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0680/11

Paper 1

May/June 2018

1 hour 30 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

Electronic calculators may be used.

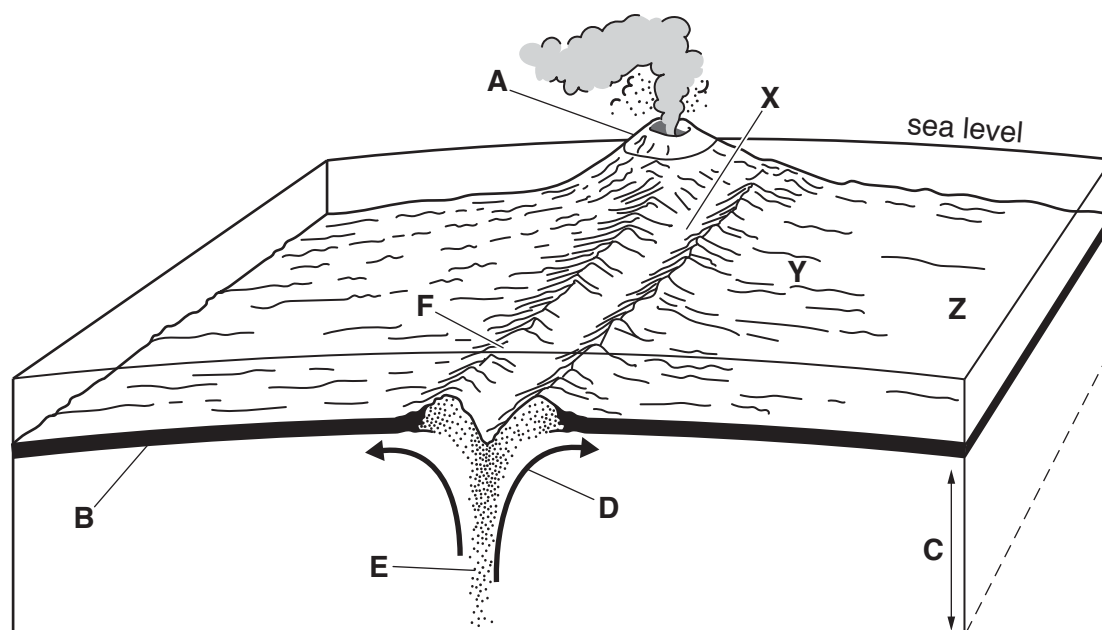
You may lose marks if you do not show your working or if you do not use appropriate units.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **14** printed pages and **2** blank pages.

- 1 The diagram shows part of the Mid-Atlantic Ridge, a constructive (divergent) plate boundary.



- (a) (i) Complete the table using letters **A** to **F** from the diagram.

feature	letter
convection currents	
crust	
mantle	
ridge	
rising magma	
volcano	

[3]

- (ii) **X**, **Y** and **Z** on the diagram mark three positions of rock formed from cooled lava.

Which rock, **X**, **Y** or **Z**, is the oldest?

rock [1]

(b) Describe the tectonic processes that occur at a constructive (divergent) plate boundary.

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.....[3]

(c) Suggest **three** benefits for people living near a volcano.

1

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2

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3

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[3]

2 The table shows data for some world water stores.

world water stores	volume / million km ³	percentage of total water	percentage of total water that is fresh water
oceans	1370.00	97.25	0.00
ice	29.00	2.05	74.94
deep groundwater > 750 m	5.30	0.38	13.67
shallow groundwater < 750 m	4.20	0.30	10.85
lakes	0.13	0.01	0.32
soil moisture	0.07	< 0.01	0.17
atmosphere	0.01	< 0.01	0.03

(a) Use the table to answer these questions.

(i) Name the largest water store that is saline.

.....[1]

(ii) Name **two** stores that people can easily use for supplies of fresh water.

1

2 [1]

(iii) State the percentage of fresh water that is frozen.

..... % [1]

(b) Suggest ways a country could increase supplies of fresh water.

.....

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.....[3]

(c) Give reasons why fresh water is often **not** safe to drink.

