



Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

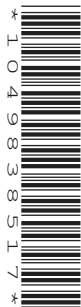
CANDIDATE
NAME

CENTRE
NUMBER

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CANDIDATE
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ENVIRONMENTAL MANAGEMENT

0680/22

Paper 2

October/November 2015

1 hour 45 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 **both** 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.

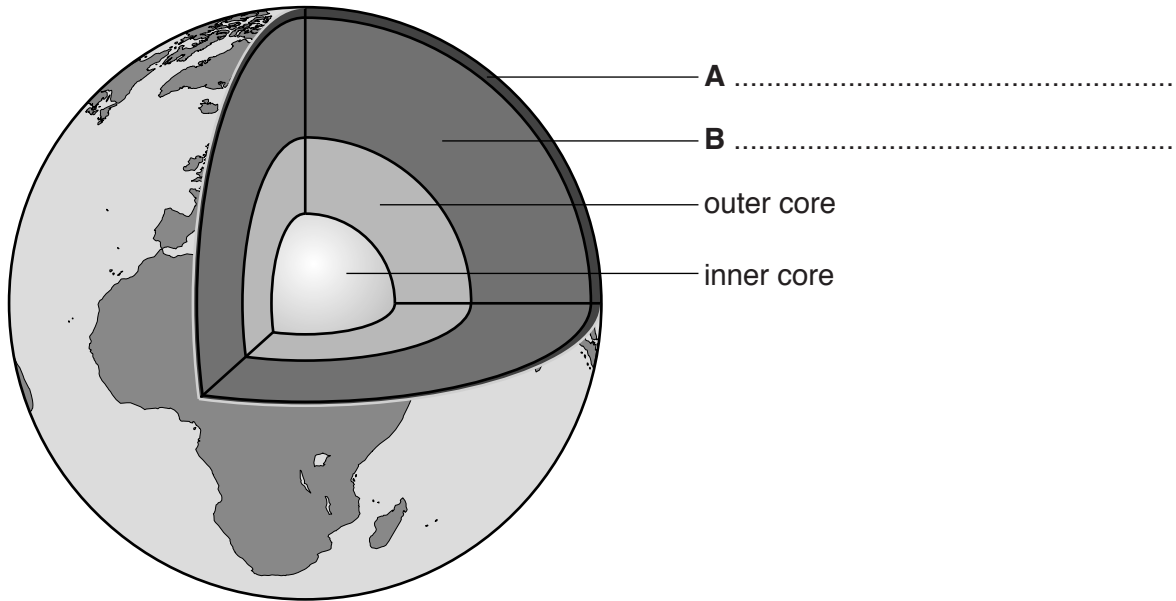
The number of marks is given in brackets [] at the end of each question or part question.

This document consists of **16** printed pages.

