



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE
NAME

CENTRE
NUMBER

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CANDIDATE
NUMBER

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ENVIRONMENTAL MANAGEMENT

0680/12

Paper 1

May/June 2013

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 a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
DO NOT WRITE IN ANY BARCODES.

Electronic calculators may be used.

Answer **all** questions.

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.

For Examiner's Use	
1	
2	
3	
4	
5	
6	
Total	

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



Answer **all** the questions.

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- 1 (a) Insolation is a measure of the solar radiation reaching a given surface area of the Earth in a given time.

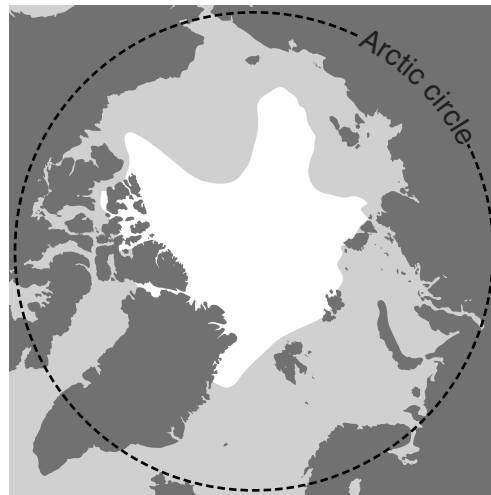
Explain why insolation is greatest at the equator and least at the poles.

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..... [3]

- (b) (i) The maps show the permanent polar ice as it was in 1980 and 2010.



1980



2010

Key

- ice
- sea
- land

Describe the changes over the 30 years.

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..... [2]

(ii) Many people believe that global warming is the cause of these changes.

Explain this view from your knowledge of the greenhouse effect.

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(iii) What measures could governments take to prevent further change in the extent of polar ice?

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[Total: 10]

- 2 (a) People obtain food from the land in different ways. The oldest way is hunter gathering. A few people still live like this in the tundra, deserts and tropical rainforests.

Choose **one** of these three ecosystems and name it here

Suggest how hunter gatherers get food in this environment **and** what features of this environment have allowed this traditional way of life to remain when it has disappeared elsewhere.

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- (b) (i) The table below shows changes in the land area (in hectares) covered by forest in the state of Victoria in Australia.

year	area / millions of hectares of forest
1869	20.0
1900	17.0
1950	13.0
1972	10.5
2000	8.0

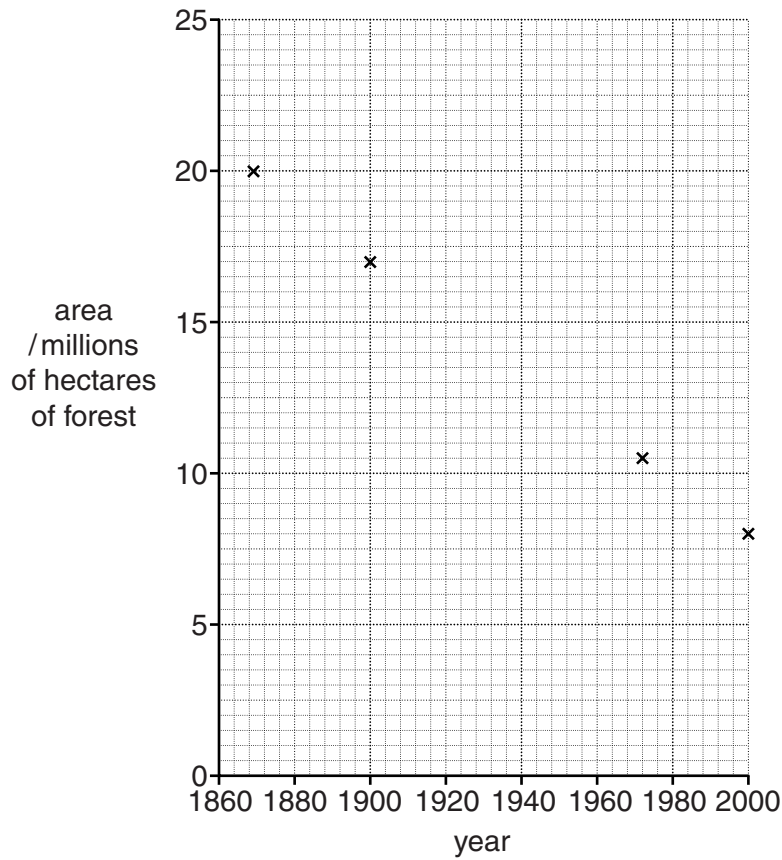
What percentage of the forest cover of 1869 had been lost by 2000?

