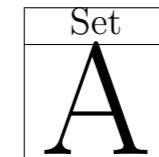


Name: \_\_\_\_\_

**Brac University**

Semester: Fall 2025  
 Course Code: CSE481  
 Quantum Computing I  
 Section: 01  
 Faculty: SDS



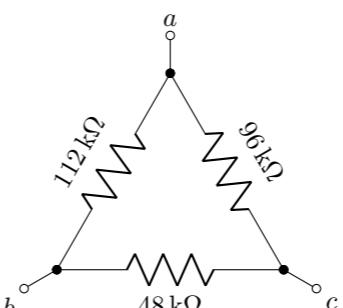
Assessment: Lab Quiz  
 Duration: 1 hour  
 Date: February 9, 2026  
 Full Marks: 10

- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
- ✓ All 4 question(s) are compulsory. Marks allotted for each question are mentioned beside each question.
- ✓ Write your answers inside the indicated boxes (where applicable). If you run out of room, continue on the back page.
- ✓ Symbols have their usual meanings.

DO NOT WRITE ANYTHING ELSE INSIDE THIS BORDER	Student ID	Answers (Q1-Q10)	Answers (Q11-Q20)	Answers (Q21-Q30)	
	0    1    2    3    4    5    6    7    8    9	1    2    3    4    5	11    12    13    14    15	21    22    23    24    25	
	Set Identifier	A    B    C    D	A    B    C    D	A    B    C    D	
	§    ●●●●●●○	6    7    8    9    10	16    17    18    19    20	26    27    28    29    30	
		A    B    C    D	A    B    C    D	A    B    C    D	
		112 kΩ	48 kΩ	35 kΩ	
DO NOT WRITE ANYTHING ELSE INSIDE THIS BORDER					

## ◊ Question 1 of 4

[CO3] [5 marks]

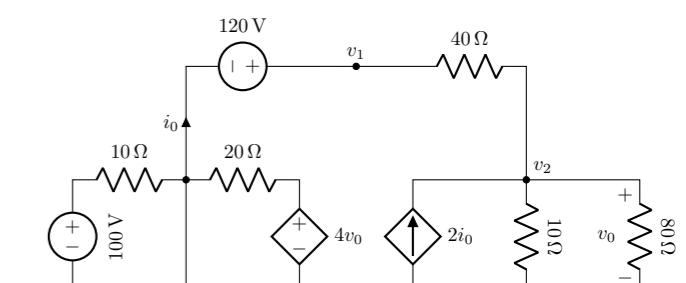


Which of the following statements is true?

- $R_{ab} = R_{bc} = R_{ca} = 24.889 \text{ k}\Omega$
- $R_{ab} = 63 \text{ k}\Omega, R_{bc} = 39 \text{ k}\Omega, R_{ca} = 60 \text{ k}\Omega$
- $R_{ab} = 63 \Omega, R_{bc} = 39 \Omega, R_{ca} = 60 \Omega$
- $R_{ab} = 112 \text{ k}\Omega, R_{bc} = 48 \text{ k}\Omega, R_{ca} = 96 \text{ k}\Omega$
- None of the above

## ◊ Question 2 of 4

[CO1] [1 mark]

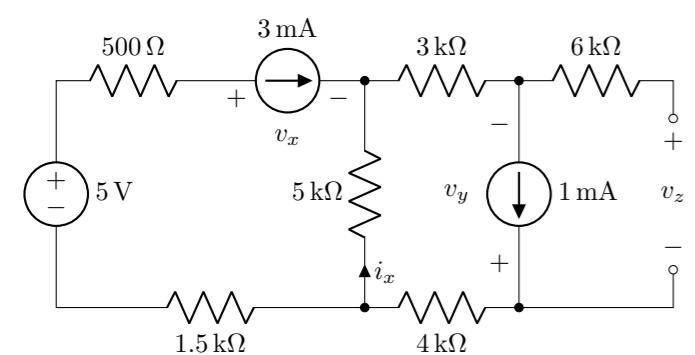


How many nodes are in this circuit?

