

Mains Electricity

Question Paper

Level	GCSE
Subject	Physics
Exam Board	Edexcel IGCSE
Module	Single Award (Paper 2P)
Topic	Electricity
Sub-Topic	Mains Electricity
Booklet	Question Paper

Time Allowed: 12 minutes

Score: /10

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	70%	60%	55%	50%	<50%

- 1 A soldering iron is a tool used when joining electronic components in a circuit.
It has an electric heater.
- (a) Soldering iron A operates when connected to the mains supply.



Soldering iron A

Soldering iron A is labelled 230 V, 30 W.

- (i) What does **30 W** tell you about the energy transfer in the soldering iron?

(2)

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- (ii) This soldering iron has an earth connection.

Explain how an earth connection protects the user.

(2)

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(b) Soldering iron B is connected to a low voltage power supply.



Soldering iron B

Soldering iron B is labelled 24 V, 70 W.

A student says:



I think that both soldering irons need a 3 A fuse.

(i) Use information from the soldering iron labels to evaluate this statement.

(3)

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(ii) There is a step-down transformer in the power supply for soldering iron B.

Describe the structure of a step-down transformer.

You may draw a labelled diagram to help your answer.

(3)

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(Total for Question 1 = 10 marks)