Diploma Programme
Programme du diplôme
Programa del Diploma

Geography
Higher level
Paper 2

Thursday 17 November 2016 (morning)

2 hours

Instructions to candidates

- Do not open this examination paper until instructed to do so.
- Answer three questions. Each question is worth **[20 marks]**.
- Each question must be selected from a different optional theme, A – G.
- Do not answer two questions on the same optional theme.
- Use case studies, examples, maps and/or diagrams where relevant.
- A copy of the geography paper 2 resources booklet is required for this paper.
- The maximum mark for this examination paper is **[60 marks]**.

Option	Questions
Option A — Freshwater – issues and conflicts	1 – 2
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Answer **three** questions. Each question must be selected from a different optional theme.
(Do not answer two questions on the same optional theme.)

Wherever possible, answers should include case studies and examples, and where relevant, large,
well drawn maps and diagrams.

Option A — Freshwater – issues and conflicts

1. The graph shows the number of floods per decade for a river.
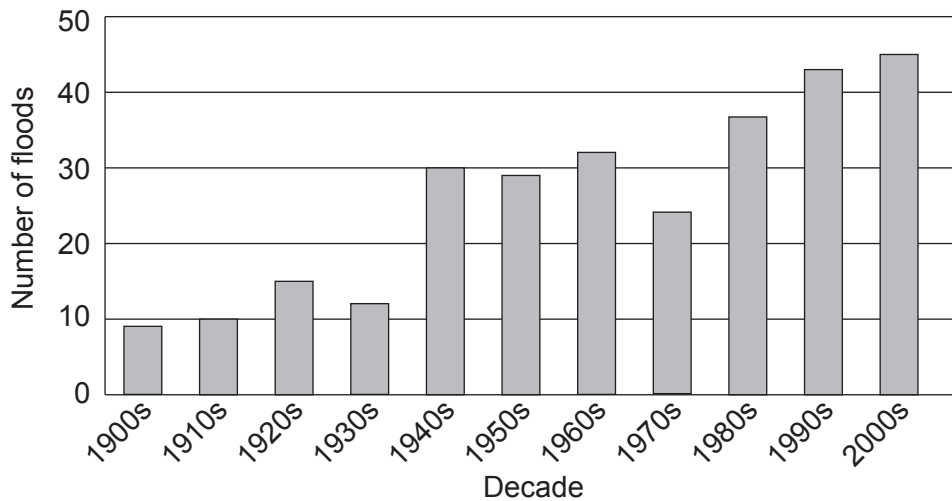
[Source: copyright International Baccalaureate Organization, 2016]

(a) (i)   Describe the changes in flood frequency shown on the graph.   [3]

    (ii) Estimate how many more floods occurred in the 1990s than in the 1930s.   [1]

(b) Suggest **one** physical reason **and one** human reason why the risk of a river
     flooding can change over time.   [3+3]

(c) To what extent are floodplain landforms the result of river deposition?   [10]

(Option A continues on the following page)

(Option A continued)

2.   If you choose to answer this question refer to the map on page 2 in the resources booklet.

The map shows the distribution of wetland areas in the Americas that have been given Ramsar status. The Ramsar Convention is the convention on wetlands of international importance.

(a)   (i)   Define the term *wetland area*.   [2]

(ii)   Describe the pattern of wetland areas shown on the map.   [3]

(b)   (i)   State **one** component of agricultural run-off that contributes to the
eutrophication of lakes and wetlands.   [1]

(ii)   Suggest **two** impacts of eutrophication that can have adverse effects
for people.   [2+2]

(c)   "The drainage basin is an open system with inputs, outputs, transfers and stores."
Discuss how this knowledge helps people to prevent flooding.   [10]