- 6
- 3
- 5
- 7
- 4

## ◊ Question 3 of 4

[CO3] [2 marks]

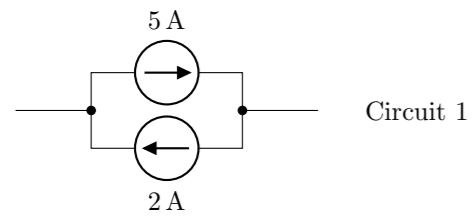


- (a) a
- (b) b
- (c) c

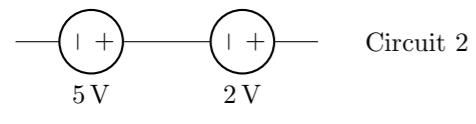
Which of the following circuits is/are impossible (violates Kirchhoff's laws)?

◊ **Question 4 of 4**

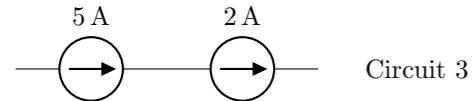
*[CO1] [2 marks]*



Circuit 1



Circuit 2



Circuit 3

- (a) Circuit 1
- (b) Circuit 2
- (c) Circuit 3
- (d) Circuit 1 & 3
- (e) None of the above

Name: \_\_\_\_\_

**Brac University**

Semester: Fall 2025  
 Course Code: CSE481  
 Quantum Computing I  
 Section: 01  
 Faculty: SDS

Set  
**B**

Assessment: Lab Quiz  
 Duration: 1 hour  
 Date: February 9, 2026  
 Full Marks: 10

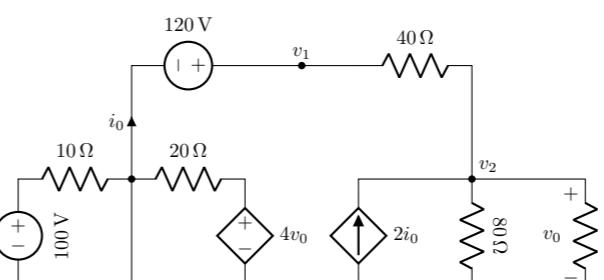
- ✓ No washroom breaks. Phones must be turned off. Using/carrying any notes during the exam is not allowed.
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- ✓ Symbols have their usual meanings.

DO NOT WRITE ANYTHING ELSE INSIDE THIS BORDER

Student ID				Answers (Q1-Q10)				Answers (Q11-Q20)				Answers (Q21-Q30)							
0	1	2	3	A	B	C	D	1	2	3	4	11	12	13	14	21	22	23	24
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3	4	5	6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	4	5	6	7	14	15	16	17	24	25	26	27
4	5	6	7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	5	6	7	8	15	16	17	18	25	26	27	28
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30	29	29	29	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	29	29	29	29	29	26	27	28	26	28	29	26

## ◊ Question 1 of 4

[CO1] [1 mark]



How many nodes are in this circuit?

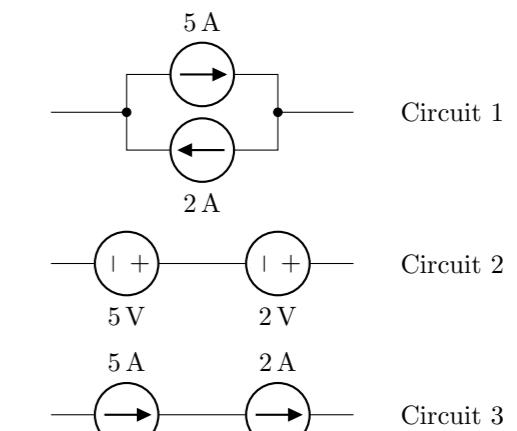
- (a) 3 (b) 7 (c) 4 (d) 6 (e) 5

## ◊ Question 2 of 4

[CO1] [2 marks]

