



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 $A = 9 + 4j$, $B = 5 + 2j$ and $C = 5 + 6j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 4}$

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 $9 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)



Figure 1

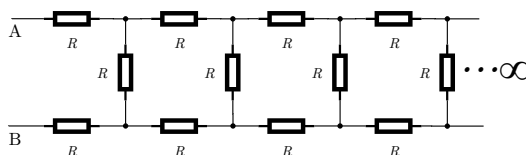


Figure 2



Figure 3

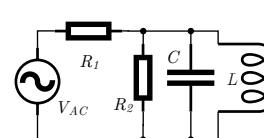


Figure 4

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 $R = R_1 = R_2 = 90 \Omega$, $L = 0.8 \text{ H}$, $C = 30 \mu\text{F}$ 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 #	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 $A = 2 + 5j$, $B = 7 + 8j$ and $C = 2 + 5j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 5}$

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)

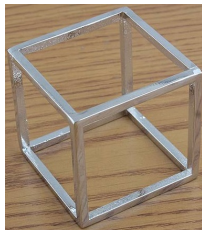


Figure 1

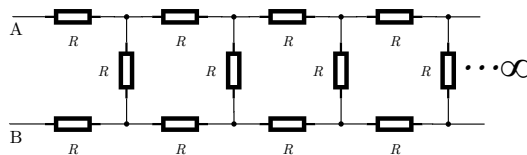


Figure 2

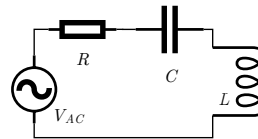


Figure 3

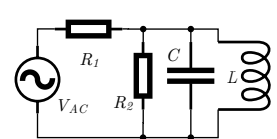


Figure 4

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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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 #	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 $A = 7 + 8j$, $B = 3 + 9j$ and $C = 2 + 9j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 8}$

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 $3 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

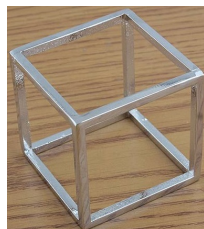


Figure 1

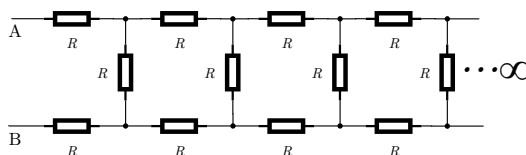


Figure 2

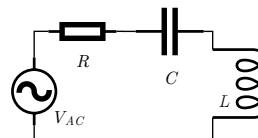


Figure 3

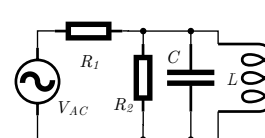


Figure 4

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 $R = R_1 = R_2 = 30 \Omega$, $L = 0.2 \text{ H}$, $C = 90 \mu\text{F}$ and $V_{AC} = 40 \text{ V}$ 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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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 #	14156040
Professor's name	Suresh Kumar Gadi	Marks Obtained	____ / 10
Student's name	LUIS ANTONIO 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 $A = 5 + 8j$, $B = 4 + 5j$ and $C = 5 + 6j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 8}$

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 $3 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

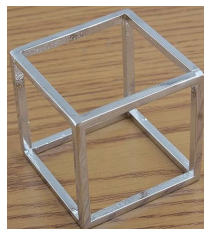


Figure 1

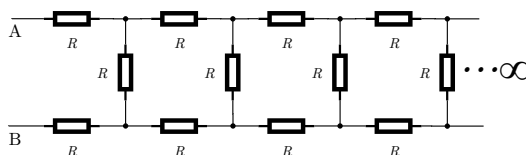


Figure 2

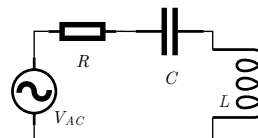


Figure 3

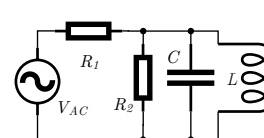


Figure 4

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 $R = R_1 = R_2 = 30 \Omega$, $L = 0.5 \text{ H}$, $C = 30 \mu\text{F}$ and $V_{AC} = 30 \text{ V}$ 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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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 $A = 6 + 6j$, $B = 9 + 2j$ and $C = 4 + 6j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 6}$

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 $5 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

