UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

**GEOGRAPHY** **0460/22**

Paper 2 **October/November 2011**

**1 hour 30 minutes**

Candidates answer on the Question Paper.

Additional Materials: Ruler
Protractor
Plain paper

1:25 000 Survey Map Extract is enclosed with this Question Paper.

**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name in the spaces provided.
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.

Answer **all** questions.
The Insert contains Photographs A and B for Question 5.
Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

The Survey Map Extract and the Insert are **not** required by the Examiner.

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 **15** printed pages, **1** blank page and **1** Insert.




UNIVERSITY of CAMBRIDGE International Examinations

**1** The map extract is for Medine. The scale is 1:25 000.

For Examiner's Use

**(a)** Fig. 1 shows the positions of some features in the south of the map extract.

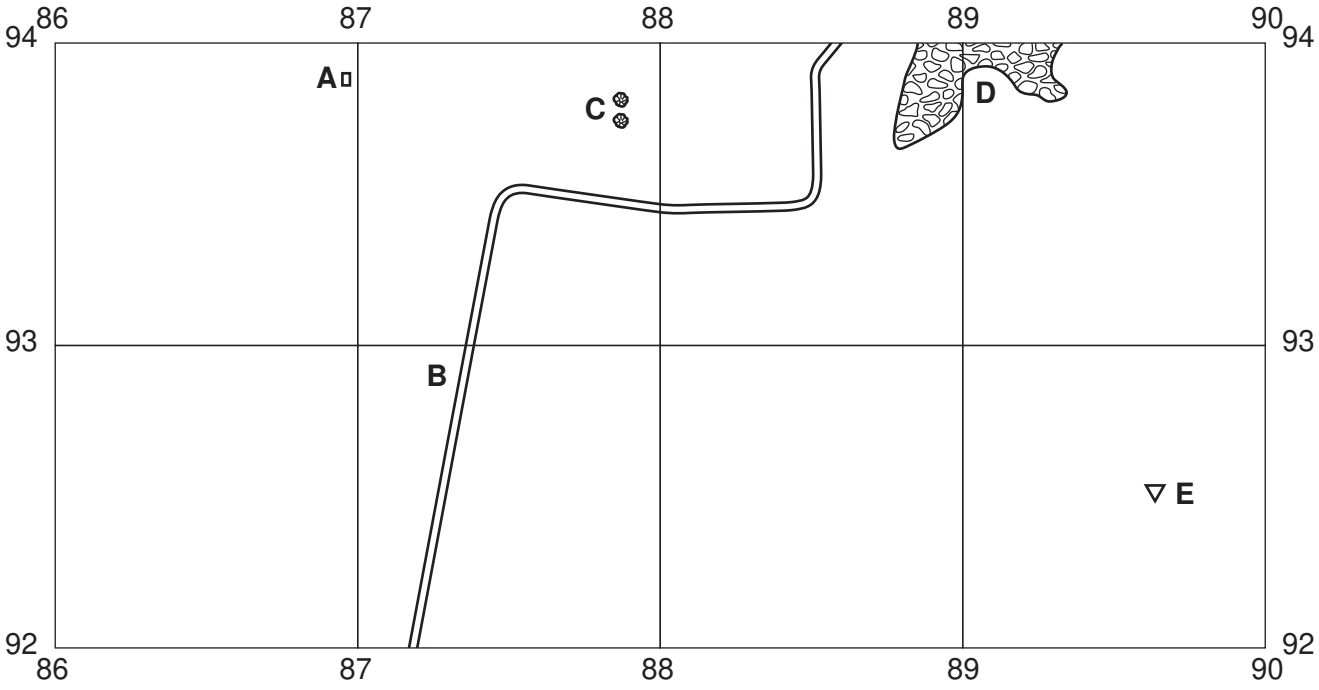


**Fig. 1**

Study the map and identify the following features shown on Fig. 1:

**(i)** the built feature at **A**;

.....[1]

**(ii)** the type of road at **B**;

.....[1]

**(iii)** the features at **C**;

.....[1]

**(iv)** the natural vegetation at **D**;

.....[1]

**(v)** the height at the trigonometrical station at **E**.

..... metres [1]

**(b)** Describe the physical features of the coast on the map extract.

For Examiner's Use

.....

