

# 元智大學 107 學年度 轉學考 招生試題卷

系(所)別：電機工程學系學 組別：電機工程學系甲組 3 年級 科目：電路學

用紙第 / 頁共 / 頁

●不可使用電子計算機

- 1.(20%) According to Fig.1, use nodal analysis to find  $v_x$ .

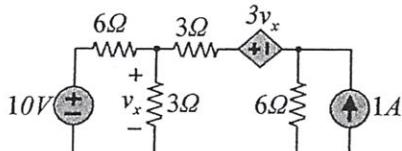


Fig.1

- 2.(20%) According to Fig.2, find the Thevenin's circuit at terminals  $a-b$ .

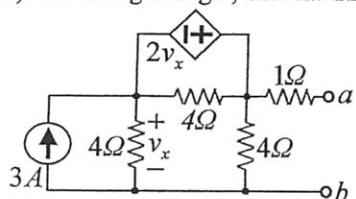


Fig.2

- 3.(20%) According to Fig.3, find the step response of the inductor current  $i_L(t)$ .

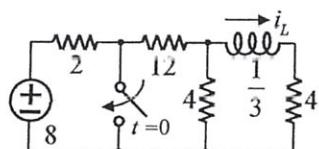


Fig.3

- 4.(20%) Obtain the Z parameters for the 2-port network in Fig.4.

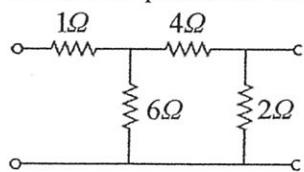


Fig.4

- 5.(20%) Given the circuit in Fig.5, calculate the phasor currents  $\mathbf{I}_1$  and  $\mathbf{I}_2$ .

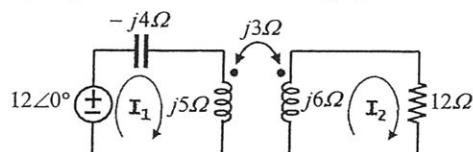


Fig.5