

Note: write your name, your student No, department and your group
 : write steps of solution, any direct result will not be considered.
 : Any multiple answers will not be considered.

Answer the following questions:

1) For the network of figure 1 find: R_T , I_T , I_1 , E , and $P_{10\Omega}$.

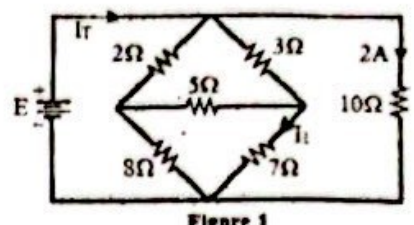


Figure 1

2) For the electric circuit shown in figure2, use mesh analysis to find the voltage across 2Ω and 6Ω resistors.

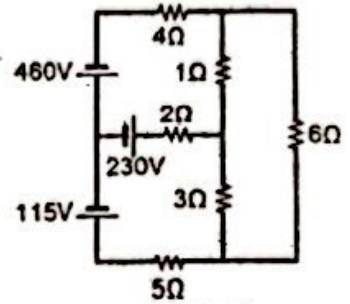


Figure 2

3) For the network of figure3, find the indicated voltage drop (V) on the 3Ω-resistor using the superposition theorem.

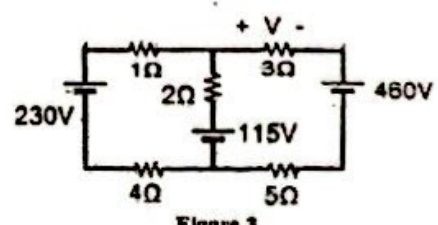


Figure 3

4) For the network of figure 4.

- a) Find the Thevenin equivalent circuit for the portions of the network external to points a and b?
- b) Redraw the network with the Thevenin circuit in place and find the current through the 1.2KΩ resistor?

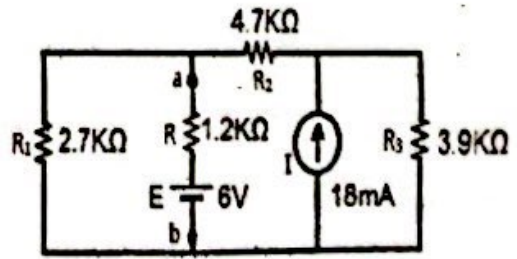


Figure 4

GOOD LUCK

Note: write your name, your student No, department and your group *اكتب اسمك - رقم القيد - القسم - المجموعة*

: write steps of solution, any direct result will not be considered. *خطوات الحل و اى اجابة مباشرة لن تصحح*

: Any multiple answers will not be considered. *فى حالة وجود اكثر من اجابة لن تصحح*

Answer the following questions:

Q.1): a- An electrical system converts 500 kWh of electrical energy into heat during 10 h. what is the power level of the system?

b- For the network of figure 1 find: R_T , I_1 , I_2 , V_{ab} , and P_{R4} .

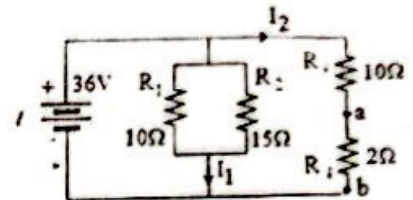


Figure 1

Q.2): For the electric circuit shown in figure2, convert the current source to voltage source, then, use *mesh analysis* to calculate the current through 10Ω resistor.

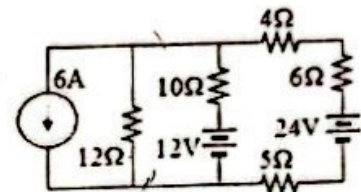


Figure 2

Q.3): For the network of figure3, find the voltage across the 1kΩ resistor using the superposition's theorem?

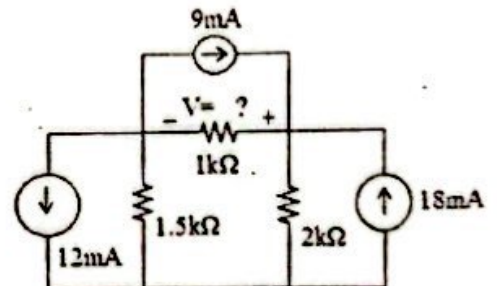


Figure 3

Q.4): Use Thevenin's Theorem to calculate the value and the direction of the current (I) in the circuit of figure 4.

