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

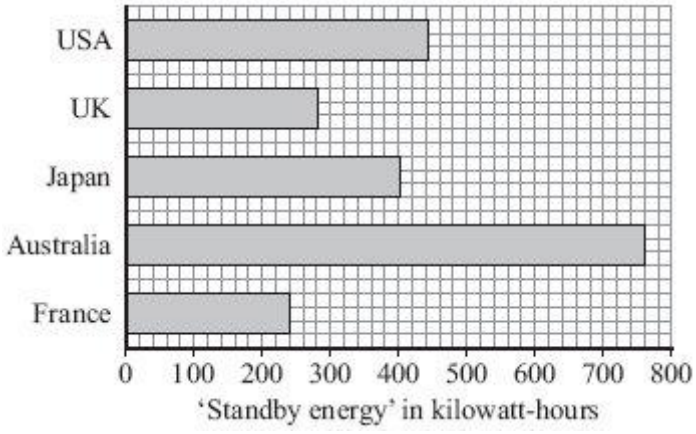
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Name of the Student:_____
Max. Marks : 18 Marks **Time : 18 Minutes**

Q1.

Electrical appliances that are left on standby still use energy.

The bar chart compares the *average* amount of 'standby energy' wasted each year in every home in five countries.



(i) In which country are the homes that waste, on average, the smallest amount of 'standby energy'?

Draw a ring around your answer.

Australia **France** **Japan** **UK** **USA**

(1)

(ii) Suggest a reason why an *average* value is used for the 'standby energy' wasted in the homes.

_____

_____

(1)

(b) (i) Australia has one of the lowest electricity prices in the world.

How does this low price seem to affect the amount of 'standby energy' wasted?

_____

_____

(1)

(ii) In Australia, most electricity is generated in coal-burning power stations.
The Australian government wants less electricity to be wasted.

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Wasting less electricity would be good for the Australian environment.

Explain why.

_____

_____

_____

_____

(2)

(c) Energy is not usually measured in kilowatt-hours.

Which **one** of the following units is usually used to measure energy?

Draw a ring around your answer.

hertz **joule** **watt**

(1)

(d) (i) Electricity in Japan costs the equivalent of 17 pence per kilowatt-hour.

Use the information in the bar chart and the equation in the box to calculate how much the 'standby energy' used in an average Japanese home costs each year.

total cost = number of kilowatt-hours × cost per kilowatt-hour

Show clearly how you work out your answer.

Give your answer in pence.

_____

_____

Cost = _____ pence

(3)

(ii) In Japan, the largest proportion of electricity is generated using nuclear fuels.

Which **one** of the following statements gives a good reason for using nuclear fuels to generate electricity?

Put a tick (✓) in the box next to your answer.

A nuclear power station is very expensive to build. ☐

A small amount of nuclear fuel generates a large amount of electricity. ☐

It is easy to store nuclear waste safely. ☐

(1)