End of Option A

Option B — Oceans and their coastal margins

3. The diagram shows four landforms (A, B, C, D) associated with a cliff.
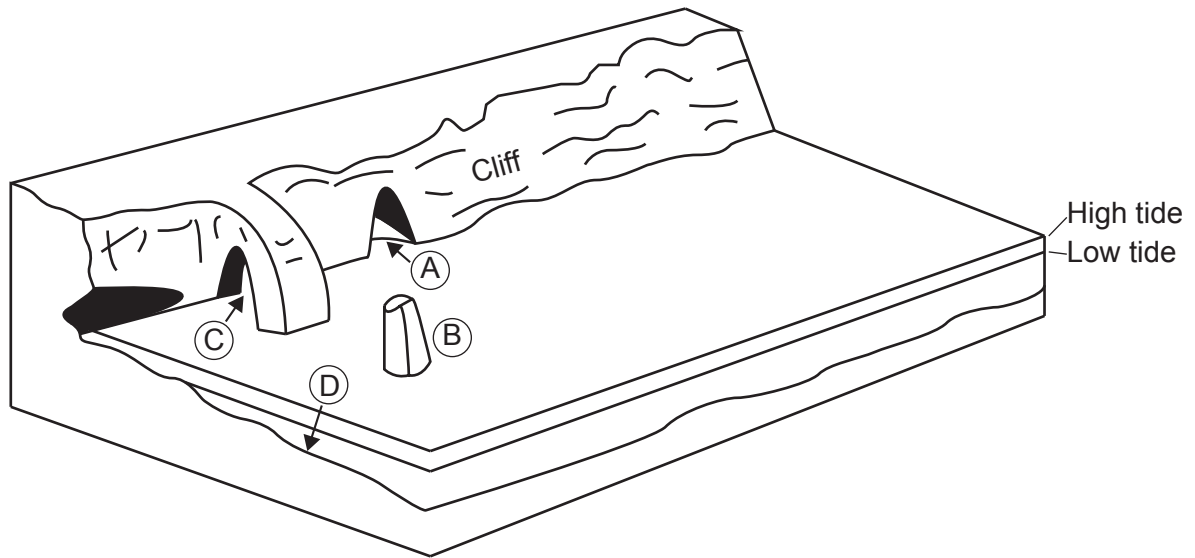
[Source: copyright International Baccalaureate Organization, 2016]

(a) (i)   Identify **two** of the landforms shown in the diagram.   [1]

     (ii) Outline how wave action could lead to the collapse of the cliff.   [3]

(b) Explain **three** factors favouring the growth of coral reefs.   [2+2+2]

(c) Examine the environmental and economic impacts of the pollution of oceans by oil.   [10]

(Option B continues on the following page)

(Option B continued)

4. The photograph shows an area of sand dune restoration.

(a) (i) State **one** natural cause **and one** human cause of sand dune degradation. [1+1]

(ii) Identify **two** ways in which people are attempting to restore the sand dunes shown in the photograph. [1+1]

(b) Briefly explain the characteristics **and** formation of **two ocean floor** landforms found at a constructive plate boundary. [3+3]

(c) Examine the possible impacts of changes in the ocean carbon store. [10]

End of Option B

Option C — Extreme environments

5. The diagram shows the proportions of land and water at each degree of latitude and the locations of some cold extreme environments.