Show your working.

.....% [2]

- (ii) Complete the graph below using the data in the table and draw in a line to show the trend.

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[2]

- (iii) Describe the trend of the graph that you have completed.

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 [1]

- (iv) A government minister in a conservation speech emphasised the importance of conserving forests to sustain the tourism industry in his country.

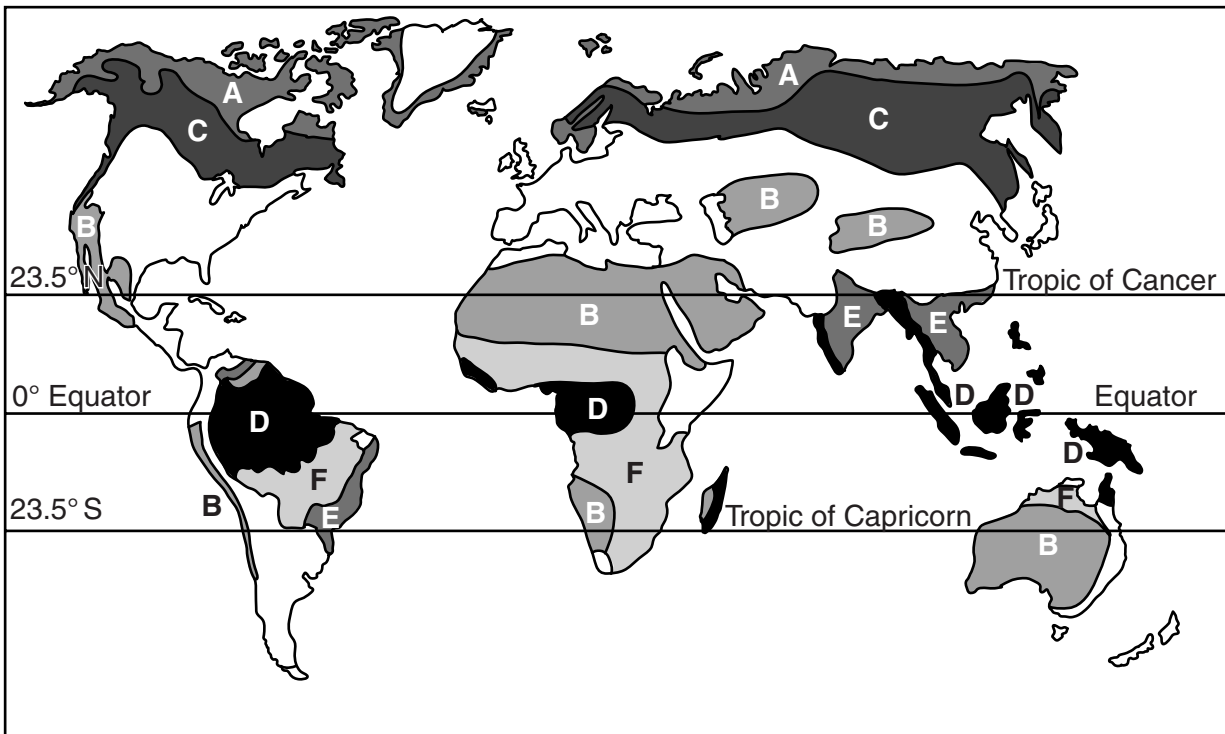
Explain what he meant. In your answer refer to ecotourism.

