Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14137625***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***JESUS EMMANUEL MORALES MENUIOLA***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 9 + \mathrm{j}4$, $B = 5 + \mathrm{j}2$ and $C = 5 + \mathrm{j}6$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 4}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 9 m. The resistance of the metal frame used for the cube is $9\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

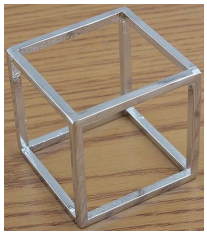

Figure 1

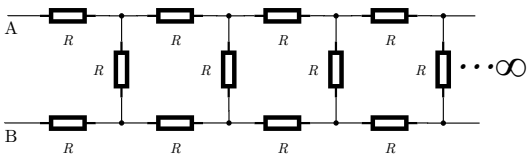

Figure 2

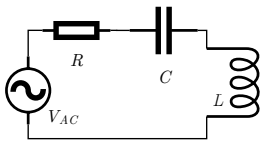

Figure 3

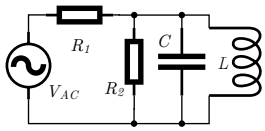

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 90\,\Omega$, $L = 0.8\,\mathrm{H}$, $C = 30\,\mu\mathrm{F}$ and $V_{AC} = 60\,\mathrm{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

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Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14121732***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***JOEL GERARDO AGUERO LLANAS***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 2 + \text{j}5$, $B = 7 + \text{j}8$ and $C = 2 + \text{j}5$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 5}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 3 m. The resistance of the metal frame used for the cube is $3\,\Omega\,\text{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

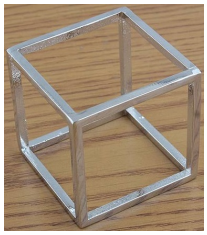

Figure 1

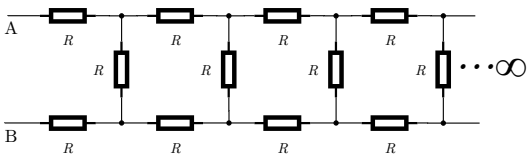

Figure 2

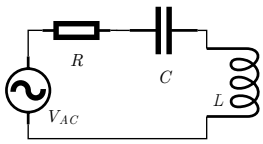

Figure 3

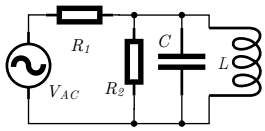

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 30\,\Omega$, $L = 0.4\,\text{H}$, $C = 90\,\mu\text{F}$ and $V_{AC} = 50\,\text{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

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Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14124427***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***JERSON CHAVEZ ORTIZ***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 7 + \mathrm{j}8$, $B = 3 + \mathrm{j}9$ and $C = 2 + \mathrm{j}9$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 8}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 5 m. The resistance of the metal frame used for the cube is $3\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

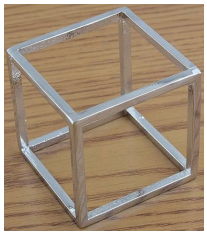

Figure 1

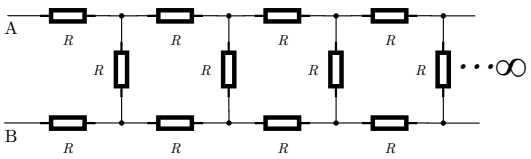

Figure 2

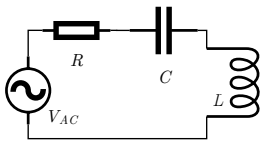

Figure 3

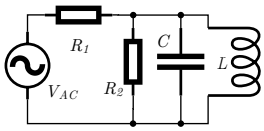

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 30\,\Omega$, $L = 0.2\,\mathrm{H}$, $C = 90\,\mu\mathrm{F}$ and $V_{AC} = 40\,\mathrm{V}$ at $60\,\mathrm{Hz}$. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