[Source: adapted from http://radicalcartography.net]
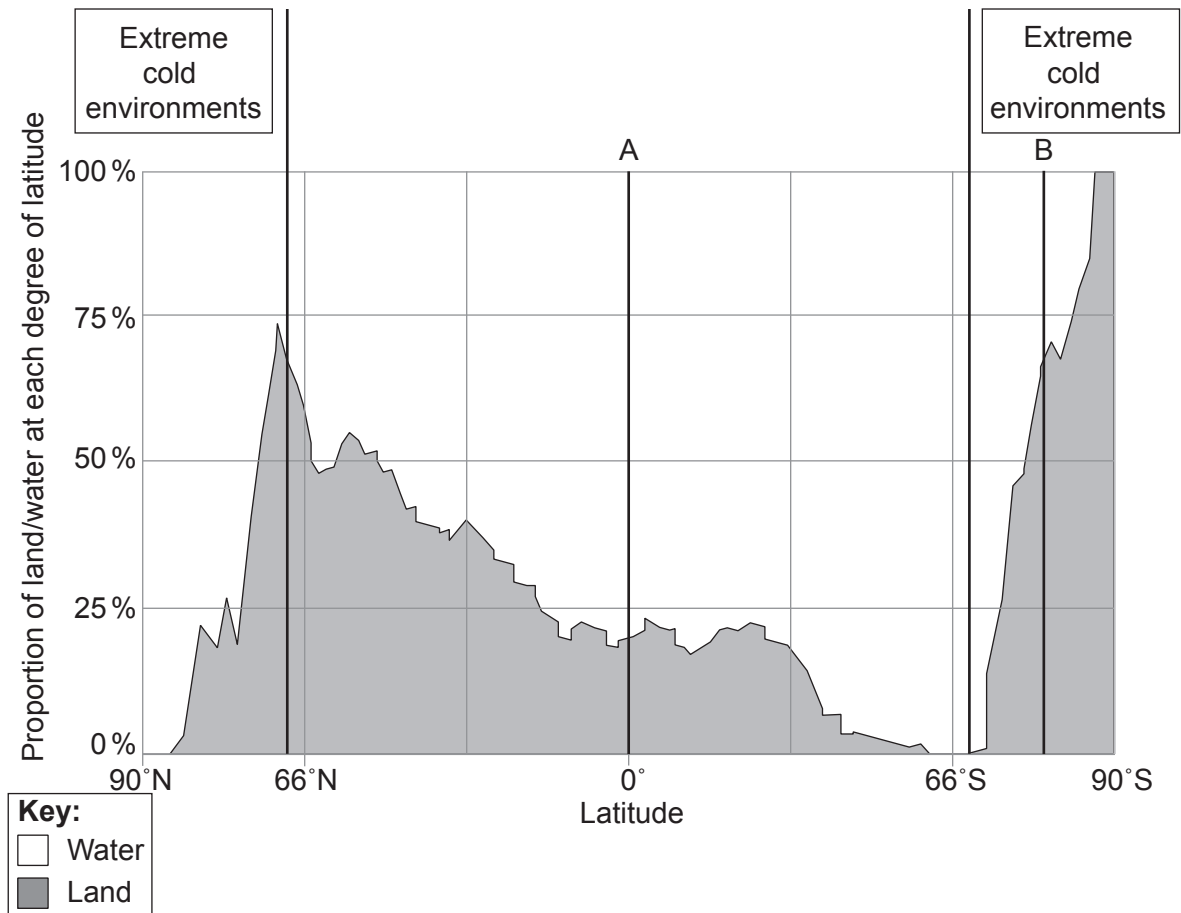
(a) (i) Estimate the latitude at which the percentage of land is highest in the Northern Hemisphere. [1]

(ii) State **one** reason why extreme cold environments can even be found at latitude A. [1]

(iii) Briefly outline the seasonal variations in temperature likely to be found at latitude B. [2]

(b) Explain the characteristics **and** formation in periglacial environments of:

(i) patterned ground; [3]

(ii) thermokarst. [3]

(c) Referring to examples, evaluate the varied economic opportunities in hot, arid environments. [10]

**(Option C continues on the following page)**

(Option C continued)

6. (a) Outline **two** physical causes of aridity in hot, arid environments.   [2+2]

   (b) Explain **two** processes of weathering commonly found in hot, arid environments.   [3+3]

   (c) "Human activity within periglacial environments is unsustainable." Discuss this
        statement.   [10]

End of Option C

Option D — Hazards and disasters – risk assessment and response

7.   The map shows the global pattern of hurricane (tropical cyclone, typhoon) tracks.
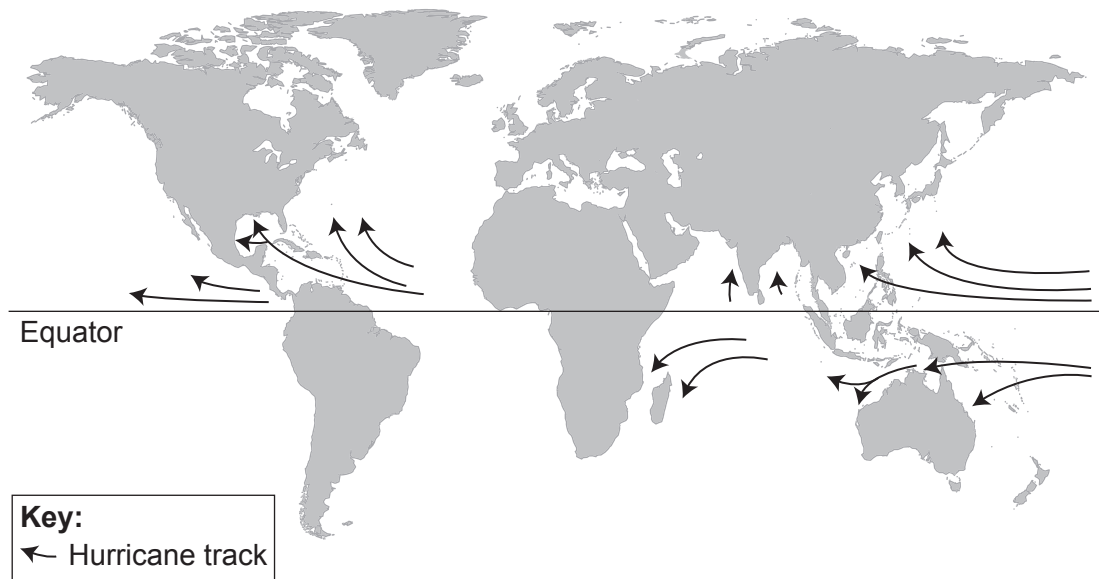
[Source: National Hurricane Centre / NOAA]

