

SOLUTIONNAIRE

Exercice 2

$$R_{eq} = 23.7 \, \Omega$$

$$U_0 = -4.3 \, \text{V}$$

$$i_{cc} = 0.18 \, \text{A}$$

$$U = 0.48 \, \text{V}$$

Exercice 3

$$C_{eq} = 5 \cdot 10^{-9}$$

$$u(10 \mu\text{s}) = 40 \, \text{V}$$

Exercice 4

$$R_{eq} = 34.48 \, \Omega$$

$$i_1 = \frac{53}{30} \, \text{A}$$

$$i_2 = \frac{53}{60} \, \text{A}$$

$$U_{AB} = 155.9 \, \text{V}$$

$$P_L = 176.22 \, \text{W}$$

$$i_L = 2.26 \, \text{A}$$

Exercice 5

$$C_2 = 50 \cdot 10^{-12} \, \text{F}$$

Exercice 6

$$\frac{dU_C}{dt} + \frac{R_1 + R_2}{R_1 R_2 C} U_C = \frac{1}{R_1 C} U$$

$$\tau = \frac{R_1 R_2}{(R_1 + R_2)} C$$

$$U_{C,stat} = \frac{R_2}{R_1 + R_2} U$$

Exercise 7

$$U_C(t) = 1 - \exp\left(-\frac{t}{100 \cdot 10^{-12}}\right), t > 0$$

$$U_C(100 \text{ ps}) = -1 + 3.178 \exp\left(-\frac{t}{150 \cdot 10^{-12}}\right), t > 100 \text{ ps}$$

Exercise 8

$$U_{\text{claquage}} = \mathbf{3960 \text{ V}}.$$