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Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14156040***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***LUIS ANTNONIO FERNENDEZ CARRASCO***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 5 + \mathrm{j}8$, $B = 4 + \mathrm{j}5$ and $C = 5 + \mathrm{j}6$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 8}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 4 m. The resistance of the metal frame used for the cube is $3\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

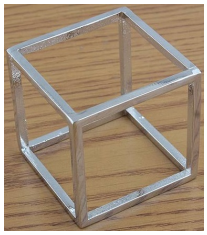

Figure 1

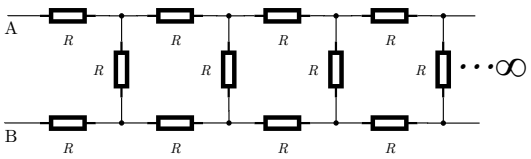

Figure 2

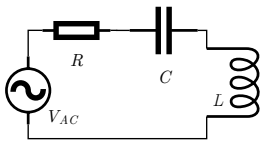

Figure 3

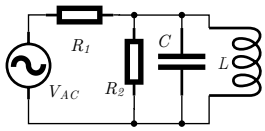

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 30\,\Omega$, $L = 0.5\,\mathrm{H}$, $C = 30\,\mu\mathrm{F}$ and $V_{AC} = 30\,\mathrm{V}$ at $60\,\mathrm{Hz}$. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

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Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14156037***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***MICHAEL MURILLO MENDEZ***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 6 + \mathrm{j}6$, $B = 9 + \mathrm{j}2$ and $C = 4 + \mathrm{j}6$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 6}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 2 m. The resistance of the metal frame used for the cube is $5\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

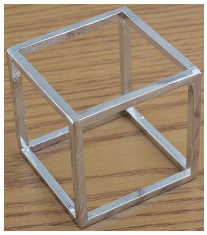

Figure 1

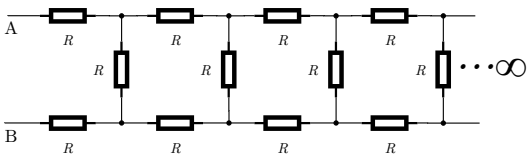

Figure 2

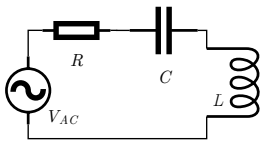

Figure 3

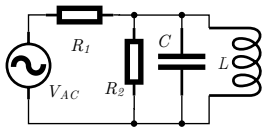

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 50\,\Omega$, $L = 0.7\,\mathrm{H}$, $C = 70\,\mu\mathrm{F}$ and $V_{AC} = 80\,\mathrm{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***11073892***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***JOSUE AMADOR SIFUENTES***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 6 + \mathrm{j}4$, $B = 5 + \mathrm{j}2$ and $C = 2 + \mathrm{j}4$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 4}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 4 m. The resistance of the metal frame used for the cube is $8\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

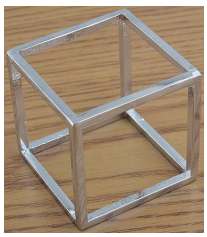


Figure 1

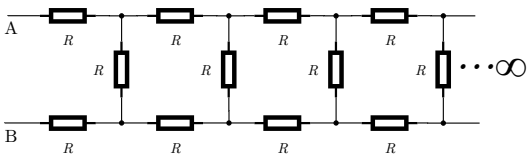
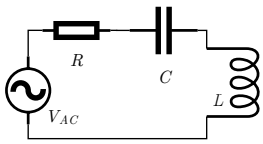


Figure 2



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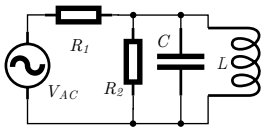