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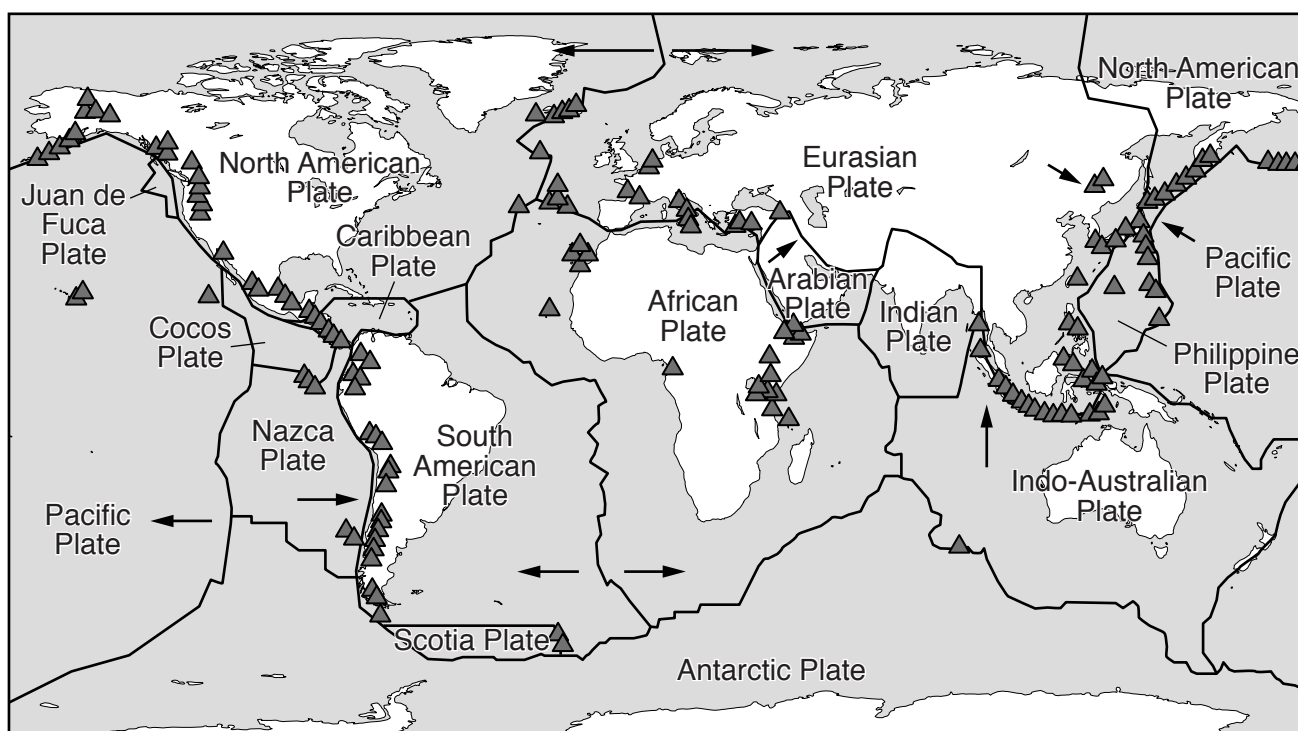
- 1 (a)** Look at the diagram which shows the structure of the Earth.

Complete labels **A** and **B** on the diagram by writing in the names of the layers.



[2]

(b) Look at the map, which shows plate boundaries and the distribution of volcanoes in the world.



Key

 plate boundary

△ volcano

→ direction of plate movement

- (i) State the names of **two** plates that are moving apart and **two** plates that are at a destructive plate boundary.

moving apart

at a destructive plate boundary

[2]

- (ii)** Using the map, describe the world distribution of volcanoes.

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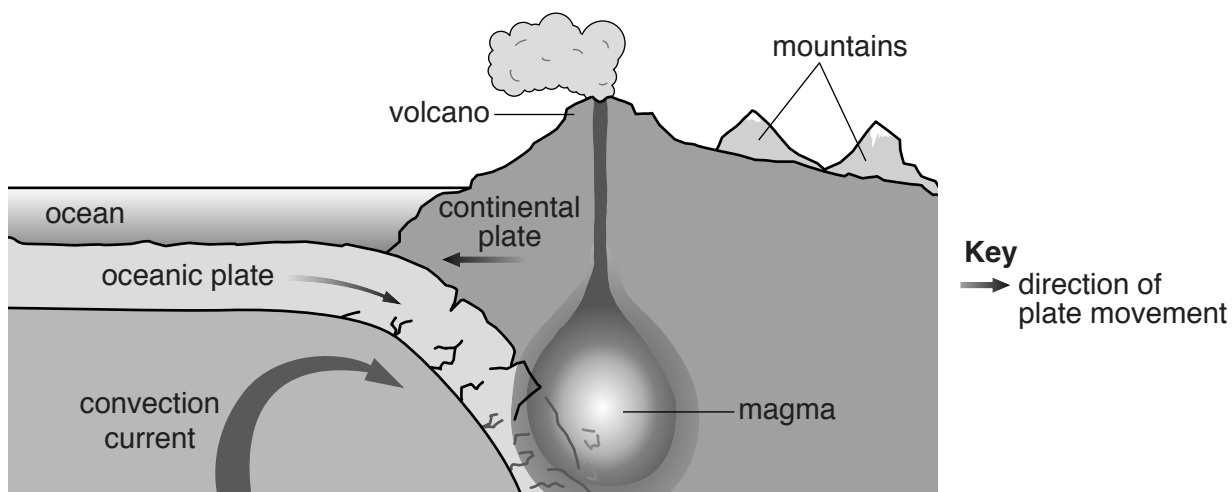
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4