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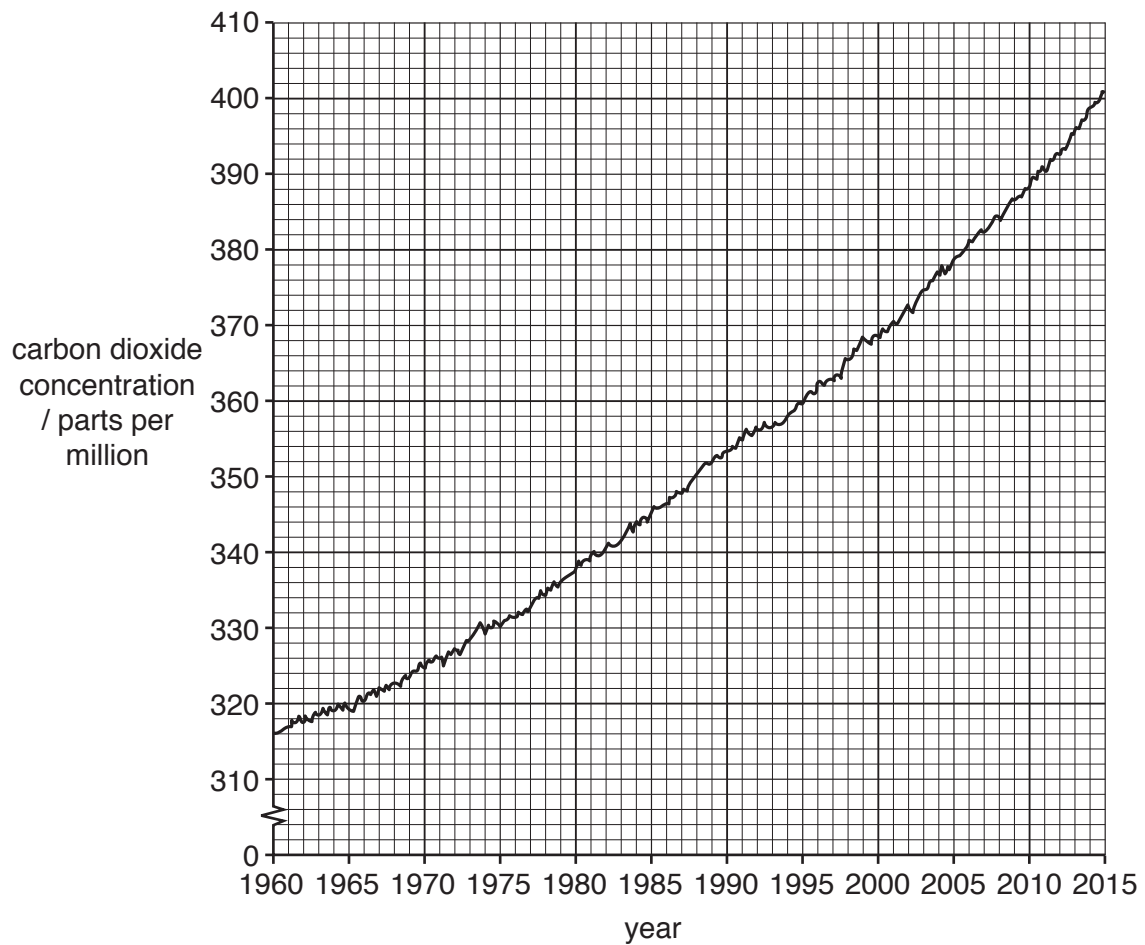
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.....[4]

- 3 The graph shows carbon dioxide concentration in the atmosphere between 1960 and 2015.



- (a) (i) Describe the trend in carbon dioxide concentration in the atmosphere between 1960 and 2015.

.....
[1]

- (ii) Calculate the change in carbon dioxide concentration in the atmosphere between 1960 and 2015.

..... parts per million [1]

- (iii) Explain the trend in carbon dioxide concentration in the atmosphere between 1960 and 2015.

.....

[2]

(iv) State **two** ways of reducing carbon dioxide emissions.

1

.....

