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2230/02

October/November 2017

1 hour 30 minutes

Additional Materials: Protractor
 Ruler
 1:50 000 Survey Map Extract is enclosed with this Question Paper.

Write your Centre number, candidate number and name in the spaces provided.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, glue or correction fluid.
DO NOT WRITE IN ANY BARCODES.

Answer **all** questions.

The Insert contains Photograph A and Photograph B for Question 3 and Photograph C for Question 4. The Survey Map Extract and Insert are **not** required by the Examiner. Sketch maps and diagrams should be drawn whenever they serve to illustrate the answer.

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 **14** printed pages, **2** blank pages and **1** Insert.

1 Study the map extract (1:50 000) of Cambridge.

- (a) (i) State the four-figure reference for the grid square containing the village of Horningsea located in the north-east of the map.

..... [1]

- (ii) What is the distance along the river from 490625 to 480604? Describe the method you used and give your answer in kilometres.

.....

.....

..... [2]

- (iii) If you walk along the riverside from Horningsea to Cambridge city centre (grid square 4458), what is the number of the National Cycle Network you would meet?

..... [1]

- (iv) Give a six-figure grid reference for the location where the A14 road crosses over the river.

..... [1]

- (v) In which general compass direction is Cambridge city centre from Horningsea?

..... [1]

(b) Study Fig. 1, a sketch map of the southern part of Cambridge.

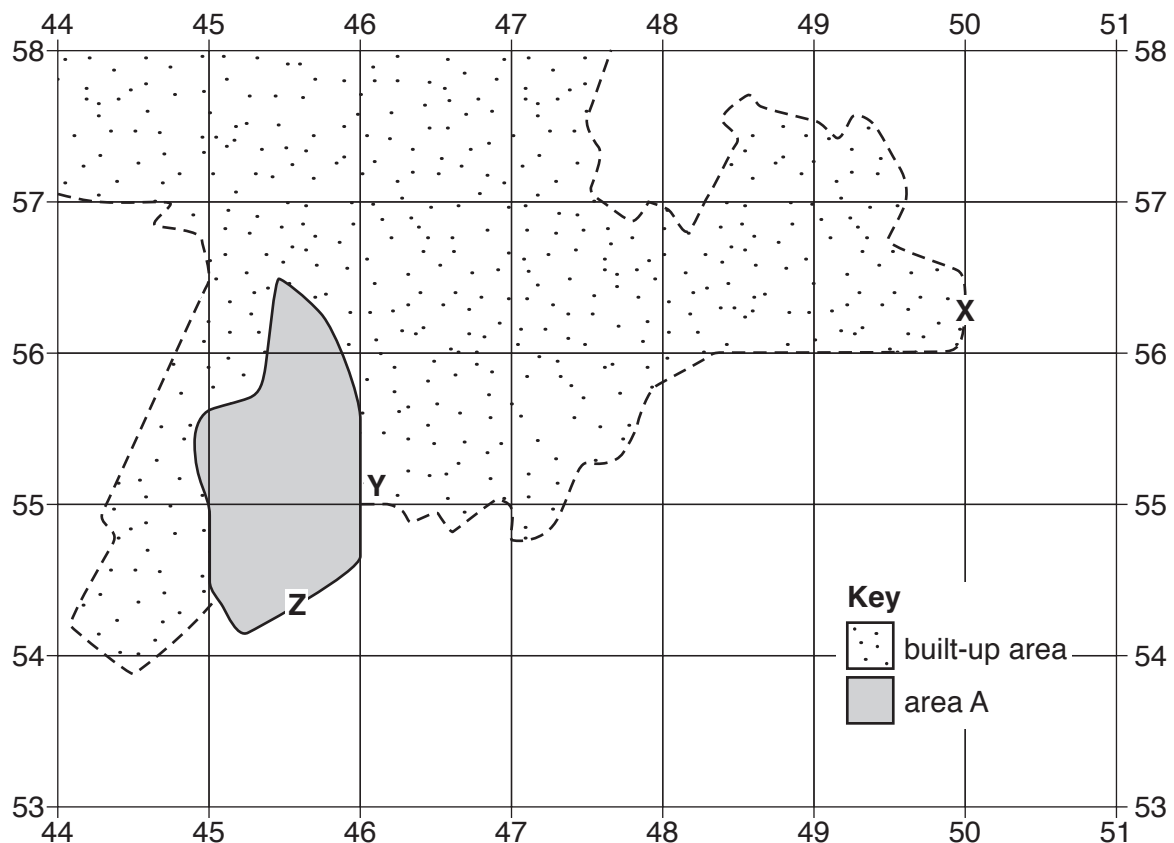


Fig. 1

- (i) Estimate the size of the built-up area shown on Fig. 1.