(a)   Describe the distribution **and** tracks of hurricanes (tropical cyclones, typhoons)
        affecting **mainland Asia**.   [2+2]

(b)   Briefly explain **two** geographical consequences of a recent human-induced
        (technological) hazard.   [3+3]

(c)   Using **one or more** recent examples, discuss the relative importance of short-term
        and long-term responses to hazard events and/or disasters.   [10]

(Option D continues on the following page)

(Option D continued)

8.   If you choose to answer this question refer to the diagrams on page 3 in the resources booklet.

Diagram A shows the number of reported disasters by decade by hazard type, globally. Diagram B shows economic losses by hazard type, globally.

(a)   (i)   Describe the change in the total number of reported disasters between 1971 and 2010.   [2]

(ii)   State the type of natural hazard that has **not** increased in frequency since 1981.   [1]

(iii)   Estimate the total economic losses due to storms and floods between 1971 and 2010.   [1]

(b)   Explain **three** reasons why communities may underestimate the probability of a major hazard event occurring in the area in which they live.   [2+2+2]

(c)   Discuss the view that human vulnerability to natural hazards (excluding river flooding) is greater in urban areas than in rural areas.   [10]

End of Option D

Option E — Leisure, sport and tourism

9. (a) Describe **two** characteristics of the leisure hierarchy. [2+2]

(b) Explain **three geographic** factors that might influence decision-makers in choosing a host city for an international sports event. [2+2+2]

(c) Using **one or more** examples, evaluate the strategies designed to manage tourism in rural areas. [10]

(Option E continues on the following page)

(Option E continued)

10. If you choose to answer this question refer to the map on page 4 in the resources booklet and its key and the photograph on page 5.

The map shows the area around the valley of the River Tarn and the town of Sainte-Enimie in Southern France. The scale is 1:100 000 and the contour interval is 40 metres. Photograph A shows the town of Sainte-Enimie.

(a) Using map evidence, identify **and** locate **two** secondary tourist resources. [2+2]

(b) Describe how **one** characteristic of the valley of the River Tarn limits its environmental carrying capacity. [2]

(c) (i) State the direction in which the camera was pointing when photograph A was taken. [1]

(ii) Referring to photograph A, suggest the evidence that the perceptual carrying capacity of Sainte-Enimie may already have been exceeded. [3]

(d) Using examples, evaluate the use of tourism as a development strategy in some low-income countries. [10]

