

CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

NATURAL ECONOMY

0670/02

Paper 2

October/November 2003

2 hours

Candidates answer on the Question Paper.

Additional Materials: Ruler (cm/mm)

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 in the spaces provided on the Question Paper.

You may use a soft pencil for any diagrams, graphs or rough working.

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

Answer **both** 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.

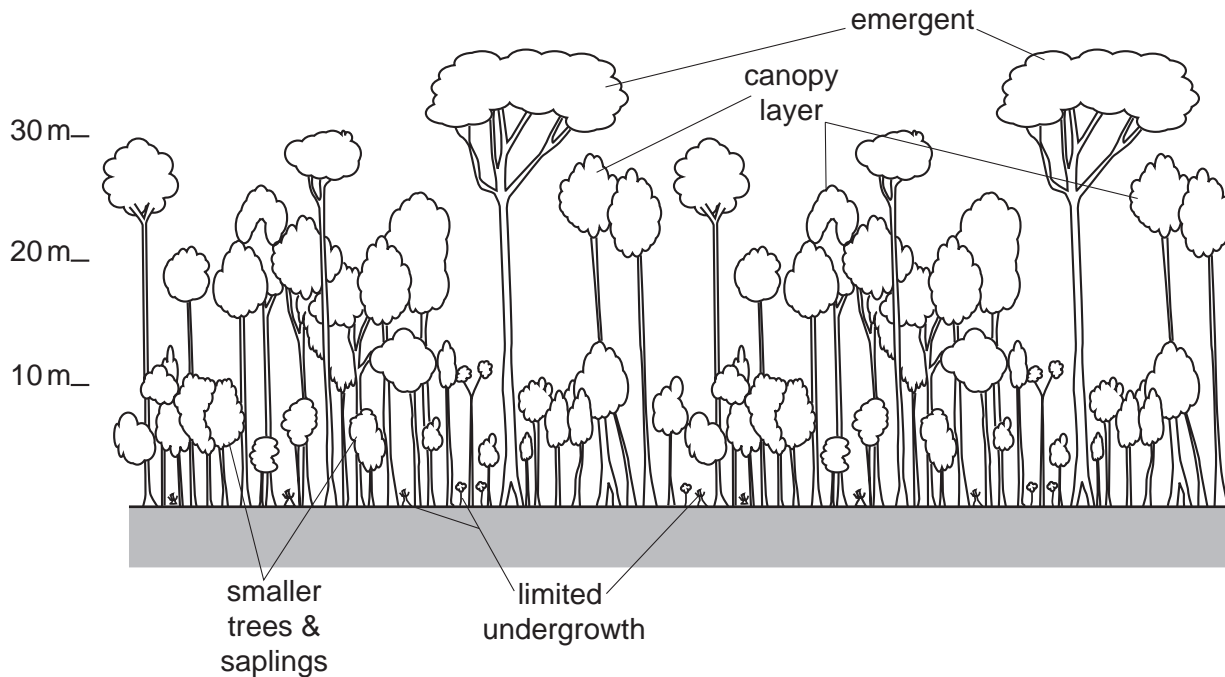
If you have been given a label, look at the details. If any details are incorrect or missing, please fill in your correct details in the space given at the top of this page.

Stick your personal label here, if provided.

For Examiner's Use	
1	
2	
TOTAL	

This document consists of **17** printed pages and **3** blank pages.

1 (a) Look at the diagram below which shows a tropical rainforest.



(i) Describe two features of the trees labelled emergents shown on the diagram.

- 1.
- 2. [2]