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.....

.....

.....

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.....

.....

.....[5]

**(c)** Fig. 2 shows a sugar plantation and areas of cultivation and other plantation in grid squares 8794 and 8894.

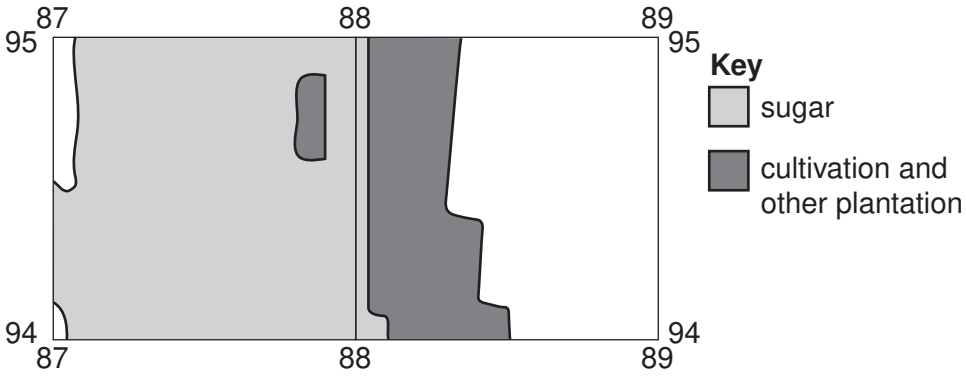


**Fig. 2**

How is irrigation water supplied to these areas?

.....

.....

.....

.....

.....

.....[3]

**(d)** Fig. 3 shows the Rivière Noire road in the east of the map and the positions of two bench marks, showing height, along it.