..... [1]

- (ii) Use the map extract to identify the developments at positions X, Y and Z on Fig. 1. Write your answers **on Table 1** below. [3]

Table 1

development	position (X, Y or Z)
hospital	
business park	
road	

- (iii) More than 2300 new houses are planned for the shaded area A on Fig. 1. Use map evidence to explain why this is a good location for new housing.

.....

 [3]

- (c) Most tourists travel to Cambridge by road.

- (i) If you travel to Cambridge by car from the south, which motorway exit would you take?

..... [1]

- (ii) Name **three other** types of transport, shown on the map, that can be used to travel to Cambridge.

1
 2
 3 [3]

(iii) Study the area on the map extract shown by Fig. 2.

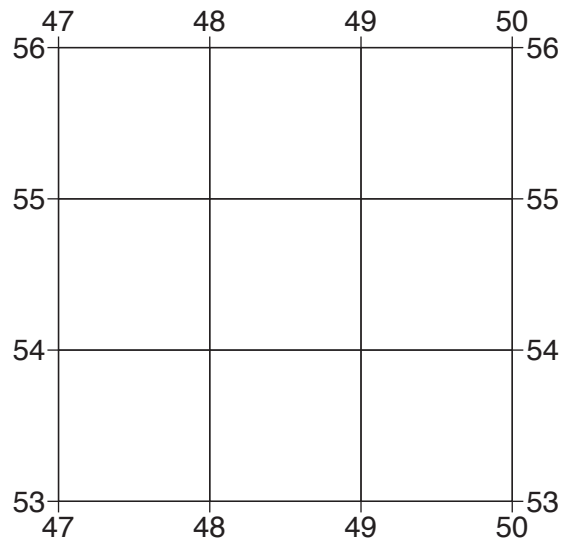


Fig. 2

Use map evidence to describe the tourist features shown in this area.

.....

.....

.....

.....

.....

..... [3]

[Total: 20 marks]

- 2 (a) Fig. 3 shows natural gas production and consumption (use) in Brunei between 2000 and 2012.

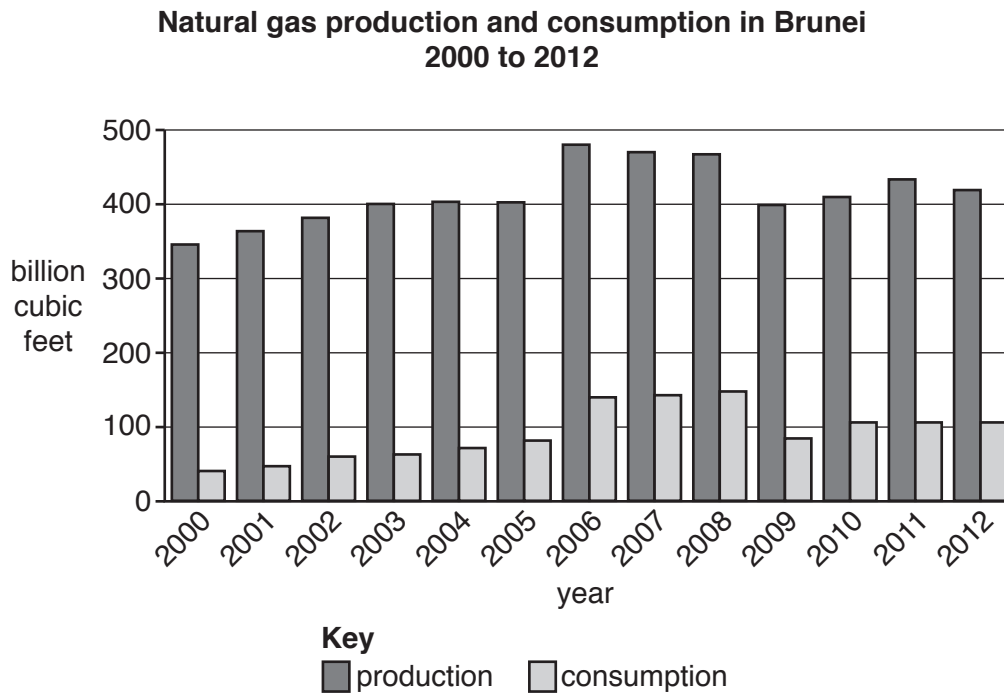


Fig. 3

Compare the production and consumption of natural gas in Brunei between 2000 and 2012.