(iii) Look at the diagram, which shows a destructive plate boundary.



Explain how volcanoes are formed at this type of plate boundary.

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5

(c) Look at the photograph, which shows an area surrounding a volcano in Java.



- (i) Describe **and** explain an economic advantage of living near the volcano that is shown in the photograph.

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6

(ii) Explain **two** problems that can be caused by volcanic eruptions.

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(iii) State **two** ways in which the impact of volcanic eruptions can be reduced.

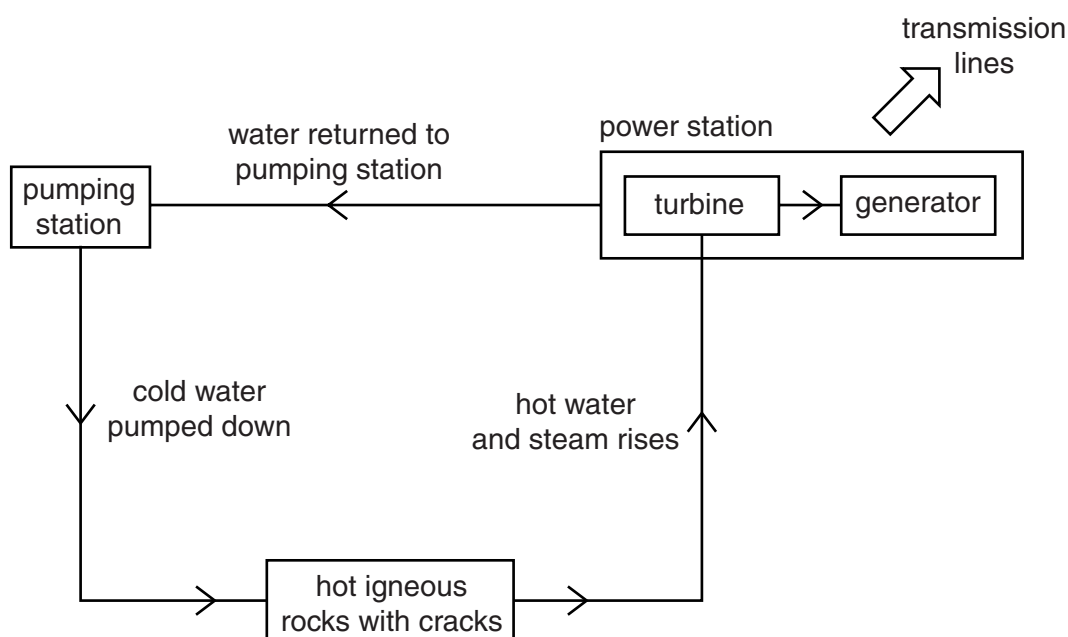
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(d) Look at the diagram which shows how electricity is produced using geothermal energy.



(i) Explain how electricity is produced as shown by the diagram.

.....[3]

(ii) Is geothermal energy a sustainable source of energy? Explain your point of view.

[4]

8

- (e) Look at the information below about floods in Mozambique. Flooding is an example of a climatic hazard.