For Examiner's Use

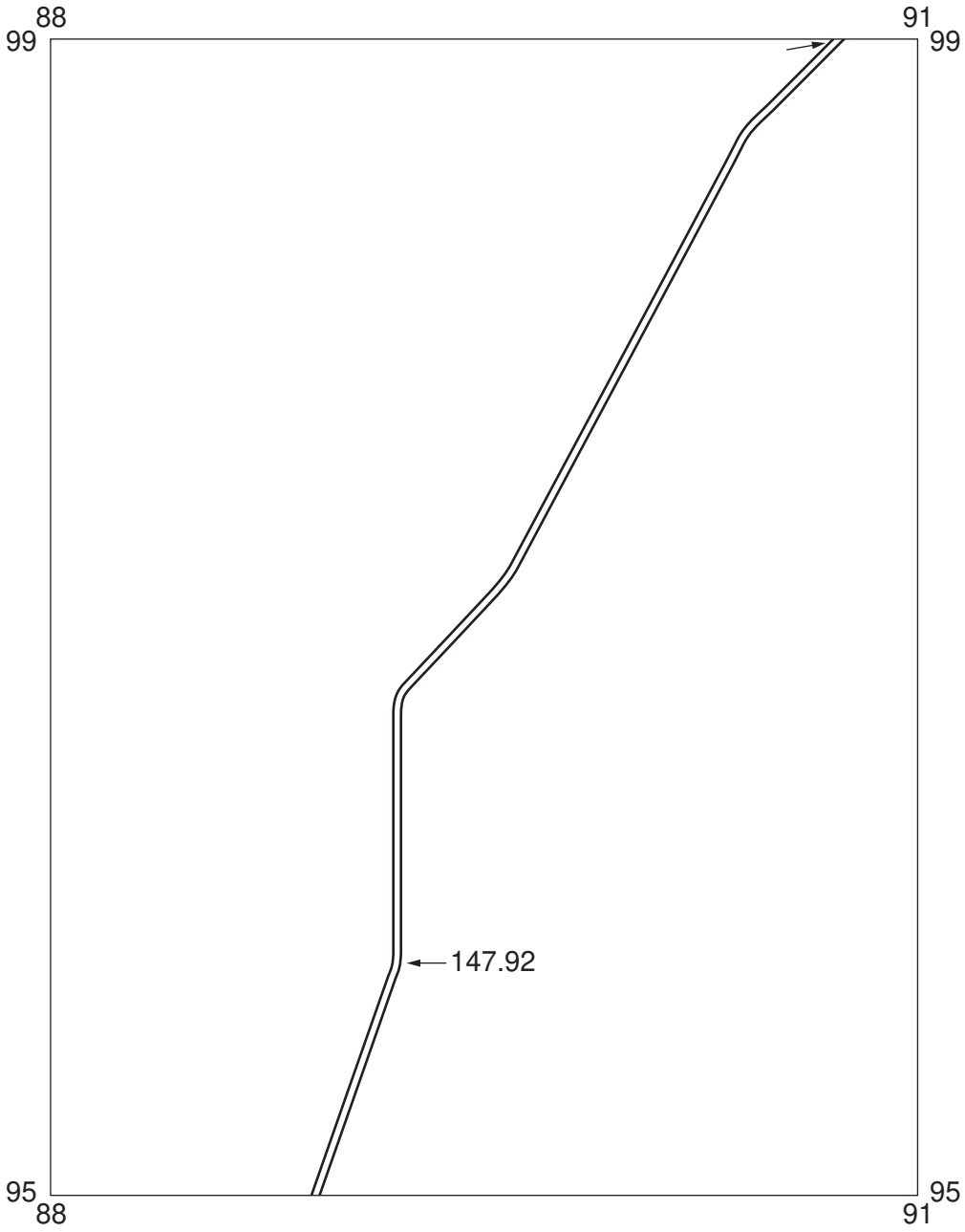


**Fig. 3**

**(i)** Complete Table 1, using the map extract to obtain your answers.

**Table 1**

| | |
|---|---|
| height of bench mark at 892957 | 147.92 metres |
| height of bench mark at 907990 | ..... metres |
| difference in height of bench marks | ..... metres |

[1]

**(ii)** Measure the distance in metres along the road between the two bench marks. Circle below the distance in metres which is nearest to your answer.

3070 3270 3470 3670 3870 [1]

**(iii)** Using your answers to **(d)(i)** and **(d)(ii)**, calculate the gradient along the road between these two bench marks.

difference in height to nearest whole number ..... metres

distance between the bench marks ..... metres

gradient is 1 in ..... [1]

**(e)** Describe the settlement of Flic en Flac in the south west of the map extract under the following headings:

**(i)** buildings and their layout;

.....

.....

.....

.....[2]

**(ii)** services.

.....

.....

.....

.....[2]

[Total: 20 marks]

