Diploma Programme
Programme du diplôme
Programa del Diploma

Geography
Standard level
Paper 2

Friday 4 May 2018 (morning)

1 hour 20 minutes

Instructions to candidates

• Do not open this examination paper until instructed to do so.
• Answer two 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 **[40 marks]**.

Option	Questions
Option A — Freshwater – issues and conflicts	1 – 2
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Option D — Hazards and disasters – risk assessment and response	7 – 8
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Answer **two** 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. (a) Outline **two** ways in which sediment is transported by a river. [2+2]

(b) Using **one named** example of an international conflict related to freshwater, briefly explain:

(i) **one** cause of the conflict; [2]

(ii) **two** consequences of the conflict. [2+2]

(c) Examine how human activity influenced the severity of **one named** river flood event. [10]

(Option A continues on the following page)

(Option A continued)

2.   The diagram shows some possible water movements in the hydrological cycle.
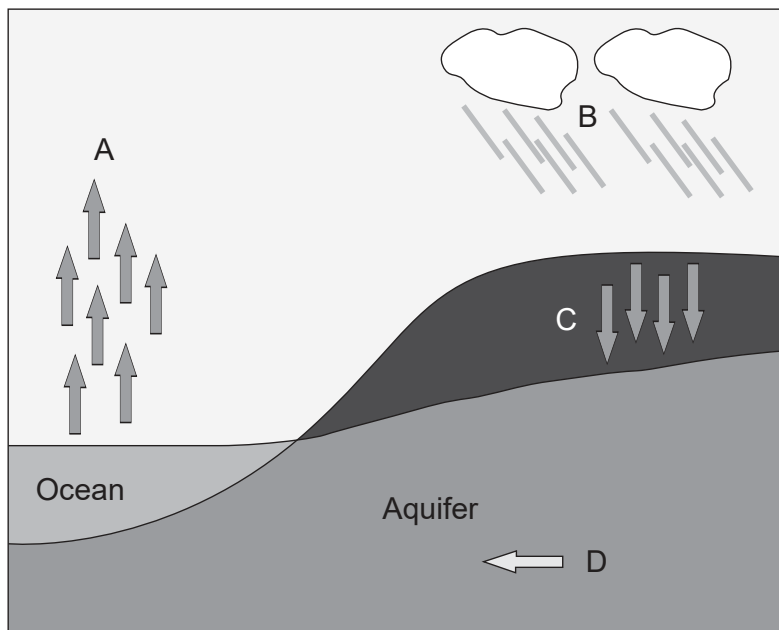
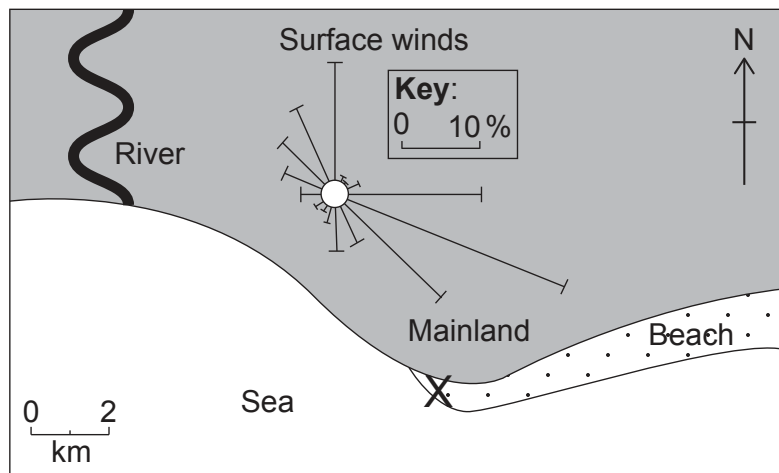[Source: © International Baccalaureate Organization 2018]

(a)   (i)   State the **four** elements of the hydrological cycle labelled A–D.   [2]

      (ii)   State **two** possible methods of artificially recharging the aquifer.   [1+1]

(b)   Explain **three** possible ways people may modify a river channel to increase the
      flow of water.   [2+2+2]

(c)   To what extent has the management of **one** major wetland area been successful?   [10]

End of Option A

Option B — Oceans and their coastal margins

3.   The diagram shows wind frequency over a 30-year period on a beach in the Caribbean.


[Source: © International Baccalaureate Organization 2018]

(a)   (i)   Estimate the percentage of days when the wind blows from the north.   [1]

(ii)   Identify the direction of the most frequent wind.   [1]

(iii)   State the direction towards which longshore drift is most likely to occur at X on the diagram.   [1]

(iv)   State **one** landform likely to be produced by longshore drift at X.   [1]

