

10 级 “电路与模电” 期末试题(A)答案

1. (10pt)

$$I = -2A \quad V_1 = 5V \quad V_2 = 9V$$

2. (15pt)

$$I = -0.9A$$

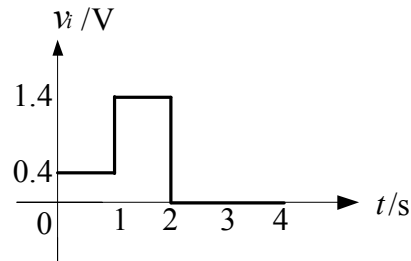
3. (15pt)

$$V_{eq} = -5/9V, \quad R_{eq} = 7/18 \Omega$$

4. (10pt)

$$i = 4\cos(2t - 9.52^\circ) A$$

5. (10pt)



6. (15pt)

$$1) \quad V_B \approx V_{CC} \frac{R_{b2}}{R_{b1} + R_{b2}}$$

$$I_{CQ} \approx I_{EQ} = \frac{V_B - V_{BEQ}}{R_{e1} + R_{e2}}$$

$$I_{BQ} = \frac{I_{EQ}}{1 + \beta}$$

$$V_{CEQ} = V_{CC} - I_{CQ}R_c - I_{EQ}(R_{e1} + R_{e2})$$

$$3) \quad r_{be} = (1 + \beta) \frac{V_T}{I_{EQ}}$$

$$A_v = - \frac{\beta(R_c // R_L)}{r_{be} + (1 + \beta)R_{e1}}$$

$$R_i = [r_{be} + (1 + \beta)R_{e1}] // R_{b1} // R_{b2}$$

$$R_o = R_c$$

7. (15pt)解: $v_{O1} = -5v_{I1} - 2v_{I2}$

$$v_{+2} = \frac{1}{2}(v_{O1} + v_{I3})$$

$$v_O = \left(1 + \frac{R_7}{R_6}\right)v_{+2} = 5\left(\frac{1}{2}v_{I3} - \frac{5}{2}v_{I1} - v_{I2}\right)$$

8. (10pt)