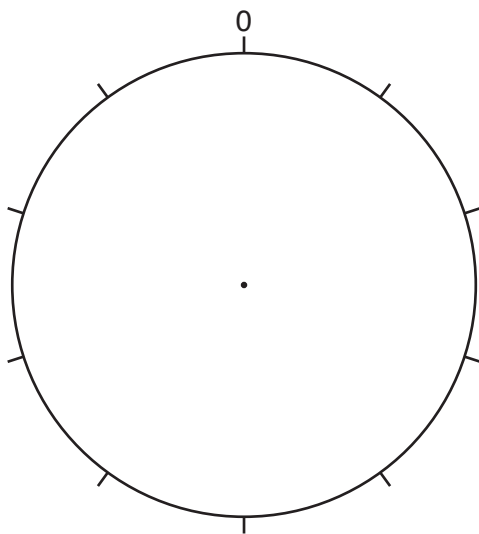
2

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[2]

(b) The table shows the percentage of warming that greenhouse gases are causing in the atmosphere as a result of people's activities.

greenhouse gas	percentage of warming
carbon dioxide	64
methane	18
chlorofluorocarbons (CFCs)	14
nitrogen oxides	4



Key



carbon dioxide

methane

chlorofluorocarbons (CFCs)

nitrogen oxides

(i) Complete the pie graph using the key and the data in the table.

[2]

(ii) To what extent will limiting carbon dioxide emissions reduce the warming of the atmosphere?

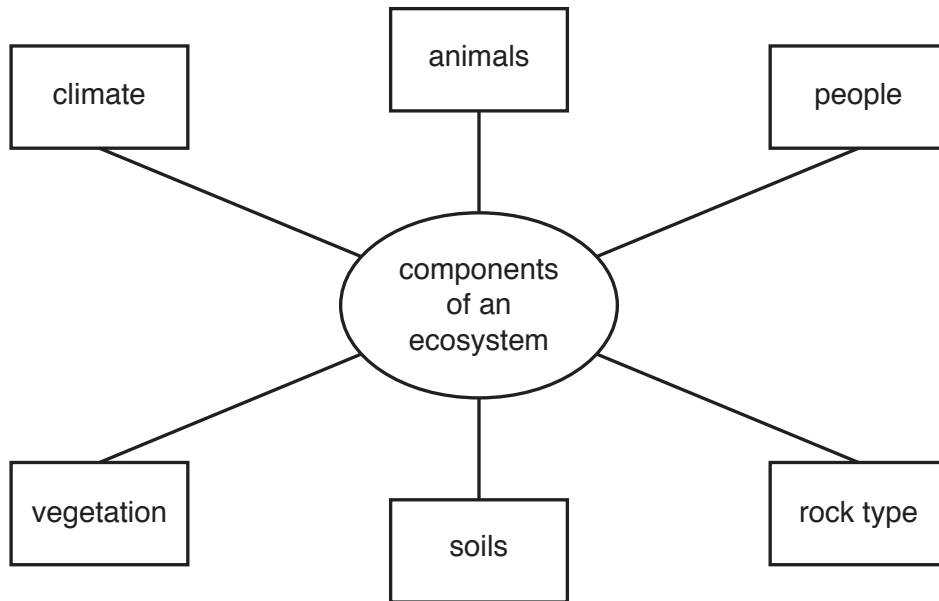
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.....[2]

- 4 The diagram shows the components of an ecosystem.



- (a) (i) Name **two** living components of an ecosystem, shown in the diagram.

1

2 [1]

- (ii) Name **two** physical components of an ecosystem, shown in the diagram.

1

2 [1]

(b) The world's natural vegetation zones (biomes) are large ecosystems.

(i) Name **two** of the world's natural vegetation zones.

1

2

[1]

(ii) Give reasons why people have destroyed much of the world's natural vegetation.

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.....[4]

(c) Suggest strategies for conserving a large forest covering an area of 5000 km².

.....

