



CANDIDATE
NAME

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CENTRE
NUMBER

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CANDIDATE
NUMBER

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0460/22

February/March 2020

1 hour 30 minutes

You must answer on the question paper.

You will need:

Insert (enclosed)	Plain paper
1:50 000 survey map (enclosed)	Protractor
Calculator	Ruler

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- If additional space is needed, you should use the lined pages at the end of this booklet; the question number or numbers must be clearly shown.

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [].
- The insert contains additional resources referred to in the questions.

This document has **20** pages. Blank pages are indicated.

1 Study the map extract for Aywaille, Belgium. The scale is 1:50 000.

(a) Fig. 1.1 shows some of the features in the north west part of the map extract. Study Fig. 1.1 and the map extract, and answer the questions below.

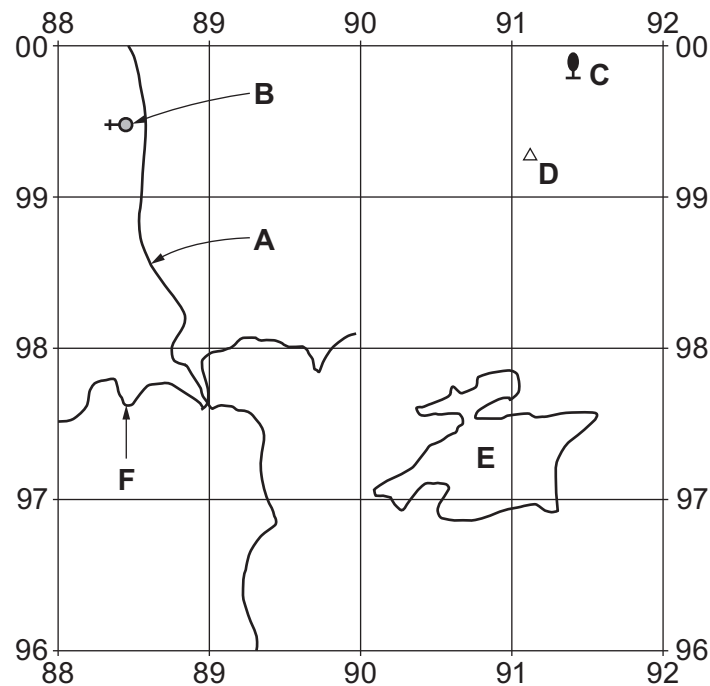


Fig. 1.1

Using the map extract, identify the following features shown in Fig. 1.1:

(i) the type of road at **A**

..... [1]

(ii) feature **B**

..... [1]

(iii) feature **C**

..... [1]

(iv) the height above sea level at **D**

..... metres [1]

(v) the land use at **E**

..... [1]

(vi) the height above sea level of the contour at **F**.

..... metres [1]

(b) Find the motorway that runs from the north edge of the map extract to the south edge of the map extract.

(i) Measure the distance along the motorway from the north edge of the map to the south edge of the map. Give your answer in metres.

..... metres [1]

(ii) Measure the compass bearing **from** the point where the motorway meets the north edge of the map **to** the point where the motorway meets the south edge of the map.

..... degrees [1]

(c) Fig. 1.2 shows an area in the north east of the map at Hestroumont. Fig. 1.3 shows an area in the south east of the map at Haute Desnié. Study the two areas and answer the questions below.

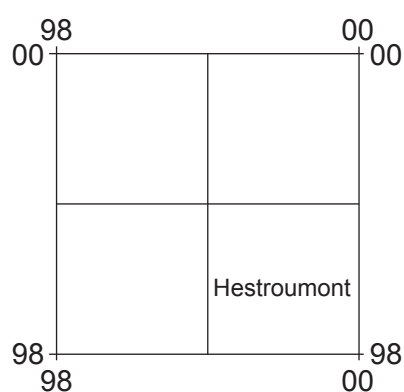


Fig. 1.2

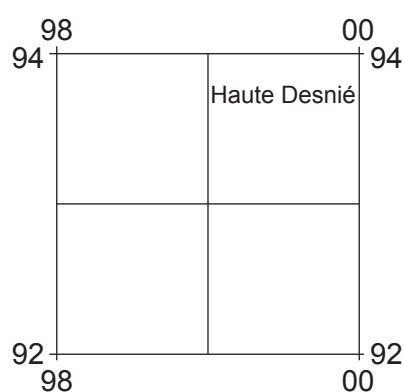


Fig. 1.3

The table below compares the features of the two areas. Complete the table by putting ticks in the correct **five** boxes. Use only **one** tick for each row.