Mozambique is a country in south east Africa. In February 2000, the country experienced severe floods. There had been heavy rain in January and February. It had rained continuously for five weeks and the ground was full of water (saturated). Usually, 175 mm of rain falls in February in Mozambique, but in February 2000 there was 1160mm of rain. This meant that there was a large amount of surface run-off into the Zambezi and Limpopo rivers, which eventually burst their banks in Mozambique.

When Cyclone Eline hit the region it brought high winds and more heavy rain. Experts say that the floods had also been made worse by human activity in the region, such as changing grassland for crop farming, draining wetlands and urbanisation of the floodplain. It is predicted that Mozambique will take years to recover from this disaster.

- (i) Identify **three** causes of the floods in Mozambique.

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- (ii) Calculate how much more rain fell in February 2000 than the usual average for this month.

Space for working.

..... mm [1]

- (iii) Suggest how urbanisation and deforestation can increase the flood risk in places such as Mozambique.

urbanisation

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deforestation

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[4]

- (f) The impact of earthquakes and volcanoes is often greater in developing countries than in developed countries. To what extent do you agree with this point of view? Give reasons for your answer.

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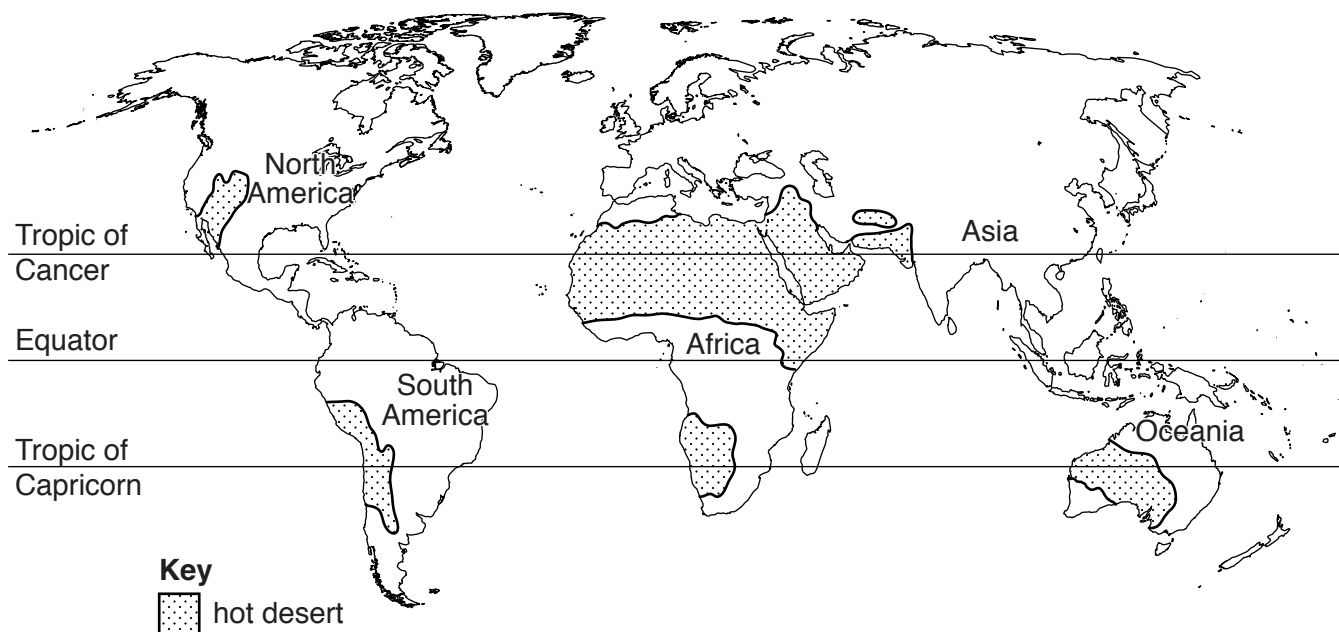
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- 2 (a) Look at the map below, which shows the hot deserts of the world.



