

一、填空题

$$1.2V; -4V$$

$$2.1\Omega; 1W$$

$$3.10^4 \text{ rad/s}; 10$$

$$4.(1+j3)\Omega; (1.8+j1.4)\Omega$$

$$5.0.6; (24-j32)VA$$

$$6.10\cos(3t-45^\circ)V; e^{-3t}\varepsilon(t)V$$

二、计算题

$$1. -27V$$

2. (1) 相量模型略

$$i_1(t) = 5.1\sqrt{2} \cos(5t - 18.4^\circ)A;$$

$$(2) i_2(t) = 4.6\sqrt{2} \cos(5t + 15.3^\circ)A;$$

$$i(t) = 1.8\sqrt{2} \cos(5t - 63.4^\circ)A$$

$$3. u_C = (-3 - 3e^{-2t})V, t \geq 0$$

4. (1) 复频域模型略

$$(2) i_L(t) = (-2 + 12e^{-2t} - 8e^{-3t})A, t \geq 0$$

$$5. (1) A = \begin{bmatrix} 2 & 15\Omega \\ \frac{1}{3}S & 3 \end{bmatrix}$$

$$(2) I_1 = \frac{20}{7}A$$