	Area in Fig. 1.2 at Hestroumont	Area in Fig. 1.3 at Haute Desnié	Both of these areas	Neither of these areas
secondary road				
trees or woodland				
linear settlement				
flat land				
land over 400 m above sea level				

[5]

- (d) Look at the railway in the south west of the map extract. Describe the route of the railway.

.....

.....

.....

.....

..... [3]

- (e) Fig. 1.4 is a cross section along easting 94 from 940960 in the north to 940920 in the south. The cross section runs through the settlement at Nonceveux.

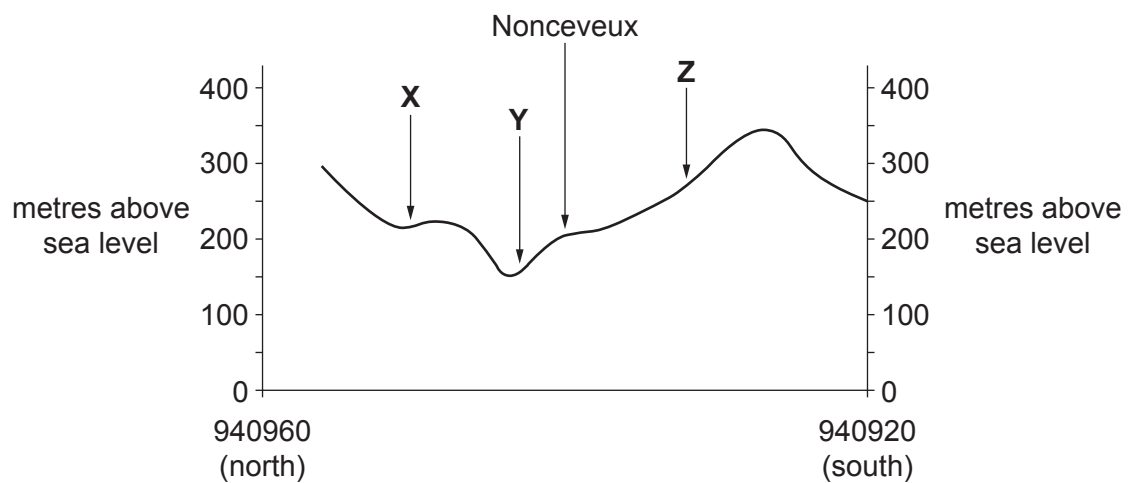


Fig. 1.4

- (i) Identify the feature at X.
..... [1]
- (ii) Identify the feature at Y.
..... [1]
- (iii) Identify the feature at Z.
..... [1]
- (iv) The cross section shown in Fig. 1.4 is incomplete. Using information from the map extract, draw a line in Fig. 1.4 to **complete the cross section**. [1]

[Total: 20]