End of Option E

Option F — The geography of food and health

11.   The graph shows the amount of global food aid in millions of tonnes, from 2000 to 2011.
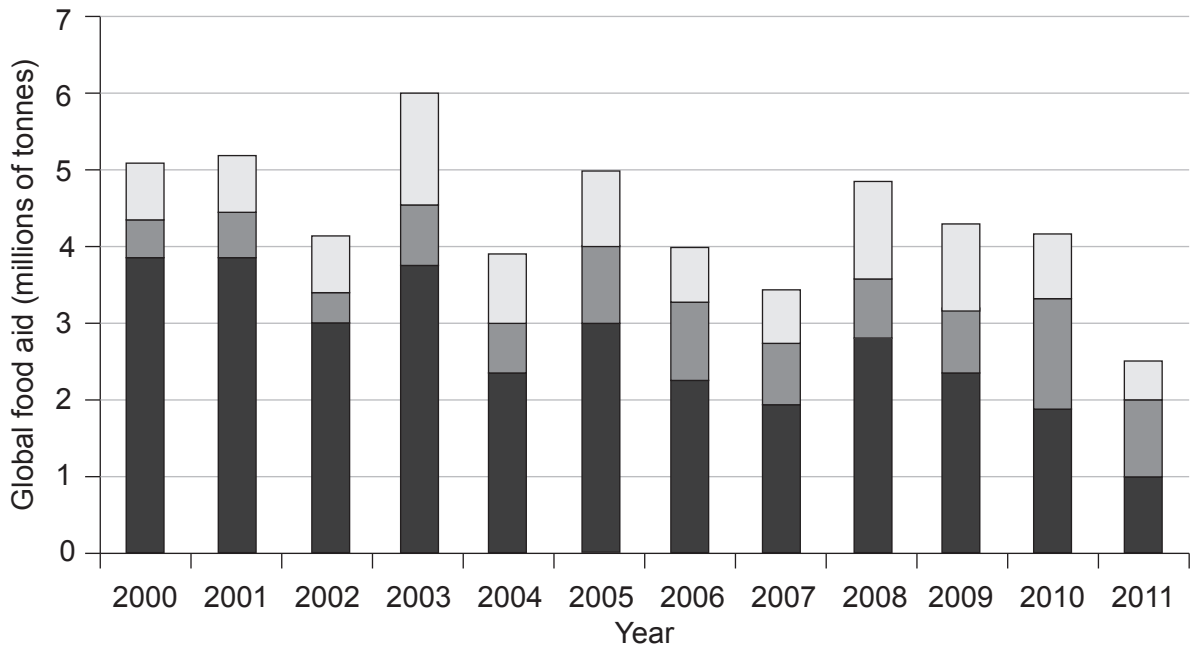
Key:
☐ Purchased from another country
▨ Purchased from within the country
■ Given directly by a donor country

[Source: World Food Programme / FAIS]

(a)   Describe the trends in food aid between 2000 and 2011.   [4]

(b)   Explain **two** possible disadvantages of food aid for a community that is currently
       experiencing food shortages.   [3+3]

(c)   "Prevention should always be prioritized over treatment." Discuss this statement,
       with reference to specific diseases and communities.   [10]

(Option F continues on the following page)

(Option F continued)

12. The graph shows the food miles for fruit and vegetables supplied to institutions in the state of Iowa, USA.
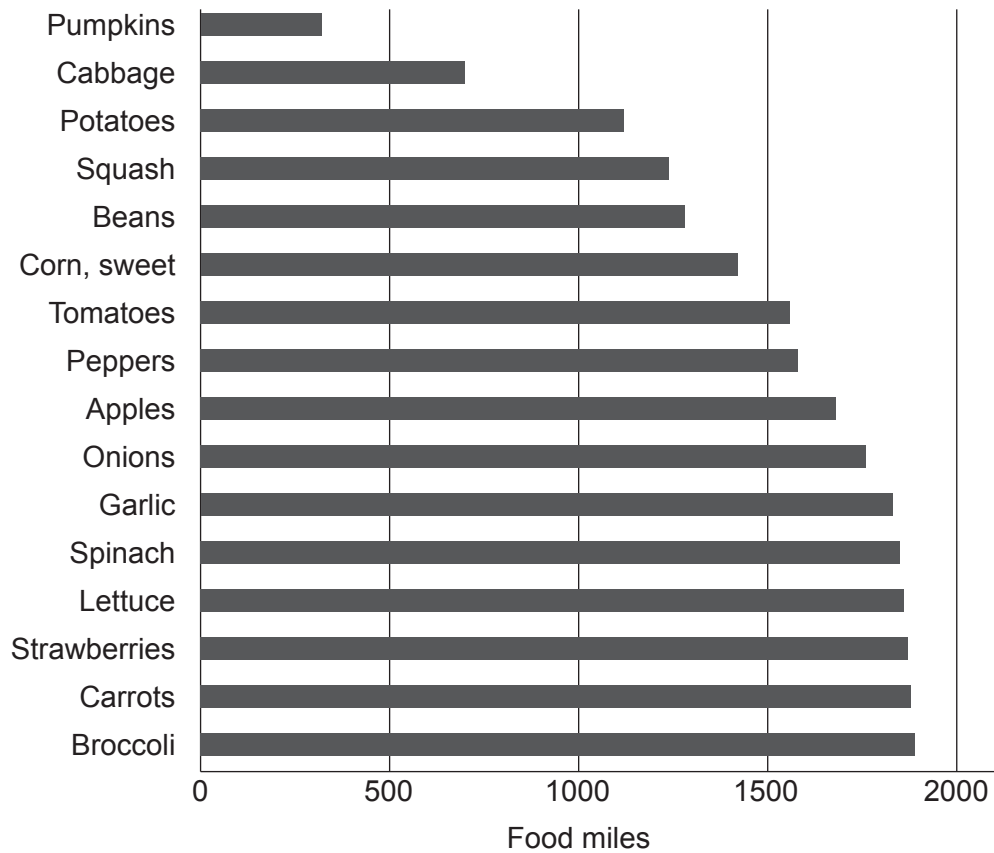