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 80\,\Omega$, $L = 0.5\,\mathrm{H}$, $C = 90\,\mu\mathrm{F}$ and $V_{AC} = 40\,\mathrm{V}$ at $60\,\mathrm{Hz}$. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***11268436***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***EDUARDO ZALDIVAR MARTINEZ***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 6 + \mathrm{j}8$, $B = 8 + \mathrm{j}5$ and $C = 7 + \mathrm{j}4$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 8}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 6 m. The resistance of the metal frame used for the cube is $7\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

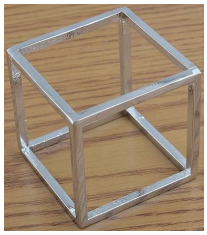

Figure 1

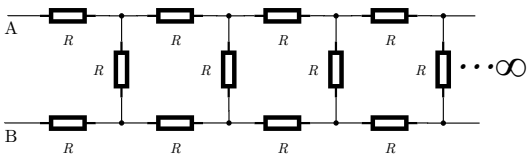

Figure 2

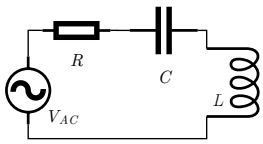

Figure 3

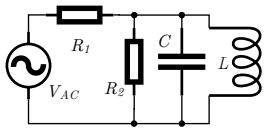

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 70\,\Omega$, $L = 0.5\,\mathrm{H}$, $C = 20\,\mu\mathrm{F}$ and $V_{AC} = 20\,\mathrm{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14140390***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***LUIS DAVID MARENTES REYES***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 7 + \mathrm{j}3$, $B = 5 + \mathrm{j}3$ and $C = 5 + \mathrm{j}7$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 3}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 2 m. The resistance of the metal frame used for the cube is $7\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

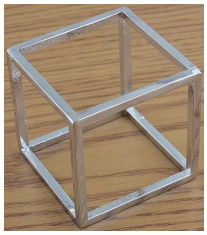

Figure 1

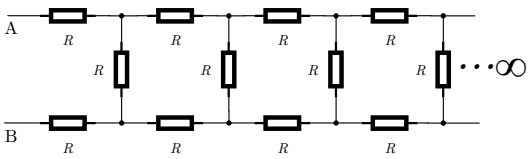

Figure 2

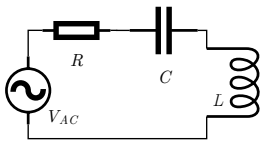

Figure 3

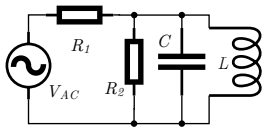

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 70\,\Omega$, $L = 0.5\,\mathrm{H}$, $C = 70\,\mu\mathrm{F}$ and $V_{AC} = 40\,\mathrm{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***12068799***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***JESUS ANTONIO ROBLESREYES***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 6 + \mathrm{j}8$, $B = 2 + \mathrm{j}6$ and $C = 3 + \mathrm{j}8$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 8}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 5 m. The resistance of the metal frame used for the cube is $3\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

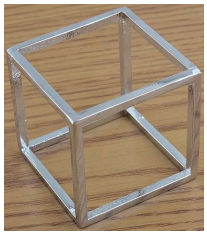

Figure 1

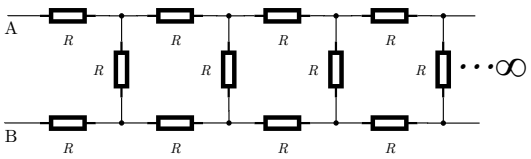

Figure 2

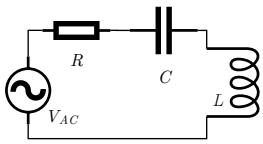

Figure 3

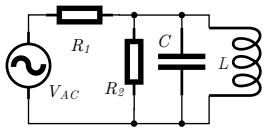

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 30\,\Omega$, $L = 0.3\,\mathrm{H}$, $C = 70\,\mu\mathrm{F}$ and $V_{AC} = 60\,\mathrm{V}$ at $60\,\mathrm{Hz}$. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14150725***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***LILIANA VERA GLZ***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 3 + \mathrm{j}5$, $B = 6 + \mathrm{j}9$ and $C = 2 + \mathrm{j}7$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 5}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 9 m. The resistance of the metal frame used for the cube is $2\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

