

一、填空题

(1)  $1.2\Omega, 0.48\text{W}$

(2)  $-2\text{A}, 96\text{W}$

(3)  $(0.4 - j1.2)\text{V}, (-2 + j6)\text{V}$

(4)  $(8 - j6)\text{VA}, -36.9^\circ$

(5)  $0.25\mu\text{F}, 5\cos(1000t + 20^\circ)\text{A}$

(6)  $(1 - e^{-10t})\varepsilon(t)\text{V}, [0.1\delta(t) - e^{-10t}\varepsilon(t)]\text{A}$

二、计算题

(1)  $U_{oc} = 0.6\text{V}, R_{eq} = 2\Omega;$

$$U = -\frac{2}{15}\text{V}, I = \frac{11}{30}\text{A}$$

(2)  $A = \begin{bmatrix} \frac{3}{5} & \frac{3}{5}\Omega \\ \frac{4}{15}\text{S} & \frac{3}{5} \end{bmatrix}, Z = \begin{bmatrix} \frac{9}{4} & \frac{3}{4} \\ \frac{15}{4} & \frac{9}{4} \end{bmatrix}\Omega$

(3)  $H(j\omega) = \frac{1}{1 - \omega^2 + j3\omega}, u_2(t) = \frac{2}{3}\sqrt{10}\cos(2t - 116.6^\circ)\text{V}$

(4)  $i_L(t) = (\frac{2}{3} - \frac{1}{6}e^{-3t})\text{A}, t \geq 0$

(5)  $u_C(t) = (1 - \frac{15}{4}e^{-2t} + \frac{15}{4}e^{-3t})\text{V}, t \geq 0$