淡江大學九十學年度日間部轉學生招生考試試題

系別：電機工程學系三年級

科目：電　　路　　學

本試題共　1　頁

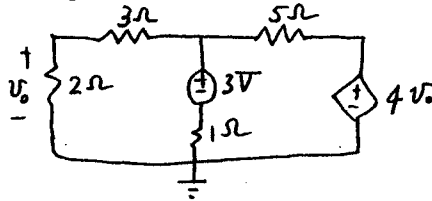1. Find v_o in the circuit of Fig. 1.
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Fig. 1

2. In the op amp circuit of Fig. 2, $v_s = 4u(t)$ V, find the zero-state response $v_o(t)$ for $t \geq 0$.
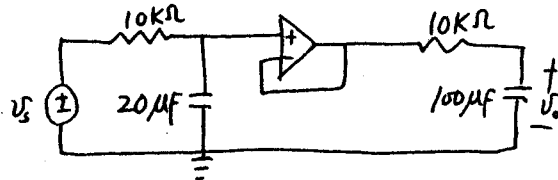20%

Fig. 2

3. The circuit of Fig. 3 has reached steady state when the switch S is open. The switch S is closed at $t = 0$. Find and plot $v(t)$, $t \geq 0$.
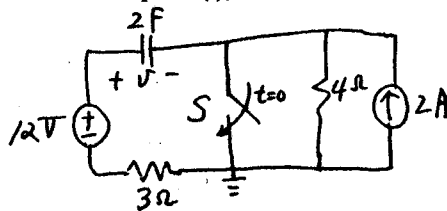20%

Fig. 3

4. (Fig. 4) (a) Find the transfer function $H(j\omega) = V_o(j\omega)/V_s(j\omega)$

(b) Plot the magnitude and phase of $H(j\omega)$, respectively, versus ω.
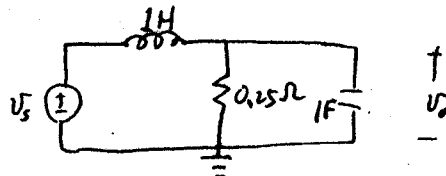20%

Fig. 4

5. In the circuit of Fig. 5, let $i(0) = 1$ A, $v_o(0) = 2$ V, and $v_s = 10u(t)$ V. Find $v_o(t)$ for $t \geq 0$.
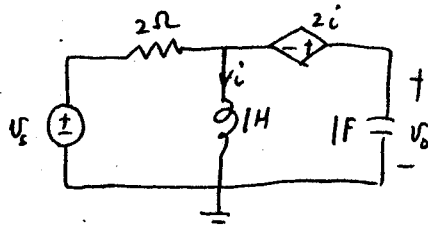20%

Fig. 5