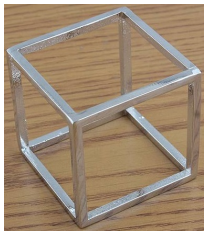

Figure 1

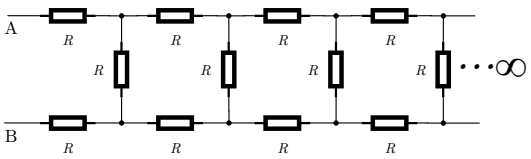

Figure 2

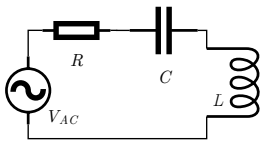

Figure 3

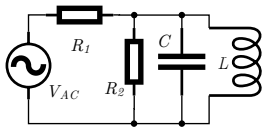

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 20\,\Omega$, $L = 0.4\,\mathrm{H}$, $C = 20\,\mu\mathrm{F}$ and $V_{AC} = 60\,\mathrm{V}$ at $60\,\mathrm{Hz}$. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14125016***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***DAVID OTHONIEL SALDIVAR PEREZ***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 3 + \mathrm{j}7$, $B = 8 + \mathrm{j}7$ and $C = 8 + \mathrm{j}6$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 7}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 8 m. The resistance of the metal frame used for the cube is $5\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

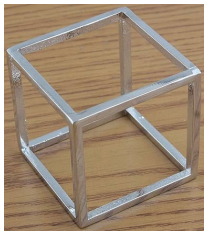

Figure 1

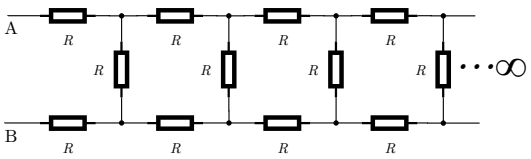

Figure 2

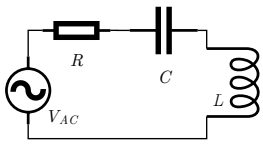

Figure 3

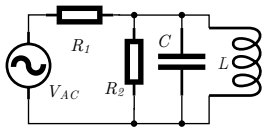

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 50\,\Omega$, $L = 0.3\,\mathrm{H}$, $C = 30\,\mu\mathrm{F}$ and $V_{AC} = 20\,\mathrm{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***1205596***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***ALBERTO VAZQUEZ MEDINA***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 4 + \mathrm{j}9$, $B = 2 + \mathrm{j}4$ and $C = 5 + \mathrm{j}9$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 9}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 5 m. The resistance of the metal frame used for the cube is $5\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

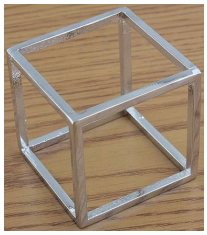

Figure 1

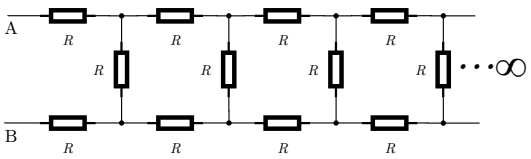

Figure 2

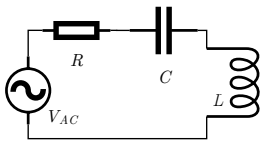

Figure 3

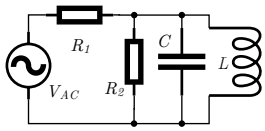

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 50\,\Omega$, $L = 0.7\,\mathrm{H}$, $C = 40\,\mu\mathrm{F}$ and $V_{AC} = 30\,\mathrm{V}$ at $60\,\mathrm{Hz}$. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***12666518***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***SAMUEL ROSAS GONZALEZ***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 4 + \text{j}5$, $B = 2 + \text{j}8$ and $C = 2 + \text{j}6$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 5}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 8 m. The resistance of the metal frame used for the cube is $7\,\Omega\,\text{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