.....

.....

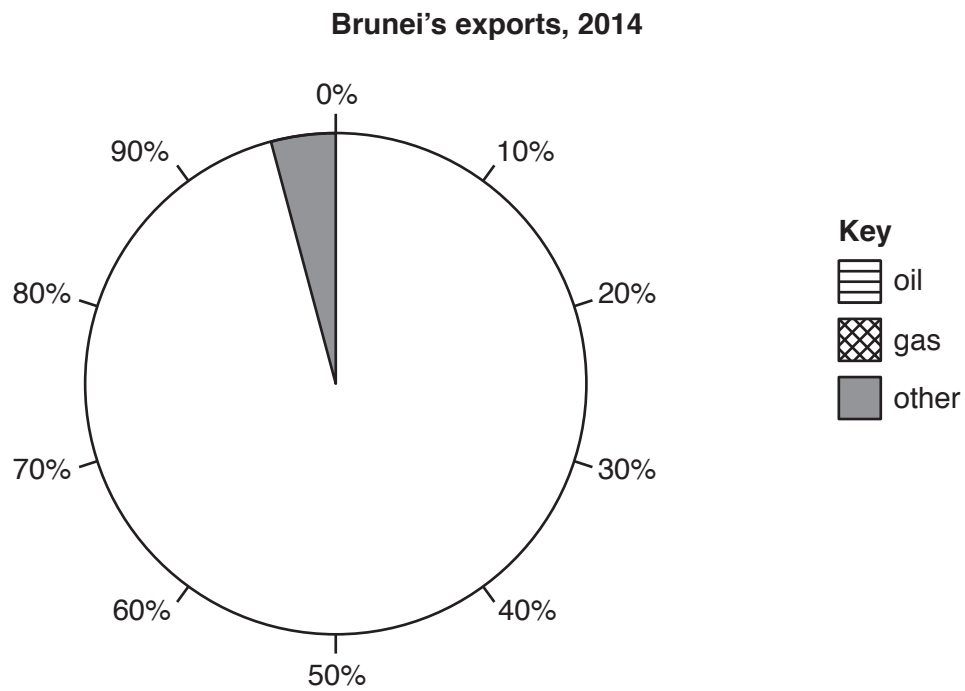
.....

.....

.....

..... [3]

- (b) Use the information in the table below to **complete Fig. 4**, a pie chart showing Brunei's exports in 2014. [2]



product	percentage
oil	52%
gas	44%
other	4%

Fig. 4

(c) Fig. 5 shows the main countries Brunei exports its products to.