TURN PAGE FOR QUESTION 2

2 Fig. 2.1 shows the population densities of countries in Africa.

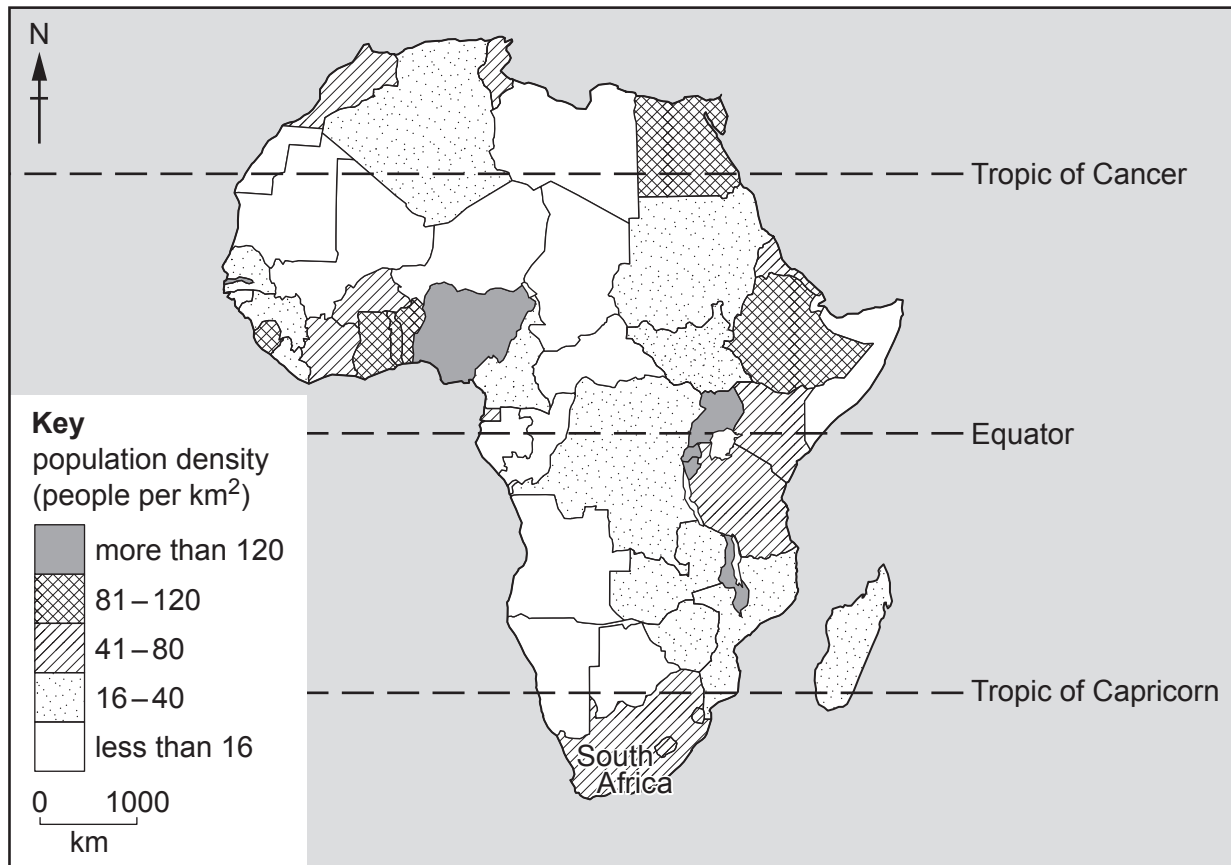


Fig. 2.1

(a) (i) State the population density of South Africa, shown in Fig. 2.1.

..... people per km² [1]

(ii) Using Fig. 2.1, describe the distribution of countries with 81–120 people per km².

.....

.....

.....

.....

..... [2]

(b) Fig. 2.2 shows the areas of equatorial and hot desert climates in Africa.