- (i) Describe the distribution of hot deserts shown on the map.

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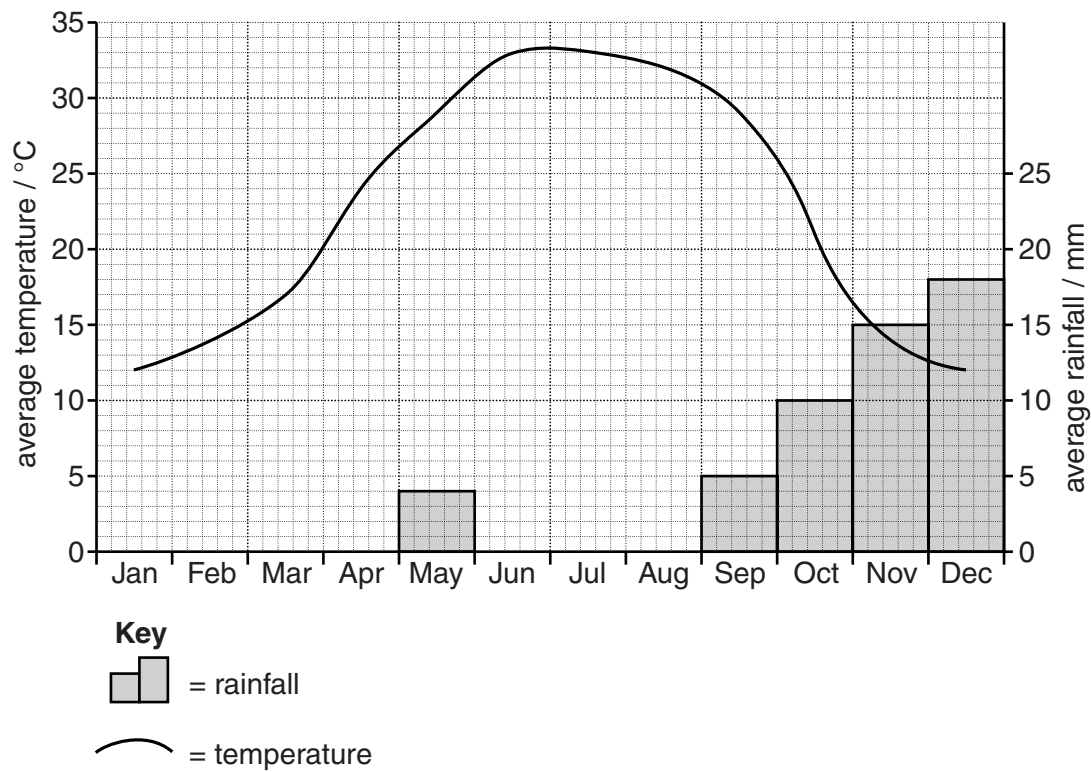
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(ii) The table below shows average monthly temperatures and rainfall for a hot desert. Use the information in the table to complete the graph for rainfall. [2]

	J	F	M	A	M	J	J	A	S	O	N	D
rainfall/mm	20	15	8	5	4	0	0	0	5	10	15	18
temperature /°C	12	14	17	24	29	33	33	32	29	21	14	12



(iii) Using evidence from the graph and table, describe rainfall throughout the year.

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- (iv) Use data from the table and graph to state the number of months below 20°C.

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- (v) Use data from the table and graph to calculate the annual temperature range (the difference between the highest and lowest temperature in a year).

