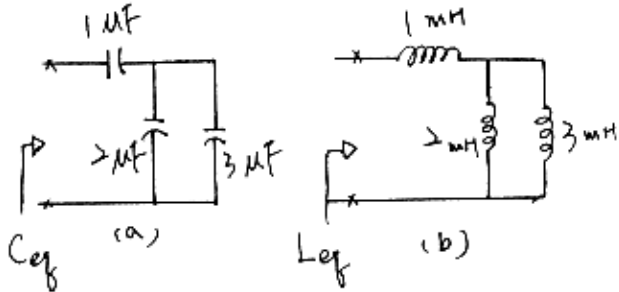
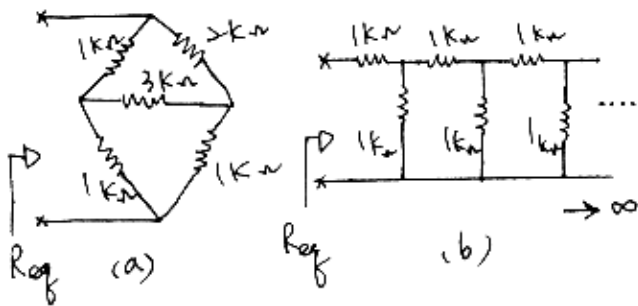


請依序作答!!

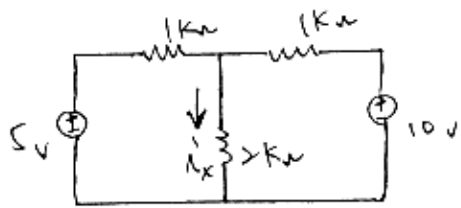
一. (10%) 試求下列各電路之等效值?



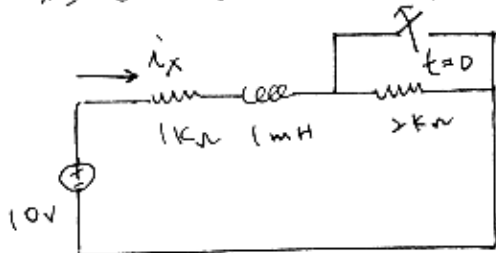
二. (10%) 試求下列各電路之等效電阻。



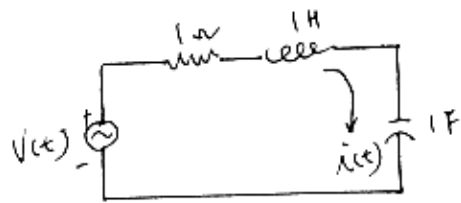
三. (15%) - 電路如下圖所示, 試求電流  $i_x$ ?



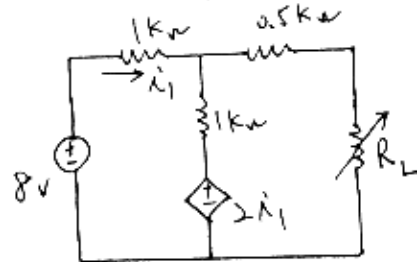
四. (15%) - 電路如下圖所示, 試求電流  $i_x(t)$ ,  $t \geq 0$ . (開關 (switch) 於  $t=0$  時打開 (open)).



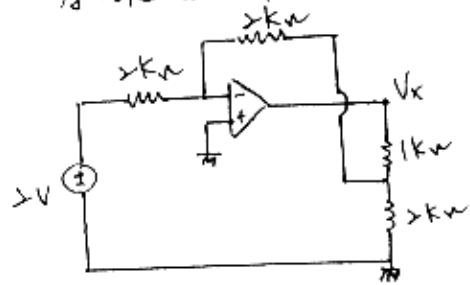
五. (15%) - 電路如下圖所示, 若  $V(t) = \cos t + 2 \cos(2t + 20)$ , 試求穩態電流  $i(t)$ ? (steady-state)



六. (15%) - 電路如下圖所示, 試求  
(a)  $R_L = ?$  時,  $R_L$  有最大功率 (Max Power)  
(b) 最大功率為何?



七. (20%)  
a. - 電路如下圖所示, 若運算放大器 (op amp) 為理想狀況下, 試求電壓  $V_x$ .



(b) - 電路如下圖所示, 試求轉移函數 (transfer function)  $H(s) \triangleq \frac{V_o(s)}{V_i(s)}$

