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

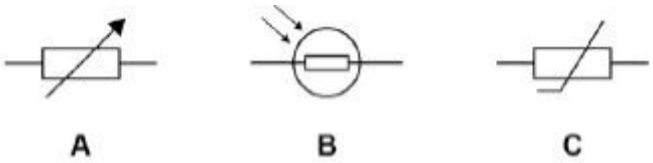
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Name of the Student:_____
Max. Marks : 21 Marks **Time : 21 Minutes**

Q1.

Figure 1 shows the circuit symbol for three different components.

Figure 1



(a) Which component is a variable resistor?

Tick **one** box.

A ☐ **B** ☐ **C** ☐

(1)

(b) Which component is a thermistor?

Tick **one** box.

A ☐ **B** ☐ **C** ☐

(1)

(c) In which component will the resistance decrease when the temperature increases?

Tick **one** box.

A ☐ **B** ☐ **C** ☐

(1)

(d) In which component will the resistance decrease when the light intensity increases?

Tick **one** box.

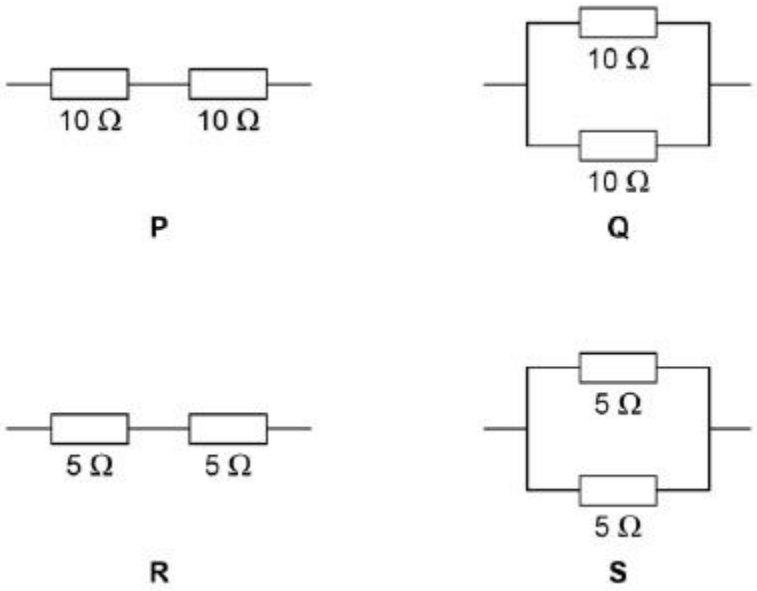
A ☐ **B** ☐ **C** ☐

(1)

Figure 2 shows four different arrangements of resistors.

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Figure 2



(e) Two of the arrangements are in series and two are in parallel.

Describe the difference between a series and a parallel arrangement.

_____

_____

_____

_____

(2)

(f) Which arrangement has a resistance of 10 Ω?

Tick **one** box.

P ☐ **Q** ☐ **R** ☐ **S** ☐

(1)

(g) Which arrangement has the highest resistance?

Tick **one** box.

P ☐ **Q** ☐ **R** ☐ **S** ☐

(1)

(h) A student connects a resistor to a cell for 60 seconds.

The current through the resistor is 0.97 A

Calculate the charge flow.

Use the equation:

charge flow = current × time

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Give your answer to 2 significant figures.

_____

_____

_____

_____

_____

_____

Charge flow = _____ C

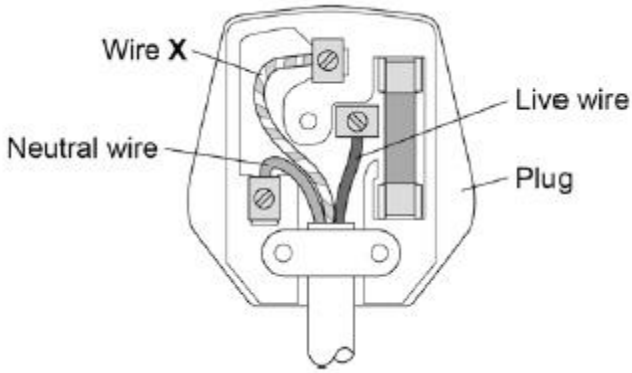
(3)

(Total 11 marks)

Q2.

Figure 1 shows a three pin plug connected to the cable of a metal toaster.

Figure 1



(a) Name wire **X**.

_____

(1)

(b) What does wire **X** do?

Tick **one** box.

It provides extra energy to the toaster when needed.	☐
It completes the circuit in the toaster.	☐
It can prevent an electric shock from the toaster.	☐
It supplies the current to the toaster.	☐

(1)

(c) The toaster is plugged in to the mains electricity supply.

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What is the potential difference between the live and neutral wires?