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 [2]

[Total: 10]

3 (a) The map shows six biomes, marked A to F.



(i) Three of the biomes are forests.

Which letters on the map show taiga, tropical rainforest and monsoon forest?

taiga

tropical rainforest

monsoon forest [2]

(ii) Choose **two** of the forest biomes and describe the main differences between the trees in these biomes.

.....

 [2]

(b) The 2011 World Environment Day had as its theme, 'Forests: Nature at Your Service'. The theme was chosen to highlight the environmental, economic and social importance of the world's forests as they are affected by deforestation.

(i) What did the organisers mean by 'the environmental importance of the world's forests'?

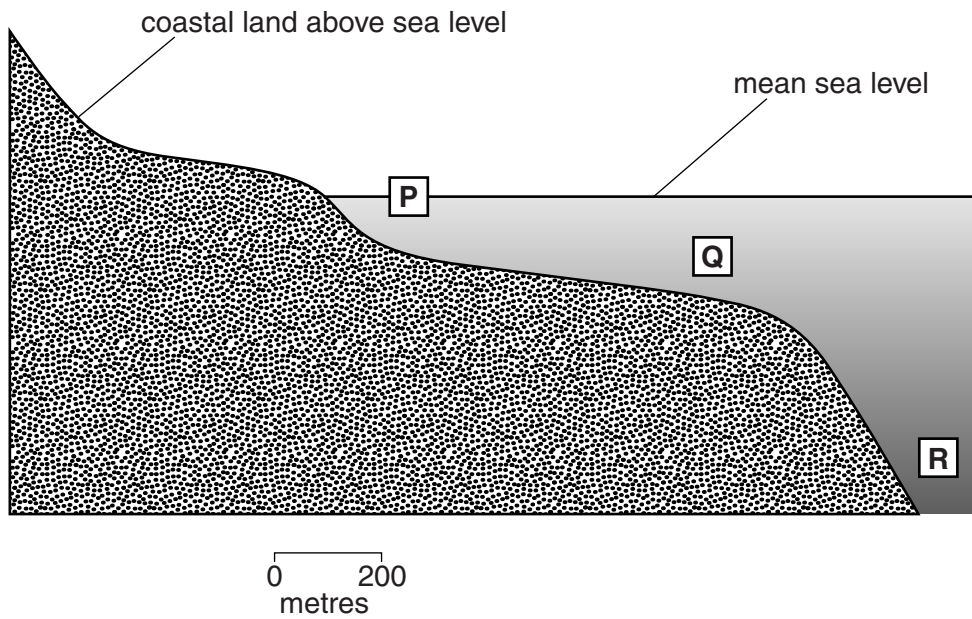
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(ii) How can the problem of deforestation be reduced?

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[Total: 10]

4 (a) The diagram shows a section through the coastal zone and ocean.



(i) Which part of the sea, **P**, **Q** or **R**, is the most productive for:

fish and other food

oil

tourism.

[2]

(ii) Choose **one** of the above and explain how you arrived at your answer.

choice

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(b) Overfishing is a serious problem in many of the world's oceans.

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(i) State and explain **two** causes of overfishing.

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(ii) Why is the problem of overfishing difficult to reduce?

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[Total: 10]

5 (a) In China, surface water quality has been classified on a five point scale.

- G – Excellent
- H – Good
- J – Satisfactory
- K – Poor
- L – Very Poor

In 2011 a report stated that surface water quality in China varied as follows:

- 60% of rivers were grade J or better
- 23.6% of rivers were graded K or L
- 16.4% were too poor to be graded

(i) What percentage of rivers was less than satisfactory?

Space for working.

.....[1]

26 lakes or reservoirs were also surveyed. Eutrophication was found to affect 42.3% of these lakes and reservoirs.

