

CANDIDATE
NAME

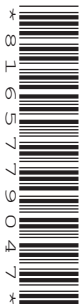
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CENTRE
NUMBER

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CANDIDATE
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ENVIRONMENTAL MANAGEMENT

0680/12

Paper 1

May/June 2014

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler

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.

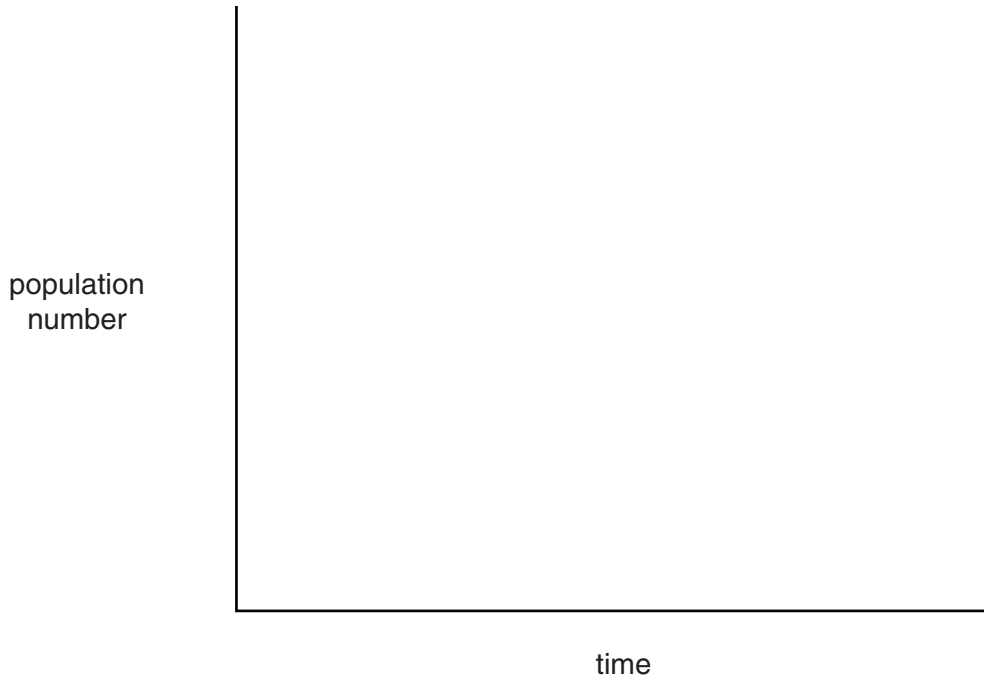
This document consists of **13** printed pages and **3** blank pages.

- 1 (a) (i) Animals and plants of different species live in populations within communities. Describe the difference between populations and communities.

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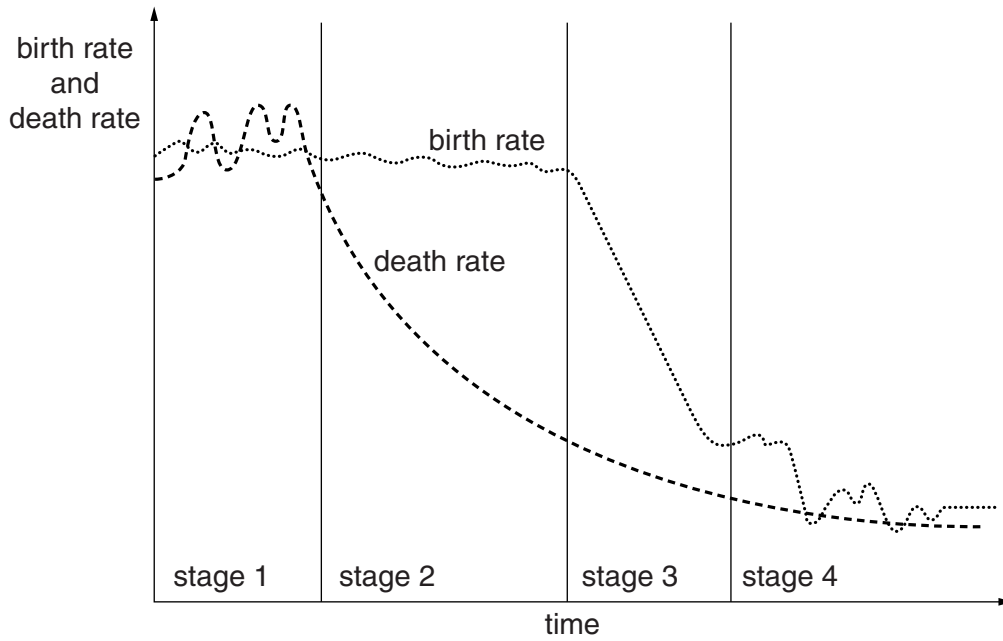
- (ii) The changes in population size of a species of organism over time can be plotted on a graph.

