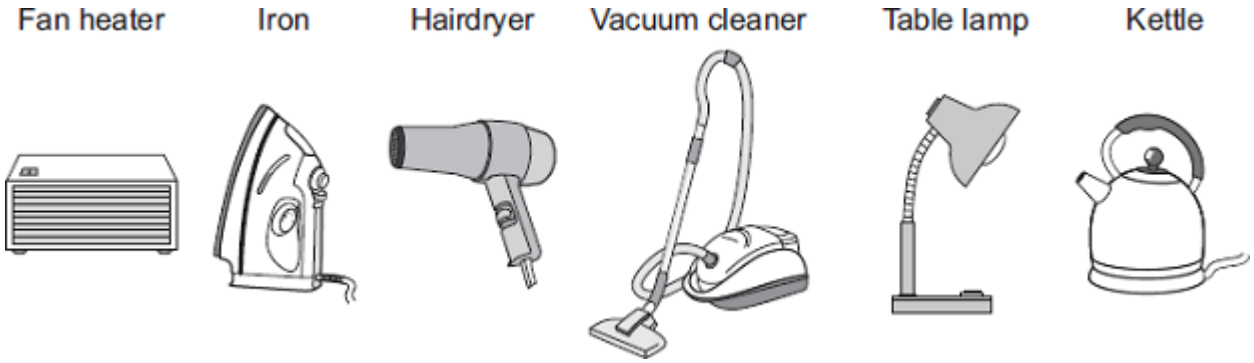
Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: GCSE Triple Science_ENERGY (Low Demand Questions)

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Name of the Student:_____
Max. Marks : 17 Marks **Time : 17 Minutes**

Q1.

The pictures show six different household appliances.



(a) Four of the appliances, including the fan heater, are designed to transform electrical energy into heat.

Name the other **three** appliances designed to transform electrical energy into heat.

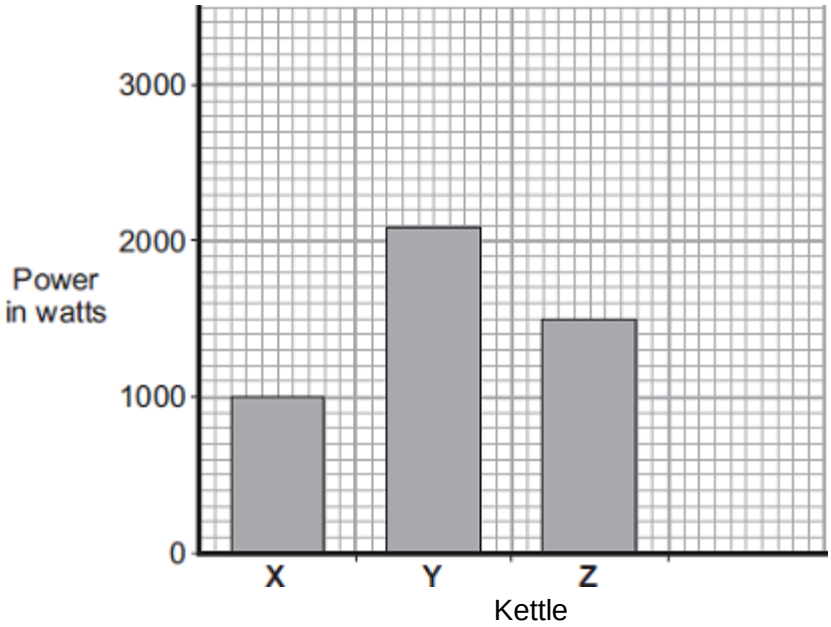
1. _____

2. _____

3 _____

(3)

(b) The bar chart shows the power of three electric kettles, **X**, **Y** and **Z**.



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(i) In one week, each kettle is used for a total of 30 minutes.

Which kettle costs the most to use?

Put a tick (✓) next to your answer.