(ii) Explain what is meant by *eutrophication*.

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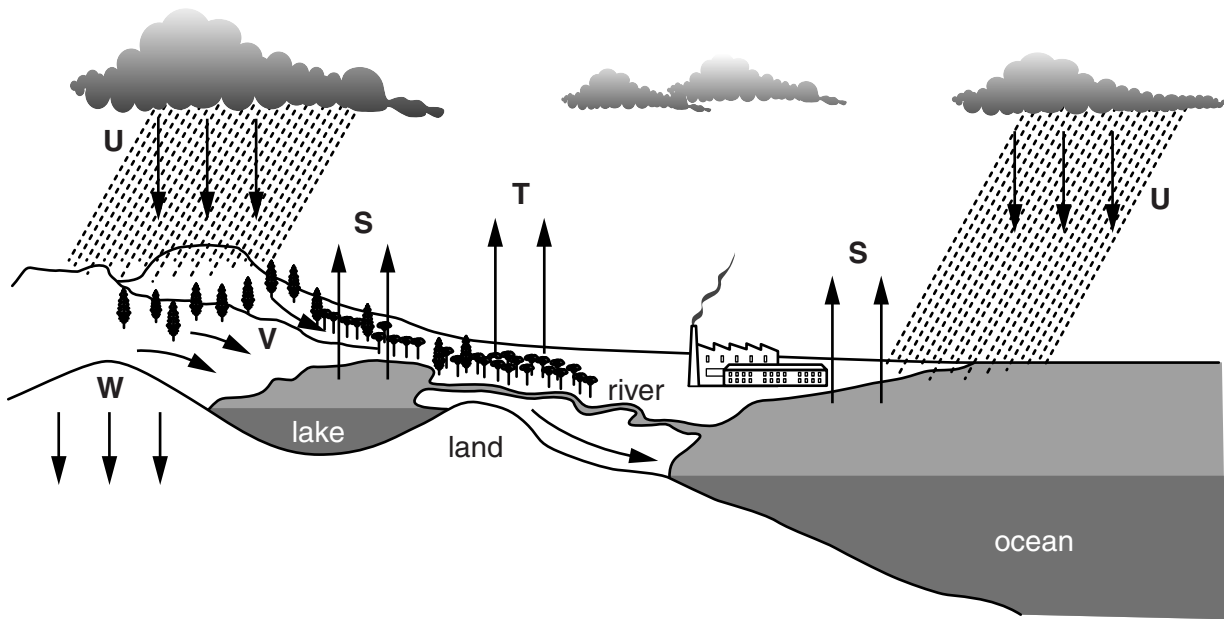
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(b) Humans also affect processes within the water cycle.

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(i) Which letters show run-off and infiltration?

run-off

infiltration

[1]