Sketch a typical population growth curve on the axes below.



[2]

(b) The diagram below is a model of changes in birth and death rates during the development of a human population.



(i) State the name of the model shown in the diagram above.

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(ii) Describe and explain the changes in human birth rate and death rate over time, using the above model to help you.

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2 (a) (i) The following is a list of some gases in the atmosphere.

- CFCs
- methane
- ozone
- nitrogen
- carbon dioxide

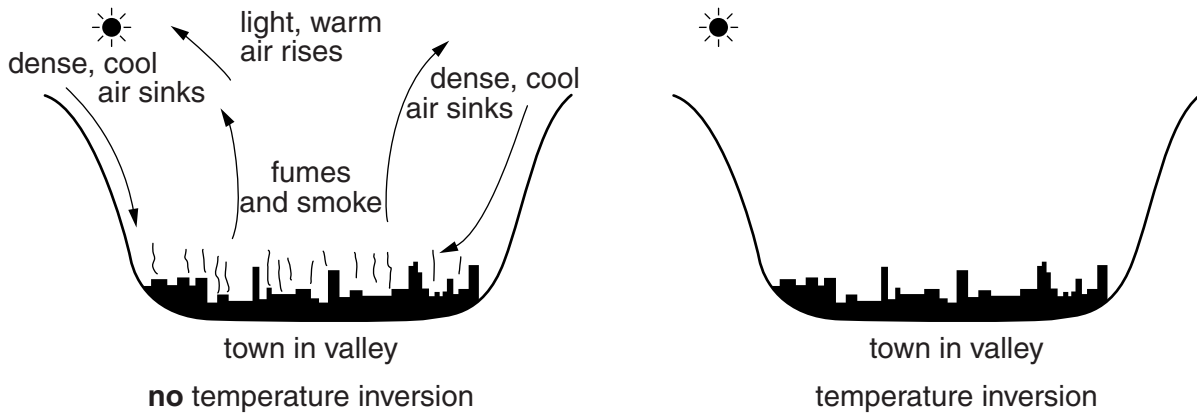
From this list identify:

a gas **not** produced by a natural process

a gas **not** affected by human activity [2]

(ii) Oxides of nitrogen from car exhausts can interact with UV light to give rise to air pollution that gets trapped near the ground by a temperature inversion.

Look at the left-hand diagram below, which shows no temperature inversion above a valley town. Complete the diagram on the right to show the same area during a temperature inversion.

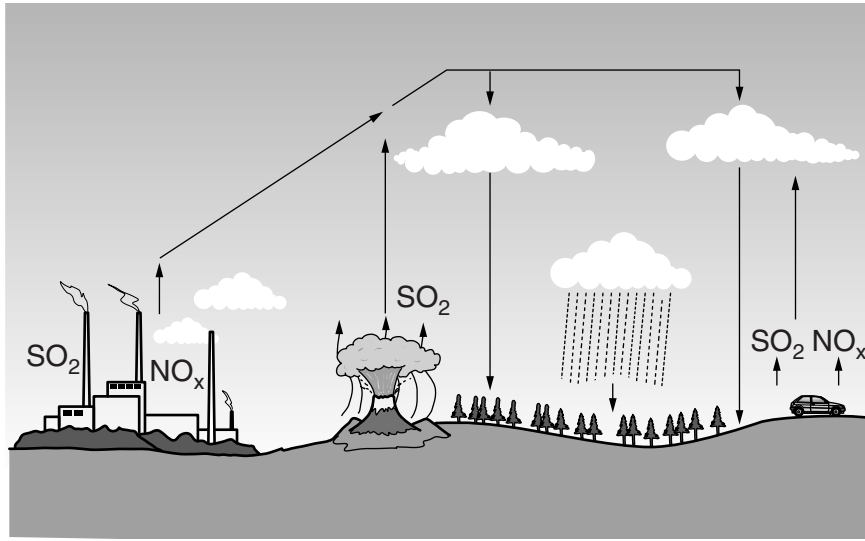


[2]

(iii) Suggest how these trapped pollutants might affect economic activity.

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- (b) (i) Another problem caused by gases emitted from car exhausts and factories is the formation of acid rain. Use the diagram below and your own knowledge to explain how acid rain is formed.



