إسم الطالب: الفصل: رقم الجلوس:

Alexandria University
Faculty of Engineering
Electrical Eng. Department

جامعة الإسكندرية
ALEXANDRIA UNIVERSITY

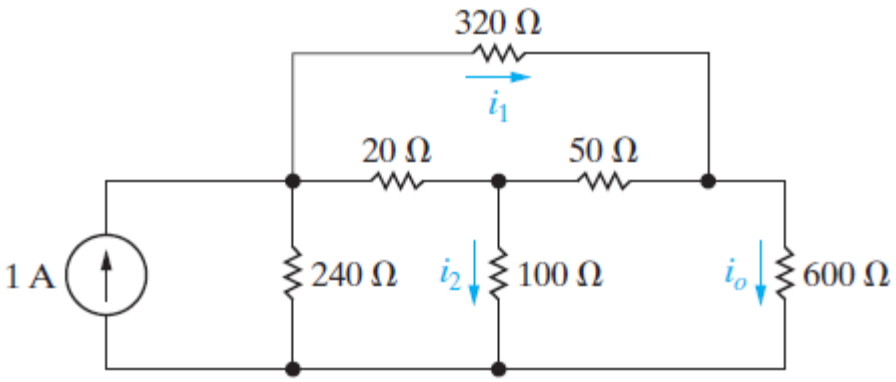
First Year
Electric Circuits-1
Mid-term Exam

Nov. 2017, Time Allowed: 90 Mins.

Answer All Questions

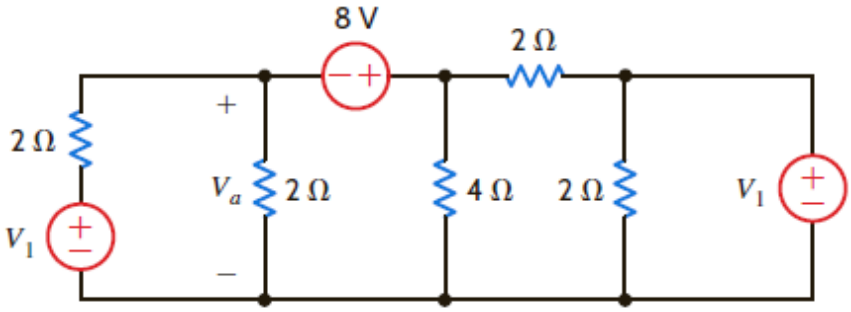
Question (1) (7 marks)

Using **Y/Δ transformation**, find the values of i_1 , i_2 , and i_o , and the power supplied by the current source.



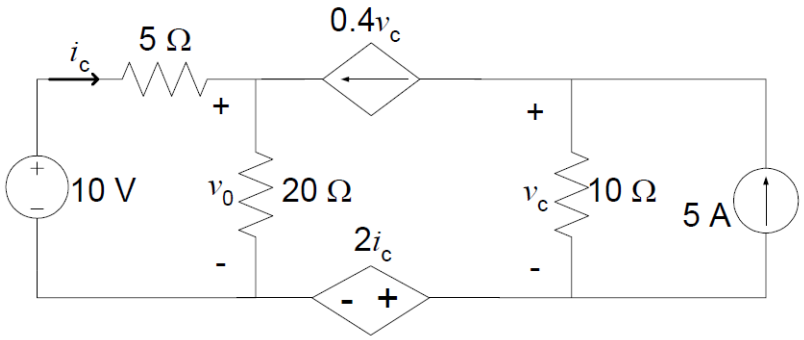
Question (2) (7 marks)

Using **KCL and KVL**, determine the value of V_1 such that $V_a = 0$. Then check the power balance.



Question (3) (8 marks)

Using **Superposition Theorem**, find the power absorbed by the 20Ω resistor.



Question (4) (8 marks)

In the circuit shown in figure, find the value of R_L for maximum power transfer, and the maximum power that can be transferred in R_L.