X ☐

Y ☐

Z ☐

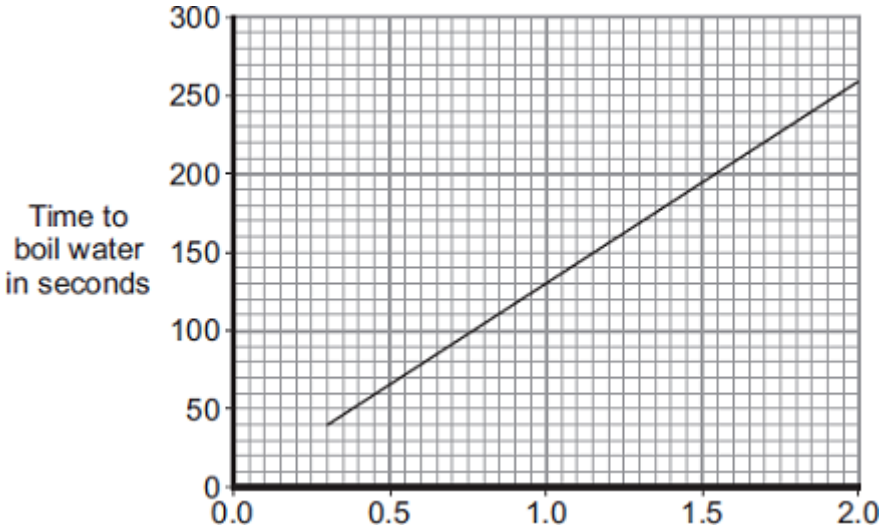
(1)

(ii) A new 'express boil' kettle boils water faster than any other kettle.

Draw a fourth bar on the chart to show the possible power of an 'express boil' kettle.

(1)

(c) The graph shows how the time to boil water in an electric kettle depends on the volume of water in the kettle.



A householder always fills the electric kettle to the top, even when only enough boiling water for one small cup of coffee is wanted.

Explain how the householder is wasting money.

_____

_____

_____

_____

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_____

_____

(3)

(Total 8 marks)

Q2.

Wind and tides are energy sources that are used to generate electricity.

(a) Complete each sentence by putting a tick (✓) in the box next to the correct answer.

(i) The wind is

a non-renewable energy source. ☐

a constant energy source. ☐

an unreliable energy source. ☐

(1)

(ii) The tides are

a renewable energy source. ☐

a constant energy source. ☐

an unreliable energy source. ☐

(1)

(b) If wood is to be used as a renewable energy source, what must be done each time a tree is chopped down?

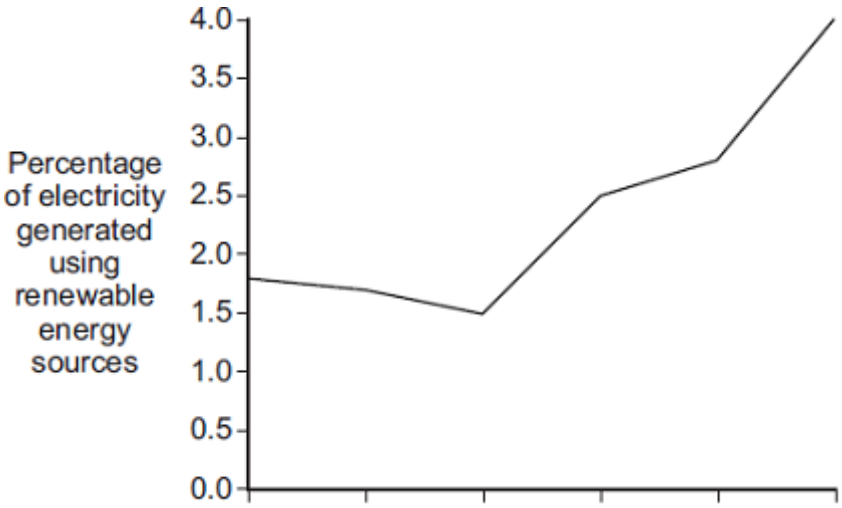
_____

_____

(1)

(c) In the UK, electricity is generated using renewable and non-renewable energy sources. The graph shows the percentage of electricity generated using renewable energy sources between 1990 and 2005.

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

In 2015, the percentage of electricity generated using renewable energy sources

is most likely to be

greater than 4 %.
equal to 4 %.
less than 4 %.

(1)

(Total 4 marks)

Q3.

The picture shows a solar-powered aircraft. The aircraft has no pilot.



By NASA/Nick Galante [Public domain], via Wikimedia Commons

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

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electrical	heat	light	sound

Solar cells are designed to transform _____ energy

into _____ energy.

(2)

(b) On a summer day, 175 000 joules of energy are supplied to the aircraft's solar cells every second. The useful energy transferred by the solar cells is 35 000 joules every second.

Use the equation in the box to calculate the efficiency of the solar cells.

$$\text{efficiency} = \frac{\text{useful energy transferred by the device}}{\text{total energy supplied to the device}}$$

Show clearly how you work out your answer.

_____

_____

Efficiency = _____

(2)

(c) The aircraft propellers are driven by electric motors.

Give **one** environmental advantage of using electric motors to drive the aircraft propellers rather than motors that burn a fuel.

_____

_____

(1)

(Total 5 marks)

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