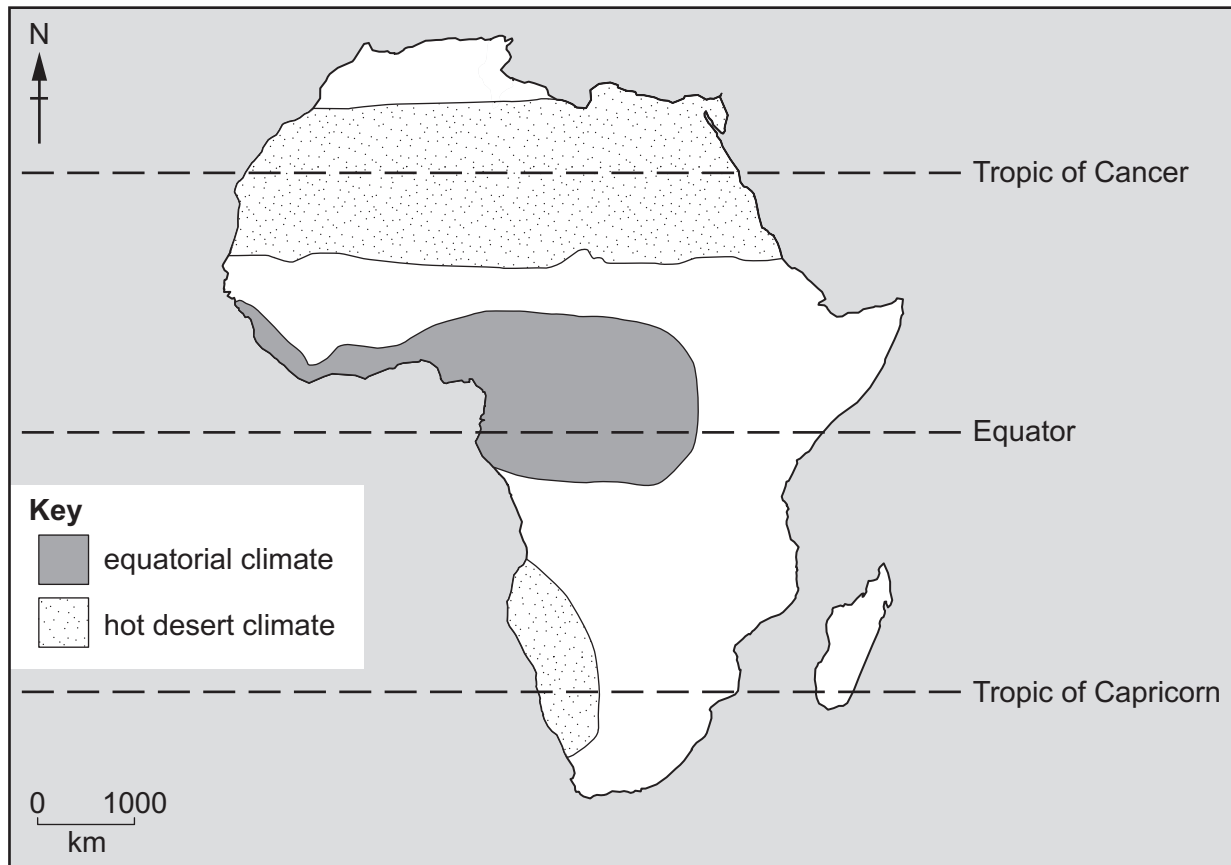


Fig. 2.2

- (i) Using Figs. 2.1 and 2.2, describe the population density of the area of hot desert south of the equator.

.....

.....

.....

..... [2]

- (ii) In **Fig. 2.1**, use the letter **D** to label a hot desert country which is densely populated. [1]

- (c) Using Figs. 2.1 and 2.2, describe the population density of the area of equatorial climate.

.....

.....

.....

.....

..... [2]

[Total: 8]

3 Fig. 3.1 describes the eruption of Mount Agung in 2017.

Mount Agung is an active strato-volcano in Bali, Indonesia.

In September 2017, the area around the volcano experienced 844 earthquakes, including 350 on 26 September, and about 122 500 people were evacuated from their houses.

On 21 November, an ash cloud from the summit reached 3842 metres above sea level and later grew to 9144 metres. Early on Saturday 25 November, some airlines cancelled flights bound for Australia and New Zealand. An orange glow was later observed around the crater at night, suggesting that fresh magma was moving to the surface.

On 12 December a picture of the crater was taken showing a steadily growing lava dome occupying approximately one third of the crater. The eruption later reduced to minor emissions of steam and smoke.

Fig. 3.1

- (a)** Each of the following definitions describes a volcanic feature mentioned in Fig. 3.1. Identify each feature from its definition.

- (i)** molten rock below the ground

..... [1]

- (ii)** a depression at the top of a volcanic cone

..... [1]

- (iii)** a volcano made up of alternate layers of lava and ash

..... [1]

- (b)** Using Fig. 3.1, identify the earliest sign that Mount Agung was about to erupt in 2017.

.....
 [1]

- (c)** Using Fig. 3.1, identify the final event of the 2017 eruption.

.....
 [1]

(d) Fig. 3.2 shows the location of Bali and the islands of Indonesia.

