中山大学软件学院 **2010** 级软件工程专业(2010 春季学期)

《SE-111 电路与模拟电子技术》 期末考试试卷(A)

(考试形式： 闭卷 考试时间：2 小时)

警示

《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：_____

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 voltage V_1, V_2, and current I

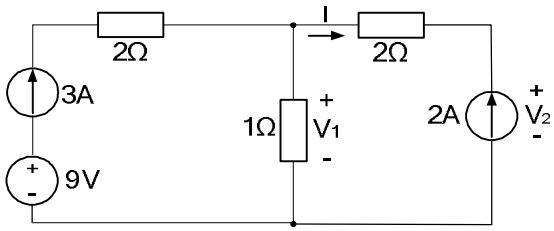


Figure 1

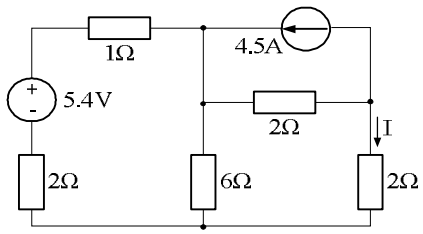


Figure 2

2.(15 pt) 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 points a、b.

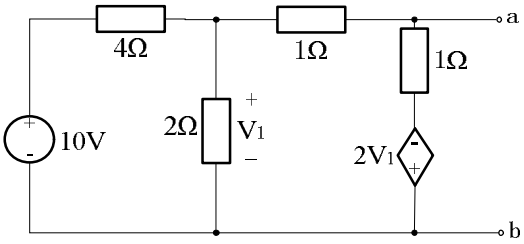


Figure 3

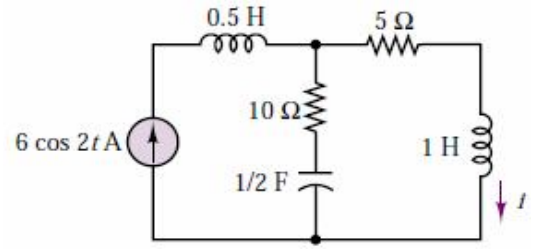
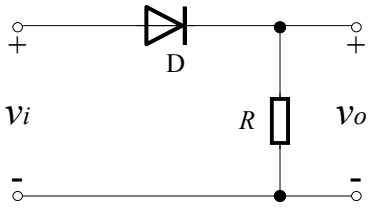


Figure 4

4.(10pt) Compute *i* in Figure 4.($arctg0.1 = 5.7^o$， $arctg0.067 = 3.8^o$)

5. (10pt)Assume diode's V_{on}=0.6(V), sketch the output waveform in Figure 5.



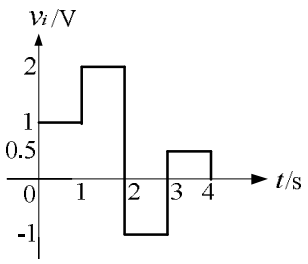


Figure 5

6. (15pt)For the C-E amplifier in Figure 6,

1) Determine the Quiescent Operation Point;

2) Draw the Small-Signal equivalent circuit, Determine the voltage gain and input resistance, output resistance.

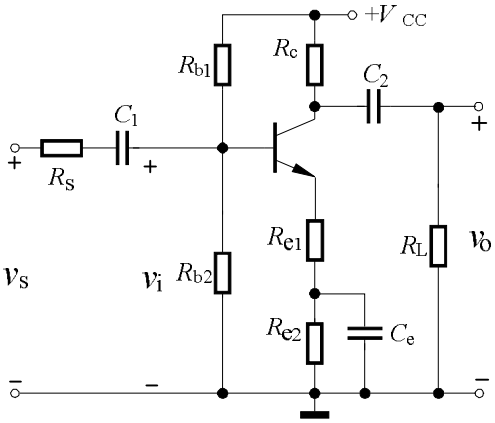


Figure 6

7. (15pt)Determine the output voltage v_O for the circuit of Figure 7

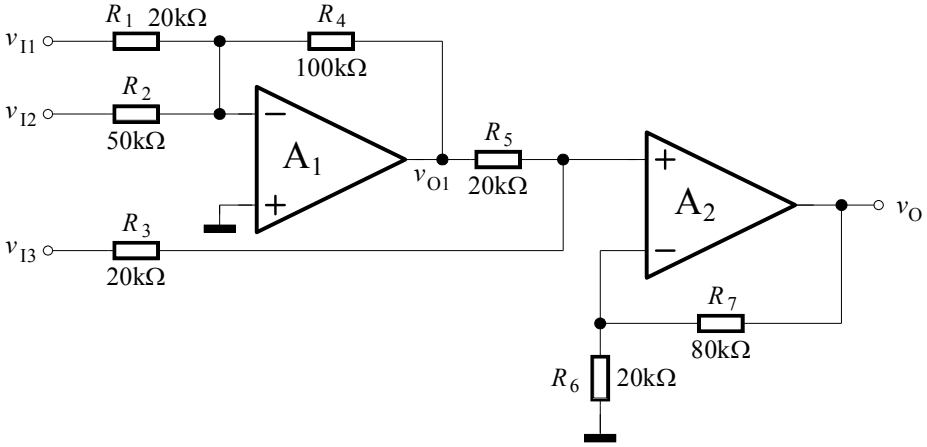


Figure 7

8. (10pt)Design a circuit to $A_f = \frac{v_o}{v_i} = 0.9$ （Require the input resistance of every signal $R_i \geqslant$ 20kΩ）