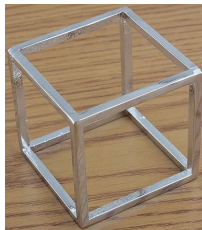


Figure 1

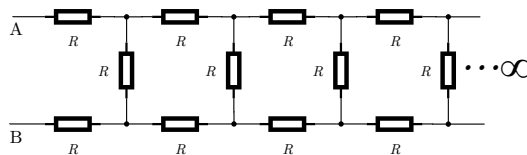


Figure 2

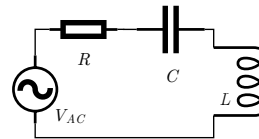


Figure 3

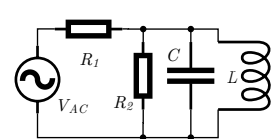


Figure 4

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 $R = R_1 = R_2 = 50 \Omega$, $L = 0.7 \text{ H}$, $C = 70 \mu\text{F}$ and $V_{AC} = 80 \text{ V}$ 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 #	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 $A = 6 + 4j$, $B = 5 + 2j$ and $C = 2 + 4j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 4}$

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 $8 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

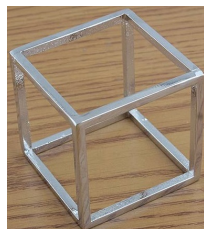


Figure 1

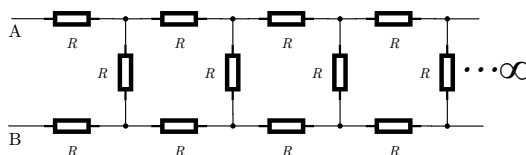


Figure 2

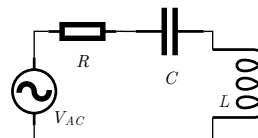


Figure 3

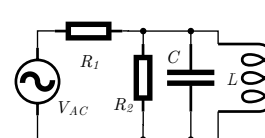


Figure 4

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 $R = R_1 = R_2 = 80 \Omega$, $L = 0.5 \text{ H}$, $C = 90 \mu\text{F}$ and $V_{AC} = 40 \text{ V}$ 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 #	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 $A = 6 + 8j$, $B = 8 + 5j$ and $C = 7 + 4j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 8}$

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 $7 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

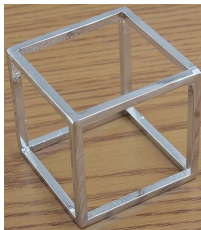


Figure 1

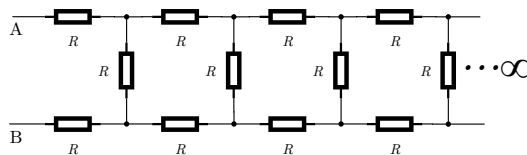


Figure 2

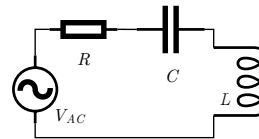


Figure 3

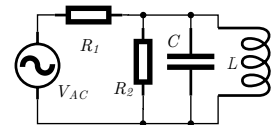


Figure 4

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 $R = R_1 = R_2 = 70 \Omega$, $L = 0.5 \text{ H}$, $C = 20 \mu\text{F}$ and $V_{AC} = 20 \text{ V}$ 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 #	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 $A = 7 + 3j$, $B = 5 + 3j$ and $C = 5 + 7j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 3}$

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 $7 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

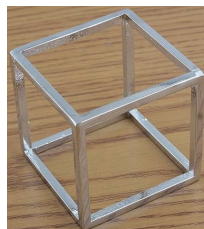


Figure 1

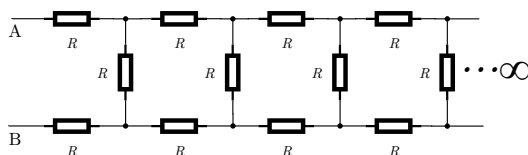


Figure 2

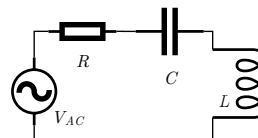


Figure 3

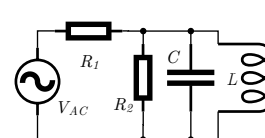


Figure 4

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 $R = R_1 = R_2 = 70 \Omega$, $L = 0.5 \text{ H}$, $C = 70 \mu\text{F}$ and $V_{AC} = 40 \text{ V}$ 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 #	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 $A = 6 + 8j$, $B = 2 + 6j$ and $C = 3 + 8j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 8}$