[Source: www.leopold.iastate.edu]

(a) (i) Define the term *food miles*. [2]

(ii) State the fruit or vegetable that ranks sixth in terms of the highest number of food miles. [1]

(iii) Estimate the average (mean) food miles for the fruit and vegetables shown in the graph above. [1]

(b) Suggest **one** advantage **and two** disadvantages of using food miles as an indicator of the environmental impacts associated with food production. [2+2+2]

(c) To what extent are food availability, malnutrition and diseases of poverty connected with one another? [10]

End of Option F

Option G — Urban environments

**13.** The graph shows population density in cities and individual emissions from transport.
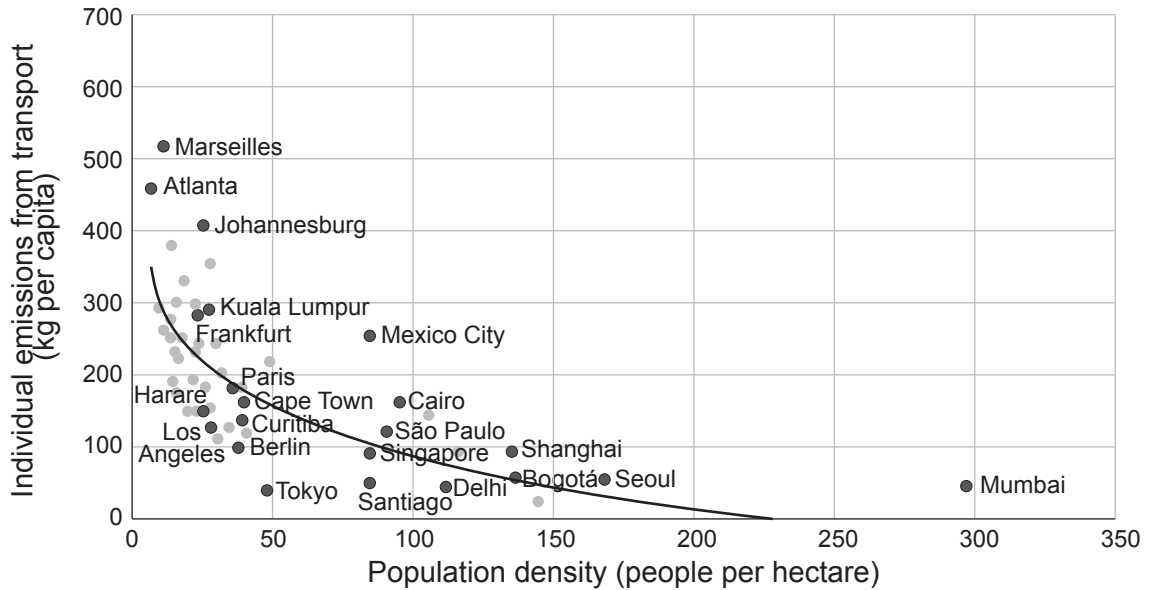
[Source: Adapted from World Development Report (2010), p. 210.]

(a) (i) Describe the general relationship between population density and air pollution from transport. [3]

(ii) State why Mexico City could be considered an anomaly. [1]

(b) Referring to **one or more named** cities, explain **two** ways in which a circular city system operates. [3+3]

(c) Examine the characteristics of urban deprivation in **one or more** cities you have studied. [10]

(Option G continues on the following page)

(Option G continued)

14. The graph shows rural and urban population as a proportion of total population for different regions from 1950 to 2050.

