$Z = \sqrt{R^2 + (X_L - X_C)^2} \quad P_{méd} = RI_{rms}^2 \quad \frac{I}{\sqrt{2}} = I_{rms} \quad \Phi_B = \int \vec{B}\cdot\vec{dA} \quad I_{rms} = \frac{\varepsilon_{rms}}{Z} \quad \oint \vec{E}\cdot\vec{ds} = -\frac{d\Phi_B}{dt}$$

$$p = 10^{-12} \quad P_{méd} = \varepsilon_{rms} I_{rms}\cos\phi \quad V_s = V_p\frac{N_s}{N_p} \quad I_s = I_p\frac{N_p}{N_s} \quad \oint \vec{E}\cdot d\vec{A} = q_{enc}/\varepsilon_0 \quad \oint \vec{B}\cdot d\vec{A} = 0$$

$$\oint \vec{B}\cdot d\vec{s} = \mu_0\varepsilon_0\frac{d\Phi_E}{dt} + \mu_0 i_{enc} \quad \mu_0 = 4\pi\times 10^{-7}\text{ T}\cdot\text{m/A ou H/m} \quad \oint \vec{B}\cdot d\vec{s} = \mu_0 i_{enc} \quad B = \mu_0 in$$

$$\varepsilon_0 = 8.85 \text{ x } 10^{-12}\text{C}^2/\text{Nm}^2$$