1.8)

P4	i5
3.6 GHz	3.4 GHz
1,25V	0,9V
P_S = 10W	P_S = 30W
P_D = 90W	P_D = 40W

1)

$$P_D = C \cdot V^2 \cdot f =$$
(P4)
$$90 = C \cdot 1,25^2 \cdot 3,6 \cdot 10^9$$
$$\frac{90 \cdot 10^{-9}}{1,25^2 \cdot 3,6} = C$$
$$C = 16 \cdot 10^{-9}$$

$$P_D = C \cdot V^2 \cdot f$$
(i5)
$$40 = C \cdot 0,9^2 \cdot 3,4 \cdot 10^9$$
$$C = \frac{40}{0,9^2 \cdot 3,4 \cdot 10^9}$$
$$C = 14,5 \cdot 10^{-9}$$

2) $\boxed{P_{TOT} = P_S + P_D}$

P4
$$P_{TOT} = 100W$$
$$\frac{P_{TOT}}{P_S} = 10 \text{ "}$$
$$\frac{P_S}{P_D} = \frac{1}{9} \text{ "}$$

i5 $P_{TOT} = 70W$
$$\frac{P_{TOT}}{P_S} = \frac{70}{30} = \frac{7}{3}$$
$$\frac{P_S}{P_D} = \frac{30}{40} = \frac{3}{4} \text{ "}$$

$$10 = 1,25 \cdot i = 8 \text{ "}$$
$$\searrow P_S = V \cdot i$$

3) P4
$$P_{TOT} \cdot 0,9 = 16 \cdot 10^{-9} \cdot V^2 \cdot f + V \cdot i$$
$$90 = 16 \cdot 10^{-9} \cdot V^2 \cdot 3,6 \cdot 10^9 + V \cdot 8$$
$$0 = 57,6 \cdot V^2 + 8V - 90$$
$$V = 1,18$$

$$\nearrow 30 = 0,9 \cdot i = 33,3$$

i5
$$70 \cdot 0,9 = 14,5 \cdot 10^{-9} \cdot V^2 \cdot 3,4 \cdot 10^9 + V \cdot 33,3$$
$$63 = 49,3 V^2 + 33,3 V$$
$$0 = 49,3 V^2 + 33,3 V - 63$$
$$V = 0,84208$$

1.13 $T_{exec} = 250s$

$$\begin{cases} FP = 70s \\ L/S = 85_{\odot} \\ branch = 40s \\ INT = 55_{\odot} \end{cases}$$

1) $T = 70 \cdot 0,8 + 85 + 40 + 55 = 236$

2) $250 \cdot 0,8 = 70 + 85 + 40 + 55x$
$$5 = 55x$$
$$0,09 = x \qquad \leadsto 90\% \downarrow$$

3) $250 \cdot 0,8 = 70 + 85 + 40x + 55$
$$-10 = 40x$$
$$\hookrightarrow \text{não é possível} \therefore$$