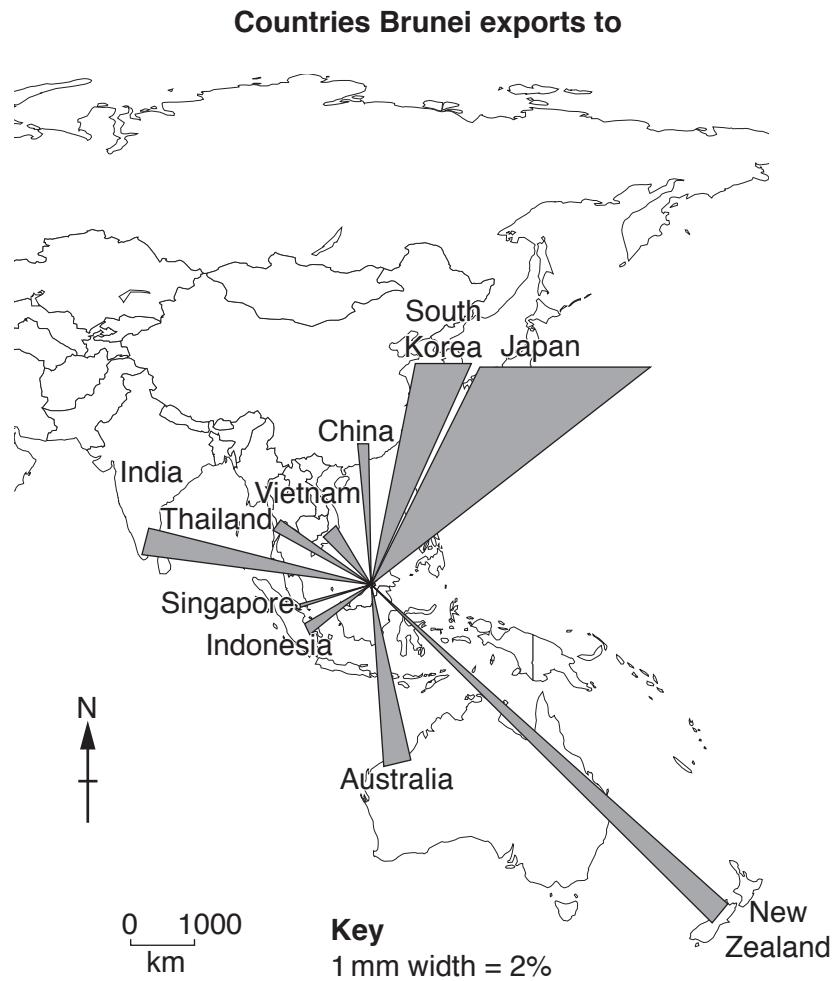


Fig. 5

(i) What percentage of Brunei's exports go to China?

..... [1]

(ii) Describe Brunei's export trade shown on Fig. 5.

.....

.....

.....

.....

.....

..... [3]

(iii) Suggest **one** reason to explain the amount of oil and gas exported to Japan from Brunei.

..... [1]

[Total: 10 marks]

3 Photographs A and B (Insert) show a popular tourist area in the UK.

- (a) (i) Five coastal features (A to E) are marked on Photograph A. Which letter on Photograph A shows each feature? Write your answers **on Table 2** below. One answer has been completed for you.

Table 2

feature	letter
natural arch	
bay	
cliff	D
beach	
headland	

[4]

- (ii) Use evidence from Photograph A to suggest why tourists are attracted to this area.

.....

.....

.....

.....

.....

..... [3]

(b) Fig. 6 shows visitor numbers to the two attractions shown in Photograph B.

