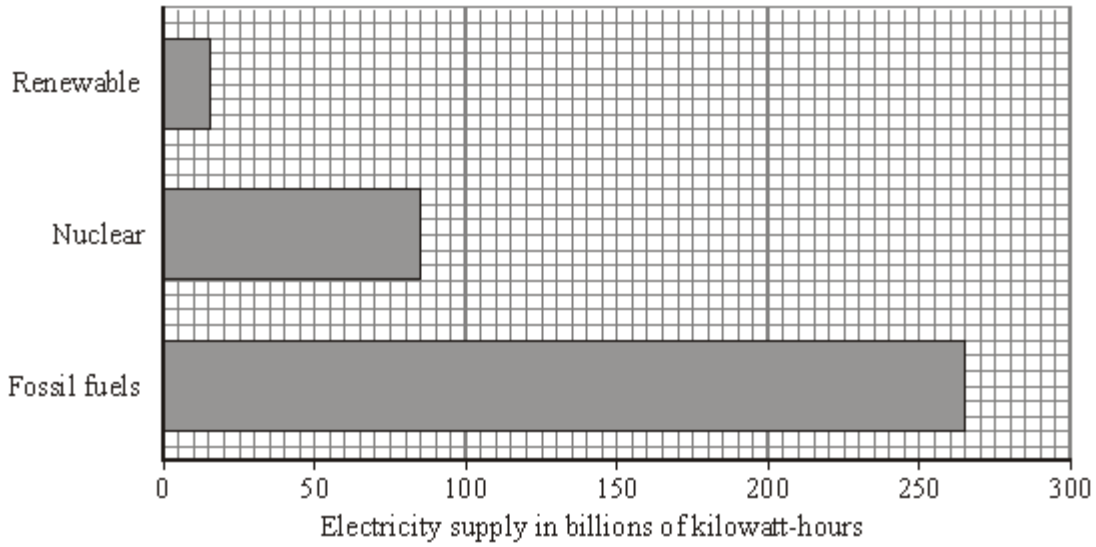
Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic: Energy (Low Demand)

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Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Q1.

The bar chart shows the different energy sources used to generate the UK's electricity in 2007.



(a) (i) The wind is a renewable energy source.

Name **one** more renewable energy source used to generate electricity.

_____

(1)

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

Using less fossil fuels to generate electricity will

decrease
not change
increase

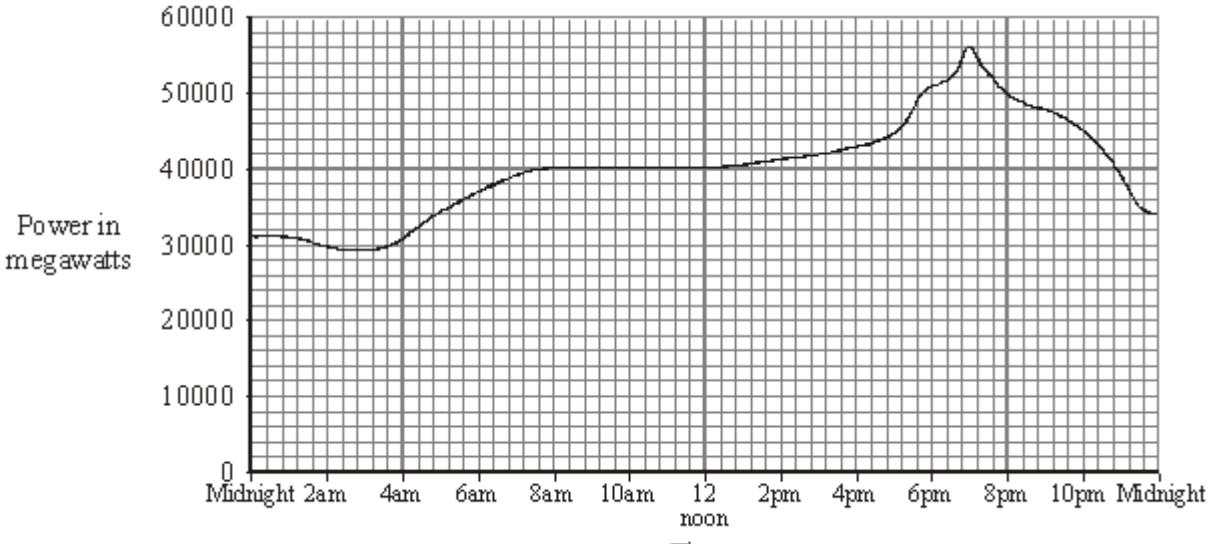
the

amount of carbon dioxide emitted into the atmosphere.

(1)

(b) The graph shows how the demand for electricity in the UK varied over one day in the winter.

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(i) Describe how the demand for electricity varied between 4.00 am and 10.00 am.