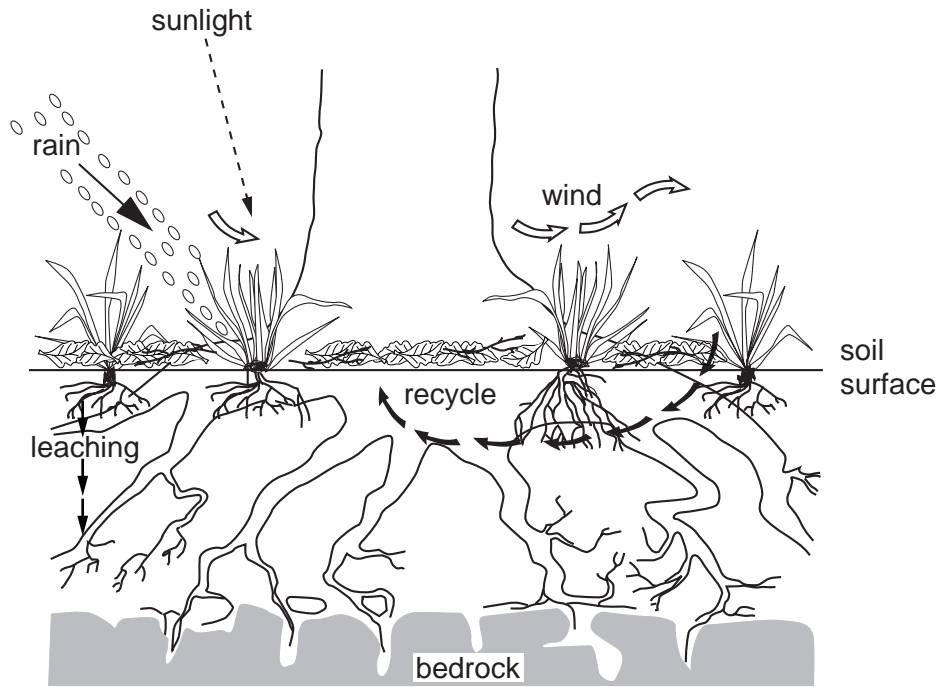
(ii) State the evidence from the diagram which shows that there are several different layers of vegetation in tropical rainforests.

.....
.....
..... [2]

(b) Describe the main characteristics of the Equatorial climate where rainforests are found.

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..... [3]

(c) Look at the diagram below which shows what happens in a natural forest ecosystem.



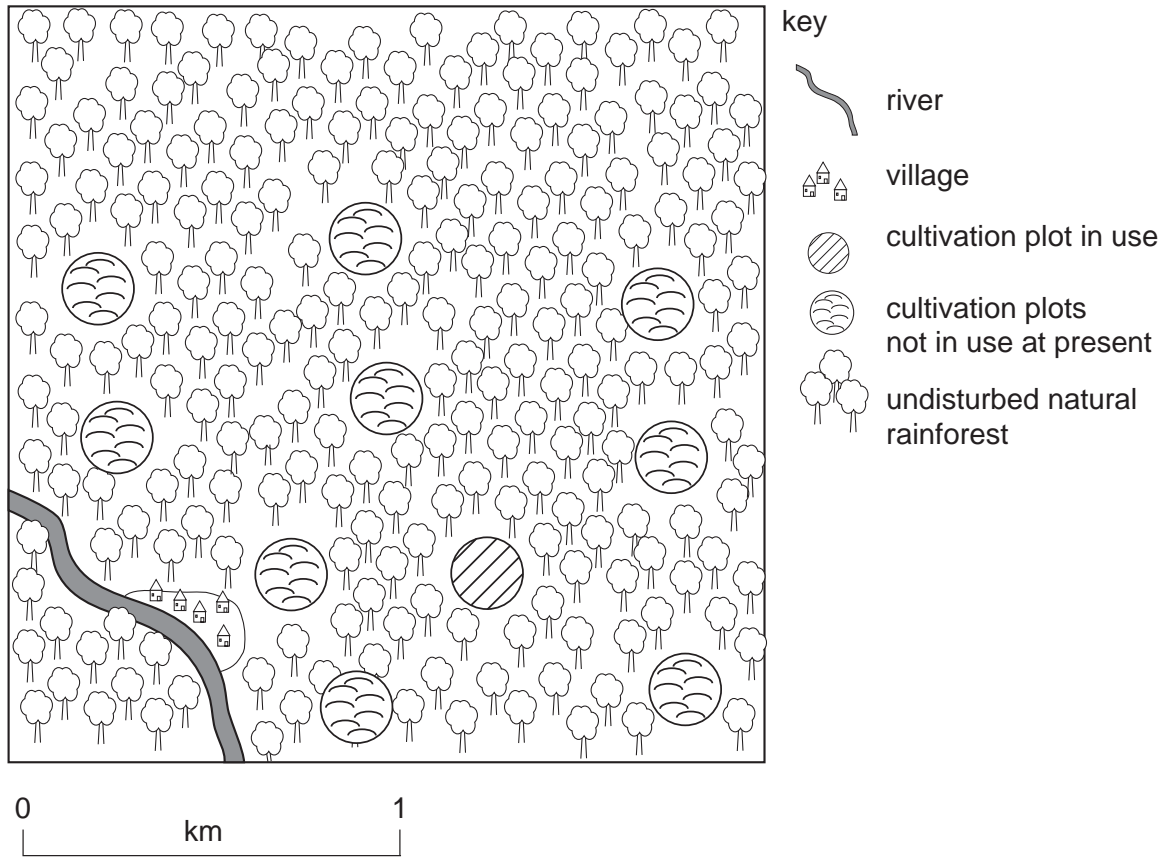
(i) Explain what recycle means in an ecosystem.