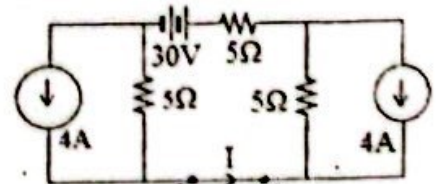
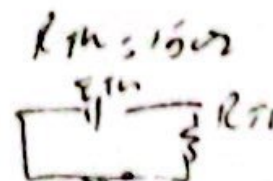
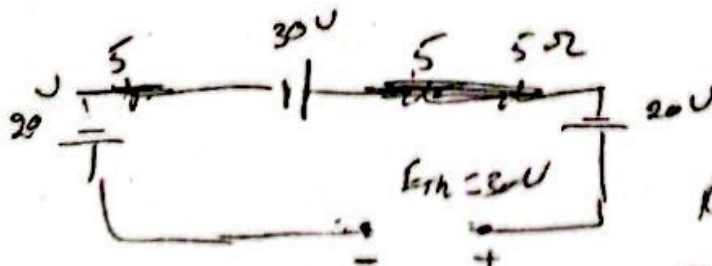


Figure 4



Electrical and Electronics Engineering Department

Course Code: EE280 First Exam: 20%. Spring 2015 Date: 06/05/2015 Time: 90 min

Note: write your name, your student No, department and your group *أكتب اسمك - رقم القيد - القسم - المجموعة*

: write steps of solution, any direct result will not be considered. *خطوات الحل و أي اجابة مباشرة لن تصحح*

: Any multiple answers will not be considered. *في حالة وجود اكثر من اجابة لن تصحح*

Answer the following questions:

Q.1): Find the value of i_1 , i_2 , voltage across 60Ω resistor, and the power supplied by the source (Total power) for the circuit of figure 1.

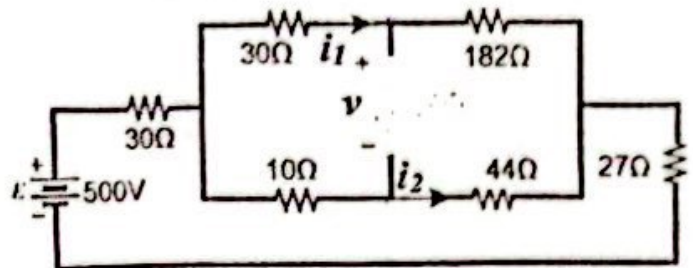


Figure 1

Q.2): For the electric circuit shown in figure2, use mesh analysis to obtain the following:

- 1- Write the loop equations?
- 2- The loop currents I_1 , I_2 , I_3 ?

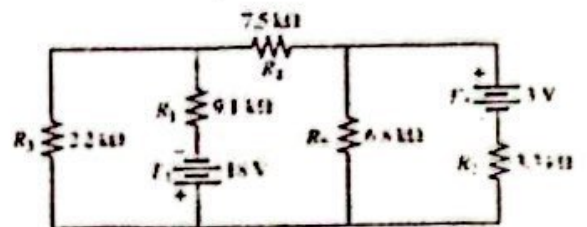


Figure 2

Q.3): Using superposition's theorem find the voltage V_o (across 5Ω resistor) for the network of figure3.

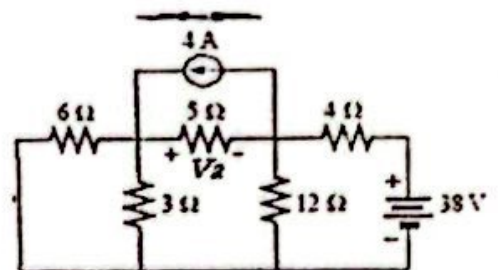


Figure 3

Q.4): Find the current in the 20Ω - resistor using Thevenin's Theorem for figure 4.