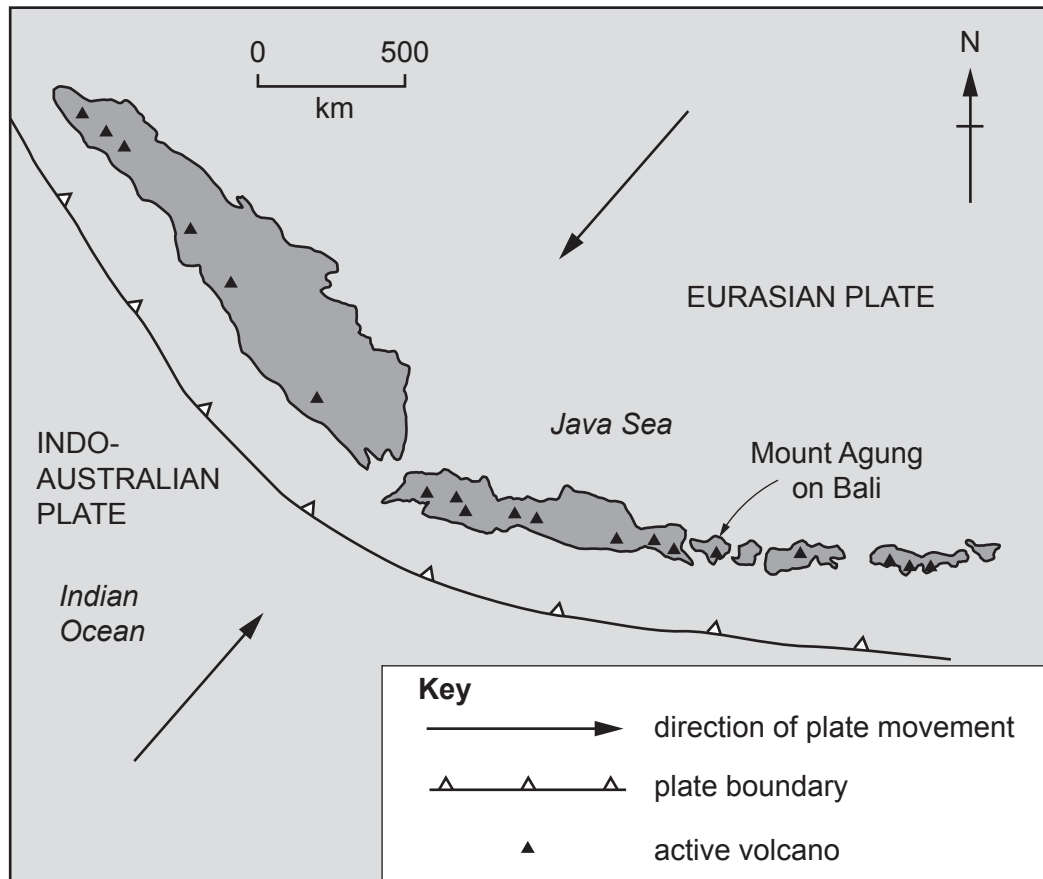


Fig. 3.2

Using information from Fig. 3.2, explain why there are active volcanoes in Indonesia.

.....

.....

.....

.....

.....

.....

.....

..... [3]

[Total: 8]