**2** **(a)** Fig. 4 shows some areas of the world with high population densities.

*For Examiner's Use*

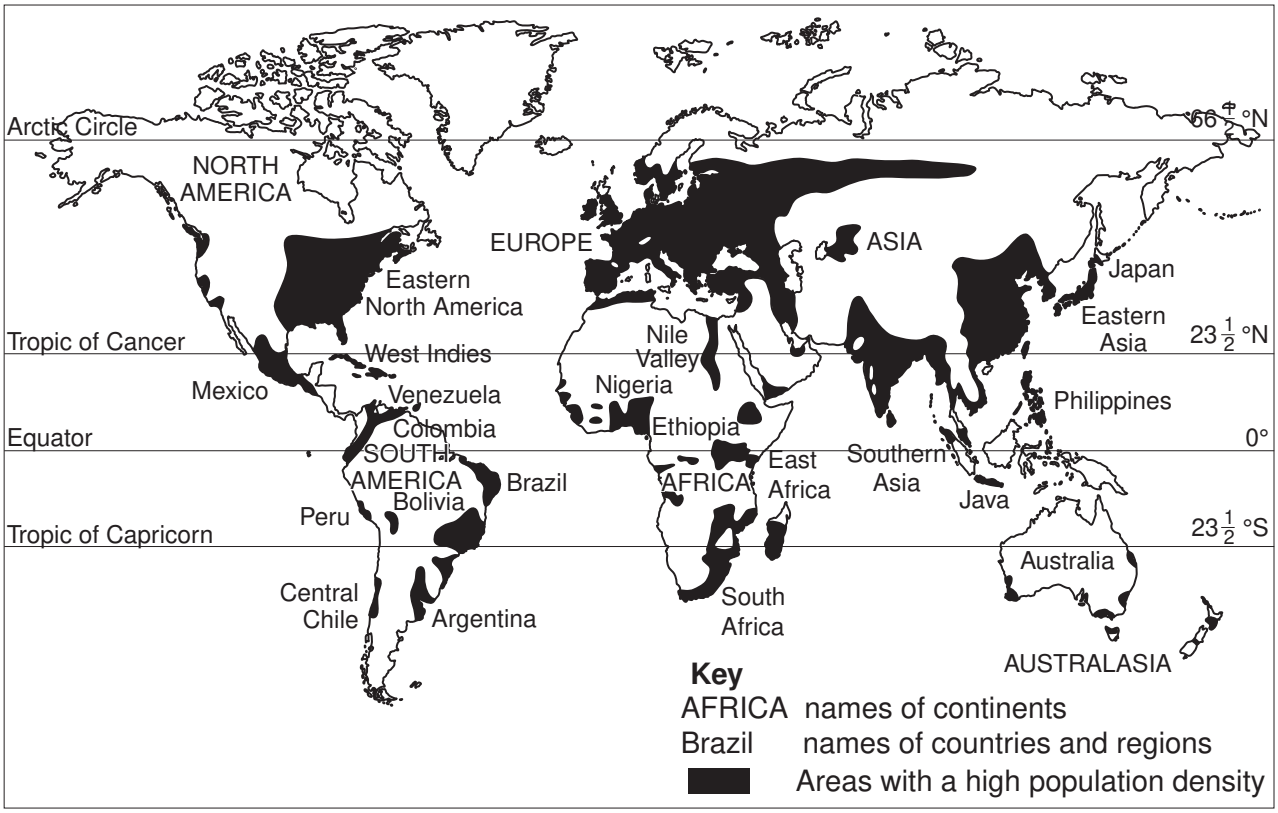


**Fig. 4**

**(i)** Name a group of islands which have a high population density in **all** areas.

.....[1]

**(ii)** Which continent has a high population density over more than half of its area?

.....[1]

**(iii)** Which continent has the smallest total area of high population density?

.....[1]

**(b)** Describe the distribution of areas of high population density in Australia.

.....

.....

.....

.....

.....

.....[3]

**(c)** Suggest why there are no areas of high population density north of the Arctic Circle.

*For Examiner's Use*

.....

.....

.....

.....[2]

[Total: 8 marks]

**3** Study Fig. 5, a section across part of Guatemala from the Pacific Ocean to the volcanic highlands, an area where commercial farming is important.