Tick **one** box.

0 V ☐ 120 V ☐ 230 V ☐ 460 V ☐

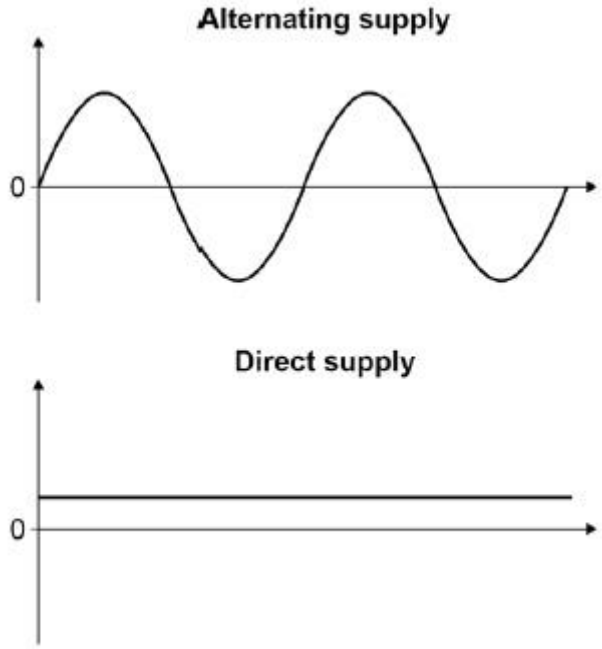
(1)

(d) Mains electricity is an alternating supply.

A battery is a direct supply.

Figure 2 shows an alternating supply and a direct supply.

Figure 2



Give **two** differences between the alternating supply and the direct supply.

1. _____

2. _____

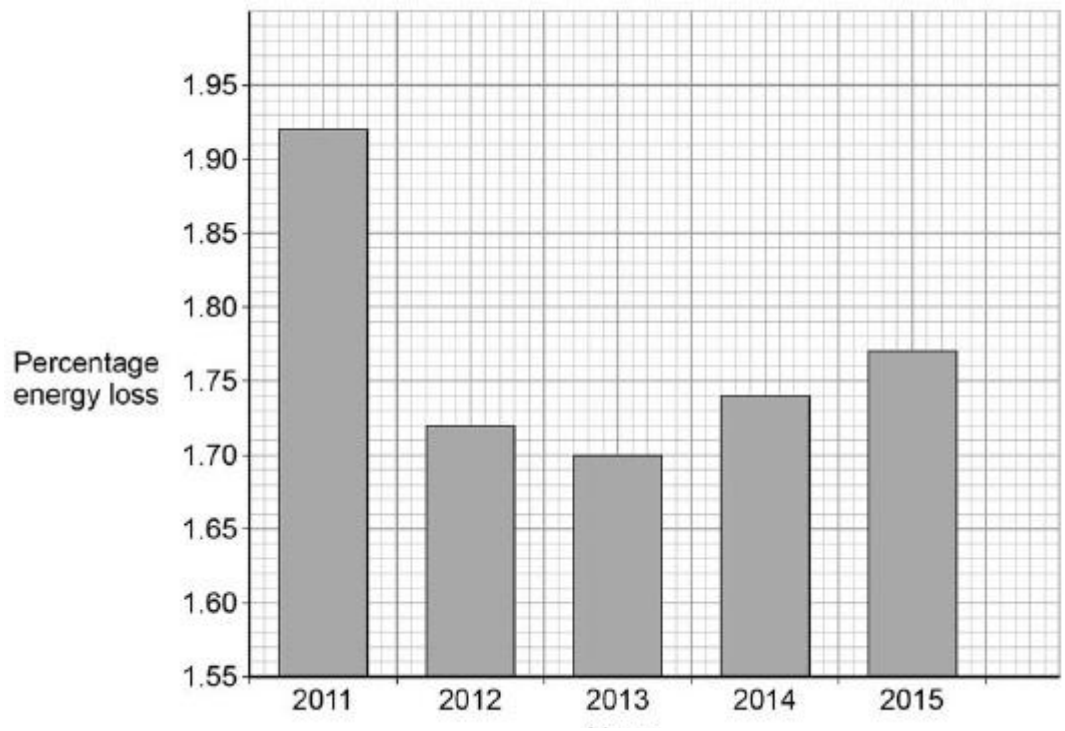
(2)

Energy is transferred to homes by the National Grid.

Figure 3 shows the percentage energy losses over the National Grid for different years.

Figure 3

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(e) Describe the changes in percentage energy loss.

_____

_____

_____

_____

(2)

(f) Calculate the mean percentage energy loss per year in **Figure 3**.

_____

_____

_____

_____

_____

_____

Mean energy loss per year = _____ %

(3)

(Total 10 marks)

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