**Number of visitors to Corfe Castle and Swanage Steam Railway
2002 to 2009**

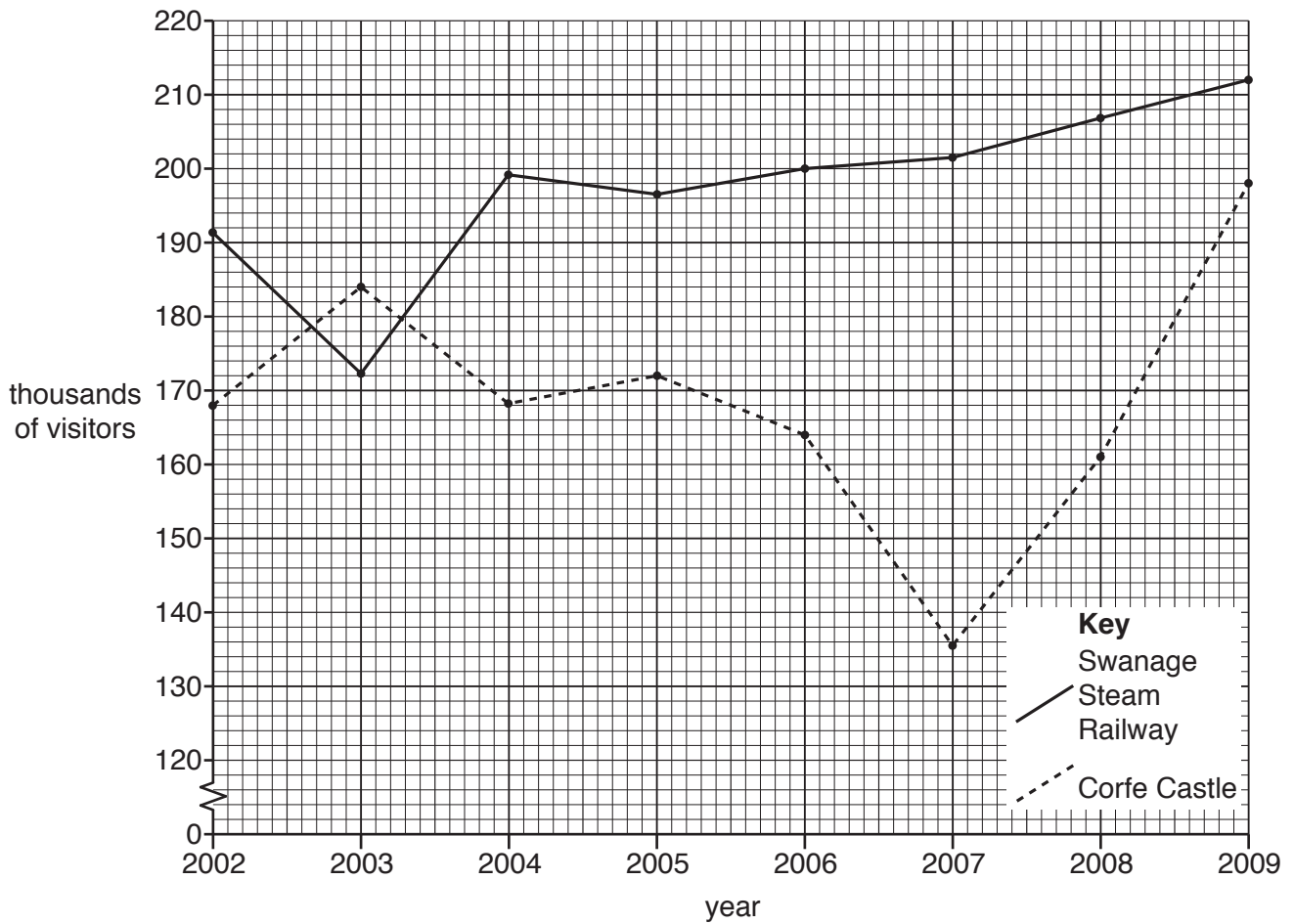


Fig. 6

(i) What is the general trend from 2002 to 2009 for both attractions shown on Fig. 6?

..... [1]

(ii) Which attraction received the greatest overall increase in visitors from 2002 to 2009?

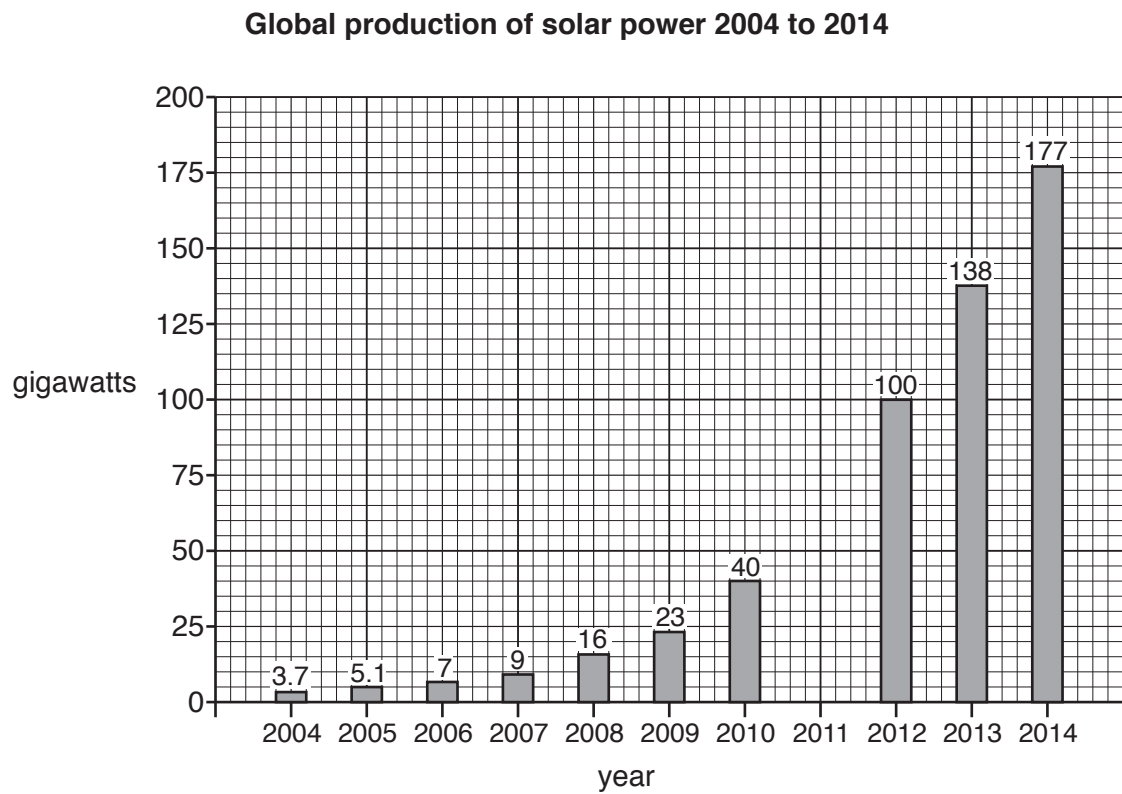
..... [1]