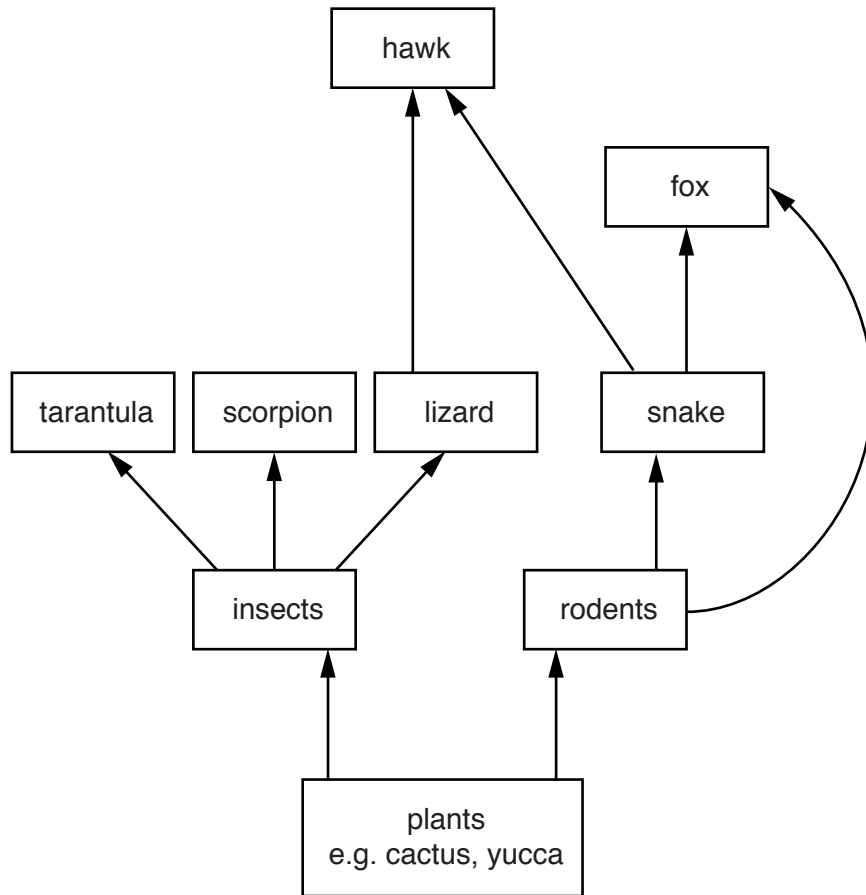
.....[1]

- (vi) State the relationship between temperature and rainfall shown for this hot desert.

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.....[1]

- (b) (i) Look at the diagram, which shows a food web in a hot desert ecosystem. Use the diagram to complete the table below with **one** example for each.



producer	
consumer	

[1]

13

- (ii) Suggest what would happen to the food web if the number of lizards increased.

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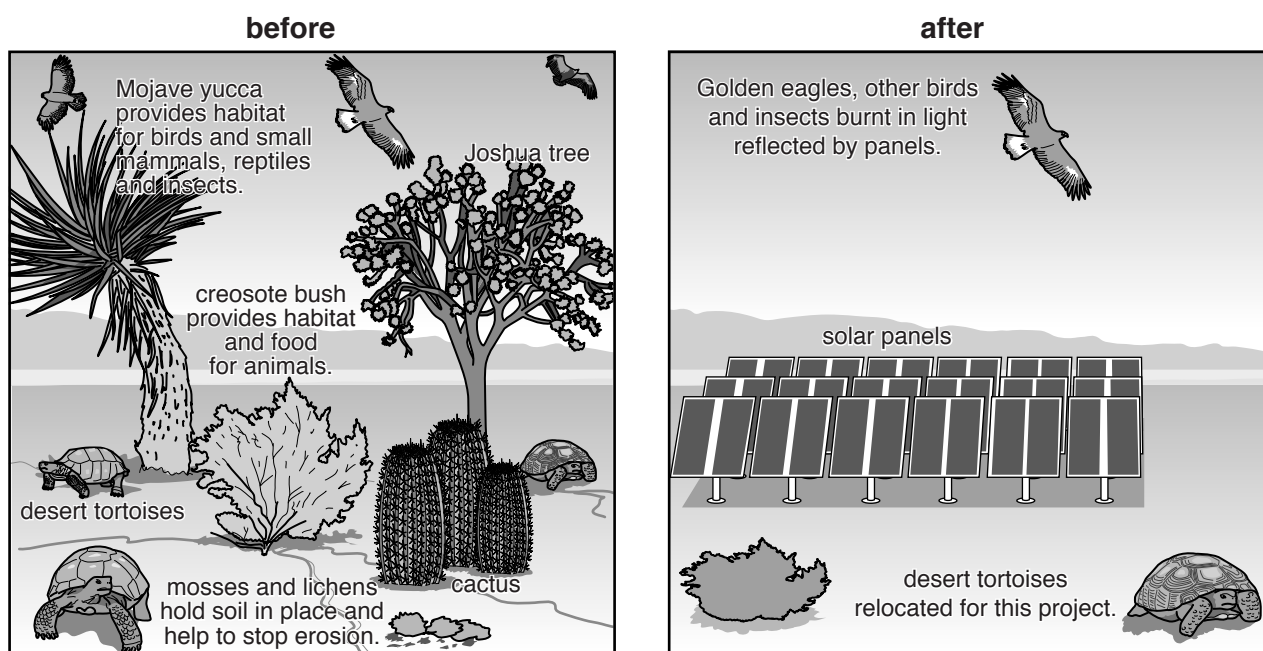
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- (c) Look at the diagrams, which show an ecosystem in the Mojave Desert in the United States of America.