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.....
..... [3]

(ii) Why are there few losses from a natural forest ecosystem by surface erosion and leaching?

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..... [2]

(d) Look at the map below which shows an area of rainforest in Brazil. An Indian tribe makes a living by growing crops, fishing, collecting forest fruits and hunting animals.



(i) Look at the location of their village.

Suggest why it is a good location for the village.

.....

.....

..... [2]

(ii) What type of vegetation covers the largest area of land on the map?

..... [1]

(iii) On one cultivation plot the tribe grows crops for three years. After three years, the tribe shifts crop growing to another cultivation plot, which it had used before.

For how many years is a cultivation plot left unused before crop growing begins again? Show how you worked out your answer.

.....
..... [2]

(iv) This is an example of sustainable farming and sustainable living in the rainforest.

Explain why the way of life of this Indian tribe is sustainable.

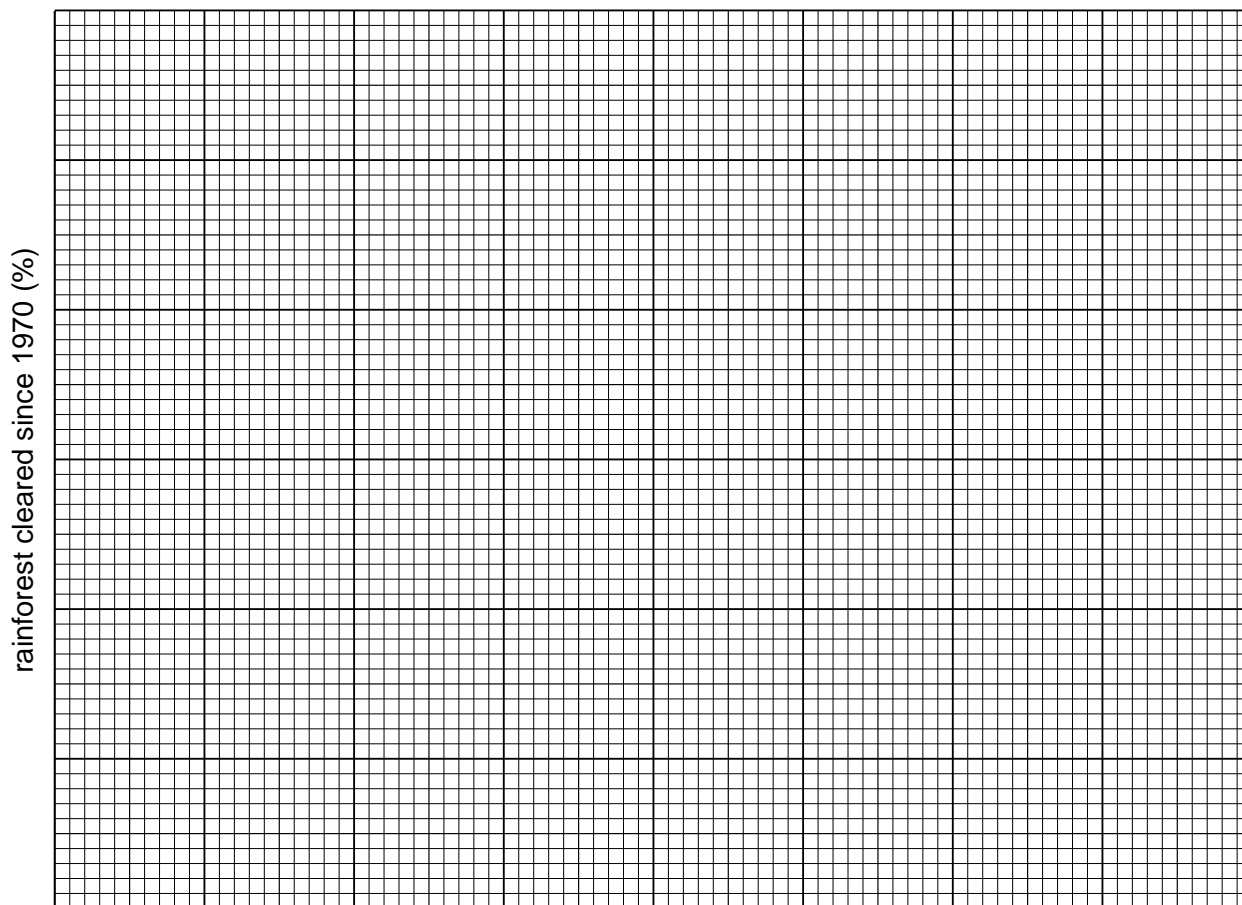
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.....
..... [3]