For Examiner's Use

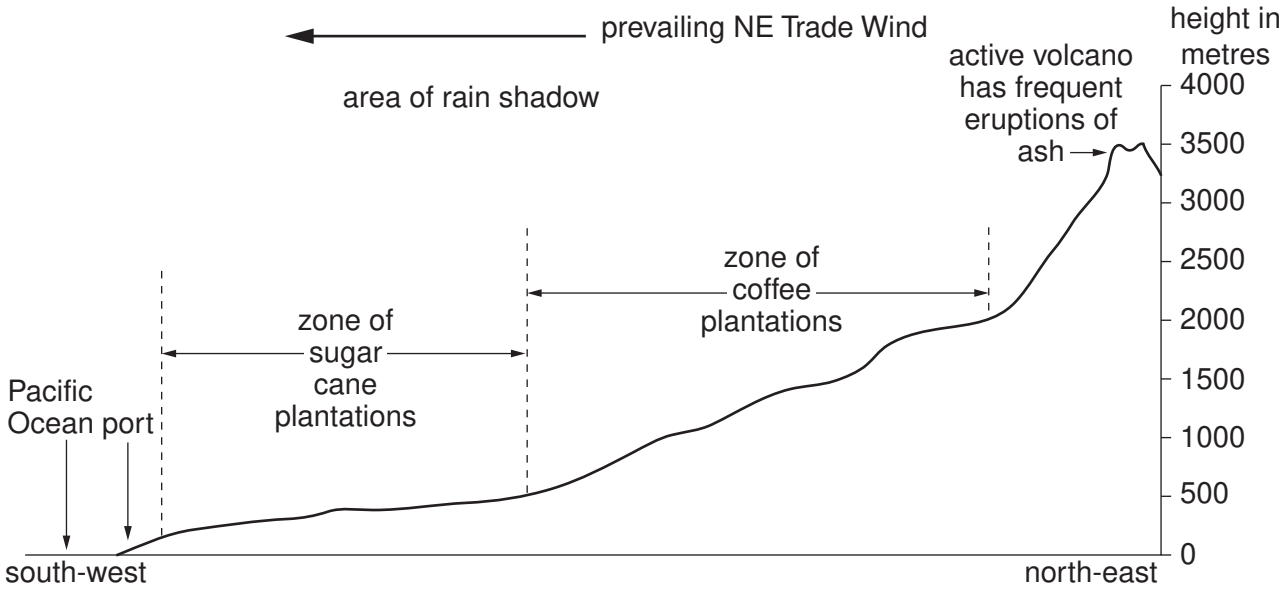


**Fig. 5**

**(a)** **(i)** Between which heights above sea level is coffee grown in this area?

between ..... metres and ..... metres [1]

**(ii)** Compare the relief of the area used for coffee growing with that used for sugar cane.

.....

.....

.....

.....

.....[2]

**(b)** Use Fig. 5 to state which of the two crops requires the coolest temperatures.

.....[1]

**(c)** The coffee in this area grows well without the need for artificial fertiliser, even though the same crop is grown year after year. Use Fig. 5 to suggest what makes this possible.

.....

.....[1]

**(d)** The sugar cane needs irrigation in the growing season, a dry period for harvesting and a way of distributing the crop. Use Fig. 5 to explain why its location is suitable for:

*For Examiner's Use*

**(i)** irrigation; .....

.....[1]

**(ii)** dry weather; .....

.....[1]

**(iii)** distributing the crop. .....

.....[1]

[Total: 8 marks]

**4** Study Fig. 6, which shows a plate boundary between north-east Africa and south-west Asia and Fig. 7, which is an account of recent movements along the possible new plate boundary shown on Fig. 6.

