

淡江大學 95 學年度轉學生招生考試試題

52-1

系別：電機工程學系三年級

科目：電 路 學

准帶項目請打「V」	
✓	簡單型計算機

本試題共 / 頁

1. (20%) A voltage-to-current converter is shown in Fig. 1, which means that $i_L = Av$, if $R_1R_2 = R_3R_4$. Find the constant term A .

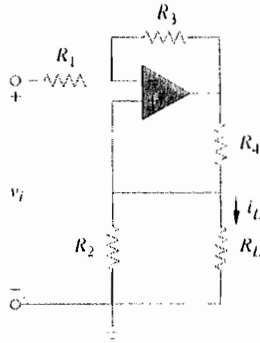


Fig. 1

2. (20%) (a) Find the Thevenin equivalent circuit (V_{TH} and R_{TH}) at the terminals $a-b$ in Fig. 2.
 (15%) (b) What resistor connected across terminals $a-b$ will absorb maximum power from the circuit? What is that maximum power?

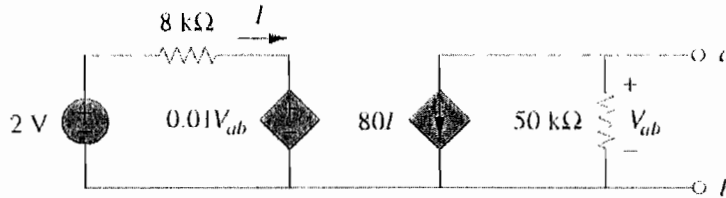


Fig.2

3. (20%) Find v and i for $t > 0$ in the circuit of Fig. 3.

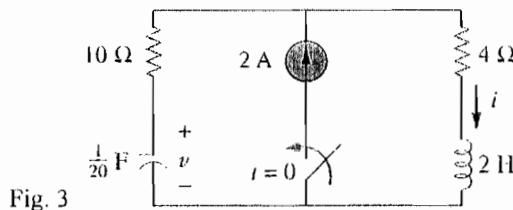


Fig. 3

4. (15%) (a) Find v_o in the circuit of Fig. 4.
 (10%) (b) Determine the average power provided by the voltage source.

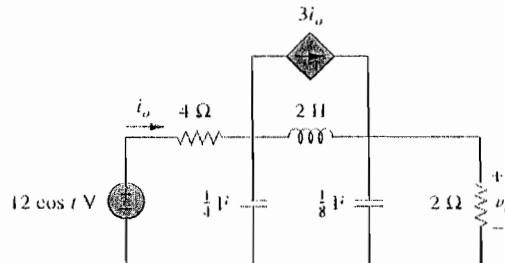


Fig. 4