(e) The loss of tropical rainforests in the world is large.

Look at the values in the table below.

	Percentage of tropical rainforest cleared since 1970
	%
Asia	30
Africa	18
South and Central America	17
World average	20

In the frame below, draw a graph to show these values



[4]

(f) In the areas cleared of tropical rainforest, one way of using the land is for farming.

Look at the photograph below, which was taken in the tropical lowlands in Central America.



(i) State the main type of farming in the area shown on the photograph.

..... [1]

(ii) From the photograph, describe what suggests that the land was previously covered by forest.

.....
..... [1]

(iii) Is there a high risk of soil erosion in the area shown on the photograph? Use evidence from the photograph to help you explain your answer.

.....
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.....
..... [3]

(g) Logging is another reason why tropical rainforests are destroyed.

(i) Why is much of the logging undertaken in rainforests unsustainable?

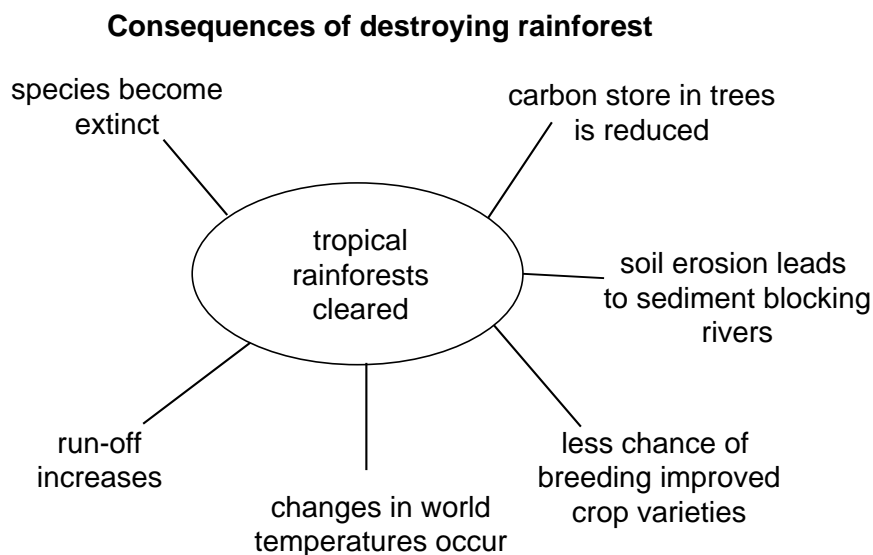
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(ii) Name and describe one strategy for making logging a sustainable activity.

.....
.....
.....

[4]

(h) Some of the consequences of destroying tropical rainforests are shown in the diagram below.



(i) From the diagram, choose one consequence which is suitable for each of the headings listed below.

