

《电路与模拟电子技术》 期末试题 试卷(A)

(考试形式：闭卷 考试时间：2 小时)



《中山大学授予学士学位工作细则》第六条

考试作弊不授予学士学位

方向：_____ 姓名：_____ 学号：_____

出卷：任江涛、李宁 审核：_____

注意：答案一定要写在答卷中，写在本试题卷中不给分。本试卷要和答卷一起交回。

1. (10 pt) For the circuit of Figure 1, compute U and I .

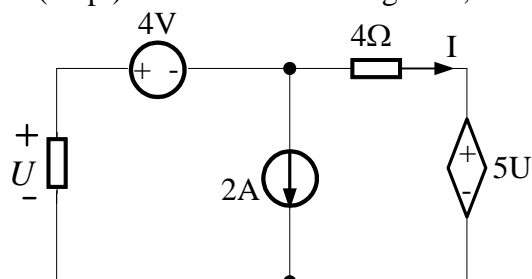


Fig.1

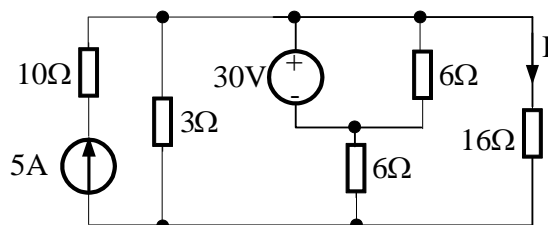


Fig.2

2. (10pt) Use the superposition theorem to find I in the circuit shown in Figure 2.

3. (15pt) Find the Thevenin equivalent of the network in Figure 3 viewed from a and b

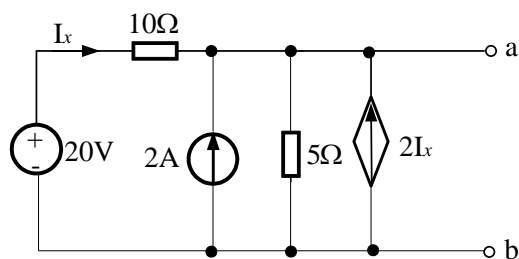


Fig.3

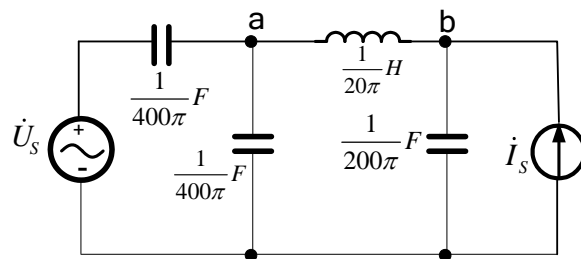


Fig.4

4. (15pt) $\dot{U}_s = 20\angle 90^\circ \text{ V}$, $\dot{I}_s = 10\angle 0^\circ \text{ A}$, $f = 50\text{ Hz}$, Compute \dot{U}_{ab} in Figure 4.

5. (10pt) Assume diode's $V_{on} = 0.7\text{ V}$, Compute V_A and I_D in Figure 5.

6. (10 pt) Shown in Figure 6, the output waveform of the circuit with input waveform of sine is tested for varying parameter. What distortion happened in each graph? How to eliminate these distortions?

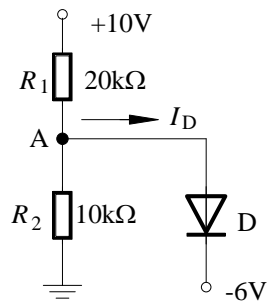


Fig.5

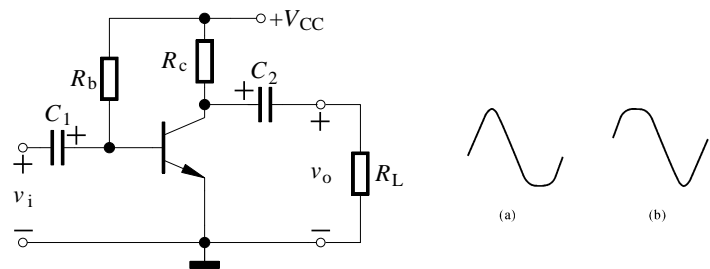


Fig.6

7. (15pt) For the CC amplifier in Figure 7,

- 1) Determine the Quiescent Operation Point;
- 2) Draw the Small-Signal equivalent circuit, Determine the voltage gain and input resistance, output resistance.

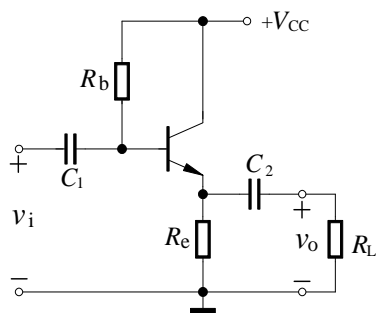


Fig.7

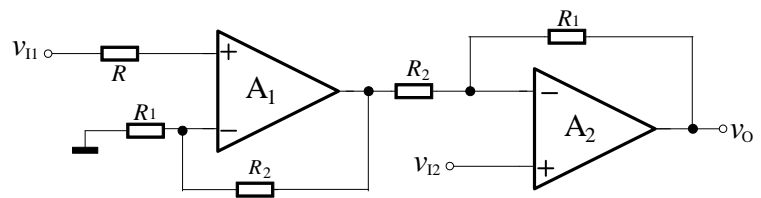


Fig.8

8. (15pt) Determine the output voltage v_o for the circuit of Figure 8.