United International University

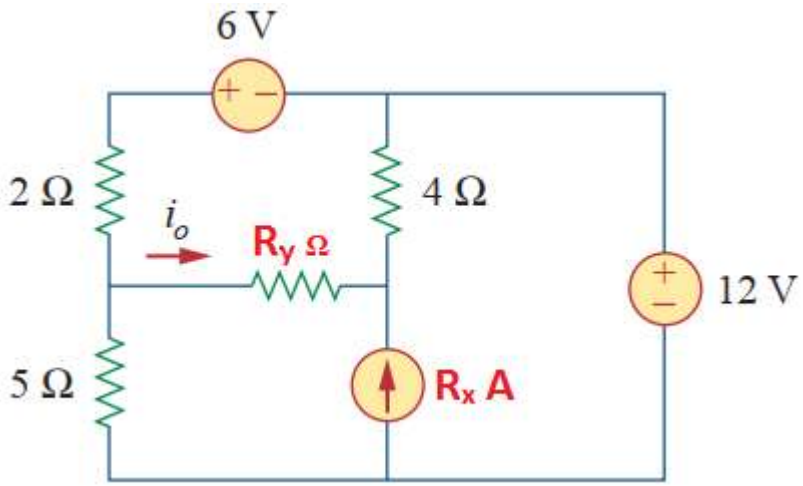
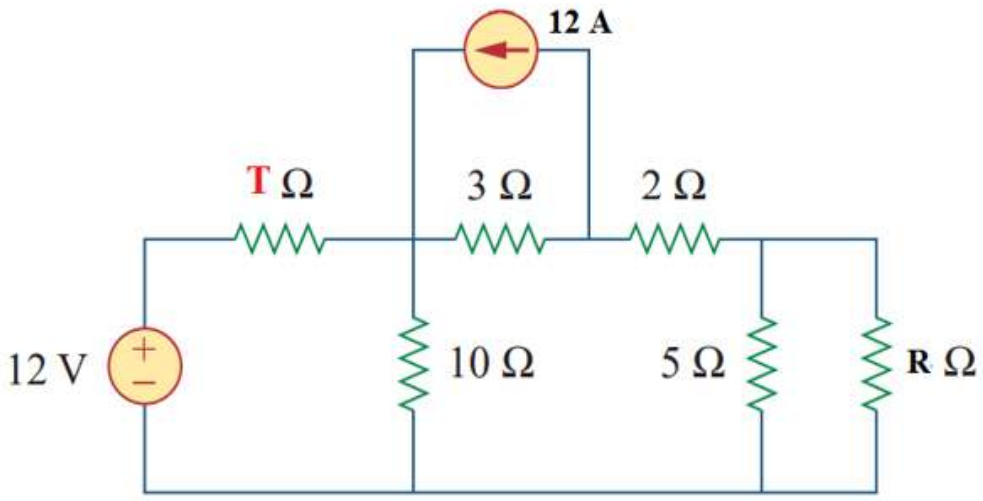
Department of Computer Science and Engineering

Course Code: EEE 2113 | Course name: Electrical Circuit

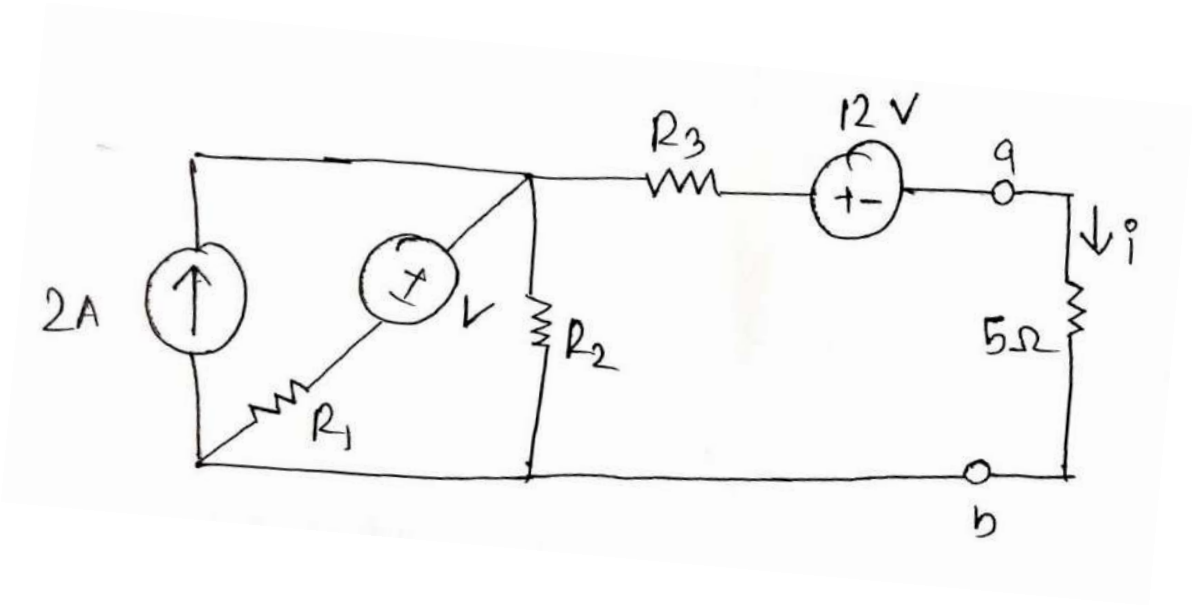
SUMMER 2021 | FINAL Examination | 25 marks |

Exam Time : 1hour 15 minutes, Upload Time : 15 minutes

There are five (5) questions here. You have to answer all of them.