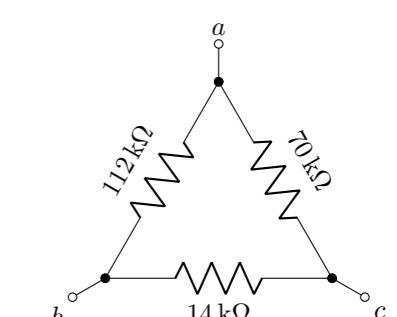
Which of the following circuits is/are impossible (violates Kirchhoff's laws)?

- (a) Circuit 1 & 3 (b) Circuit 1 (c) Circuit 3  
 (d) Circuit 2 (e) None of the above



## ◊ Question 3 of 4

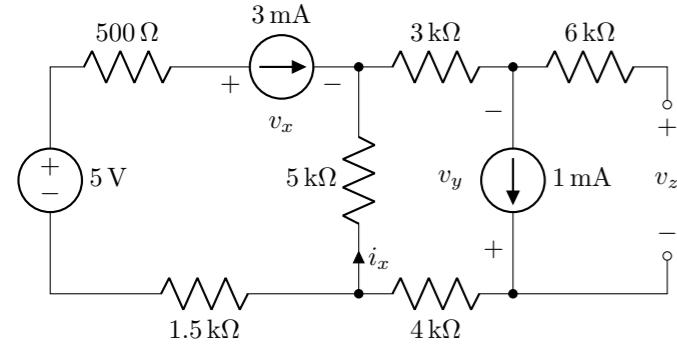
[CO3] [5 marks]



Which of the following statements is true?

- (a)  $R_{ab} = 48 \Omega, R_{bc} = 13 \Omega, R_{ca} = 45 \Omega$
- (b)  $R_{ab} = 48 \text{ k}\Omega, R_{bc} = 13 \text{ k}\Omega, R_{ca} = 45 \text{ k}\Omega$
- (c)  $R_{ab} = 112 \text{ k}\Omega, R_{bc} = 14 \text{ k}\Omega, R_{ca} = 70 \text{ k}\Omega$
- (d)  $R_{ab} = R_{bc} = R_{ca} = 10.566 \text{ k}\Omega$
- (e) None of the above

◊ **Question 4 of 4** [CO3] [2 marks]



- (a) a
- (b) b
- (c) c



Brac University

Semester: Fall 2025  
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Quantum Computing I  
Section: 01  
Faculty: SDS

Set C

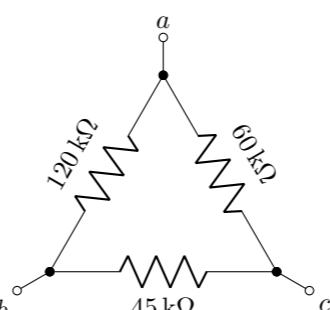
Assessment: *Lab Quiz*  
Duration: 1 hour  
Date: February 9, 2026  
Full Marks: 10

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◊ Question 1 of 4

[CO3] [5 marks] | V

7 | What's the relation between  $v_1, v_2$  and  $i$ ?

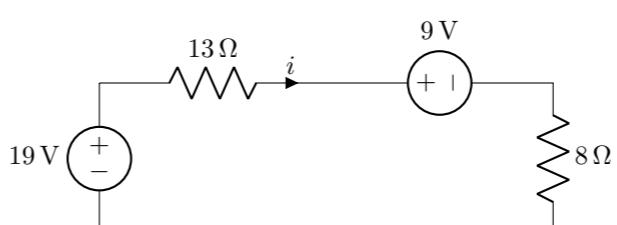


Which of the following statements is true?