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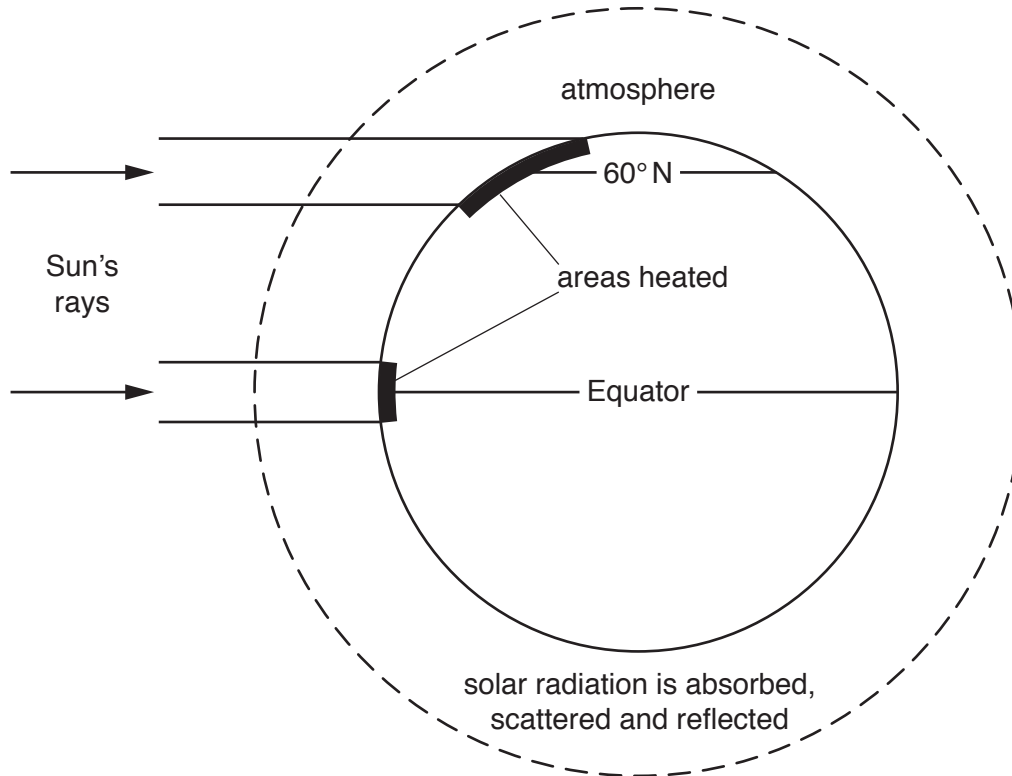
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.....[3]

- 5 The diagram shows the effect of latitude on temperature at the Earth's surface.



- (a) Use the information on the diagram to complete the passage, which explains why surface temperatures decrease between the Equator and 60° N.

At the Equator, the Sun's are perpendicular to the Earth's surface and heat a area than at 60° N. At 60° N the Sun's rays are at an angle and have a surface area to heat.

At 60° N, the Sun's rays travel a distance through the than those at the Equator. This means more energy is absorbed, scattered and so there is less energy to heat the Earth's surface.

[3]

(b) Solar power is an example of an alternative energy source.

(i) Suggest **three** reasons why many countries are increasing their use of solar power.

- 1
-
- 2
-
- 3
-
- [3]

(ii) Give reasons why relying on solar power as a source of energy can be a problem.

-
-
-
-
-
-
- [3]

(c) State **two** other alternative energy sources.

- 1
- 2
- [1]

6 The map and table show information about the ten biggest uranium mines in the world in 2014.



Key

----- international boundary

rank	country	type of mining used	percentage of world uranium production
1	Canada	underground mine	13
2	Kazakhstan	in-situ leaching	8
3	Australia	underground mine	6
4	Niger	open-pit mine	5
5	Kazakhstan	in-situ leaching	4
5	Kazakhstan	in-situ leaching	4
5	Russia	underground mine	4
5	Namibia	open-pit mine	4
9	Kazakhstan	in-situ leaching	3
9	Kazakhstan	in-situ leaching	3

(a) Use the map and table to answer these questions.

(i) Name **three** countries with underground uranium mines.