Reduced biodiversity – example

.....

Change in the local environment – example

.....

Change in the global environment – example

..... [3]

(ii) What does biodiversity mean?

.....

.....

.....

(iii) Why is biodiversity important to everyone living on the Earth?

.....

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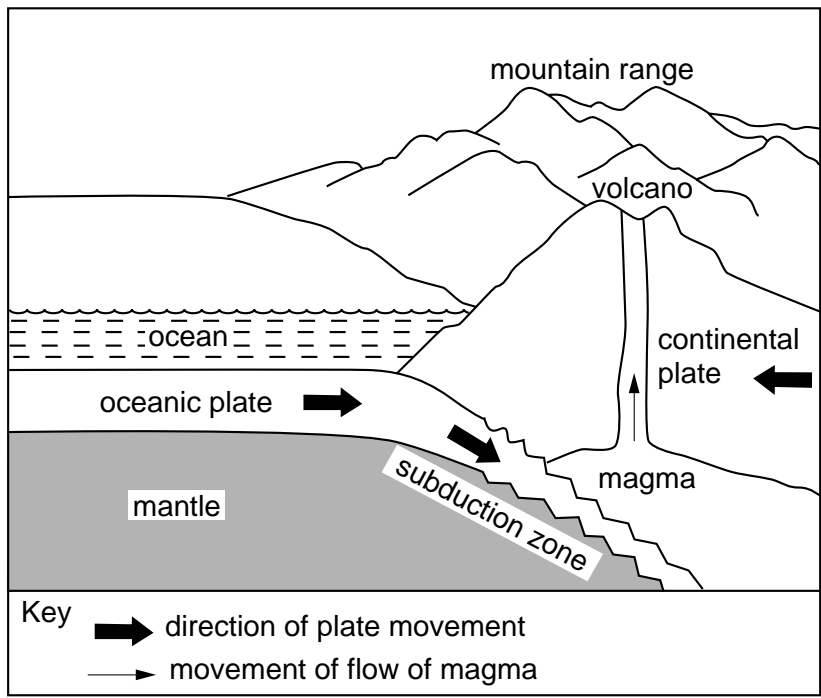
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[4]

[Total : 40]

2 (a) Look at the diagram below which shows one type of plate boundary.



(i) In which directions are the two plates moving?

..... [1]

(ii) What type of plate boundary is shown?

..... [1]

(iii) Explain why both volcanoes and earthquakes are found along plate boundaries.

Volcanoes

.....

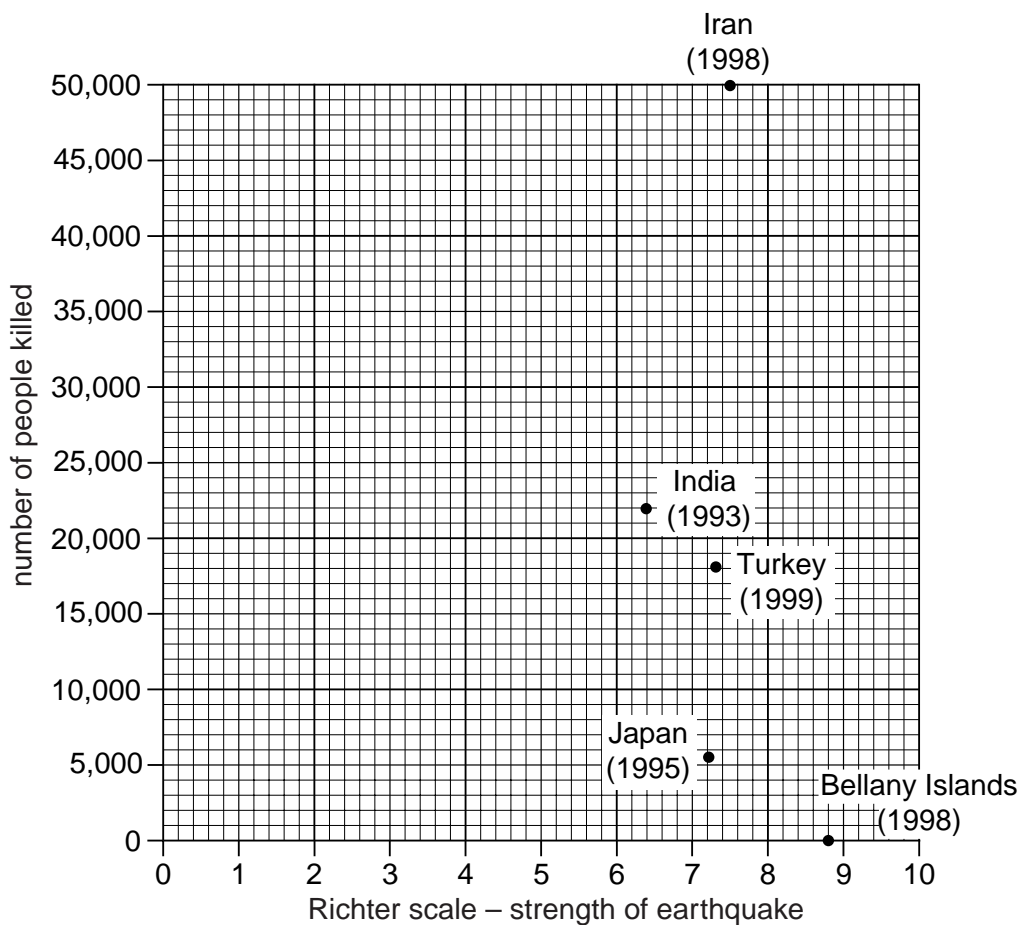
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Earthquakes

