

Quiz 01 Instruments-DC

總分 90/100 ?

NCTU EELAB Fall

區段分數 0/0

Class *

☐ DEE222☒ DEE320

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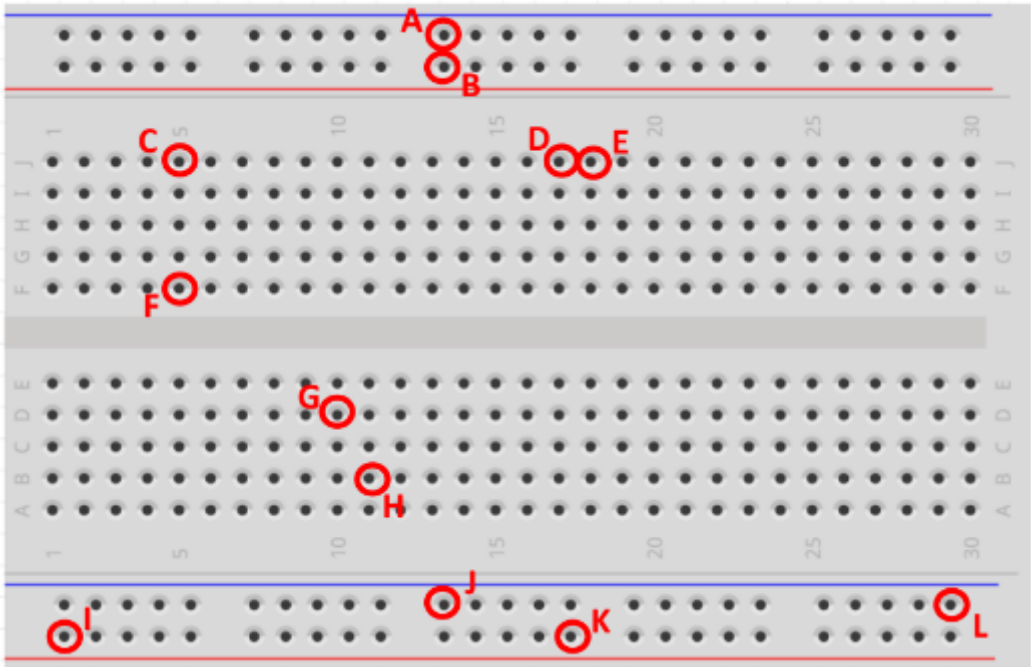
Q1. Find out the node combinations with the same voltage level on the breadboard below. *multiple choice

區段分數 30/30



✓ *

30/30



☐ (A , B)

☒ (C , F)

✓

☐ (D , E)

☐ (G , H)

☐ (I , J)

☒ (I , K)

✓

☐ (J , K)

☒ (J , L)

✓

☐ (K , L)



Q2. Answer the following questions about resistors.


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Color Code Table					
Color	Digit/ Multiplier	Tolerance	Color	Digit/ Multiplier	Tolerance
Black	0		Blue	6	$\pm 0.25\%$
Brown	1	$\pm 1\%$	Purple	7	$\pm 0.1\%$
Red	2	$\pm 2\%$	Gray	8	$\pm 0.05\%$
Orange	3		White	9	
Yellow	4		Gold	-1	$\pm 5\%$
Green	5	$\pm 0.5\%$	Silver	-2	$\pm 10\%$



✓ (1) According the color code, identify the value of resistance. *

10/10



From left to right:

gray.brown.orange.silver

$(A \times 10 + B) \times 10^C \pm D\%$

- ☐ 810 $\Omega \pm 5\%$
- ☐ 8.1 k $\Omega \pm 5\%$
- ☐ 8.1 k $\Omega \pm 10\%$
- ☒ 81 k $\Omega \pm 10\%$



✗ (2) Given a 1 Ω resistor with 5% error, what is the color code? 0/10
*



- ☒ (a , b , c) = (black , brown , black) ✗
- ☐ (a , b , c) = (black , brown , red)
- ☐ (a , b , c) = (brown , black , black)
- ☐ (a , b , c) = (brown , black , gold)

正確答案

- ☒ (a , b , c) = (brown , black , gold)

✓ (3) In Lab1, we'll measure resistors in an unusual way, i.e., 10/10
parallel 1 Ω , 1 k Ω , 1 M Ω with human body. Make a guess that
which resistor will have the largest difference between
nominal value and measured value.