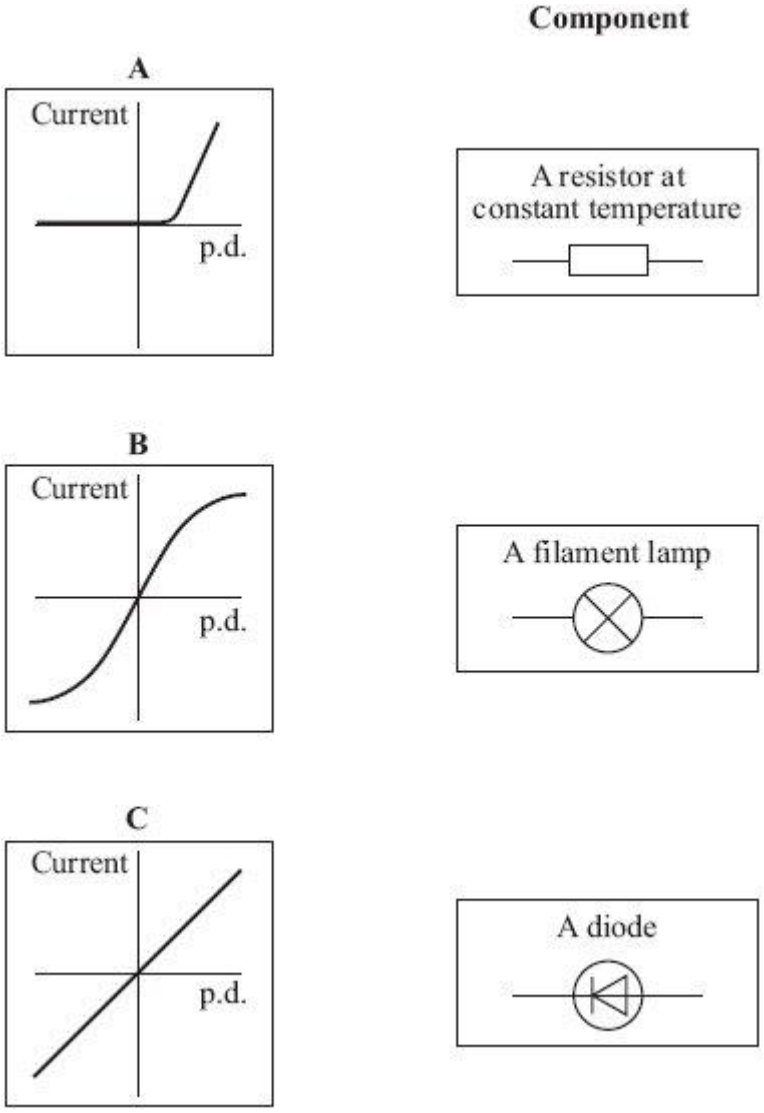
(Total 10 marks)

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Q2.

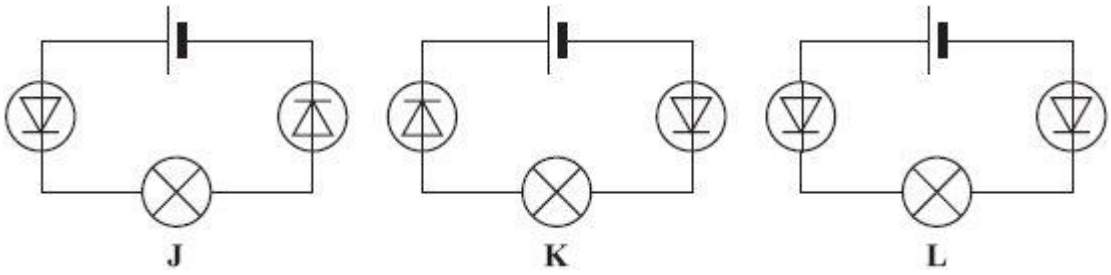
(a) The graphs, **A**, **B** and **C**, show how the current through a component varies with the potential difference (p.d.) across the component.

Draw a line to link each graph to the correct component.
Draw only **three** lines.



(2)

(b) Each of the circuits, **J**, **K** and **L**, include two diodes.



In which **one** of the circuits, **J**, **K** or **L**, would the filament lamp be on?

_____

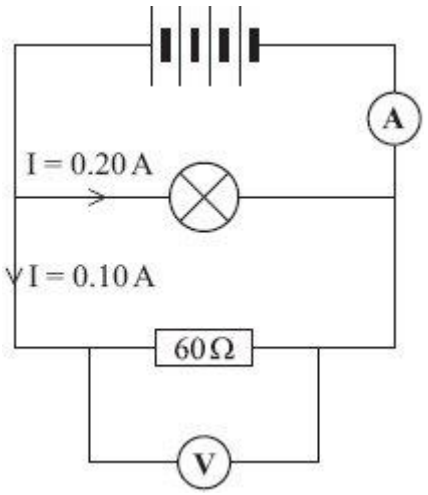
(1)

(Total 3 marks)

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Q3.

A circuit was set up as shown in the diagram.



(a) Each cell provides a potential difference of 1.5 volts.

(i) What is the total potential difference provided by the four cells in the circuit?

_____

Total potential difference = _____ volts

(1)

(ii) What will be the reading on the voltmeter?

_____

(1)

(b) The current through the lamp is 0.20 amps.
The current through the resistor is 0.10 amps.

What is the reading on the ammeter?

_____

Reading on ammeter = _____ amps

(1)

(c) Use a phrase from the box to complete the following sentence.

greater than	**equal to**	**smaller than**

The resistance of the lamp is _____ 60 Ω.

Give a reason for your answer.

_____

_____

(2)

(Total 5 marks)

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