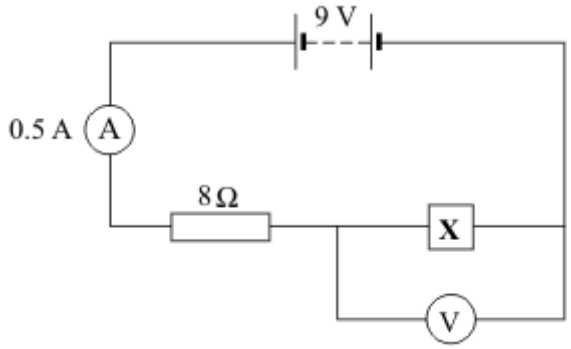
Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: GCSE Triple Science_Electricity (Standard Demand Questions)

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Name of the Student:_____
Max. Marks : 23 Marks **Time : 23 Minutes**

Q1.

(a) The circuit diagram drawn below includes a component labelled **X**.



(i) Calculate the potential difference across the 8 ohm resistor.

Show clearly how you work out your answer.

_____

_____

Potential difference = _____ volts

(2)

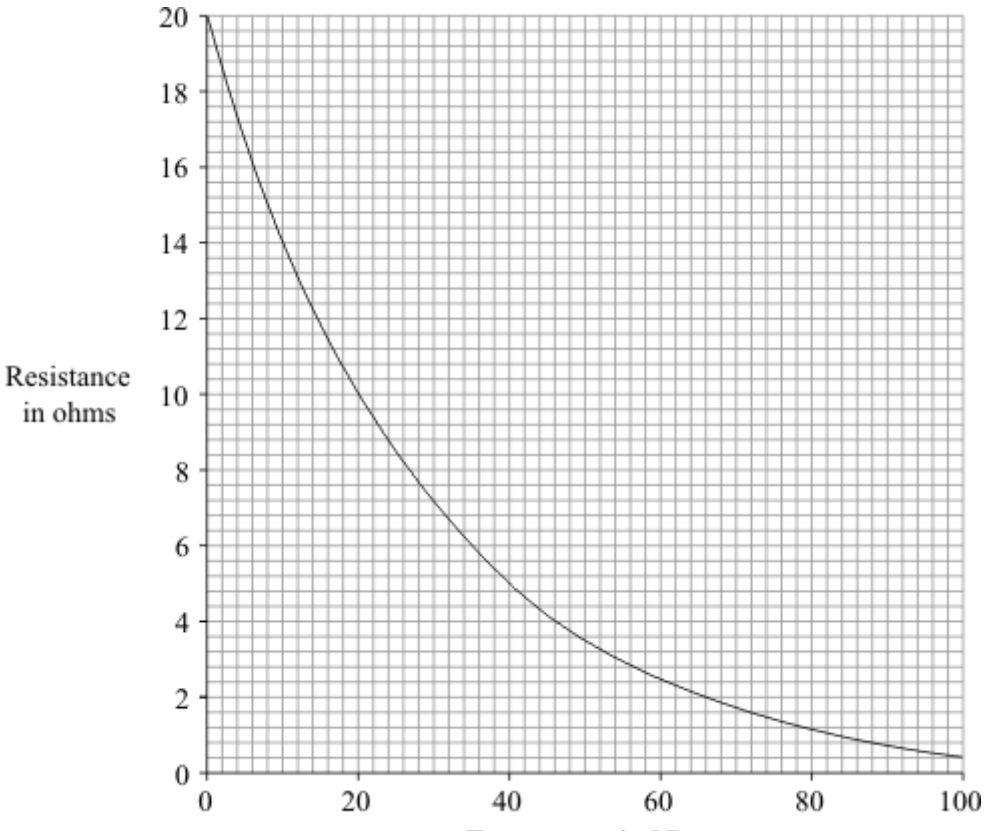
(ii) What is the potential difference across component **X**?

_____

(1)

(b) The graph shows how the resistance of component **X** changes with temperature.

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(i) What is component **X**?

_____

(1)

(ii) Over which range of temperatures does the resistance of component **X** change the most?

Put a tick (✓) next to your choice.

0 °C to 20 °C ☐

20 °C to 40 °C ☐

40 °C to 60 °C ☐

60 °C to 80 °C ☐

80 °C to 100 °C ☐

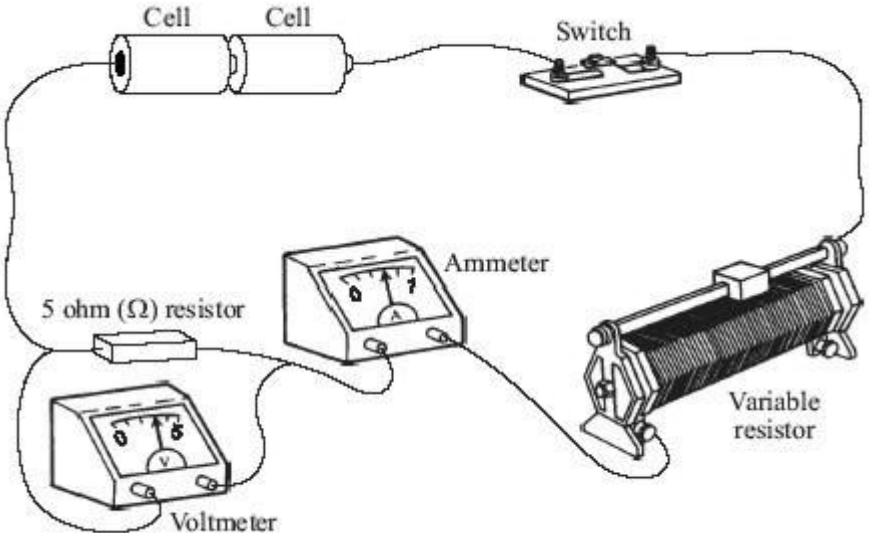
(1)

(Total 5 marks)

Q2.