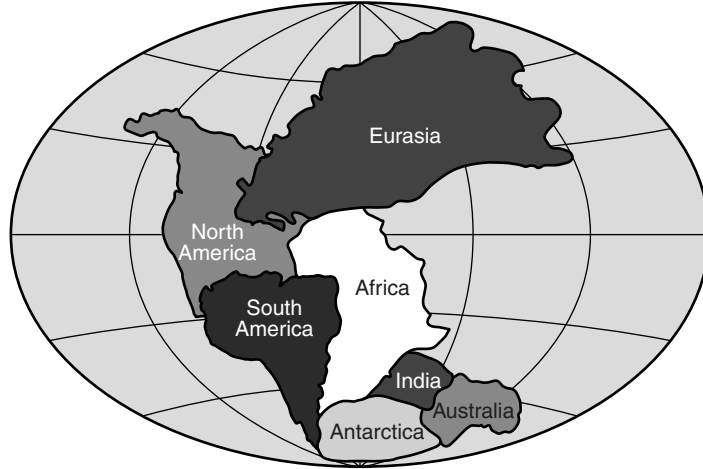
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- (ii) Explain why countries need to work together to solve the problem of acid rain.

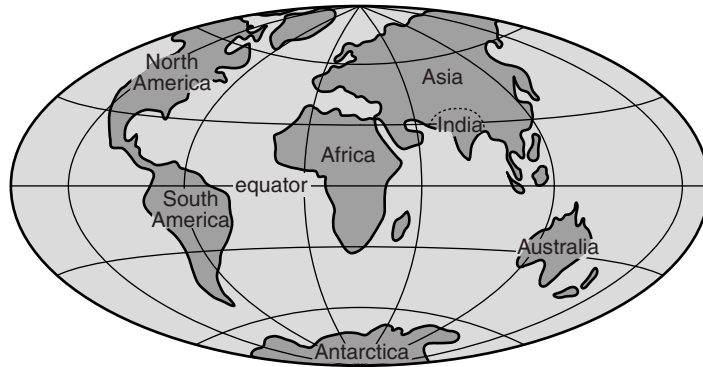
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3 The diagram below shows a supercontinent on Earth called Pangaea, which existed about 250 million years ago, and the Earth as it is today.

Earth, 250 million years ago



Earth, today



(a) (i) Identify and describe the process which explains how the change shown above occurred.

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(ii) Suggest the type of plate boundary found in Pangaea between Africa and South America.

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(b) (i) Explain why fewer people are injured or killed in volcanic eruptions than in earthquakes.

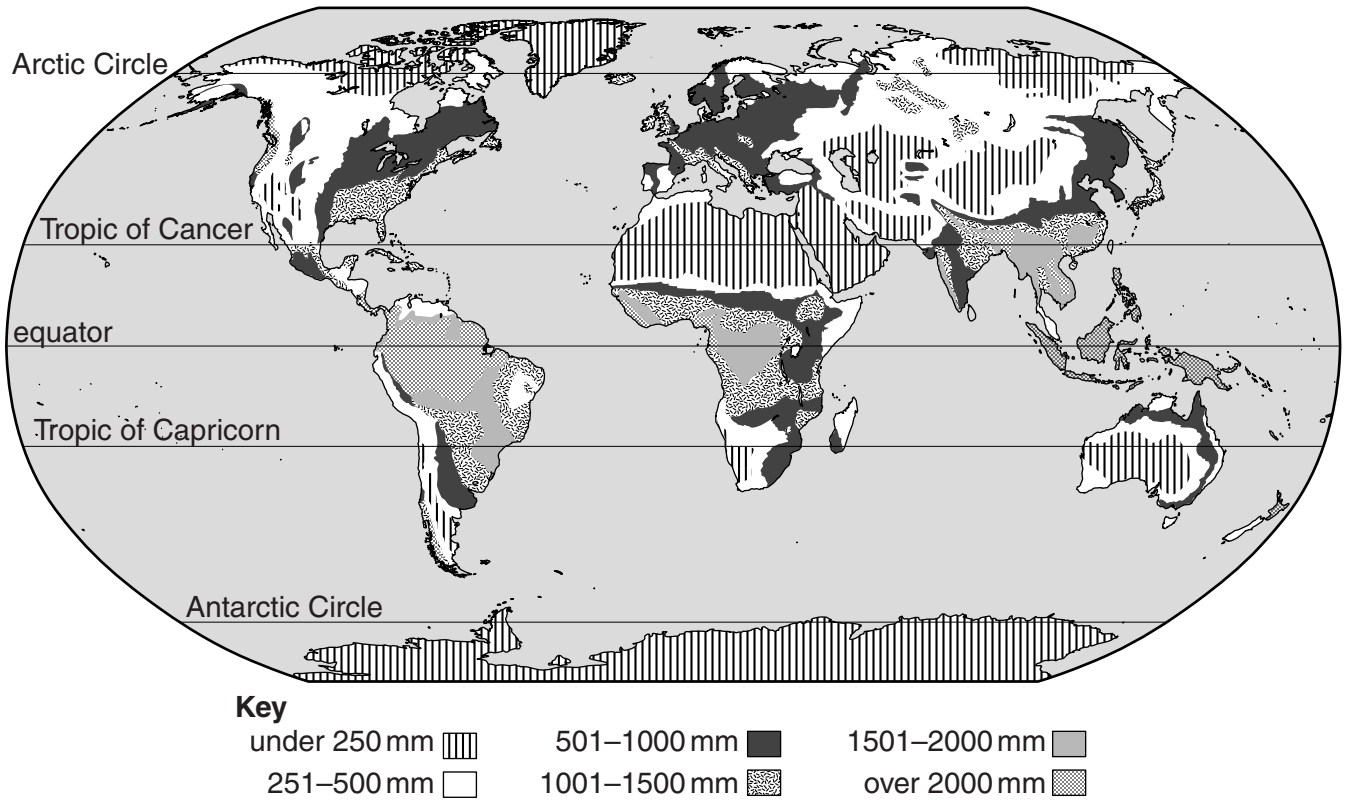
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(ii) Describe ways in which governments might reduce the death toll during an earthquake.

