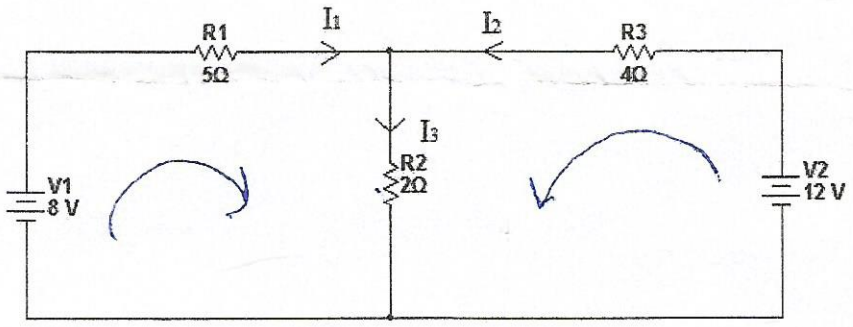
Index Number: _____ Programme: _____

UNIVERSITY OF ENERGY AND NATURAL RESOURCES, SUNYANI, GHANA
SCHOOL OF ENGINEERING
DEPARTMENT OF COMPUTER AND ELECTRICAL ENGINEERING
LEVEL 200: MID-SEMESTER EXAMINATION- 2018/2019
Bachelor of Science (Comp/ Renewable /Electrical Engineering)
CENG 102: ELECTRICAL CIRCUIT DESIGN

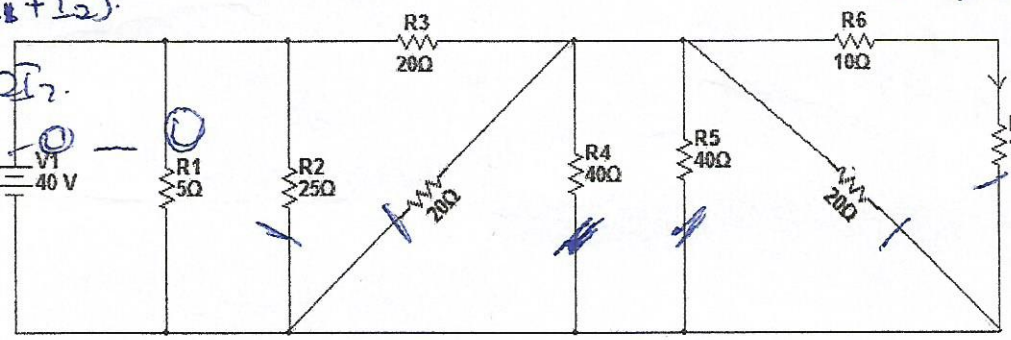
May, 2018 **Total Time: 1:45 Hours**

Part 1: Solve all the questions in this section

1. Find the current I1, I2 and I3 in the circuit in Figure 1.



2. Find the current i in the Circuit in Figure 2.



Index Number: _____ Programme: _____

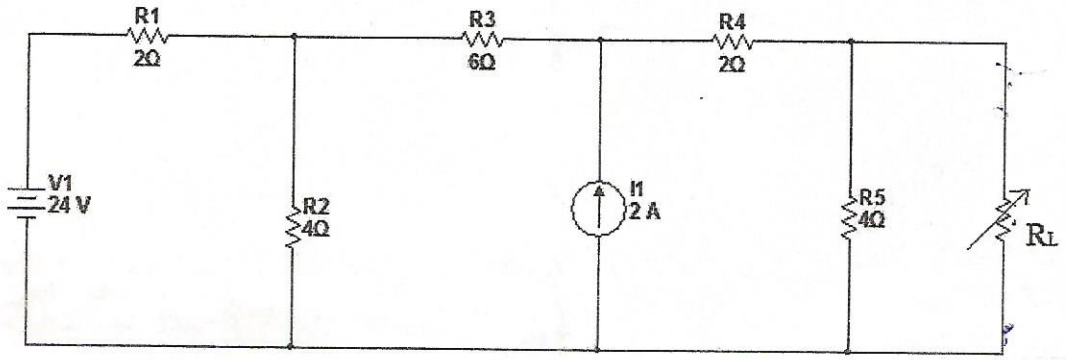
3.

(a) Find the Thevenin equivalent circuit across the variable load resistor, R_L in Figure 3

(b) Find the current through R_L when

i. $R_L = 5\ \Omega$
ii. $R_L = 7\ \Omega$
iii. $R_L = 12\ \Omega$

(c) Find the maximum power through R_L.



Part 2: Solve all the questions in this section

1.

i. Briefly explain two factors that cause capacitors to deviate from their ideal characteristics

ii. Briefly explain using graph, the transient charging and discharging of a capacity

iii. State three application of the capacitor

2.

i. How is the inductance related to the magnetic field?

ii. Briefly explain using graph, the transient storing and release of a inductor

iii. State three application of the inductor

Index Number:....................