_____

_____

_____

_____

(2)

(ii) Which type of power station has the fastest start-up time?

Draw a ring around your answer.

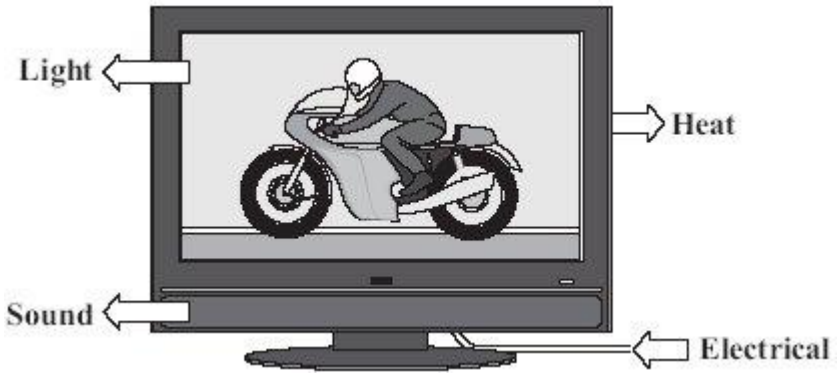
coal **natural gas** **nuclear** **oil**

(1)

(Total 5 marks)

Q2.

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)

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(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

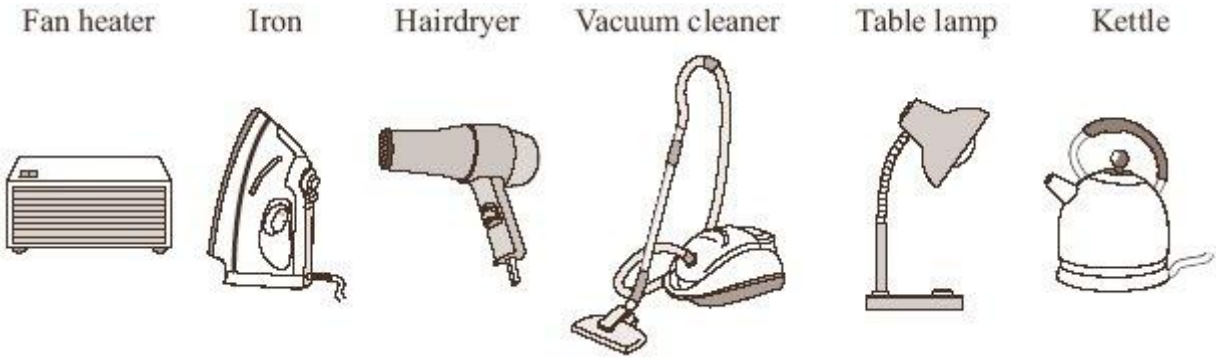
television **B**.

(1)

(Total 4 marks)

Q3.

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) Complete the following sentence using **one** of the words from the box.

chemical	**heat**	**kinetic**	**sound**

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Energy that is not usefully transformed by the fan heater is wasted as

_____ energy.

(1)

(c) The table gives information about two different fan heaters.

	Useful energy transferred each second in joules	**Wasted energy transferred each second in joules**
Fan heater **L**	1200	10
Fan heater **M**	1200	20

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

Fan heater **L**

is more efficient than
has the same efficiency as
is less efficient than

fan heater **M**.

(1)

(Total 5 marks)

Q4.

(a) Different energy sources are used to generate electricity.

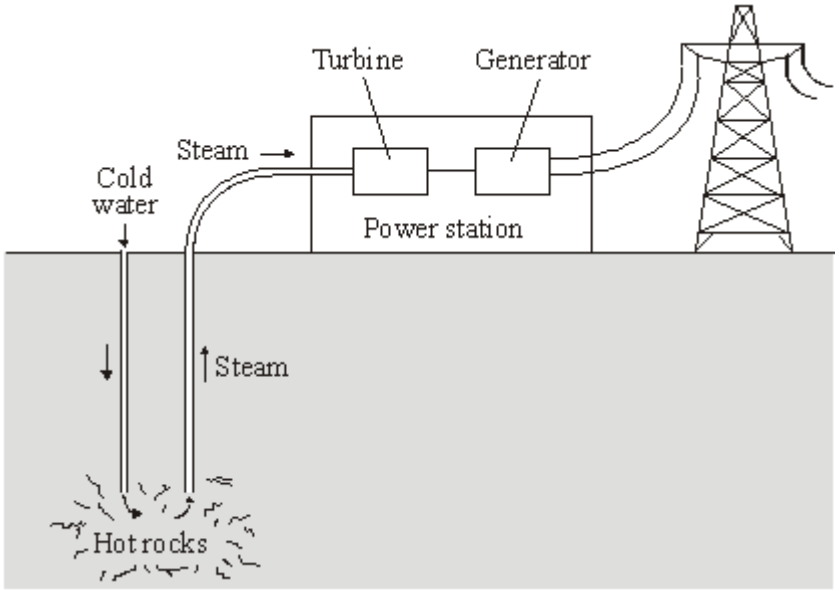
Which **two** of the energy sources in the box are likely to be used up first?