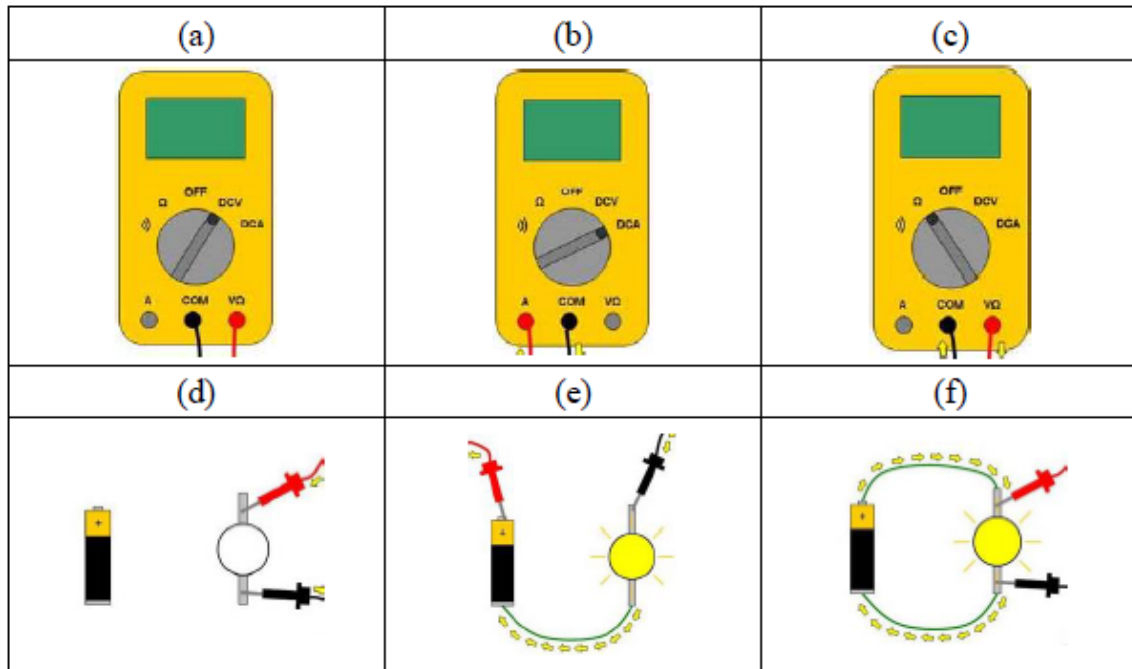
Hint: you can measure human body resistance with your multimeter while answering.

- ☐ 1 Ω
- ☐ 1 k Ω
- ☒ 1 M Ω ✓



Q3. Answer the following questions about multimeters with pictures (a) to (f).

區段分數 30/30



○

✓ (1) How do you measure a resistor? *

10/10

- ☐ (a) (d)
- ☐ (a) (e)
- ☐ (b) (f)
- ☒ (c) (d)

✓

✓ (2) How do you measure voltage? *

10/10

- ☐ (a) (d)
- ☒ (a) (f)
- ☐ (b) (e)
- ☐ (c) (f)

✓



✓ (3) How do you measure current? *

10/10

☐ (b) (d)

☐ (a) (e)

☒ (b) (e)



☐ (c) (f)

Q4. Which description is NOT the reason why we need to limit the current of voltage source.

區段分數 10/10

✓ *

10/10

☐ Protect measuring instruments or loading.

☐ Avoid large current flowing through the system and burning the elements.

☒ Test the limitation of instruments.



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