4 Fig. 4.1 shows the climate of a hot desert area in the southern hemisphere.

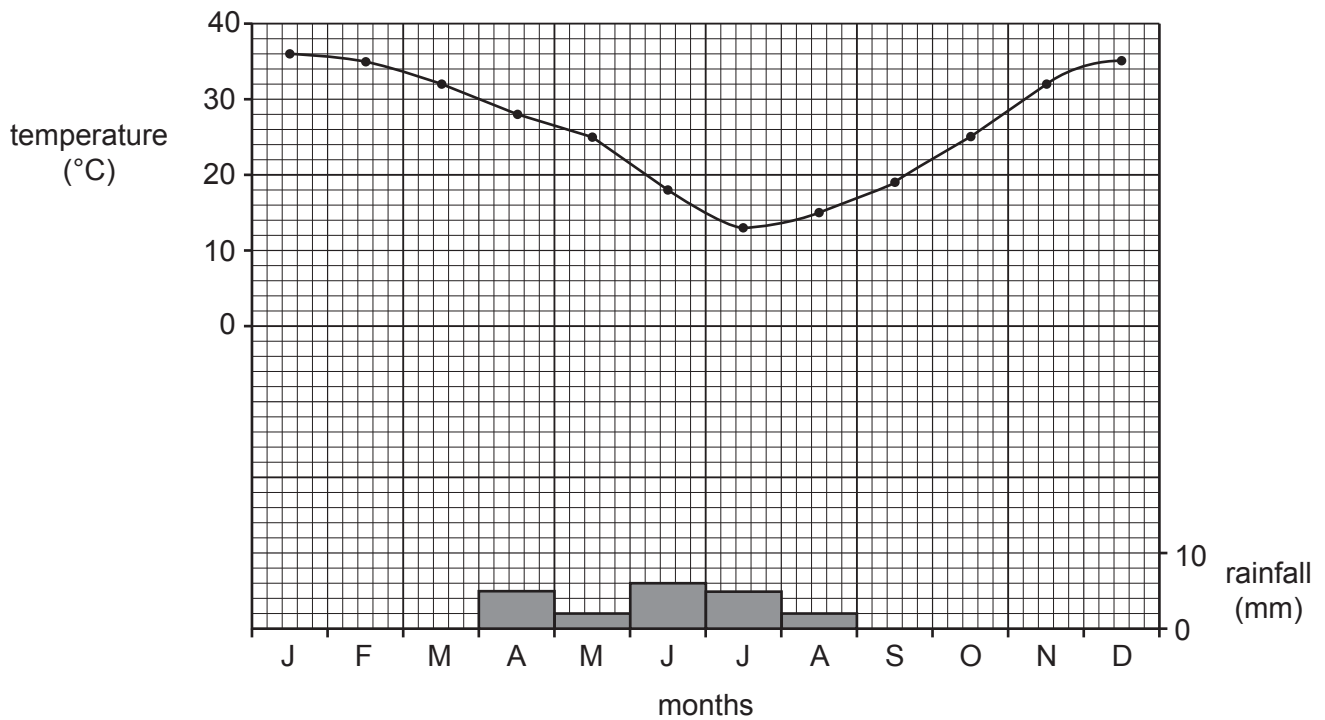


Fig. 4.1

(a) For the climate shown in Fig. 4.1 state the:

(i) January temperature

.....

[1]

(ii) annual temperature range.

.....

[1]

(b) (i) For the climate shown in Fig. 4.1, which is the wet season? Circle **one** correct answer below.

winter

spring

summer

autumn

[1]

(ii) What is the annual rainfall of the area shown in Fig. 4.1? Circle **one** correct answer below.

10 mm

20 mm

30 mm

40 mm

[1]

- (c) Fig. 4.2 (Insert) shows vegetation in an area with a dry climate. Describe **two** features of the vegetation and explain how they are adapted to the dry climate.

Feature 1

Description

.....

.....

Adaptation to the dry climate

.....

.....

Feature 2

Description

.....

.....

Adaptation to the dry climate

.....

..... [4]

[Total: 8]

5 The United Nations publishes the HDI which measures inequality between countries.

(a) What do the letters HDI stand for?

H D I [1]

(b) Table 5.1 shows the HDI and inequality differences between three countries.

Table 5.1

	Australia	Bolivia	Niger
HDI	0.94 (high)	0.67 (medium)	0.35 (low)
Death rate per 1000	7.3	6.4	11.8
Infant mortality per 1000 births	4.3	35.3	81.1
Birth rate per 1000	12.1	22.0	44.2
GDP per capita (US\$)	48 700	7200	1100
Life expectancy at birth	82.3	69.5	55.9

(i) Which type of graph would be most suitable to show the HDI data shown in Table 5.1?

..... [1]

(ii) How much longer is a person in Australia expected to live compared with a person in Niger?

..... [1]

(iii) Suggest what is unusual about the death rate in Bolivia.

.....
 [1]

(iv) Which feature shown in Table 5.1 measures the standard of living or wealth of the people?

..... [1]

- (c) Residential areas often show inequality in living standards. Figs. 5.1 and 5.2 (Insert) show residential areas in Africa. Describe the differences **seen in the photographs** which show inequality in living standards.

.....

.....

.....

.....

.....

.....

.....

.....

.....