.....

..... [4]

(b) Look at the graph below which shows the relationship between strength of an earthquake and number of people killed.



(i) In which place were there the greatest number of people killed?

..... [1]

(ii) State two ways in which the earthquake in the Bellany Islands was different from the others. (The Bellany Islands are located off the coast of Antarctica.)

1.

2. [2]

(iii) In mid-January 2001, El Salvador, a small country in Central America, suffered a major earthquake. It measured 7.6 on the Richter scale and killed 1,000 people.

Add this information about the El Salvador earthquake to the graph. [2]

(c) Read the newspaper report below about the earthquake in El Salvador.

The earth shook and the mountain came tumbling down

I have now lived in San Salvador, the capital city of El Salvador, for ten years. I have become used to the short sharp tremors that are common here. At first none of my family were worried when the ground moved. But as the earth movements increased in force so that the walls of our house shook violently, and tables and cupboards began to move, we rushed for the front door in search of safety in the street. Many of our neighbours were already out on the street, because they were here during the 1986 earthquake, which killed over 1,000 people in the city.

The damage in our part of the city was slight compared with that in Las Colinas, a housing area for the wealthy further west. Most of the houses in Las Colinas were two storeys high, fairly strong and quite well built. They were much better than the houses of the poor in the shanty towns, which had collapsed in the 1986 earthquake. Higher up on the steep slopes were big new houses, recently built for the very wealthy.



Las Colinas before the earthquake

(i) How did the writer of the newspaper report know that an earthquake was happening?

.....

.....

..... [2]