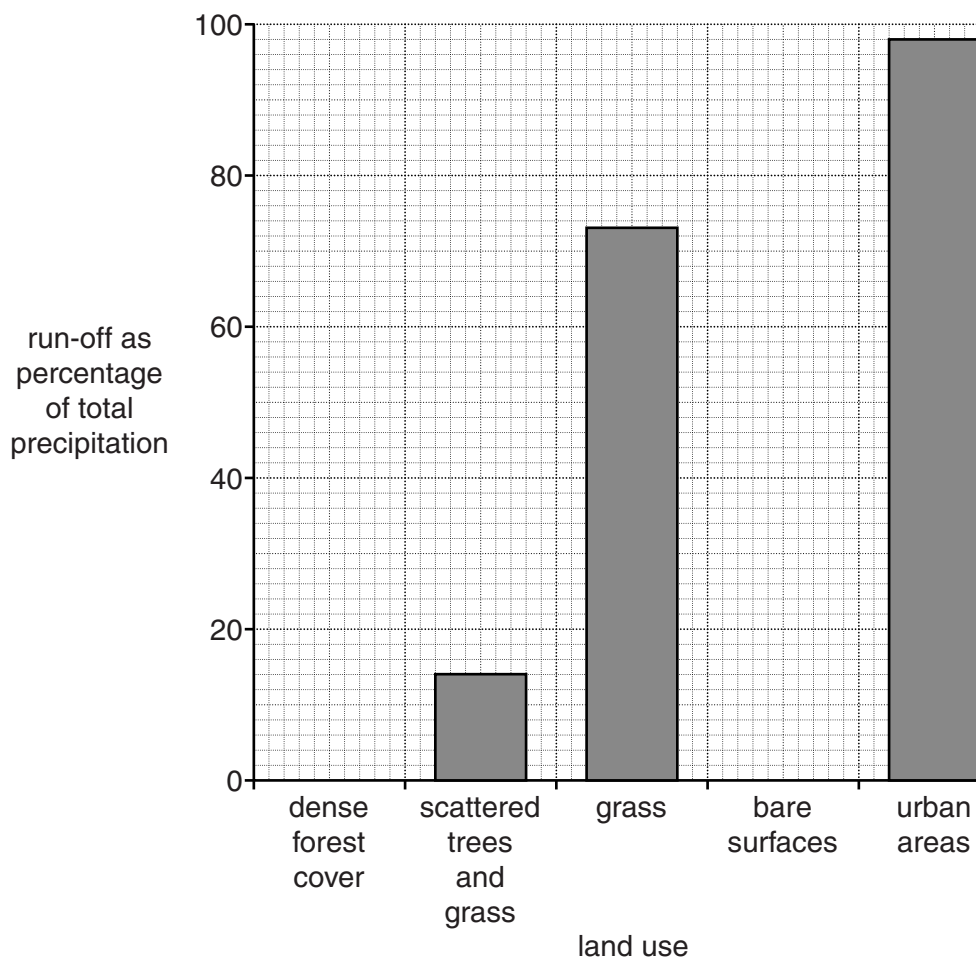
(ii) On the diagram above mark with a letter X a place where interception occurs.

[1]

- (iii) The table below shows the run-off as a percentage of the total precipitation for surfaces with different land use.

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land use	run-off as percentage of total precipitation
dense forest cover	2
scattered trees and grass	14
grass	73
bare surfaces	85
urban areas	98



Use the table to complete the bar chart.

Your answer should give a complete bar chart.

[1]

(iv) Using the information in the table and the bar chart, and your own knowledge, explain how and why humans affect run-off.

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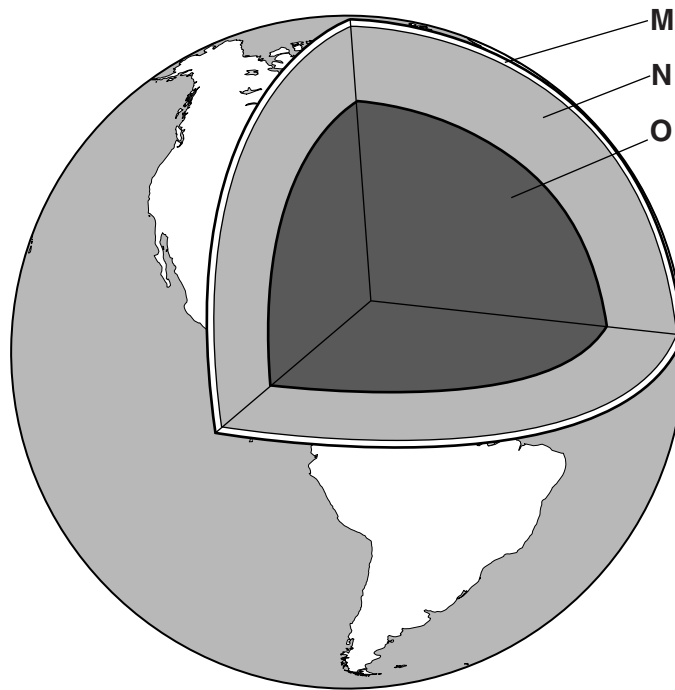
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[Total: 10]

6 (a) The diagram shows a section through the Earth.