- (i) Describe **and** explain how desert vegetation, such as that shown in the **before** diagram, has adapted to survive in the hot desert climate.

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14

- (ii) Look again at the diagrams of the Mojave Desert. Describe the impact that solar panels are having on the ecosystem shown in the diagrams.

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- (iii) Suggest reasons why countries might want to develop solar power as a source of energy.

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- (iv) Other than the impact on ecosystems, state **three** possible disadvantages of relying on solar power.

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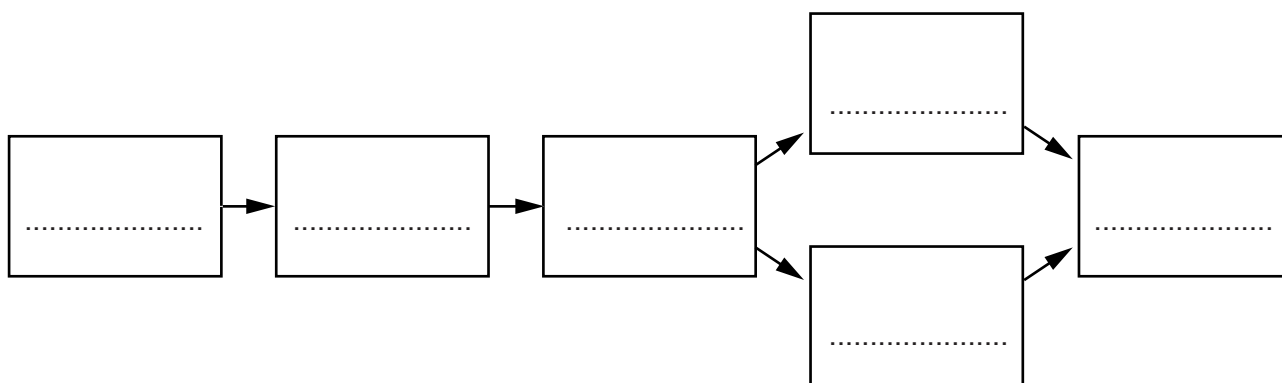
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(d) (i) Define the term *desertification*.

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[1]

(ii) Insert the letters **A–F** into the boxes in the correct order on the flow diagram below to show a human cause of desertification.



- A** overgrazing
- B** increased population
- C** more demand for food
- D** soil loses structure
- E** soil blown and washed away
- F** vegetation removed

[3]

(iii) Explain **two** impacts of desertification on people.

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[3]

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