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 $3 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)



Figure 1

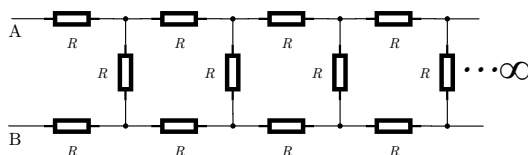


Figure 2



Figure 3

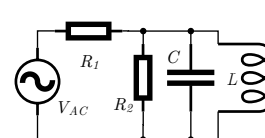


Figure 4

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 $R = R_1 = R_2 = 30 \Omega$, $L = 0.3 \text{ H}$, $C = 70 \mu\text{F}$ 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)



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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 #	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 $A = 3 + 5j$, $B = 6 + 9j$ and $C = 2 + 7j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 5}$

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 $2 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

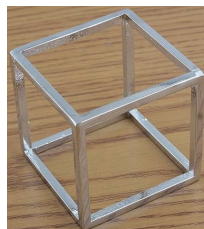


Figure 1

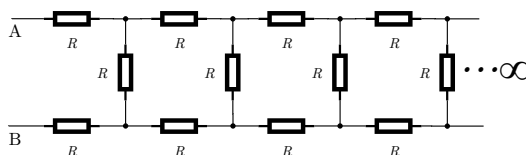


Figure 2

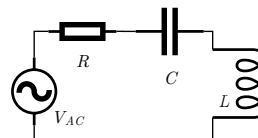


Figure 3

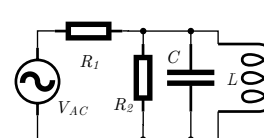


Figure 4

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 $R = R_1 = R_2 = 20 \Omega$, $L = 0.4 \text{ H}$, $C = 20 \mu\text{F}$ 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 #	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 $A = 3 + 7j$, $B = 8 + 7j$ and $C = 8 + 6j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 7}$

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 $5 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

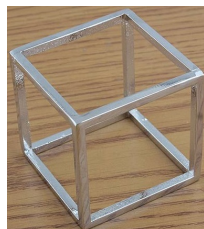


Figure 1

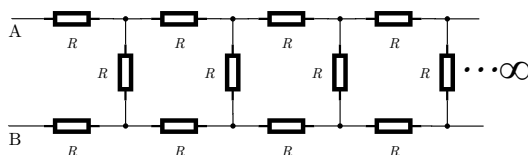


Figure 2

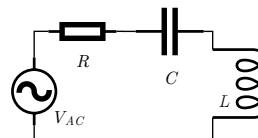


Figure 3

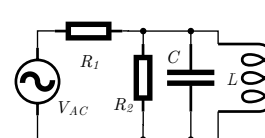


Figure 4

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 $R = R_1 = R_2 = 50 \Omega$, $L = 0.3 \text{ H}$, $C = 30 \mu\text{F}$ and $V_{AC} = 20 \text{ V}$ 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 #	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 $A = 4 + 9j$, $B = 2 + 4j$ and $C = 5 + 9j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 9}$

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 $5 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

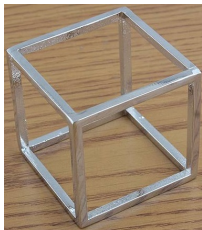


Figure 1

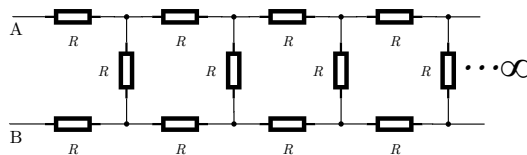


Figure 2

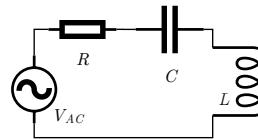


Figure 3

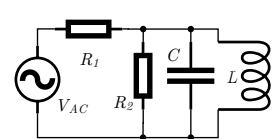


Figure 4

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 $R = R_1 = R_2 = 50 \Omega$, $L = 0.7 \text{ H}$, $C = 40 \mu\text{F}$ and $V_{AC} = 30 \text{ V}$ 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 #	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 $A = 4 + 5j$, $B = 2 + 8j$ and $C = 2 + 6j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 5}$

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)