(i) Name layers **N** and **O**.

N

O

[2]

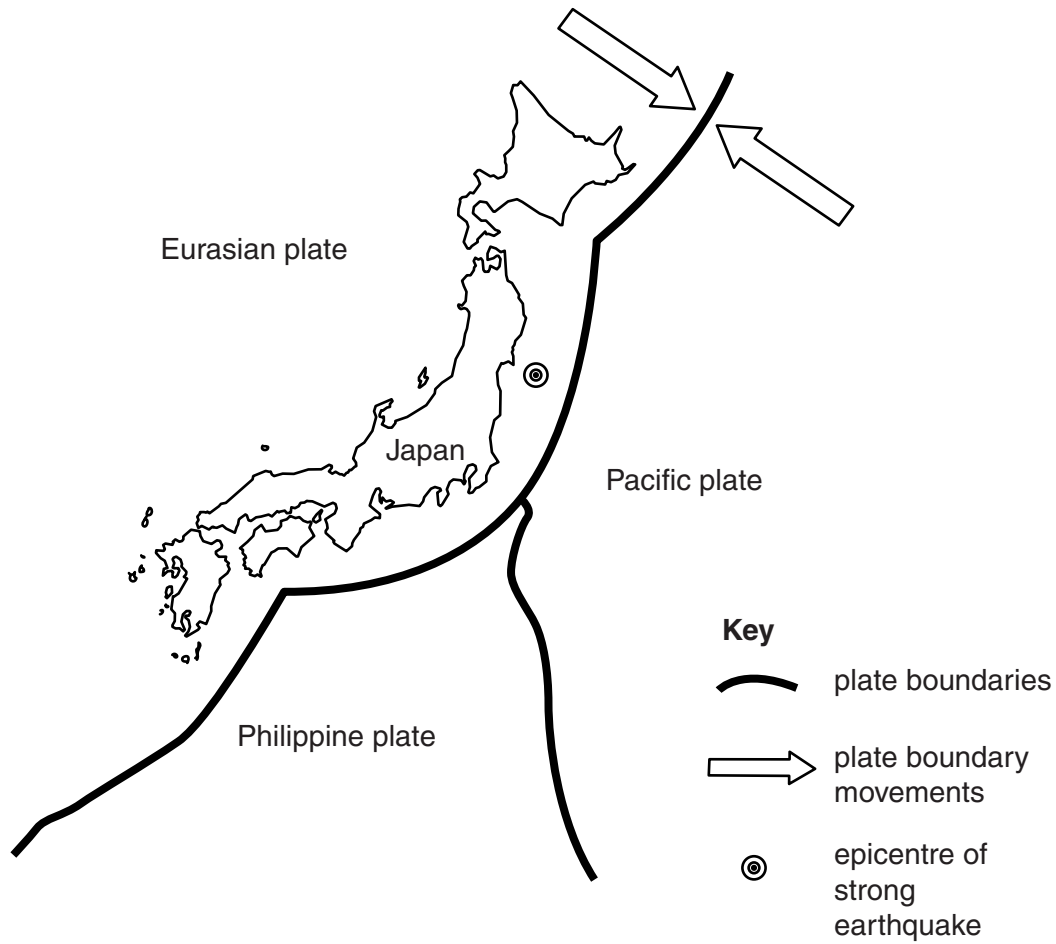
(ii) Complete the sentence below.

Layer **M** is called the This layer is broken into large pieces, called plates, that move around.

[2]

(b) In 2011 a strong earthquake occurred off the coast of Japan. The map shows its location.

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(i) Explain why a strong earthquake occurred at this location.

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(ii) Over 15 000 people living on the NE coast of Japan lost their lives.

Explain why people in this area were the worst affected.

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..... [3]

[Total: 10]

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