(iii) In which year did Corfe Castle receive more visitors than Swanage Steam Railway?

..... [1]

[Total: 10 marks]

- 4 (a) Fig. 7 shows the global production of solar power from 2004 to 2014.



year	solar power capacity
2011	70 gigawatts

Fig. 7

- (i) On Fig. 7 complete the bar graph using the data shown below the graph. [1]
- (ii) Compare the rate of growth of solar power before and after 2010.

.....

.....

.....

..... [1]

(b) Fig. 8 shows energy production in Brunei in 2010 and 2035 (projected).

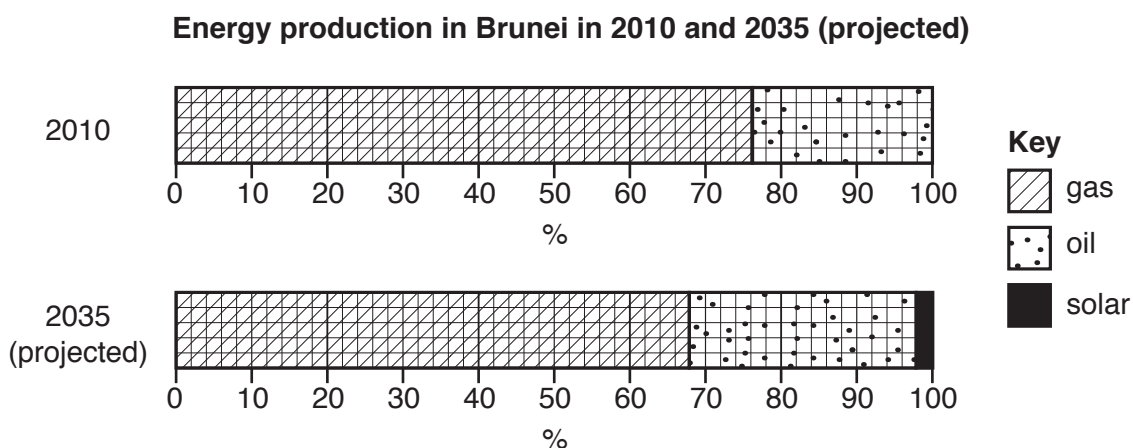


Fig. 8

(i) What percentage of Brunei's energy production came from oil in 2010?

..... [1]

(ii) Use Fig. 8 to describe the projected changes to Brunei's energy production between 2010 and 2035.

.....

.....

.....

.....

.....

.....

..... [3]

(c) Study Photograph C (Insert) which shows a solar power plant in Brunei.

(i) Describe the solar power plant shown in Photograph C.

.....

.....

.....

..... [2]

- (ii) Suggest **two** reasons why Brunei wants to develop renewable energy production such as the solar power plant shown in Photograph C.

1

.....

2

..... [2]

[Total: 10 marks]

- 5 (a) Fig. 9 shows the location of the world's fifteen largest megacities in 2010.