1. Use **Superposition theorem** to find i_o in the following circuit.  Here, Rx = (last two digits of you ID % 20) + 10 Ry = (last two digits of your ID % 10) + 2	5
2. In the following figure, **T = ((5 * last digit of your class ID) % 9) +1.** Determine the maximum power that can be delivered to the variable resistor R in the following circuit.  	5

3. Find out the Norton Equivalent circuit to the left of the terminals a-b in the following circuit, and use the simplified circuit to find out the value of i. **5**

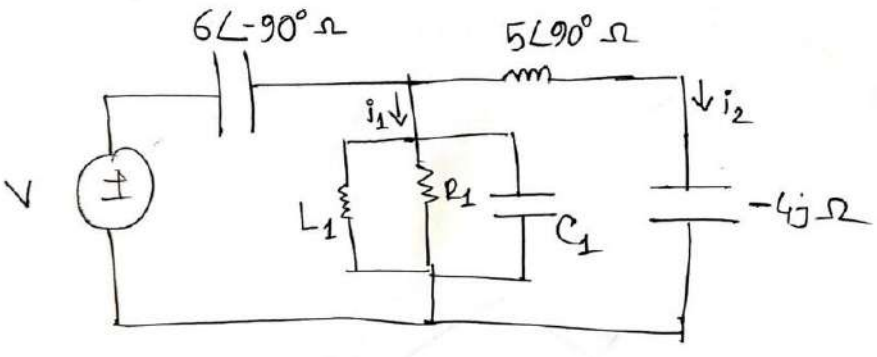


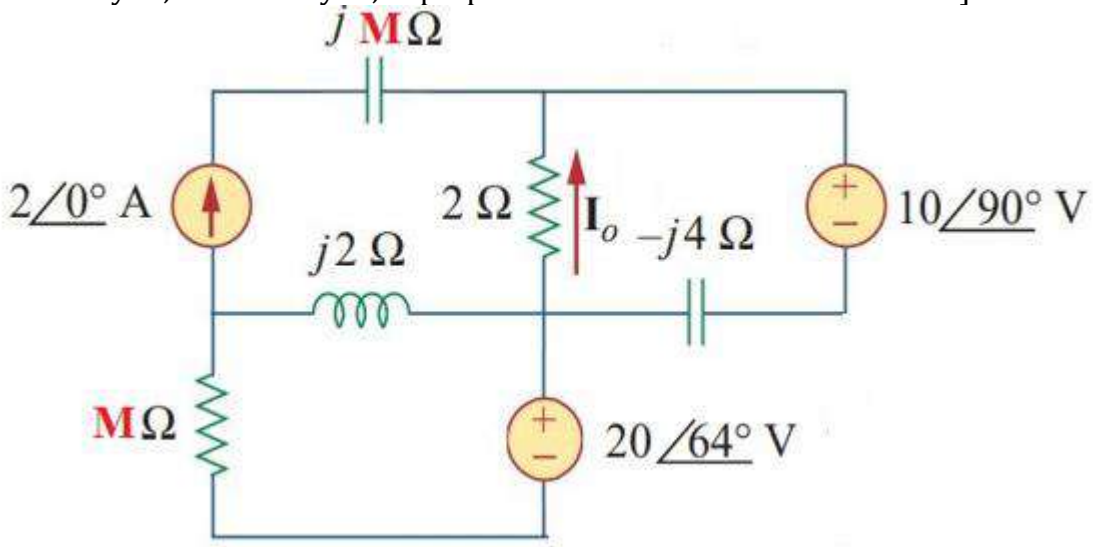
1. R1 = (1 + Last Digit of your Student ID) Ohms
2. R2 = (2 + Second Last digit of your Student ID) Ohms
3. R3 = (3 + Third Last Digit of your Student ID) Ohms
4. V = (Last Three Digits of your Student ID) Volts

4. In the following circuit, calculate the equivalent impedance of the L_1, R_1, and C_1 combination in the circuit. Also use current/voltage division to find out i_1 and i_2. **5**

- Here,
- C1 = (1 + Last Digit of your Student ID) Farads
- L1 = (1 + Second Last digit of your Student ID) Henry
- R1 = (1 + Third Last Digit of your Student ID) Ohms

V = (Last Three Digits of your Student ID) * sin(10t + 30) Volts



5. In the following figure, **M= ((3 * Sum of Last two digit of your Class ID) % 7) + 3**. Find out I_0 using any of your desired method among the taught circuit analysis methods [Nadal analysis, Mesh Analysis, Superposition and Source Transformation].  	5

Any examinee found adopting unfair means will be expelled from the trimester / program as per UIU disciplinary rules