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4 Water is vital to life. However, its availability around the world is very variable, due mainly to different precipitation levels.

The map below shows how precipitation varies around the world.



(a) (i) The places with the least precipitation are called dry deserts. They are defined as those places where precipitation is less than 250 mm / year. Use this information and the map to describe the distribution of dry deserts in the world.

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(ii) Explain how countries with low rainfall could obtain supplies of water.

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- (b) (i) In some countries, water is plentiful but may not be safe to drink. In 2000, the United Nations set out a series of Millennium Development Goals (MDGs), one of which was to:

“halve, by 2015, the proportion of the population without sustainable access to safe drinking water”

In 2000, 77 % of world population had access to safe water.

In 2012, 89 % of world population had access to safe water.

Has the MDG for safe water been achieved early? Show your working and explain your answer.

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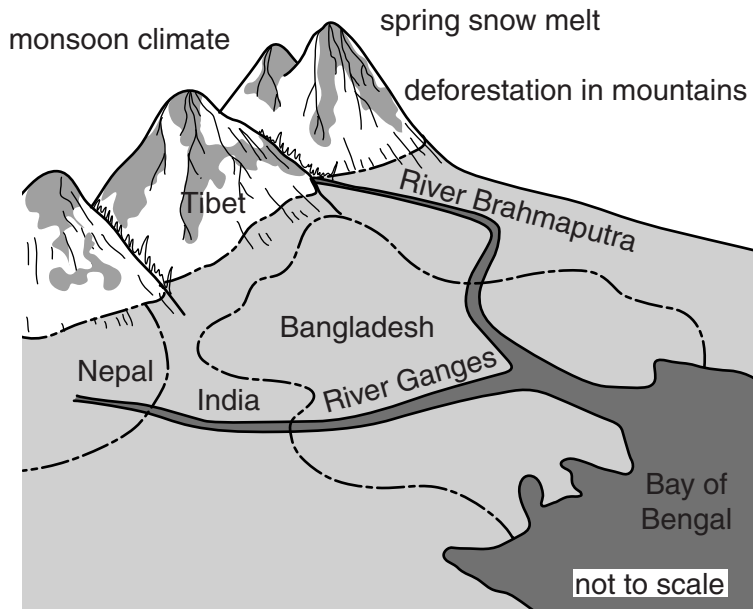
- (ii) Bilharzia, typhoid, cholera and malaria are water-related diseases. Which **two** of these could be transmitted by drinking contaminated water? Explain your choice.

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5 Read this information about the forests of Bangladesh.

“The remaining forests of Bangladesh cover slightly less than 10 percent of the land area. The natural forest cover continues to reduce. Valuable resources are being lost. Serious risks are being taken with the environment.”

Study the diagram below which shows Bangladesh and surrounding areas.



Key
----- international border

(a) (i) Using the diagram and your own knowledge, explain why deforestation in the mountains causes problems in Bangladesh.

