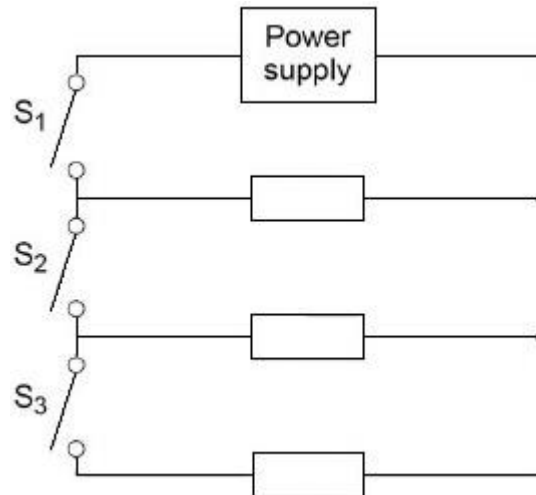


**Questions are for both separate science and combined science students****Q1.**

A hair dryer contains three heating elements.

The figure below shows the circuit diagram for the heating elements in the hair dryer.

In the figure the heating elements are represented by resistor symbols.



- (a) Complete the sentence.

The three resistors in above diagram are connected in \_\_\_\_\_ with the power supply.

(1)

- (b) Which switch must always be closed for the hair dryer to work?

Tick (✓) **one** box.

$S_1$	<input type="checkbox"/>
$S_2$	<input type="checkbox"/>
$S_3$	<input type="checkbox"/>

(1)

- (c) Which switches must be closed for the hair dryer to work at maximum power output?

Tick (✓) **one** box.

$S_1$  and  $S_2$

☐

$S_1$  and  $S_3$

☐

$S_1$ ,  $S_2$  and  $S_3$

☐

(1)

(Total 3 marks)