

# 大同大學 105 學年度 (暑)轉學入學考試試題

考試科目：電路學

系別：電機工程學系

第 全 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) In the circuit shown in Fig. 1, (a) determine  $v_x$  and (b) the power absorbed by the 12- $\Omega$  resistor. (25%)

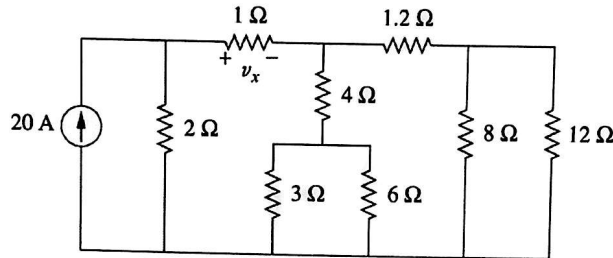


Fig.1

- (2) Using nodal analysis, find  $v_o$  in the circuit of Fig. 2. (25%)

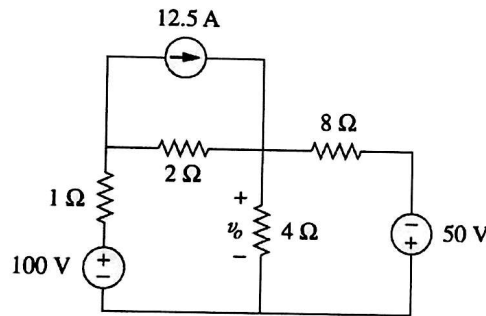


Fig.2

- (3) For the circuit in Fig. 3, determine the value of  $R$  such that the maximum power delivered to the load is 3mW. (25%)

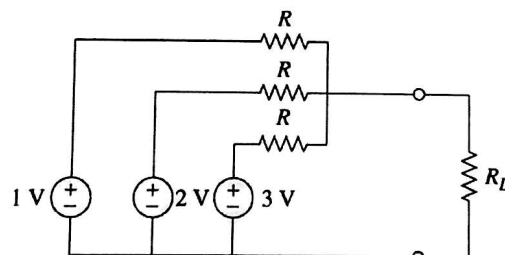


Fig.3

- (4) The switch in Fig 4 has been in position A for a long time. At  $t = 0$ , the switch moves to B. (25%)  
Determine  $v(t)$  for  $t > 0$ .

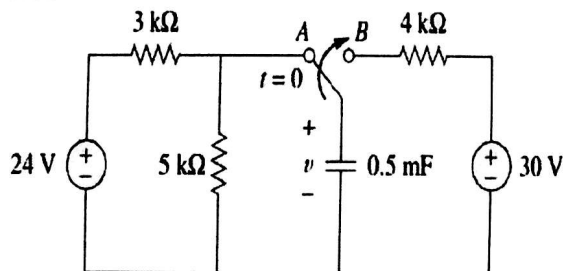


Fig.4