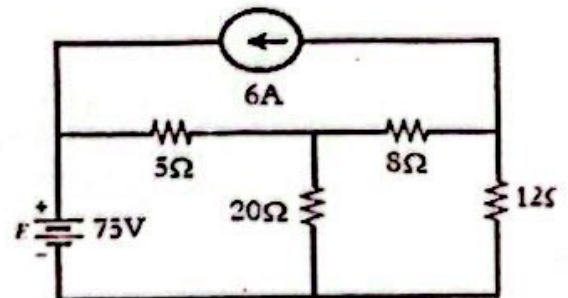


Figure 4

GOOD LUCK

Electrical and Electronics Engineering Department

Code: EE280 Midterm Exam: 40% Spring 2017 Date: 03/05/2016 Time: 90 min

اكتب اسمك - رقم القيد - القسم - المجموعة
 Note: write your name, your student No, department and your group

اكتب خطوات الحل و اى اجابة مباشرة لن تصحح
 : write steps of solution, any direct result will not be considered.

فى حالة وجود اكثر من اجابة لن تصحح
 : Any multiple answers will not be considered.

Answer the following questions:

Q.1) a- A PC draws 78W. What is the cost of using this Pc for 4 h/day for a month of 31 days if the cost is 11 ¢/Kwh?

b- For the network of figure 1 find V_o , V_f .

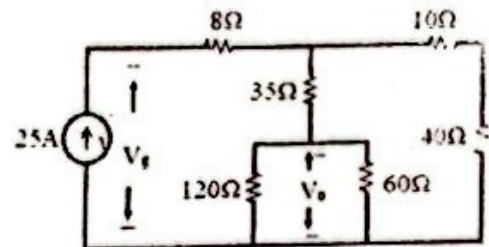


Figure 1

Q.2) For the electric circuit shown in figure2, use Source Conversions, then, use *mesh analysis* to calculate the current through 5Ω resistor, also indicate the direction of the current in each loop.

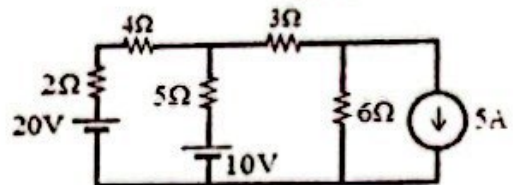


Figure 2

Q.3) For the network of figure3, find the current i_x through the 6Ω resistor using the Thevenin's theorem.

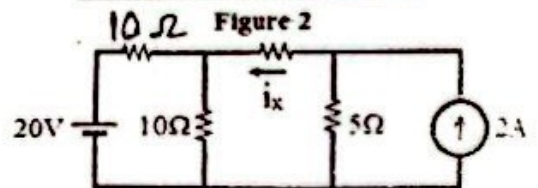


Figure 3

Q.4) A) In the circuit of figure 4. When the switch is at position 1, find the following:

- i. The mathematical expressions for the transient behavior of V_C & I_C .
- ii. The initial value of the charging current.
- iii. The current after 4 sec from closing the switch.
- iv. The energy stored after 4 sec from closing the switch.
- v. The time required until the voltage across the capacitor reaches 70V.

B) If the switch is thrown onto position 2 after 12 second find the mathematical expression for the current in the capacitor and the voltage across it.

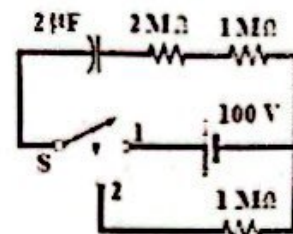


Figure 4

GOOD LUCK

Electrical and Electronics Engineering Department

Course Code: EE280 Final Exam: 50%. Fall 2016 Date: 25/01/2017 Time: 120 min

Answer the following questions:

Q.1) - a) Find the currents I_{R1} , I_{R2} and I_{R3} , and the voltage source E , and the value of R_4 for the network of figure 1.

b) Use Thevenin's theorem to find the current (I_D) that follows into the 4Ω -resistor for the circuit of figure 2.

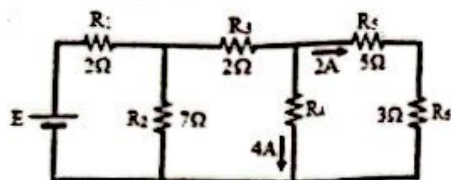


Figure 1

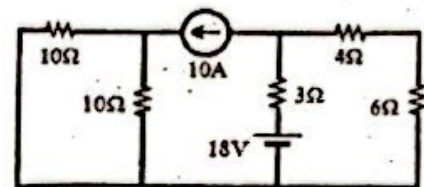


Figure 2

Q.2): a) For the circuit shown in figure3, Find the voltage across and the energy in each of the capacitors