[Source: http://esa.un.org]
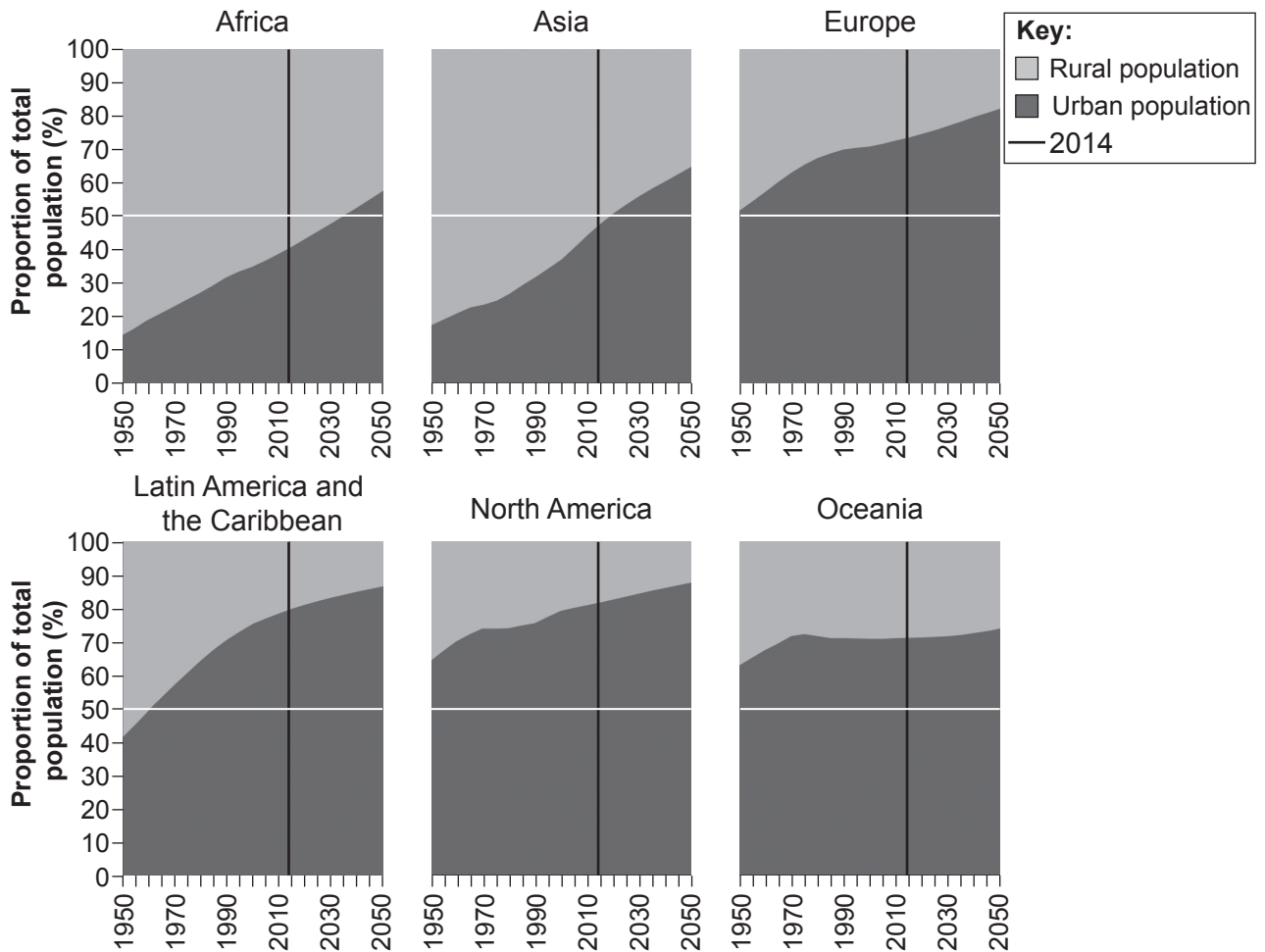
(a) (i) Identify the region with the highest proportion of people living in urban areas in 2014. [1]

(ii) Identify the region with the lowest rate of urbanization between 1950 and 2050. [1]

(iii) Describe the change in the proportion of people living in urban areas in Latin America and the Caribbean between 1950 and 2050. [2]

(b) Suggest **three** reasons why different ethnic groups are often concentrated in different parts of cities. [2+2+2]

(c) Evaluate the success of **one** management strategy to tackle pollution in **one named** urban area. [10]

End of Option G