

大同大學 104 學年度(寒)轉學入學考試試題

考試科目：電路學

系別：電機工程學系

第1/1頁

註：本次考試 不可以參考自己的書籍及筆記； 不可以使用字典； 不可以使用計算器。

- (1) Calculate the equivalent resistance R_{ab} in the circuit of Fig. 1. (25%)

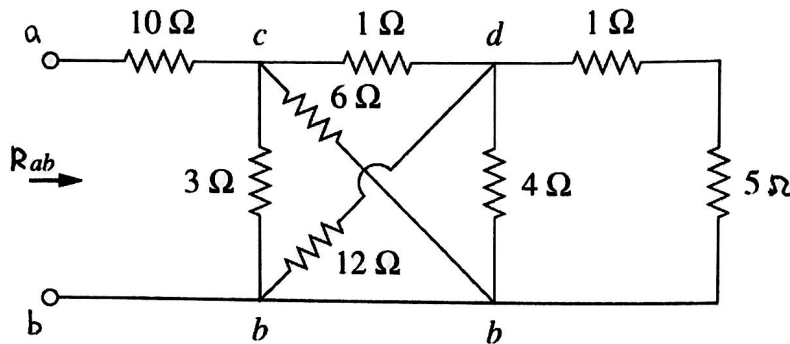


Figure 1

- (2) Find the voltages at the three nonreference nodes in the circuit of Fig.2. (25%)

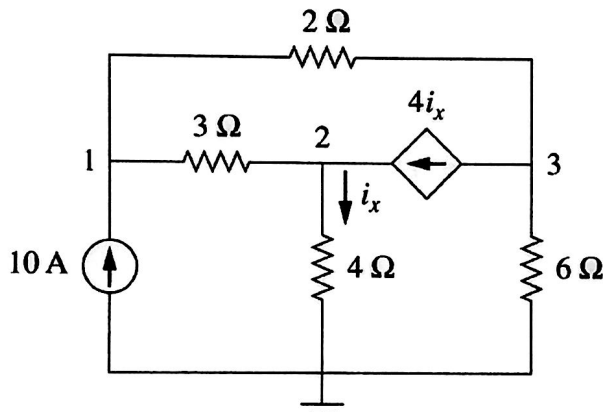


Figure 2

- (3) (a) Find the Thevenin's equivalent circuit of the circuit shown in Fig. 3, to the left of the terminals $a-b$. (20%) (b) Then find the current through $R_L = 6\Omega$. (6%)

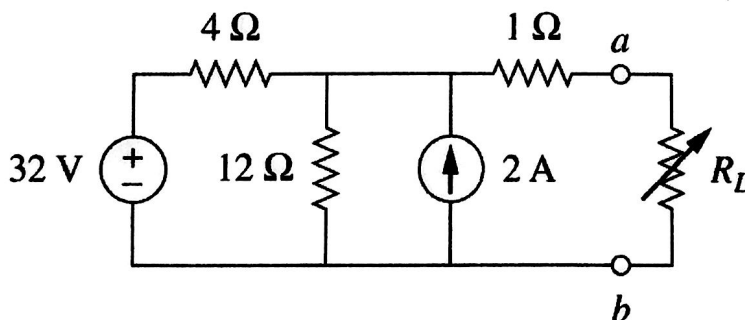


Figure 3

- (4) (a) The voltage $v = 12 \cos(60t + 45^\circ)$ V is applied to a 0.1-H inductor. Find the steady-state current through the inductor. (12%)
- (b) The voltage $v = 10 \cos(100t + 30^\circ)$ V is applied to a 50 μ F capacitor. Find the steady-state current through the capacitor. (12%)