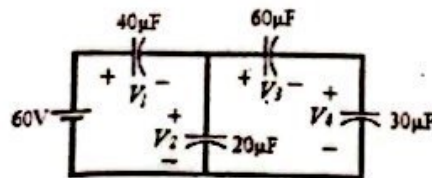


Figure 3

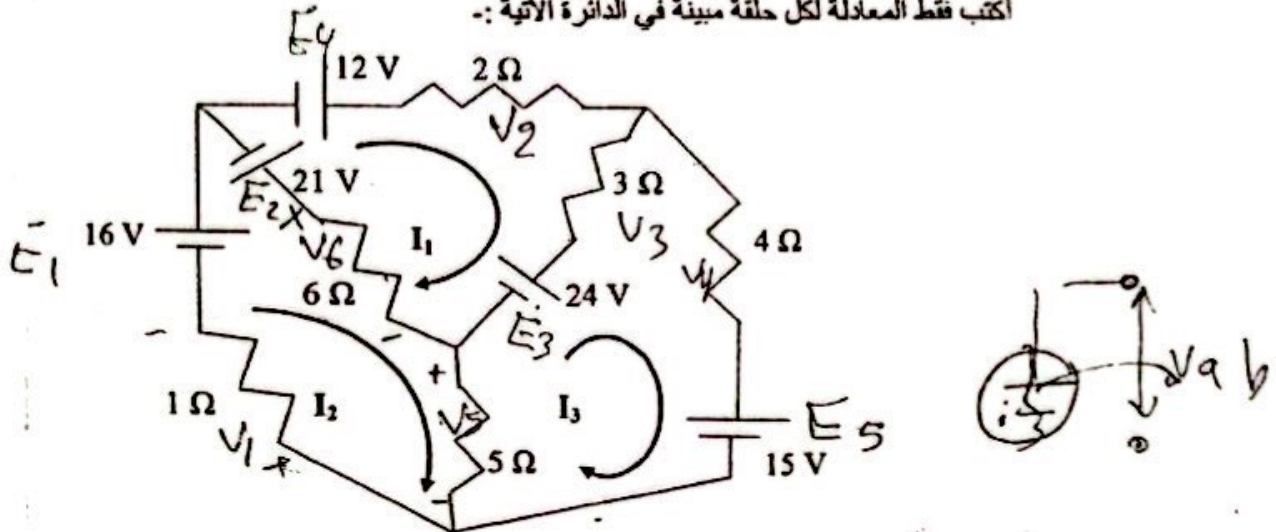
b) If a magnetizing force of 600 A/m is applied to a magnetic circuit, a flux density of $1200 \times 10^{-4} \text{ Wb/m}^2$ is established. Find the permeability of a material that will produce twice the original flux density for the same magnetizing force.

ملاحظة هامة:- يجب كتابة الاسم، رقم القيد، القسم والمجموعة (طريقة واحدة فقط للإجابة وبالقلم الجاف).

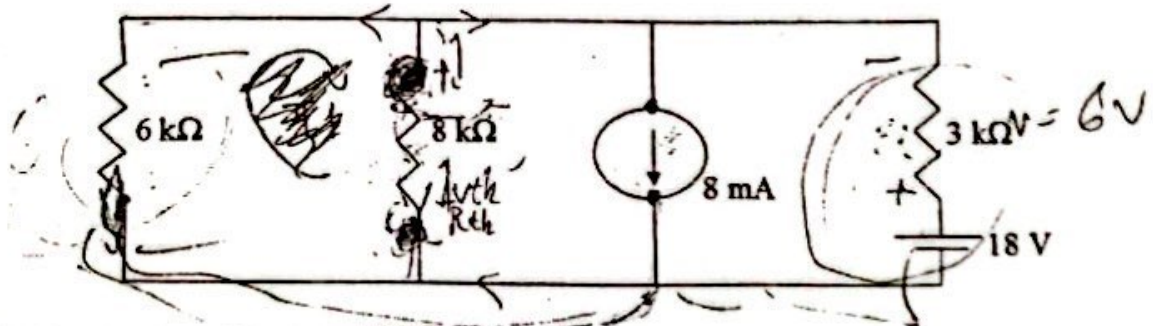
Answer the following questions

Q.1 Write only the equation for each loop shown in the following circuit:- [10 Marks]