- (a)  $R_{ab} = 56 \text{ k}\Omega$ ,  $R_{bc} = 36 \text{ k}\Omega$ ,  $R_{ca} = 44 \text{ k}\Omega$
  - (b)  $R_{ab} = 120 \text{ k}\Omega$ ,  $R_{bc} = 45 \text{ k}\Omega$ ,  $R_{ca} = 60 \text{ k}\Omega$
  - (c)  $R_{ab} = 56 \Omega$ ,  $R_{bc} = 36 \Omega$ ,  $R_{ca} = 44 \Omega$
  - (d)  $R_{ab} = R_{bc} = R_{ca} = 21.176 \text{ k}\Omega$
  - (e) None of the above

◆ Question 2 of 4

[CO3] [2 marks]

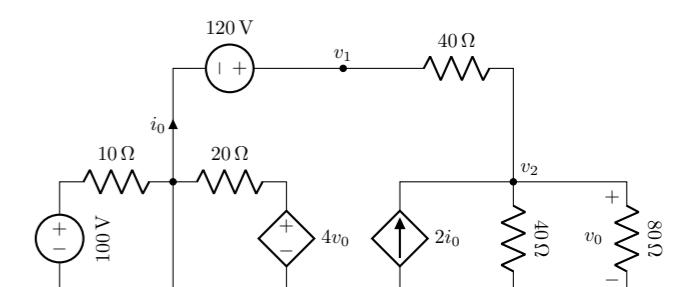


7 | What's the relation between  $v_1, v_2$

- (a)  $-19 + 13i - 9 + 8i = 0$   
(b)  $-19 - 13i - 9 + 8i = 0$   
(c)  $-19 - 13i + 9 + 8i = 0$   
(d)  $-19 + 13i + 9 + 8i = 0$   
(e) None of the above

◊ Question 3 of 4

[CO1] [1 mark]



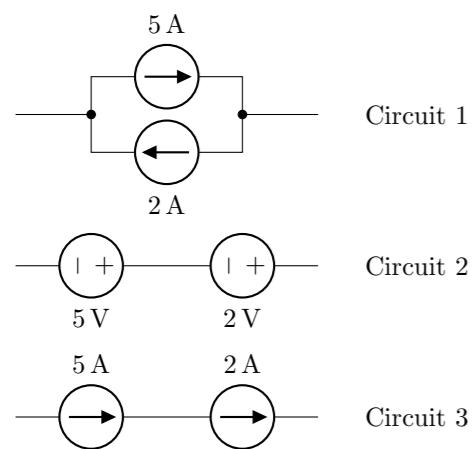
How many nodes are in this circuit?

- (a) 3    (b) 6    (c) 4    (d) 7    (e) 5

◊ Question 4 of 4

[CO1] [2 marks]

Which of the following circuits is/are impossible (violates Kirchhoff's laws)?



- (a) Circuit 3    (b) Circuit 1    (c) Circuit 1 & 3  
(d) Circuit 2    (e) None of the above

Name: \_\_\_\_\_

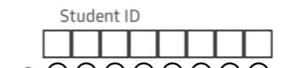
**Brac University**

Semester: Fall 2025  
 Course Code: CSE481  
 Quantum Computing I  
 Section: 01  
 Faculty: SDS

Set
<b>D</b>

Assessment: Lab Quiz  
 Duration: 1 hour  
 Date: February 9, 2026  
 Full Marks: 10

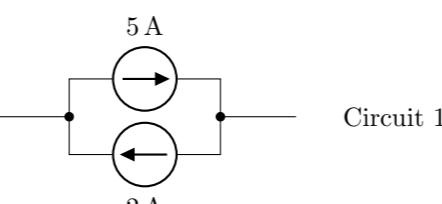
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DO NOT WRITE ANYTHING ELSE INSIDE THIS BORDER	Student ID  0 1 2 3 4 5 6 7 8 9  Set Identifier 	Answers (Q1-Q10) A B C D 1 2 3 4 5  Answers (Q11-Q20) A B C D 11 12 13 14 15  Answers (Q21-Q30) A B C D 21 22 23 24 25  Answers (Q21-Q30) A B C D 26 27 28 29 30	DO NOT WRITE ANYTHING ELSE INSIDE THIS BORDER
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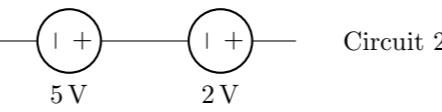
## ◊ Question 1 of 4