For Examiner's Use

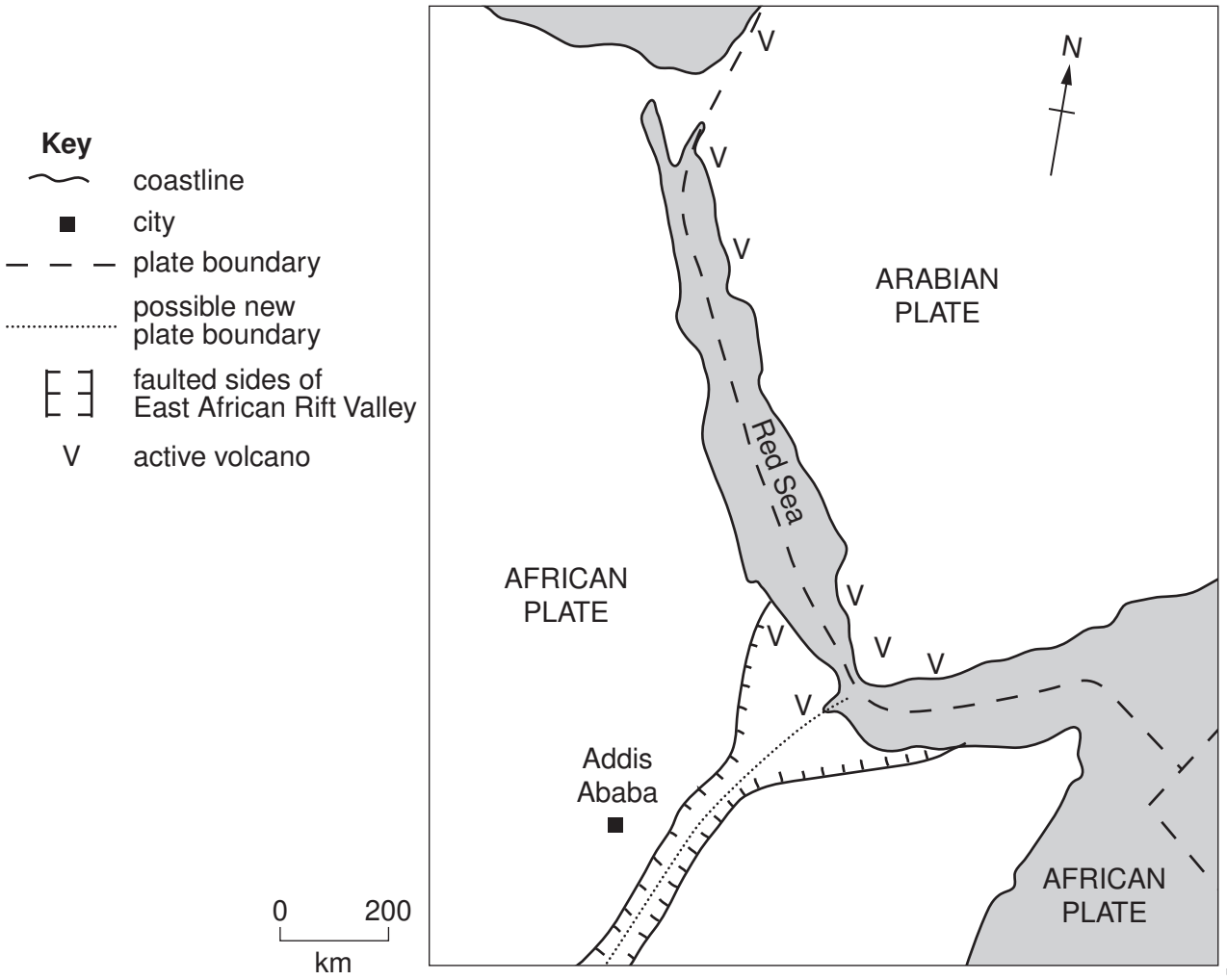


**Fig. 6**

**Earth's crust opens**

For 30 million years the African and Arabian plates have been moving apart, forming the Red Sea. The plate movement is not smooth or continuous but happens in sudden violent movements.

Changes are happening unusually rapidly along a possible new plate boundary in north-east Africa where a new ocean may be formed along the East African Rift Valley. It was reported that over three weeks a 3 metre wide crack opened up in the Ethiopian Desert and one stretch of nearly 60 km opened by more than 4 metres in a month.

The crack was triggered by an earthquake 400 km north east of Addis Ababa.

Molten rock from deep below the earth's surface is rising up as the Rift Valley in Ethiopia continues to widen.

