Maximum Marks : 20 Time:12:15-1:15 PM

ECE113 - Basic Electronics
CLASS TEST-2

Notes

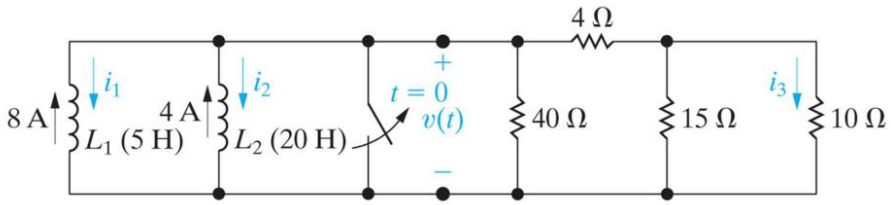
1) All Questions are compulsory.

2) Please use notations appropriately.

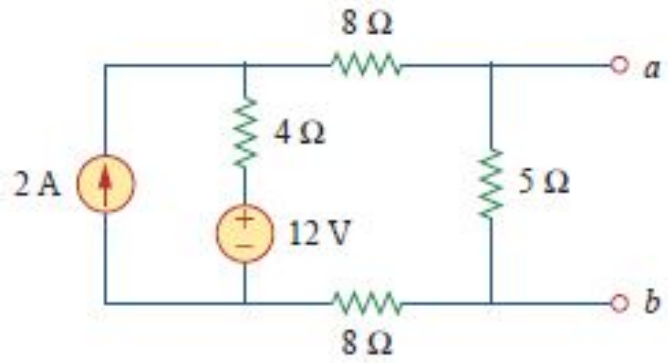
3) Each question carries 4 marks.

Question

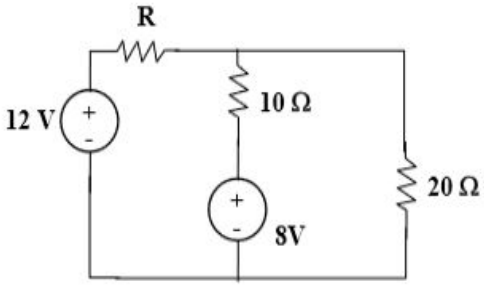
1. Find i_1(t), i_2(t), i_3(t), and the energies w_1, w_2 stored in L_1, L_2 in steady state (t$--> \infty$).



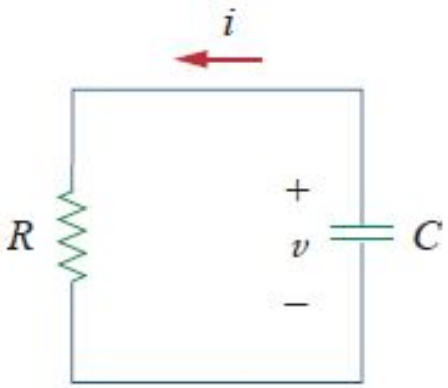
2. Find Norton equivalent of the following circuit.



3. Compute the value of R that results in maximum power transfer to the 10 ohm resistor in the Fig. shown below. Find the maximum power.



4. In the circuit shown below $v = 10e^{-4t}$ V $i = 0.2e^{-4t}$ A
    1. Find R and C.
    2. Determine the Time constant
    3. Calculate the initial energy of the capacitor
    4. Obtain the time it takes to dissipate 50 percent of the initial energy



5. Find the value of R_{TH} in the following circuit.