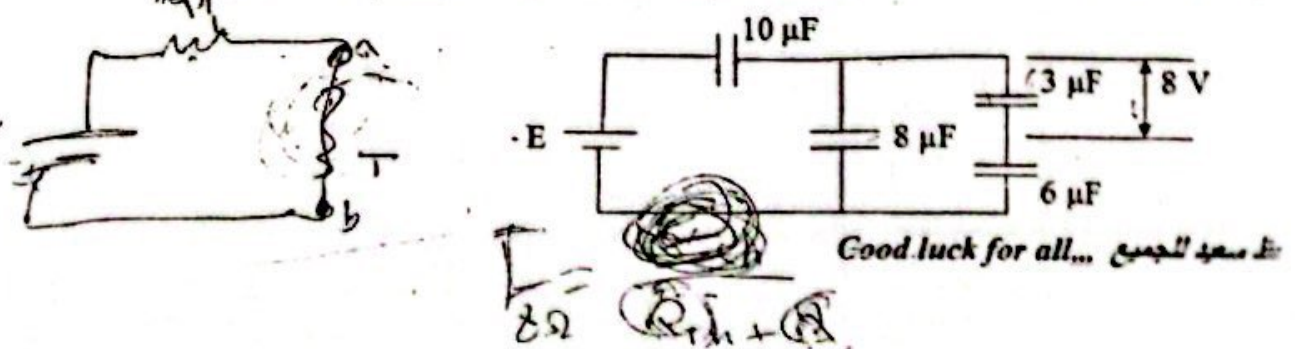
اكتب فقط المعادلة لكل حلقة مبينة في الدائرة الآتية :-



Q.2 For the following circuit, find the current in the 8-kΩ resistor using Thevenin's Theorem. [10 Marks]
في الدائرة الآتية، أوجد التيار في المقاومة (8-kΩ) مستخدماً نظرية ثيفينين.



Q.3 In the circuit shown, calculate the charge in each capacitor and the value of the voltage source (E). [10 Marks]
في الدائرة المبينة، أوجد الشحنة في كل مكثف وقيمة مصدر الجهد (E).



Good luck for all... حظ سعيد للجميع

Electrical and Electronics Engineering Department

EE280. 1st Midterm Exam. Fall 2014 Time: 1:30 hr

Answer the following questions:

Q.1): What is the value of the unknown resistor R in figure-1 if the voltage drop across the 500Ω resistor is 2.5 volts?

اوجد قيمة المقاومة (R) اذا كان الجهد على المقاومة 500 اهم يساوي 2.5 فولت للدائرة المبينة في الشكل 1

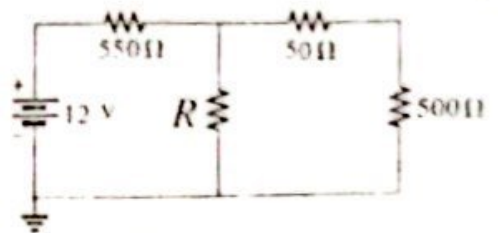


Figure 1

Q.2): In the circuit shown in Fig. (2), given:

$$R_1=R_2=R_3 = 10\Omega, \quad R_x=R_y=R_z=60\Omega, \quad R_4=20\Omega, \quad E_1=24V,$$

Calculate: a) Total resistance (R_t), b) I_1 , c) I_2

اوجد المقاومة الكلية، و التيارات I_1, I_2 للدائرة المبينة في الشكل 2.

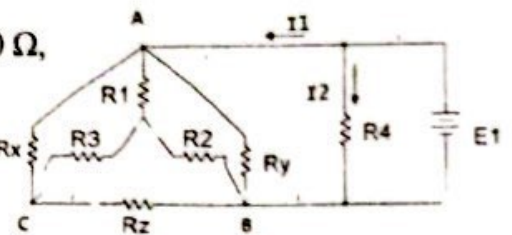


Figure 2

Q.3): In the circuit shown in Fig. (3), Given $E_1=120, E_2=45,$

$$R_1= 60\Omega, R_2=30\Omega, R_3=60\Omega, R_4=30\Omega, \text{ Use the}$$

superposition theorem to calculate the following:

