

- 7 Diagram 7.1 and Diagram 7.2 show circuits consist of two identical bulbs arranged in two different ways. Each bulb has a resistance of $2\ \Omega$.

Rajah 7.1 dan Rajah 7.2 menunjukkan dua litar yang mengandungi dua mentol yang sama jenis disusun dengan dua cara yang berbeza. Setiap mentol mempunyai rintangan $2\ \Omega$.

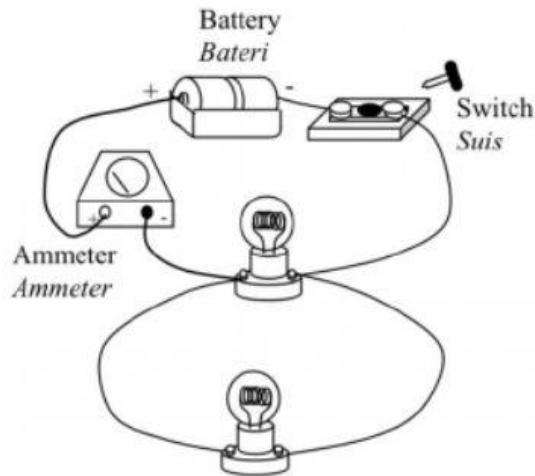


Diagram 7.1/ Rajah 7.1

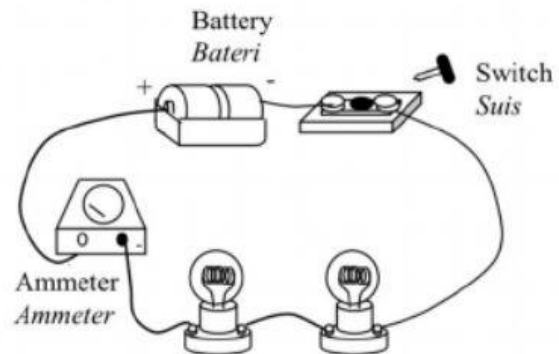


Diagram 7.2 / Rajah 7.2

- (a) Name the circuit arrangements in Diagram 7.1 and Diagram 7.2.

Namakan susunan litar pada Rajah 7.1 dan Rajah 7.2.

[1 mark/ markah]

- (b) Based on Diagram 7.1 and Diagram 7.2,

Berdasarkan Rajah 7.1 dan Rajah 7.2,

- (i) calculate the effective resistance for each circuit

hitungkan rintangan berkesan bagi setiap litar.

[2 marks/ markah]

- (ii) state the circuit which produces the highest reading of the ammeter.

nyatakan litar yang menghasilkan bacaan ammeter yang tertinggi.

[1 mark/ markah]

- (c) Diagram 7.3 shows an incubator. Bulb is used to heat up the incubator.

Rajah 7.3 menunjukkan sebuah inkubator. Mentol digunakan untuk memanaskan inkubator itu.



Diagram 7.3 / Rajah 7.3

The heat supplied to the incubator is not enough.

Haba yang dibekalkan kepada inkubator tidak mencukupi.

Based on the following aspects, suggest the modification to make it warmer and more efficient.

Berdasarkan aspek berikut, cadangkan pengubahsuaian untuk menjadikannya lebih panas dan berkesan.

(i) Number of bulbs:

Bilangan mentol:

.....

Reason / *Sebab:*

.....

[2 marks/ *markah*]

(ii) Arrangement of the bulbs:

Susunan mentol:

.....

Reason / *Sebab:*

.....

[2 marks/ *markah*]

(iii) Size of incubator:

Saiz inkubator:

.....

Reason / *Sebab:*

.....

[2 marks/ *markah*]

7(a)	Name the circuit arrangements correctly Diagram 7.1 : parallel circuit Diagram 7.2 : series circuit Both answer correct, award 1 mark	1	1
(b) (i)	State the substitution or answer with unit correctly Diagram 7.1: $R = 1 \Omega$ Diagram 7.2: $R = 4 \Omega$	1 1	3
(ii)	State the circuit correctly Diagram 7.1	1	
(c) (i)	State the number of bulbs and reason correctly More number of bulbs More heat supplied	1 1	6
(ii)	State the arrangement of bulbs and reason correctly Bulbs arrange in series Higher resistance / more heat supplied	1 1	
(iii)	State the size of incubator and reason correctly Larger size More eggs can be heated at once	1 1	
			