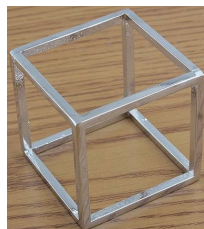


Figure 1

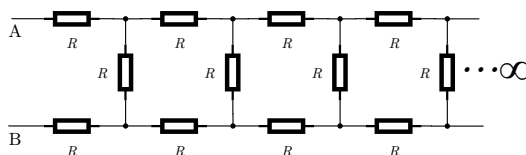


Figure 2

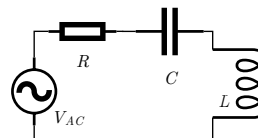


Figure 3

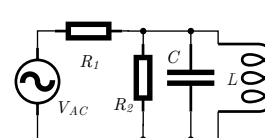


Figure 4

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 $A = 5 + 5j$, $B = 9 + 6j$ and $C = 4 + 7j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 5}$

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 $2 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

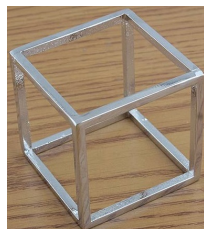


Figure 1

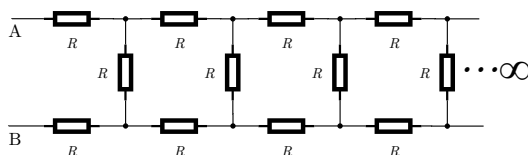


Figure 2

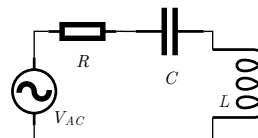


Figure 3

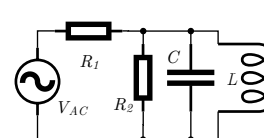


Figure 4

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 $R = R_1 = R_2 = 20 \Omega$, $L = 0.3 \text{ H}$, $C = 30 \mu\text{F}$ and $V_{AC} = 90 \text{ V}$ 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 #	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 $A = 5 + 8j$, $B = 4 + 5j$ and $C = 5 + 6j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 8}$

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 $3 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

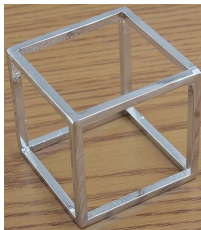


Figure 1

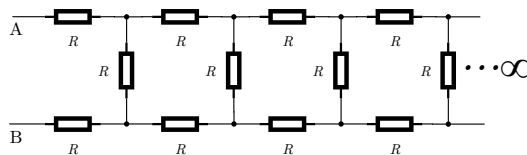


Figure 2

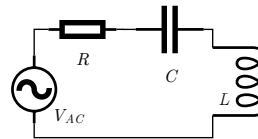


Figure 3

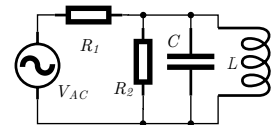


Figure 4

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 $R = R_1 = R_2 = 30 \Omega$, $L = 0.5 \text{ H}$, $C = 30 \mu\text{F}$ and $V_{AC} = 30 \text{ V}$ 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 #	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 $A = 7 + 8j$, $B = 3 + 8j$ and $C = 6 + 8j$, simplify the following expressions. (2 points)

(a) A^3 (b) $\frac{A^2 B}{C}$ (c) $\frac{A}{B} + C$ (d) $\frac{A}{\frac{B}{C} + 8}$

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 $2 \Omega \text{ m}^{-1}$. Calculate the resistance between two opposite corners. (2 points)

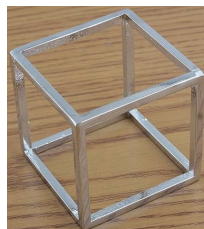


Figure 1

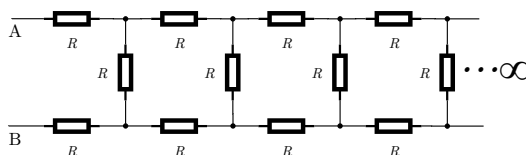


Figure 2

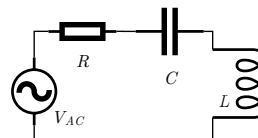


Figure 3

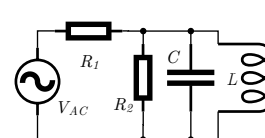


Figure 4

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 $R = R_1 = R_2 = 20 \Omega$, $L = 0.5 \text{ H}$, $C = 50 \mu\text{F}$ and $V_{AC} = 40 \text{ V}$ 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)