The drawing shows the circuit used to investigate how the current through a 5 ohm (Ω) resistor changes as the potential difference (voltage) across the resistor changes.

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(a) Draw, in the space below, a circuit diagram of this circuit. Use the correct symbols for each part of the circuit.

(2)

(b) (i) Write down the equation that links current, potential difference and resistance.

_____

(1)

(ii) Calculate the potential difference across the 5 ohm (Ω) resistor when the current through the resistor equals 0.4 A. Show clearly how you work out your final answer.

_____

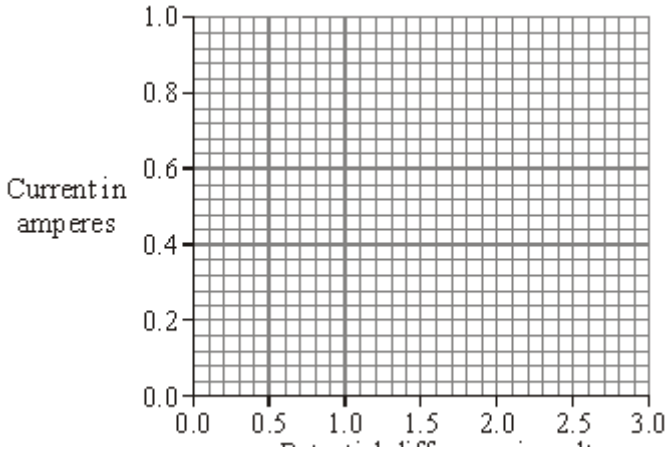
_____

potential difference = _____ volts

(2)

(iii) Complete the graph to show how the current through the resistor changes as the potential difference across the resistor increases from 0 V to 3 V. Assume the resistor stays at a constant temperature.

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(2)

(c) The resistor is replaced by a 3 V filament lamp. The resistance of the lamp increases as the potential difference across it increases. Why?

_____

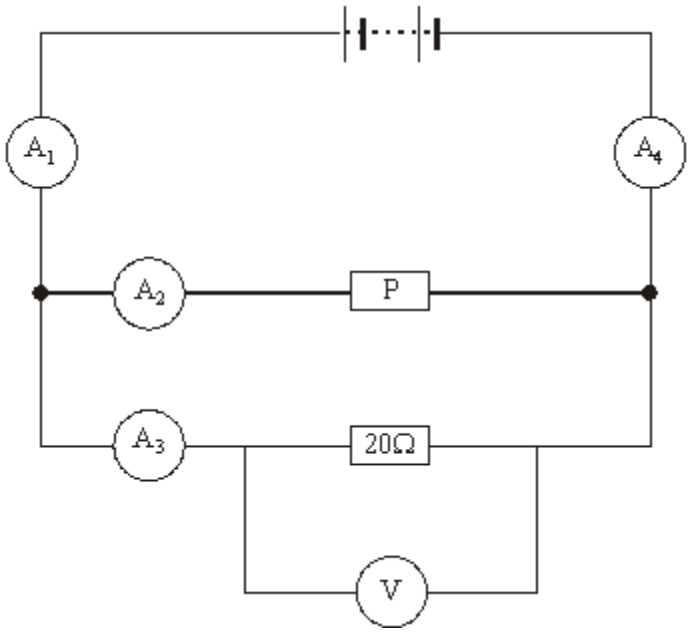
_____

(1)

(Total 8 marks)

Q3.

The circuit shown has four identical ammeters.



(a) The table gives the current through two of the ammeters.

(i) Complete the table to show the current through the other two ammeters.

Ammeter	Reading on ammeter in amps
A_1	
A_2	0.2

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A_3	0.3
A_4	

(2)

(ii) Which **one** of the following statements is correct. Tick (✓) the box next to your choice.

The resistance of **P** is more than 20 Ω. ☐

The resistance of **P** is equal to 20 Ω. ☐

The resistance of **P** is less than 20 Ω. ☐

Give a reason for your choice.

_____

_____

_____

(2)

(b) (i) Write down the equation that links current, potential difference and resistance.

_____

(1)

(ii) Calculate the reading on the voltmeter. Show clearly how you work out your answer.

_____

_____

Voltmeter reading = _____ volts.

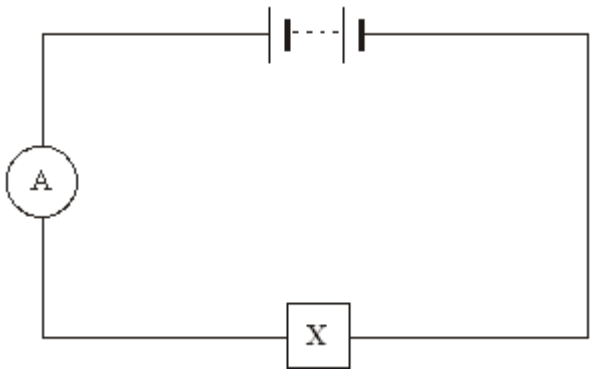
(2)

(iii) State the potential difference of the power supply.

_____

(1)

(c) A second circuit contains an unknown component labelled **X**.



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As component **X** is heated, the reading on the ammeter goes up.

What is component **X**?

_____

Give a reason for your answer.

_____

_____

(2)

(Total 10 marks)

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