Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic :10_ Electricity And Circuits

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Name of the Student:_____
Max. Marks : 19 Marks **Time : 19 Minutes**

Q1.

(i) When there is an electric current in a resistor, the resistor gets hot.
Explain why the resistor gets hot.

(2)

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(ii) Suggest why the thermistor in a temperature gauge might indicate a temperature slightly higher than the actual temperature of its surroundings.

(1)

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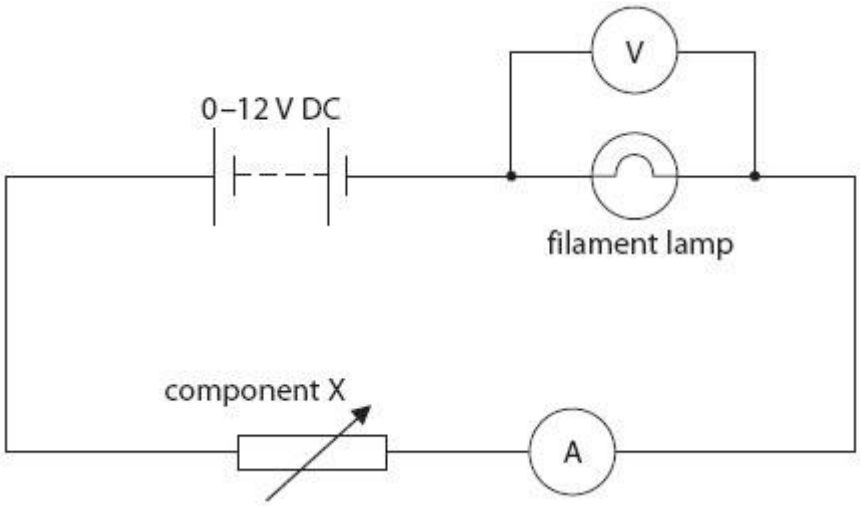
Q2.

A student sets up an experiment to measure the potential difference (voltage) across a filament lamp.
She changes the current through the lamp.
The diagram shows the circuit she used.



(c) Complete the sentence by putting a cross (☒) in the box next to your answer.

(i) The component X in the circuit diagram is a

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(1)

- ☒ **A** diode
- ☒ **B** fixed resistor
- ☒ **C** thermistor
- ☒ **D** variable resistor

(ii) The meter that measures potential difference is

(1)

- ☒ **A** in parallel with the power supply
- ☒ **B** in parallel with the lamp
- ☒ **C** in series with the lamp
- ☒ **D** in series with the component X

(iii) Describe how the student should increase the current in the lamp.

(2)

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(b) The student recorded these readings.

current / A	**potential difference / V**
0.00	0.0
0.20	2.0
0.31	4.0
0.37	6.0
0.42	8.0
0.44	10.0

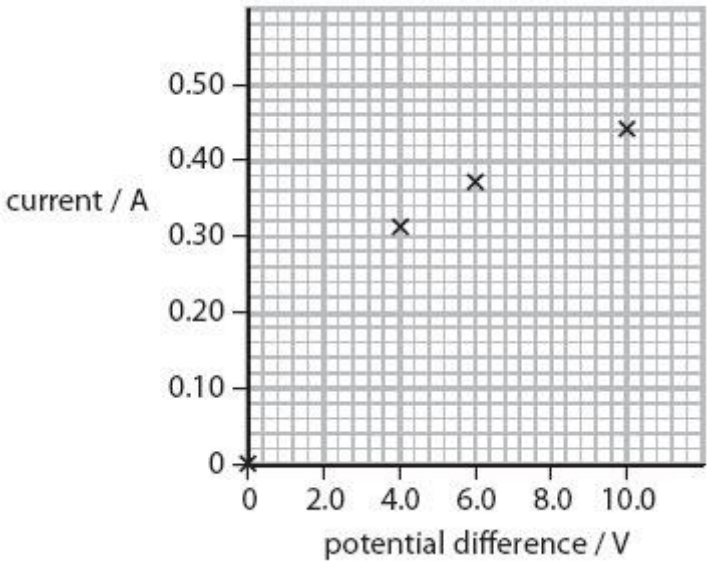
Four points are plotted on the graph.

(i) Plot the points for 2.0 V and 8.0 V.

(1)

(ii) Draw the line of best fit.

(1)



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(c) Calculate the resistance of the lamp when the current is 0.44 A and the potential difference is 10.0 V.

(2)

$$R = \frac{V}{I}$$

resistance = ...**Ω**

(d) Describe the energy transfer that takes place in the lamp.

(2)

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(Total for Question is 10 marks)

Q3.

Figure 7 shows the inside of a mains plug.
The neutral wire is labelled.

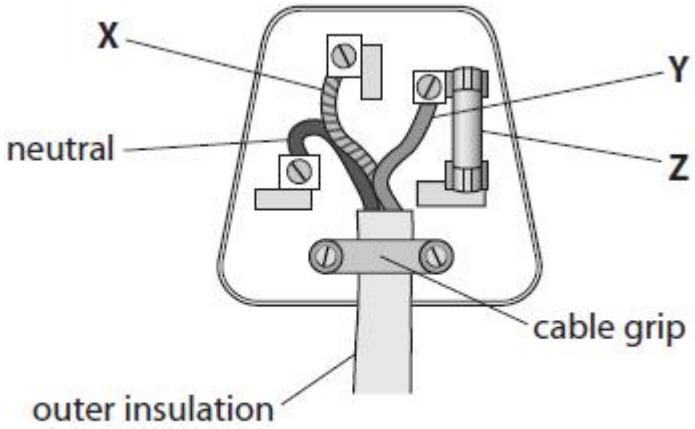

Figure 7

(i) State the name of wire **X** and the name of wire **Y**.

(2)

wire **X** .....

wire **Y** .....

(1)

(ii) State the name of component **Z**.

component **Z** .....

(Total for question = 3 marks)

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Q4.

Answer the question with a cross in the box you think is correct (☒). If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

Figure 8 shows a saucepan of milk being heated on an electric cooker.

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Figure 8

The wiring for the cooker has safety features.

(i) Which of these wires would help to protect a person from getting an electric shock if a fault developed in the cooker?

(1)

- ☒ **A** earth
- ☒ **B** live
- ☒ **C** negative
- ☒ **D** positive

(ii) Explain how a fuse can prevent overheating of the wiring for the cooker.

(2)

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(Total for question = 3 marks)

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