**Fig. 7**

**(a) (i)** Circle the type of plate boundary described in Fig. 7 from the choices below.

convergent (destructive) divergent (constructive) conservative [1]

**(ii)** Draw arrows on Fig. 6 to show the direction of movement of the African and Arabian plates. [1]

**(b) (i)** How will the map of north-east Africa change if the movement along the possible new plate boundary continues?

.....

.....

.....

.....[2]

**(ii)** State the evidence in **Fig. 7** that volcanic activity occurs along this new plate boundary.

.....

.....[1]

**(c) (i)** The earthquake epicentre was 400 km north east of Addis Ababa. Use a cross to plot the epicentre of the earthquake on Fig. 6. [2]

**(ii)** Explain why the location of the earthquake suggests that it is linked to plate movement.

.....

.....[1]

[Total: 8 marks]

**5** Study Photographs A and B (Insert), together with the information in Table 2.

*For Examiner's Use*

**Table 2**

| type of cloud | height level in atmosphere | shape |
|---|---|---|
| cumulus | low | globular |
| stratus | low | layer |
| cirrus | high | wispy, thin layer, or groups of small clouds |
| cumulonimbus | from low to high | |

**(a)** Identify the following types of cloud shown in the photographs:

**(i)** the large cloud in the centre of Photograph A;

.....[1]

**(ii)** the clouds just above the coast in Photograph B;

.....[1]

**(iii)** the clouds high in the sky in Photograph B.

.....[1]

**(b)** Describe the large cloud in Photograph A.

.....

.....

.....

.....

.....

.....[3]

**(c)** Photograph A was taken in the tropics in the afternoon and Photograph B was taken along the coast of the Pacific Ocean in the sub-tropics. What was the most likely cause of each of these clouds? Complete Fig. 8 by choosing from:

- air being cooled by the sea;
- air rising as it crosses higher ground at the coastline;
- heated air rising.

| cloud location | reason for the cloud |
|---|---|
| centre of Photograph A | ..... <br> ..... |
| just above the coast in Photograph B | ..... <br> ..... |

**Fig. 8**

[2]

[Total: 8 marks]

**6** **(a)** Fig. 9 gives information about the fuels used in UK power stations in 2008 and outputs from them. Use this information to answer the questions below.