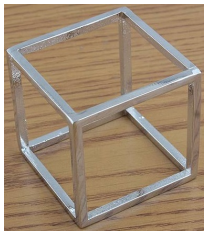

Figure 1

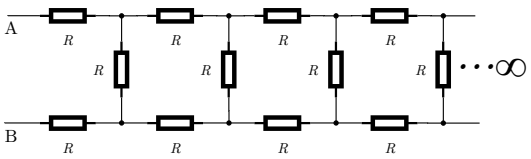

Figure 2

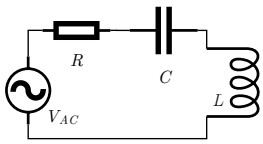

Figure 3

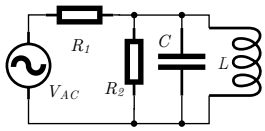

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 70\,\Omega$, $L = 0.7\,\text{H}$, $C = 20\,\mu\text{F}$ and $V_{AC} = 60\,\text{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***12064655***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***EDSON ORLANDONAVARRO RAMIREZ***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 5 + \mathrm{j}5$, $B = 9 + \mathrm{j}6$ and $C = 4 + \mathrm{j}7$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 5}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 3 m. The resistance of the metal frame used for the cube is $2\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

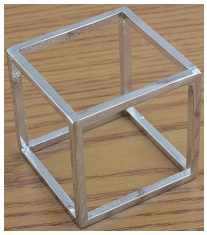

Figure 1

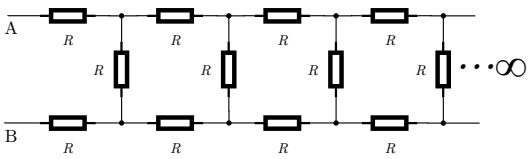

Figure 2

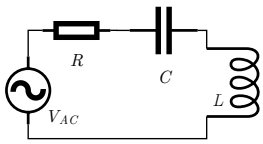

Figure 3

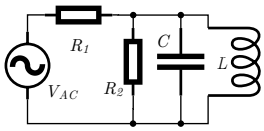

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 20\,\Omega$, $L = 0.3\,\mathrm{H}$, $C = 30\,\mu\mathrm{F}$ and $V_{AC} = 90\,\mathrm{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***11126870***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***JUAN GAEL GONZALEZ RODRIGUEZ***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 5 + \mathrm{j}8$, $B = 4 + \mathrm{j}5$ and $C = 5 + \mathrm{j}6$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 8}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 4 m. The resistance of the metal frame used for the cube is $3\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

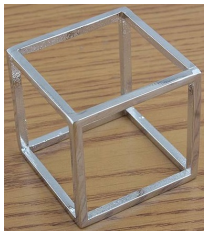

Figure 1

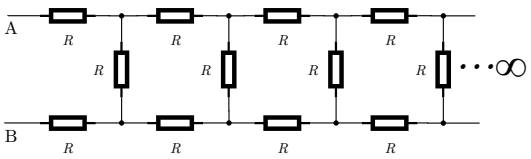

Figure 2

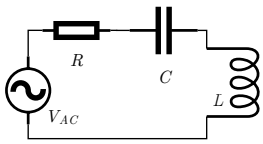

Figure 3

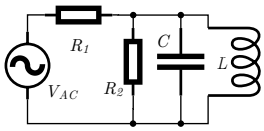

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 30\,\Omega$, $L = 0.5\,\mathrm{H}$, $C = 30\,\mu\mathrm{F}$ and $V_{AC} = 30\,\mathrm{V}$ at $60\,\mathrm{Hz}$. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14155580***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***LUIS ALEJANDRO URBINA GONZALEZ***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 7 + \mathrm{j}8$, $B = 3 + \mathrm{j}8$ and $C = 6 + \mathrm{j}8$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 8}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 8 m. The resistance of the metal frame used for the cube is $2\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