- a) $I_1,$ b) $I_2,$ c) V_{ab}

بمستخدام نظرية التراكيب، اوجد الجهد بين النقطتين a و b وكذلك التيارات I_1, I_2

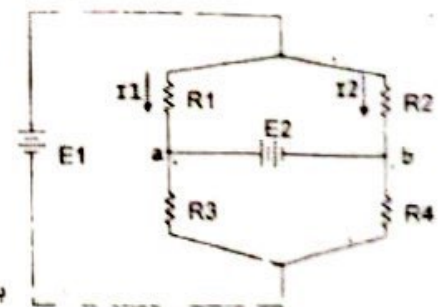


Figure 3

للدائرة المبينة في الشكل 3

Q.4): Determine current in 40Ω resistor of

Figure 4 **using Mesh analysis method.**

بمستخدام طريقة التحليل الحلقى، اوجد التيار المار في المقاومة 40 اهم. للدائرة المبينة في الشكل 4

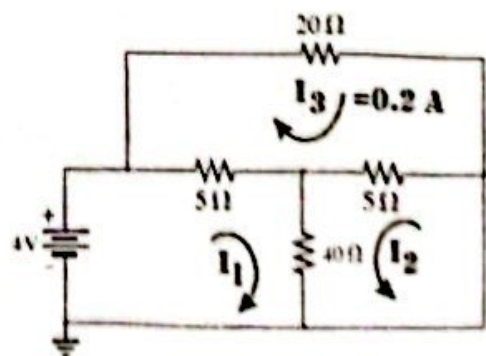
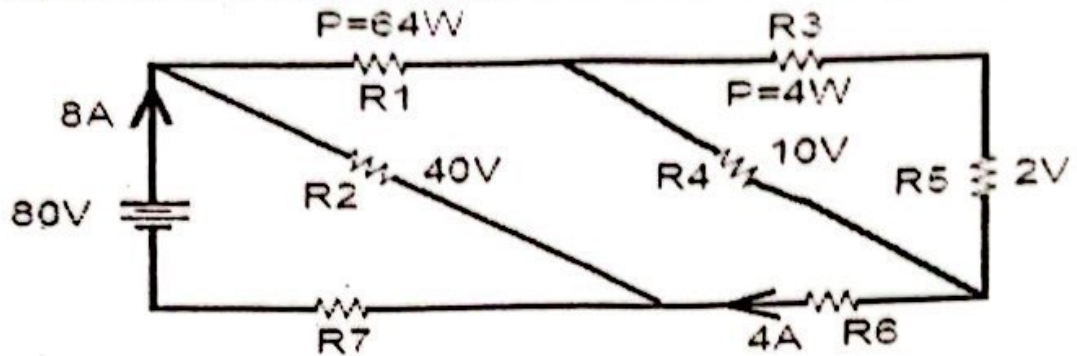


Figure 4

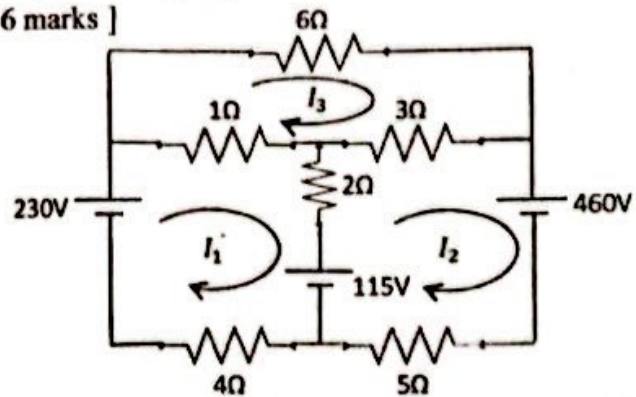
ملاحظه يجب على كل طالب كتابة اسمه ، رقم قيده ، اسمه ومجموعته.

Answer the following questions

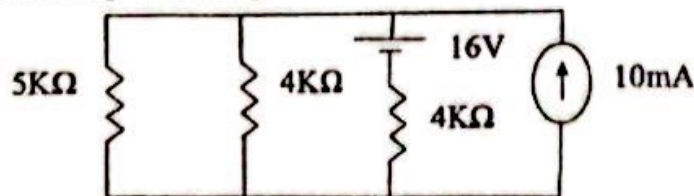
Q.1) Find the values of all the resistances in the circuit shown below. [7 marks]



Q.2) Use the given loop-currents (Mesh analysis) to find the current in the 6 - Ω resistor in the following circuit:- [6 marks]



Q.3) For the following circuit, calculate the current in the 5-k Ω resistor using Thevenin's Theorem. [7 marks]



Good Luck for all,,