For Examiner's Use

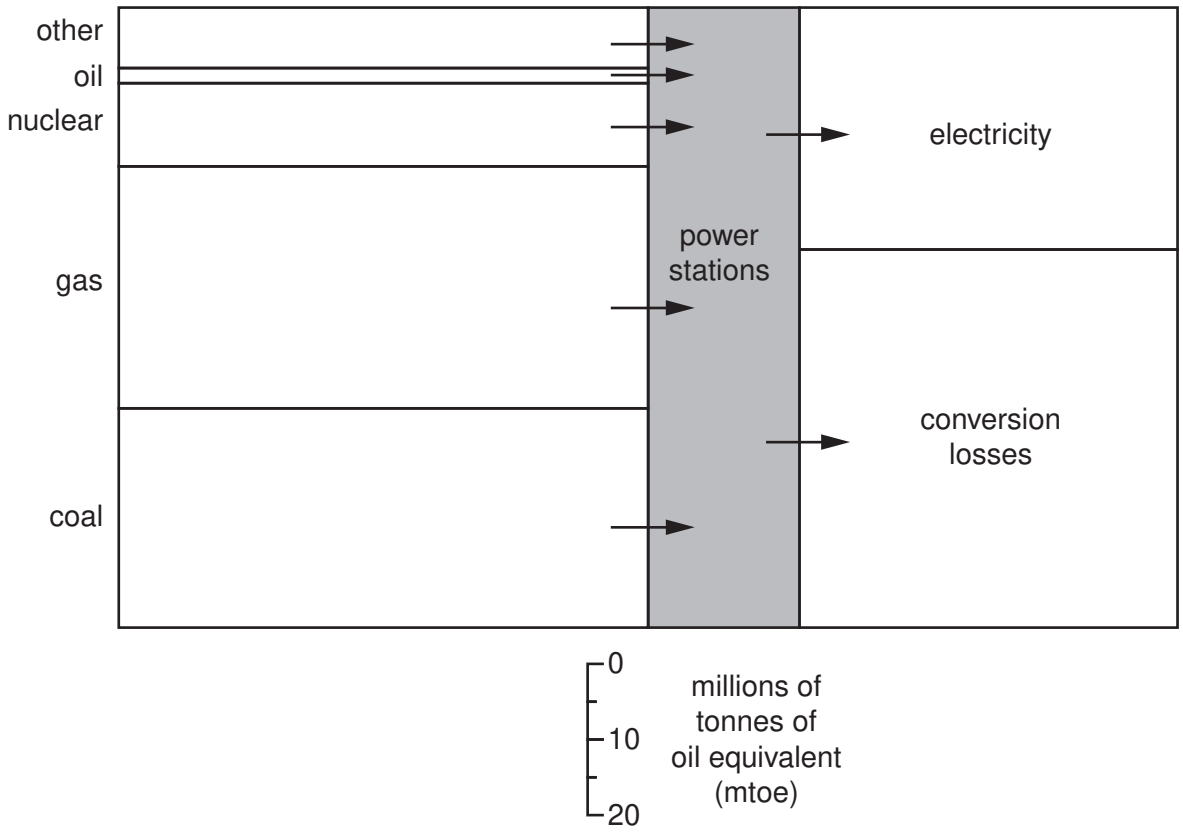


**Fig. 9**

**(i)** Which fuel was used in the largest quantities?

.....[1]

**(ii)** How much nuclear fuel was used?

..... million tonnes of oil equivalent [1]

**(iii)** Compare the amount of electricity output with the total amount of fuel used to produce it.

.....

.....

.....[2]

**(b)** Fig. 10 shows a power station in a National Park in the UK.

For Examiner's Use

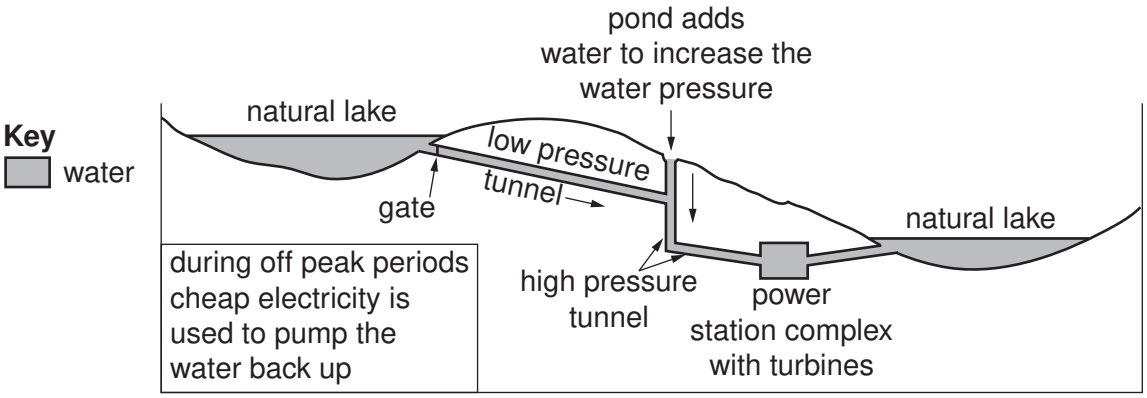


**Fig. 10**

**(i)** Circle the type of power station shown in Fig. 10 in the list below;

biogas geothermal hydro-electric thermal nuclear [1]

**(ii)** State **two** different advantages of this site for producing electricity.

.....

.....

.....

.....[2]

**(iii)** Suggest why permission was given to allow this power station to be developed in an area of outstanding natural beauty.

.....

.....[1]

[Total: 8 marks]

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