

一、填空题

1. 2V ; -4V

2. 1Ω ; 1W

3. 10^4rad/s ; 10

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

5. 0.6 ; $(24 - j32)\text{VA}$

6. $10\cos(3t - 45^\circ)\text{V}$; $e^{-3t}\varepsilon(t)\text{V}$

二、计算题

1. -27V

2. (1) 相量模型略

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

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

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

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

4. (1) 复频域模型略

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

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

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