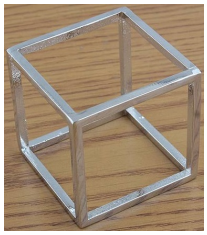

Figure 1

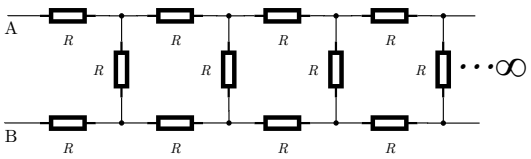

Figure 2

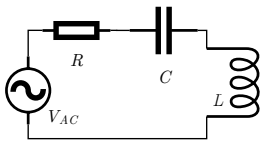

Figure 3

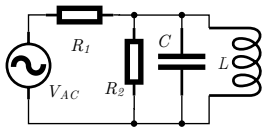

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 20\,\Omega$, $L = 0.5\,\mathrm{H}$, $C = 50\,\mu\mathrm{F}$ and $V_{AC} = 40\,\mathrm{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Circuit analysis II	Group	5A
Degree	Electrical engineering	Due for	01/09/2016
Exam / Homework	Homework 1: Basics of DC and AC circuits	Registration #	***14629184***
Professor's name	Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***JOSE WALDO QUINTANA ARANDA***		

Instructions

1. The student should submit the homework on or before the due date. (LATE SUBMISSION = 0 MARKS)
2. Answers should be hand written on the A4 or Letter size bond papers. (20% of the marks obtained will be reduced)
3. The student should print his/her corresponding question-paper and staple it along with his/her answer sheets. (20% of the marks obtained will be reduced)
4. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Let $A = 2 + \mathrm{j}9$, $B = 2 + \mathrm{j}7$ and $C = 2 + \mathrm{j}9$, simplify the following expressions. (2 points)
   (a) A^3 (b) $\dfrac{A^2 B}{C}$ (c) $\dfrac{A}{B} + C$ (d) $\dfrac{A}{\dfrac{B}{C} + 9}$
2. The side of the cube-shaped metal frame shown in Figure 1 is 8 m. The resistance of the metal frame used for the cube is $8\,\Omega\,\mathrm{m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

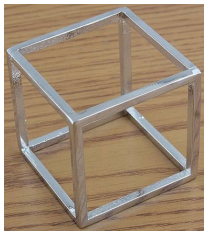

Figure 1

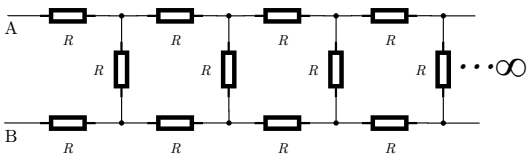

Figure 2

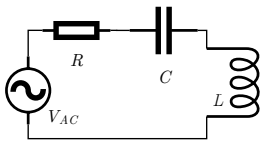

Figure 3

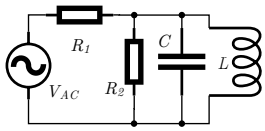

Figure 4

3. Find the equivalent resistance of the circuit shown in Figure 2. (2 points)
4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4. The values are $R = R_1 = R_2 = 80\,\Omega$, $L = 0.3\,\mathrm{H}$, $C = 20\,\mu\mathrm{F}$ and $V_{AC} = 80\,\mathrm{V}$ at 60 Hz. (2 points)
5. Find the resonant frequency for the circuit shown in Figure 3 and Figure 4. Calculate current, voltage and power across each element of the circuit shown in Figure 3 and Figure 4 at the resonant frequency. Use the values given the above problem. (2 points)