[CO1] [2 marks]

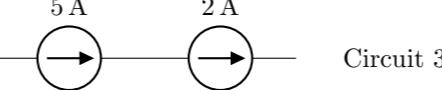
Which of the following circuits is/are impossible (violates Kirchhoff's laws)?



Circuit 1



Circuit 2

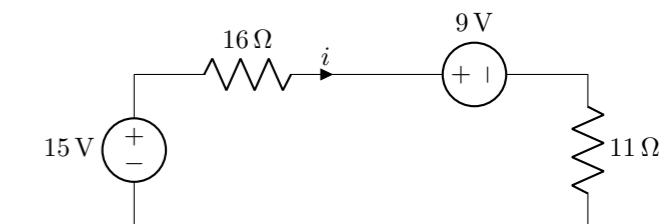


Circuit 3

- (a) Circuit 2   (b) Circuit 3   (c) Circuit 1   (d) Circuit 1 & 3   (e) None of the above

## ◊ Question 2 of 4

[CO3] [2 marks]

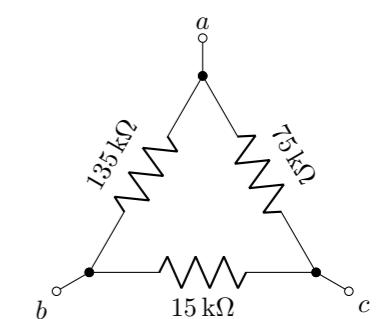


What's the relation between  $v_1$ ,  $v_2$  and  $i$ ?

- (a)  $-15 - 16i - 9 + 11i = 0$   
 (b)  $-15 + 16i + 9 + 11i = 0$   
 (c)  $-15 + 16i - 9 + 11i = 0$   
 (d)  $-15 - 16i + 9 + 11i = 0$   
 (e) None of the above

## ◊ Question 3 of 4

[CO3] [5 marks]

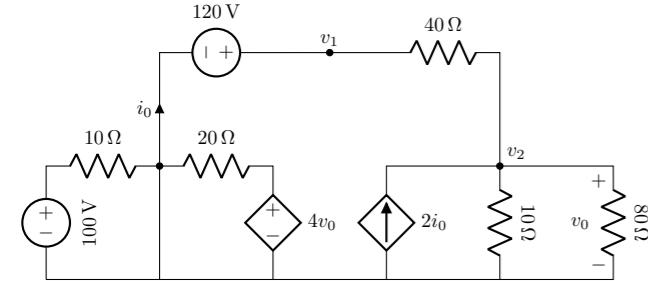


Which of the following statements is true?

- (a)  $R_{ab} = 54 \Omega, R_{bc} = 14 \Omega, R_{ca} = 50 \Omega$
- (b)  $R_{ab} = R_{bc} = R_{ca} = 11.441 \text{ k}\Omega$
- (c)  $R_{ab} = 135 \text{ k}\Omega, R_{bc} = 15 \text{ k}\Omega, R_{ca} = 75 \text{ k}\Omega$
- (d)  $R_{ab} = 54 \text{ k}\Omega, R_{bc} = 14 \text{ k}\Omega, R_{ca} = 50 \text{ k}\Omega$
- (e) None of the above

◊ **Question 4 of 4**

*[CO1] [1 mark]*



How many nodes are in this circuit?

- (a) 7
- (b) 5
- (c) 6
- (d) 4
- (e) 3