Draw a ring around each of your answers.

gas	**oil**	**Sun**	**tides**	**waves**	**wind**

(2)

(b) The diagram shows a geothermal power station. Hot rocks in the Earth's crust heat water to produce steam. The steam is used to drive turbines that turn electrical generators.



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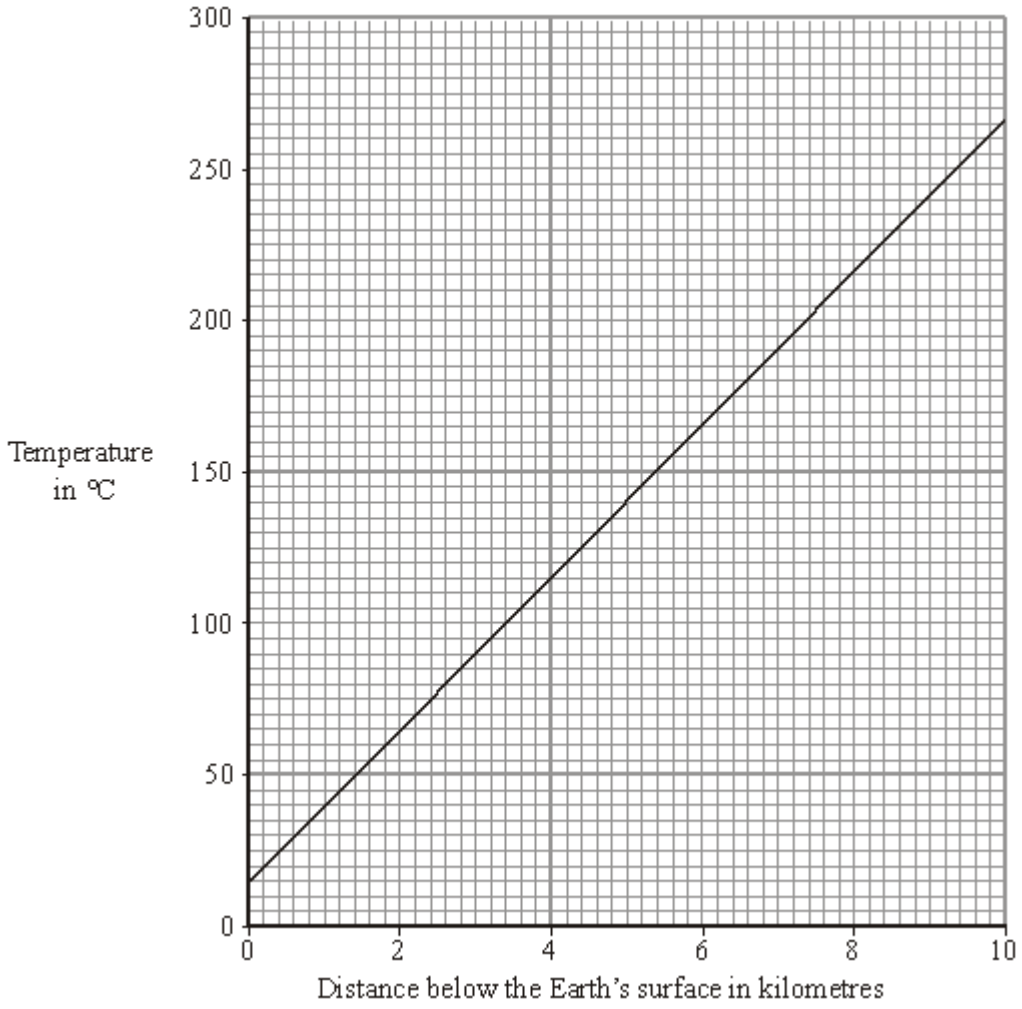
How is the way in which a geothermal power station generates electricity the same as the way in which a coal burning power station generates electricity?

_____

_____

(1)

(c) The graph shows how the temperature of the rocks in the Earth's crust depends on how far the rocks are below the Earth's surface.



Estimate the temperature of the rocks 5 kilometres below the Earth's surface.

Show clearly how you have used the graph to get your answer.

_____

_____

Temperature = _____ °C

(2)

(d) Scientists have estimated that one quarter of the world's electricity could be generated using geothermal energy.

Give **one** reason that scientists might use to persuade a government to spend large amounts of money building geothermal power stations.

_____

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(1)
(Total 6 marks)

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