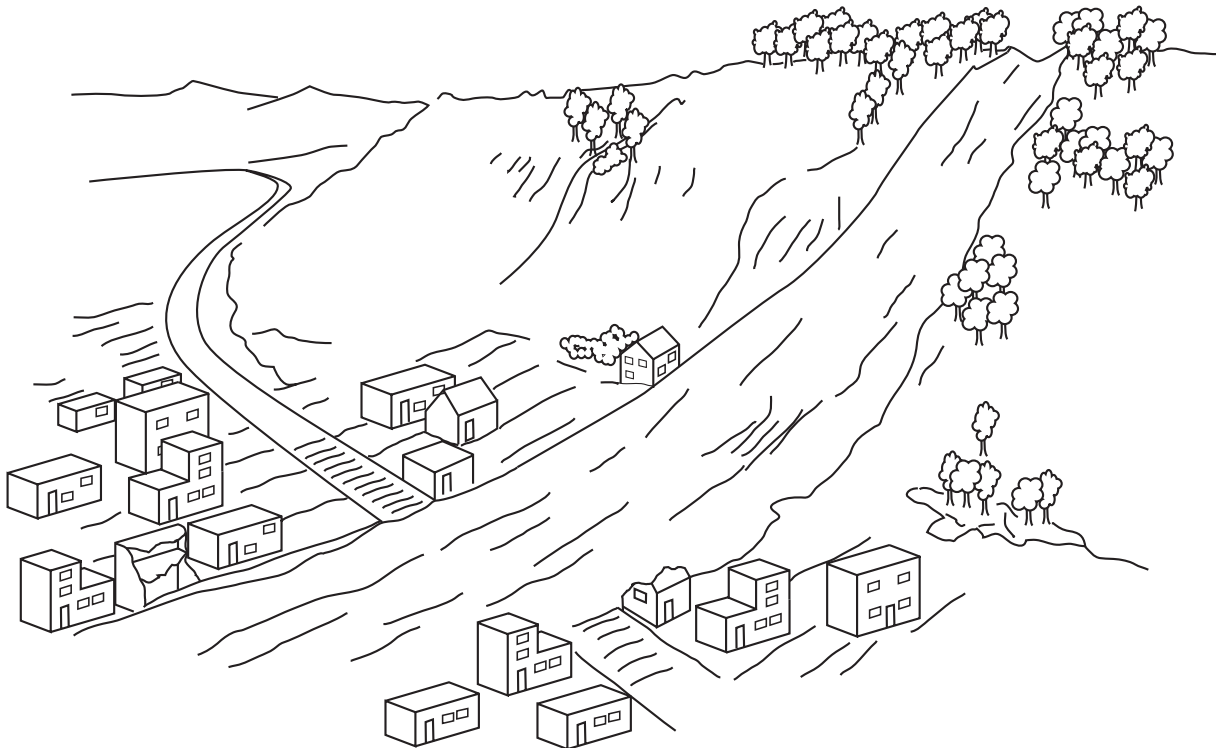
(ii) What is the safest thing for people to do in an earthquake? Explain your answer.

.....
.....
..... [2]

(iii) Describe what Las Colinas was like before the earthquake.

.....
.....
..... [2]

After the main earthquake shock, survivors said they heard what sounded like a swarm of bees. What they really heard was the nearby mountain side sliding down the slope, covering over 300 houses in mud. A mighty mudslide from the mountains behind had been set off by the earthquake. More than 1,200 people were missing. Rescue workers scraped away at the thousands of tonnes of earth and mud looking for those who may have survived in the rubble of their homes. After the earthquake, local people blamed the builders and owners of the big new houses for clearing the trees and making the steep mountain slopes unstable.



Las Colinas after the earthquake

(iv) How was its appearance changed as a result of the earthquake?