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(ii) Suggest how these problems might be reduced.

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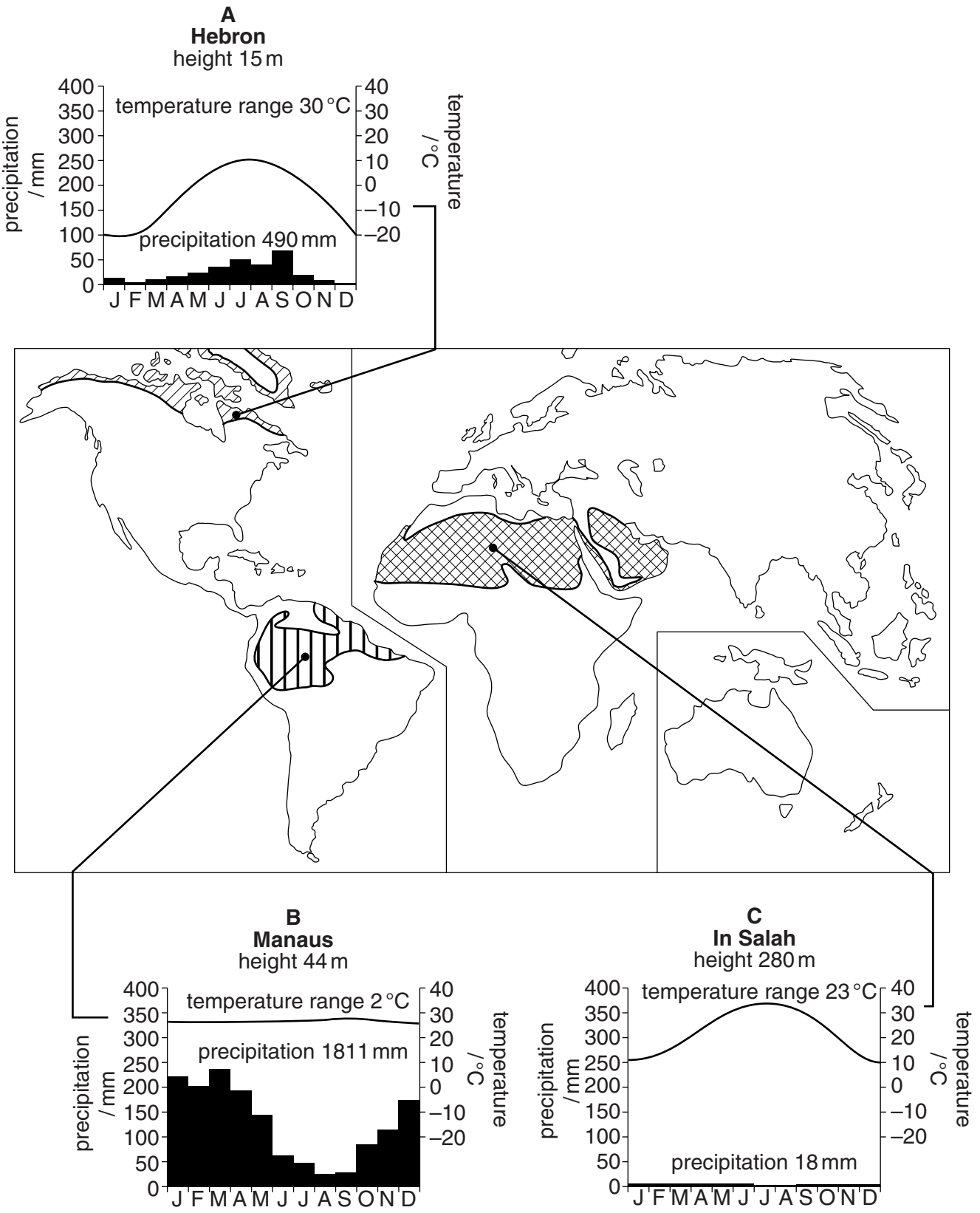
(b) (i) State **one** forest resource and identify what it is used for.

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(ii) Explain how forests help to maintain the balance of some of the gases in the Earth's atmosphere.

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6 The map below shows various climates and some places in the world where they are found. The features of the climate are shown in the graphs on the map.



(a) (i) Match the climate letter, **A**, **B** and **C**, with its type below:

equatorial

tundra

hot desert

[2]

(ii) Describe and explain **two** ways in which plants growing in area **C** are adapted to the climate.

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(b) (i) Suggest why few people live in area **A**.

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(ii) Suggest the possible problems of farming in area **C**.

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