Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: Electricity (Low Demand)

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Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

Complete each of the following sentences, **A**, **B**, **C**, **D** and **E**, by choosing the correct ending from **K**, **L**, **M**, **N** or **O**.

The first one has been done for you.

A The current through a resistor depends _____ | O |

B A direct current _____ | |

C In a series circuit, the potential difference _____ | |

D An alternating current _____ | |

E In a parallel circuit, the potential difference _____ | |

K _____ across each component is the same.

L _____ is supplied by a cell or battery.

M _____ is constantly changing direction.

N _____ of the power supply is shared by the components.

O _____ on the potential difference across the resistor.

(Total 3 marks)

Q2.

(a) Use numbers given in the box to complete the following sentences.

12	**50**	**110**	**230**

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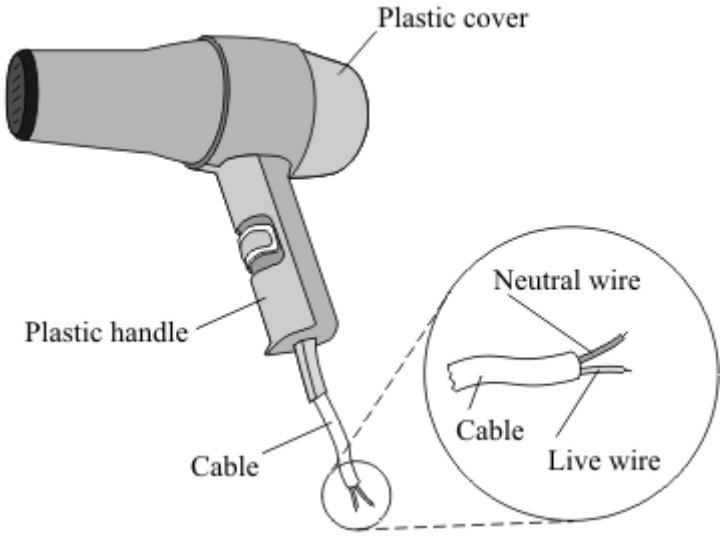
In the UK, the mains electricity supply is _____ volts.

The frequency of the UK mains electricity supply is _____ hertz.

(2)

(b) The diagram shows a hairdryer designed to be used with the UK mains supply.

The cable connecting the hairdryer to the plug does not have an earth wire.



(i) Why does the hairdryer **not** need a cable with an earth wire?

_____

_____

(1)

(ii) Which **one** of the following materials are the two wires inside the cable made from?

Draw a ring around your answer.

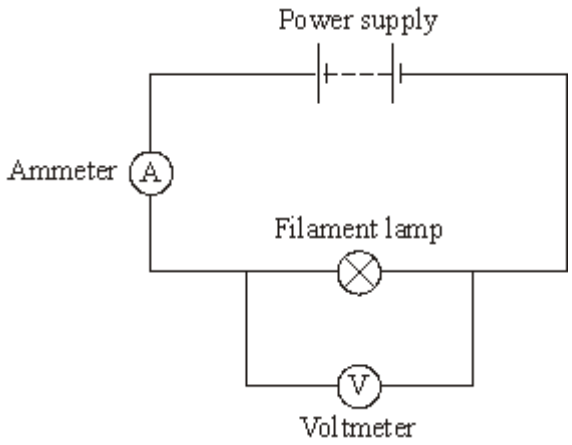
aluminium **copper** **steel**

(1)

(Total 4 marks)

Q3.

(a) The diagram shows the circuit used by a student to measure the power of a filament lamp.



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Name a component connected in parallel with the filament lamp.

_____

(1)

(b) By adding another component to the circuit, the student is able to obtain a range of ammeter and voltmeter readings.

Ammeter reading in amps	**Voltmeter reading in volts**
0.10	1.0
0.15	2.0
0.20	4.0
0.25	7.0
0.30	11.0

(i) Which **one** of the following components did the student add to the circuit?

Draw a ring around your answer.

fuse **switch** **variable resistor**

(1)

(ii) What is the range of ammeter readings taken by the student?

from _____ amps to _____ amps

(1)

(iii) Use the data in the table and the equation in the box to calculate the **maximum** power of the filament lamp.

$$\frac{\text{power}}{(\text{watt, W})} = \frac{\text{current}}{(\text{ampere, A})} \times \frac{\text{potential difference}}{(\text{volt, V})}$$

Show clearly how you work out your answer.

_____

_____

Power = _____ W

(3)

(c) Complete the following sentence by drawing a ring around the correct line in the box.

As the temperature of a filament lamp increases, its resistance

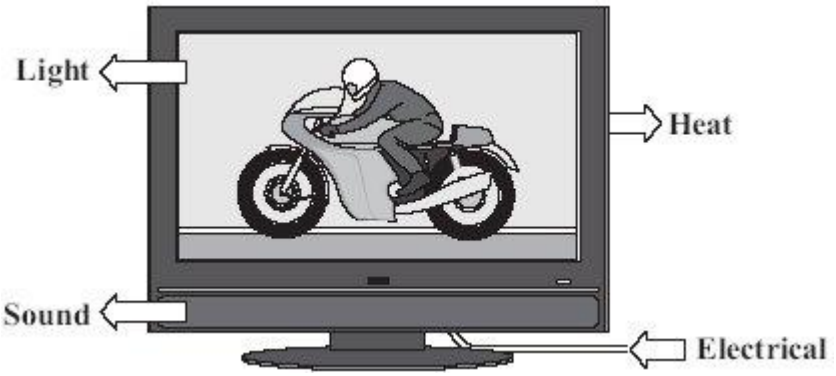
increases
remains constant
decreases

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(1)
(Total 7 marks)

Q4.

The diagram shows the energy transformations produced by a TV.



(a) Use words from the diagram to complete the following sentence.

The TV is designed to transform _____ energy into

light and _____ energy.

(2)

(b) Which **one** of the following statements is **false**?

Put a tick (✓) in the box next to the **false** statement.

The energy transformed by the TV makes the surroundings warmer.	☐
The energy transformed by the TV becomes spread out.	☐
The energy transformed by the TV will be destroyed.	☐

(1)

(c) Two different makes of television, **A** and **B**, transform energy at the same rate.
Television **A** wastes less energy than television **B**.

Complete the following sentence by drawing a ring around the correct line in the box.

Television **A** has

a higher efficiency than
the same efficiency as
a lower efficiency than

television **B**.

(1)
(Total 4 marks)

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