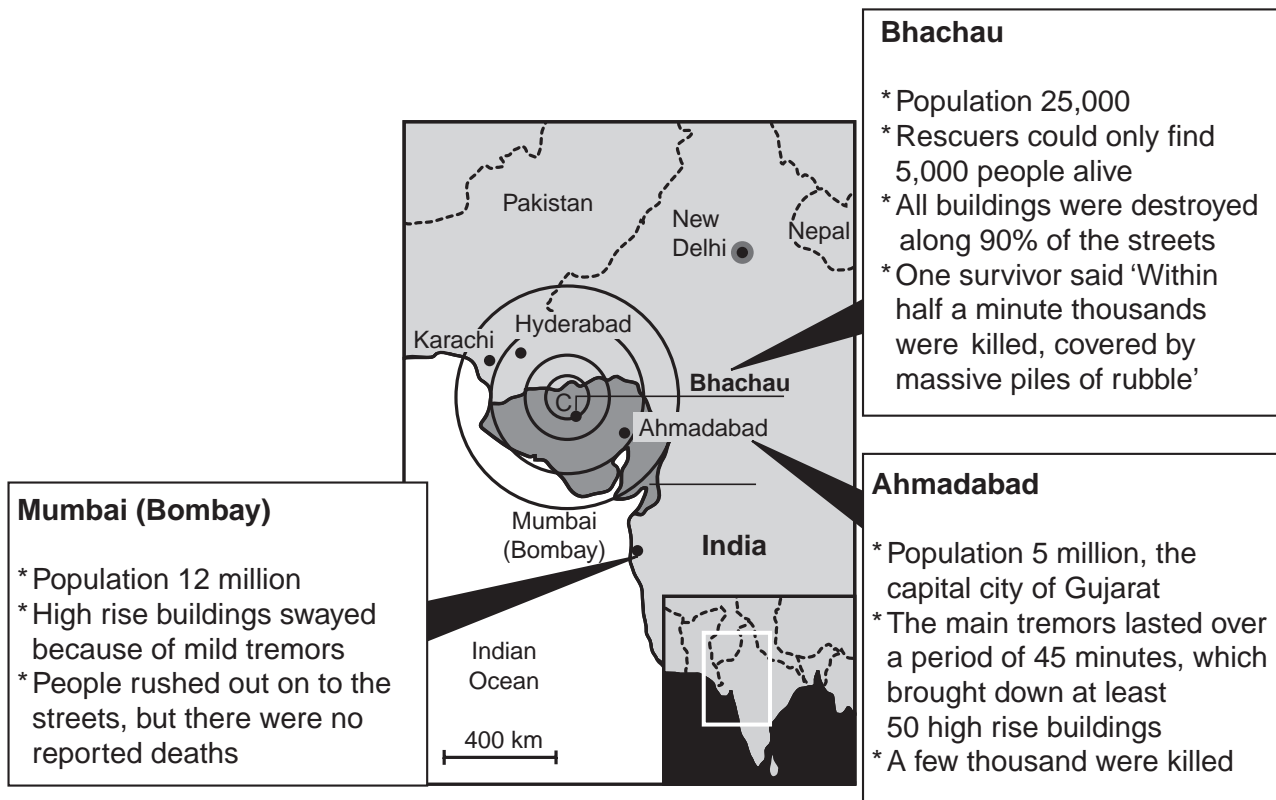
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..... [2]

(v) The great loss of life in Las Colinas was caused by both natural and human factors.

Do you agree with this? Explain your answer.

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.....
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..... [3]

(d) Later in the same month a strong earthquake, which measured 7.9 on the Richter scale, hit the northern state of Gujarat in India. It happened at about 9 o'clock in the morning, causing buildings to collapse, and trapping and killing thousands of people.



Key
 C Centre of the earthquake
 ---- country border



(i) Describe the main way in which people in Bhachau were killed by the earthquake.

.....

..... [1]

(ii) Suggest reasons why there were fewer deaths in Ahamabad and Mumbai.

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.....

..... [3]

(iii) Why is it difficult to know the exact number of people killed in an earthquake?

.....

.....

.....

..... [2]

(e) In March 2001 there was an earthquake in Seattle in the north west of the USA.

Read the newspaper report below.

Earthquake rocks Seattle

An earthquake measuring 6.8 on the Richter scale rocked the American city of Seattle last night, sending office workers on to the streets in panic. One woman died of a heart attack and more than 250 were injured. It caused extensive property damage in the central parts of the city, which could cost billions of dollars to repair. It was the biggest earthquake to hit the area for 52 years.

Experts said that one of the reasons for the lack of deaths and serious injuries was that the earthquake's focus was 50 km underground, in solid rock. A lot of money had been spent in the last 20 years to make sure that buildings could withstand major shocks. One of the city's best known landmarks, the Space Needle, was built to withstand a 9.1 magnitude earthquake. It shuddered and rolled violently during the tremor, but remained undamaged.

State **three** reasons why the earthquake in Seattle caused so few deaths and serious injuries.

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

(f) 'The stronger the earthquake, the greater the loss of life'.

(i) Do you consider this statement to be true, false, or partly true?
.....

(ii) Explain your answer by referring to examples of earthquakes.
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[5]

(g) After a natural disaster (such as an earthquake) or a climatic accident (such as a cyclone), public services are badly affected.

- Electric power is cut off
- Telephones don't work
- Airports close
- Roads to other towns and cities are blocked

Choose **two** of the public services in the list.

For each one, suggest how and why rescue efforts are made more difficult without it.

1. Service chosen

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2. Service chosen

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[4]

[Total : 40]

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