1

2

3

[1]

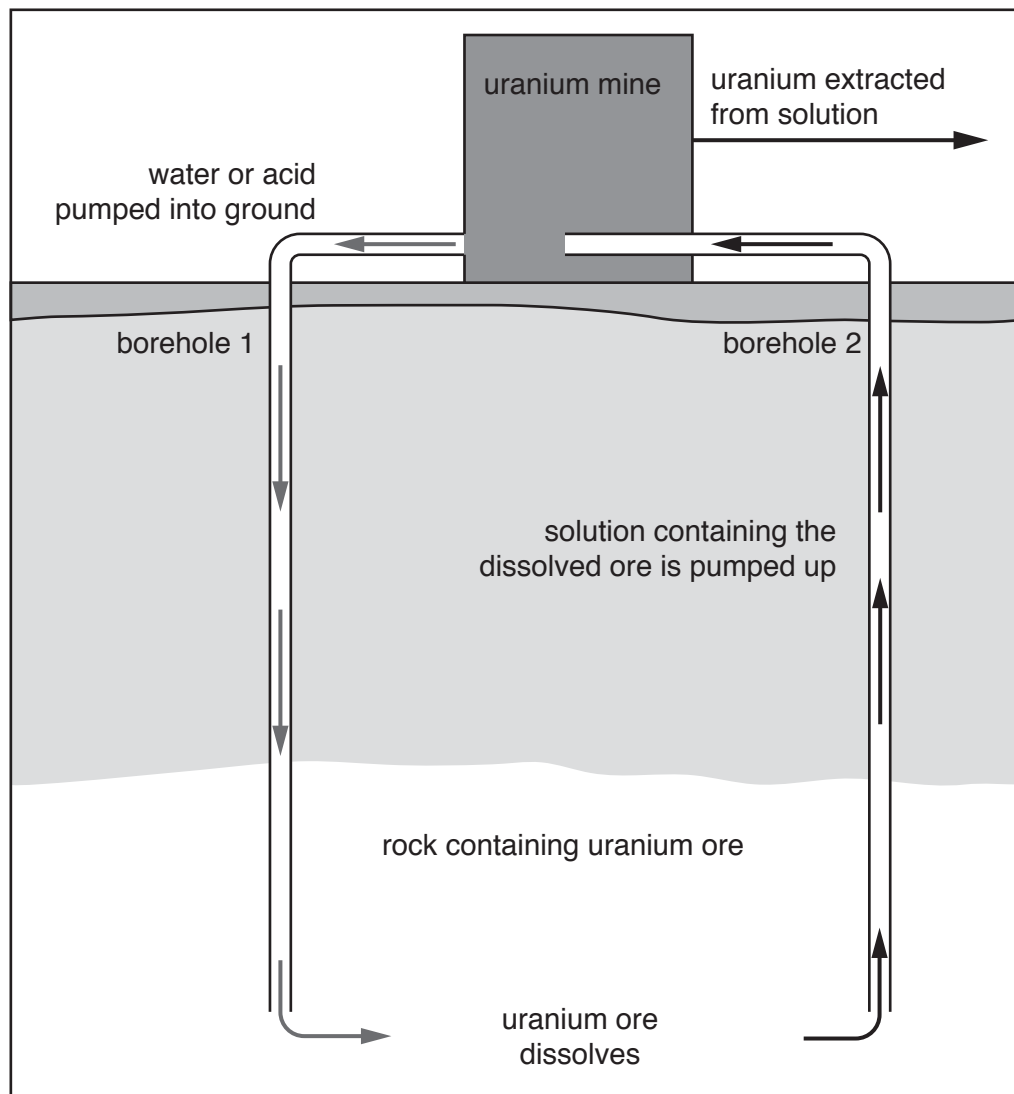
(ii) State the type of uranium mining in Africa.

.....[1]

- (iii) Calculate the percentage of world uranium production that comes from the mines in Kazakhstan.

.....% [1]

- (iv) In 2014, over half of the world's uranium was mined using in-situ leaching. A borehole is drilled into the rock containing uranium ore. Water or an acid is pumped down to dissolve the uranium ore. Uranium ore in solution is pumped up as a liquid from a second borehole. The process is shown in the diagram.



Suggest **two** advantages of the in-situ leaching method of mining.

1

.....

2

.....

[2]

- (b) Most uranium is used in nuclear power stations to generate electricity.

Suggest reasons why the Chinese government made plans to build 40 nuclear power stations between 2016 and 2020.

.....

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.....[2]

- (c) Explain why some people do not want to live near nuclear power stations.

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.....[3]

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