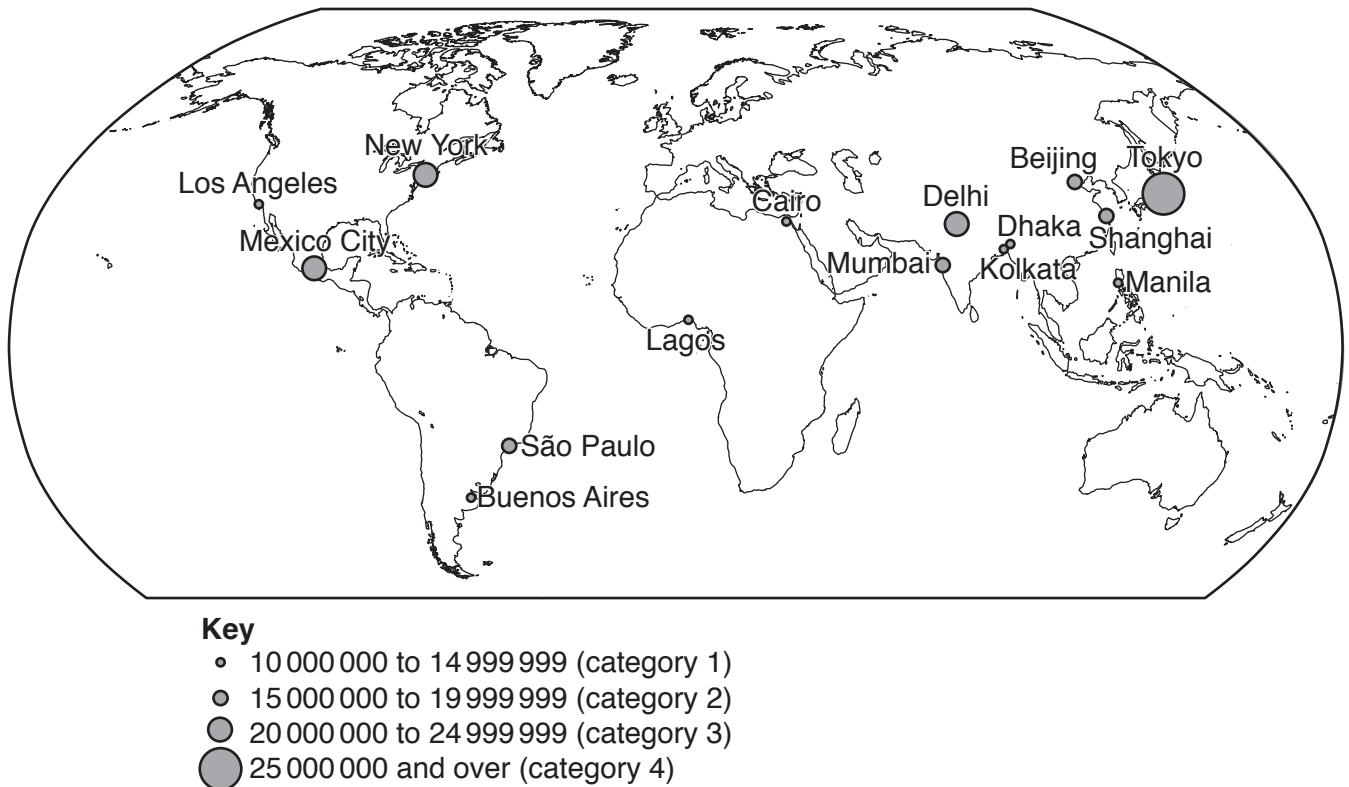


Fig. 9

- (i) A 'megacity' is a city with more than how many million people?
 [1]
- (ii) How many cities are in category 1 on Fig. 9?
 [1]
- (iii) Name a megacity in Africa.
 [1]
- (iv) Name a continent with no megacities shown on Fig. 9.
 [1]

(b) Table 3 shows the population of the 10 largest megacities in 2010 and 2025 (projected).

Table 3

city	2010 population (millions)	2010 rank	2025 population (millions projected)	2025 rank
Tokyo	36.9	1	38.7	
Delhi	21.9	2	32.9	
Mexico City	20.1	3	24.6	
New York	20.1	4	23.6	6
São Paulo	19.6	5	23.2	7
Shanghai	19.6	6	28.4	
Mumbai	19.4	7	26.6	
Beijing	15.0	8	22.6	9
Dhaka	14.9	9	22.9	8
Kolkata	14.3	10	18.7	10

(i) Which city is projected to have the greatest increase in population from 2010 to 2025?

..... [1]

(ii) **Complete Table 3** by ranking the five largest cities from 1 to 5 for 2025. Ranks 6–10 have been completed for you. [2]

(iii) Describe **three** problems caused by the rapid growth of megacities.

1

.....

2

.....

3

.....

[3]

[Total: 10 marks]

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