DEPARTMENT OF COMPUTER AND ELECTRICAL ENGINEERING
CENG 201:ELECTRICAL CIRCUIT DESIGN-QUIZ

NOV, 2017 — Duration: 45 minutes

Instruction(s): Answer All Questions

1. Find v_2/v_1 in the circuit shown in Figure 1

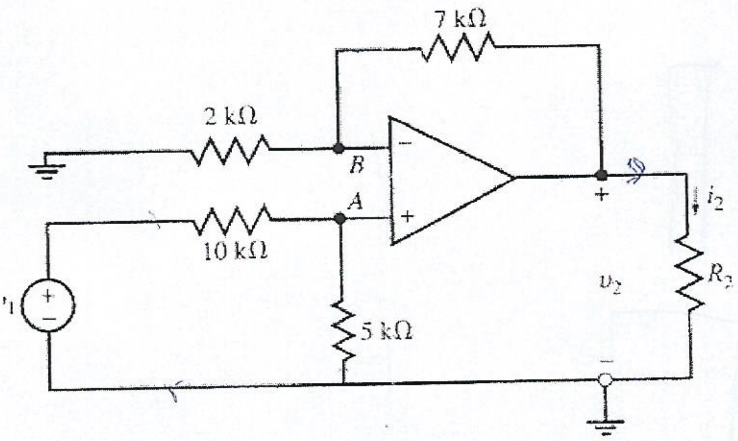


Figure 1: For Question 1

2. Find Thevenin equivalent of the circuit of 2 seen from terminals AB

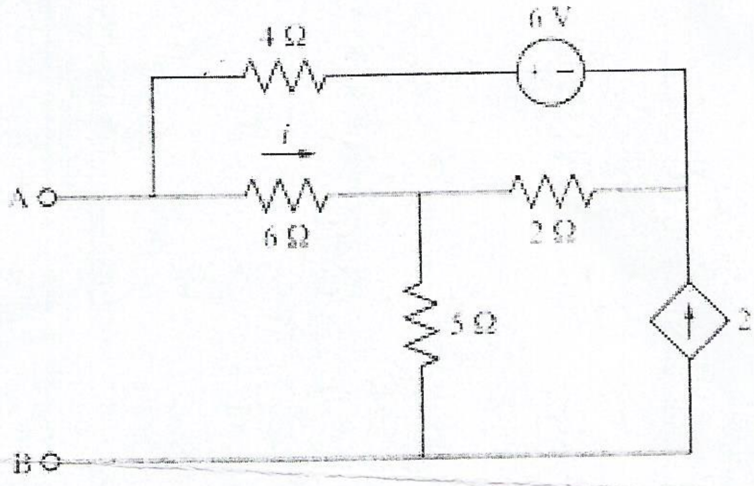


Figure 2: For Question 2

Examiner: S. Osei Fobi

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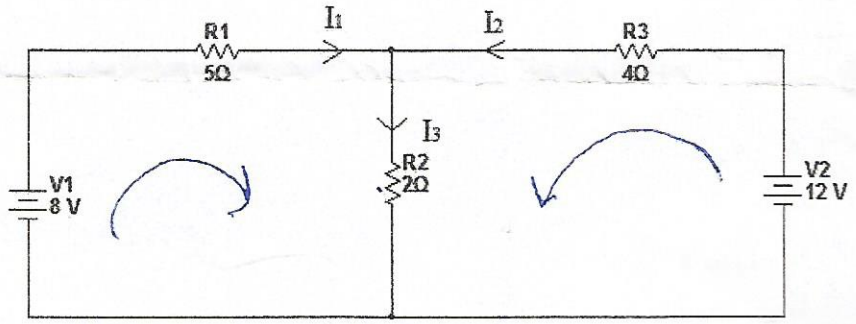
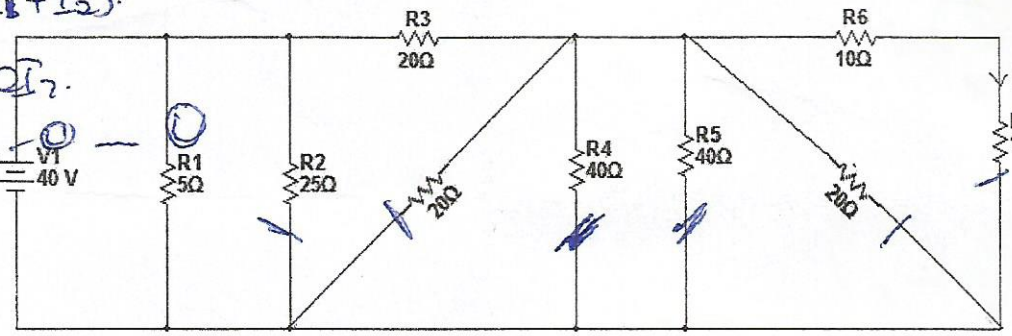


2. Find the current i in the Circuit in Figure 2.



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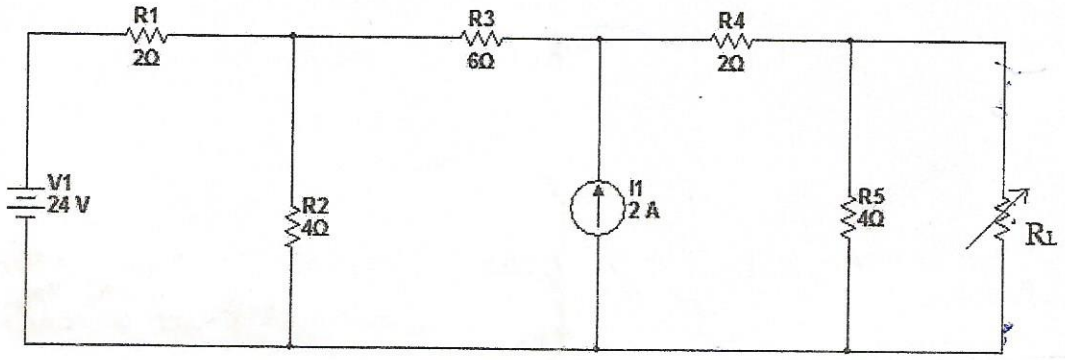

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