

City University of Hong Kong

Department of Biomedical Engineering

BME 2029

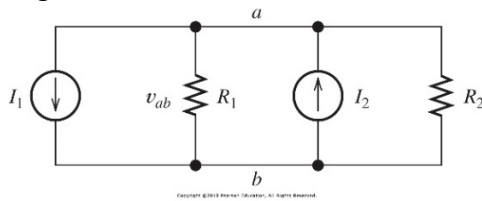
Electrical and Electronic Principles

Test

Question 1: (7)

Given a circuit in Fig. 1, where $I_1 = 3A$, $I_2 = 1A$, $R_1 = 12\Omega$, $R_2 = 6\Omega$, (a) find the value of v_{ab} , and (b) find the power for each element.

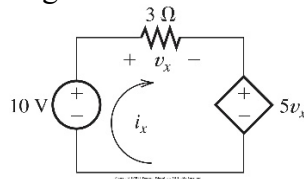
Fig. 1:



Question 2: (7)

Consider the circuit given in Fig. 2. (a) Find the values of v_x and i_x . (b) Find the power for each element in the circuit.

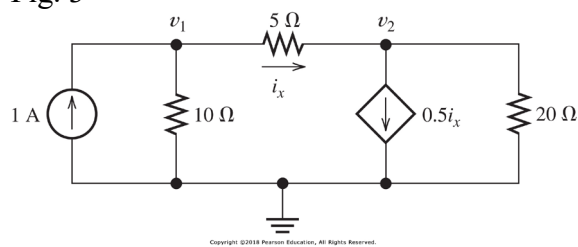
Fig. 2:



Question 3: (8)

Find the values of node voltages shown in Fig. 3. Then find the value of i_x .

Fig. 3



Question 4: (8)

Consider the circuit shown in Fig.4. The initial current in the inductor is $i_L(0^-) = 0$. Find the expressions for $i_L(t)$ and $v(t)$ for $t \geq 0$.

Fig. 4