..... [3]

[Total: 8]

- 6 Fig. 6.1 shows electricity generation from HEP (hydroelectric power) and other renewables in the USA between 1997 and 2016.

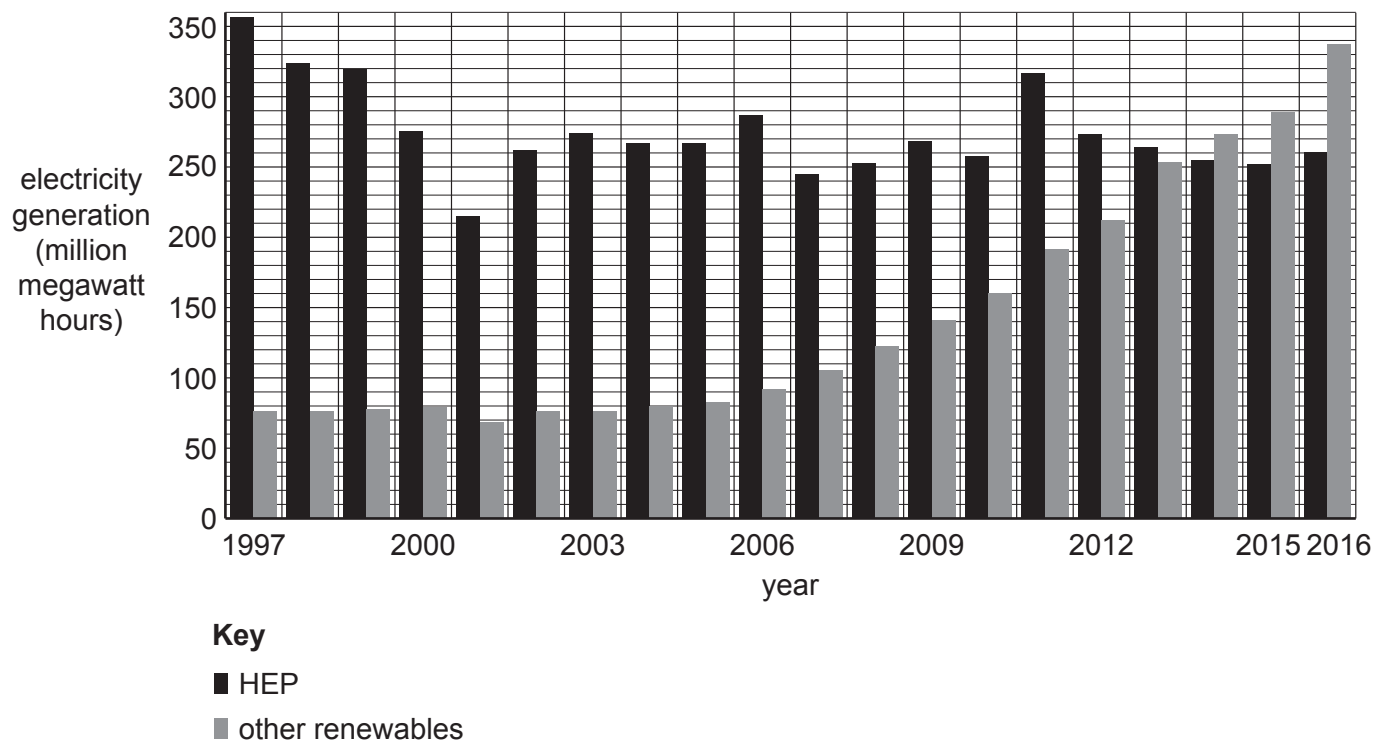


Fig. 6.1

- (a) Describe the changes in the amount of electricity generation shown in Fig. 6.1. Do not use figures in your answer.

HEP

.....

.....

.....

.....

Other renewables

.....

.....

.....

.....

[3]

- (b) Fig. 6.2 (Insert) shows a dam used to produce HEP.

Give **two** advantages of the site of the dam for producing HEP.

- 1
-
- 2
- [2]

- (c) Suggest reasons why some local people may have been **for** the construction of the dam and other local people may have been **against** it.

For

.....

.....

.....

.....

Against

.....

.....

.....

.....

.....

..... [3]

[Total: 8]

[illegible]

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