(b)   Explain **three physical** factors that affect the development of coral reefs.   [2+2+2]

(c)   "Coastal hazard management always creates more problems than it solves." Discuss this statement, with reference to **one or more** areas of coastline.   [10]

4.   (a)   Briefly outline the role of oceans as:

(i)   a source of carbon dioxide;   [2]

(ii)   a store of carbon dioxide.   [2]

(b)   (i)   Explain what is meant by the term "oceanic conveyor belt".   [2]

(ii)   Suggest **two** reasons why the oceanic conveyor belt is important.   [2+2]

(c)   Evaluate the success of **one named** conservation policy for sustainable fishing.   [10]

End of Option B

Option C — Extreme environments

5.   The graph shows the probability (likelihood) of the depth of snow on a ski field being over 1 metre, and over 2 metres, between June and October.
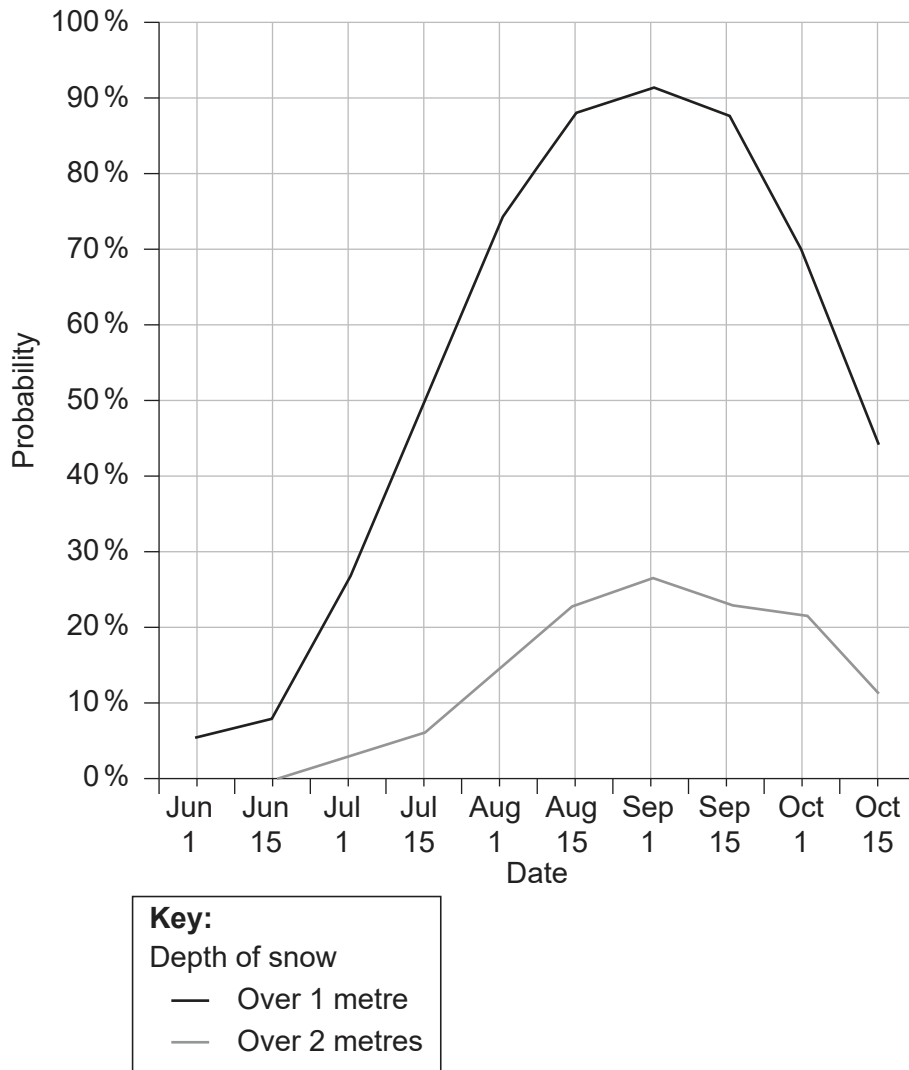
[Source: Michael Paine]

(a) (i)   State the earliest date on which there is a 50 % probability of snow depth exceeding 1 metre.   [1]

(ii) Estimate the probability of snow depth exceeding 2 metres on 1 September.   [1]

(iii) Briefly explain how the graph provides evidence that this ski field is located in the southern hemisphere.   [2]

(b) Explain **two environmental** impacts of tourism in **one named** extreme environment.   [3+3]

(c) Compare the importance of water and wind in the development of landform features in hot, arid areas.   [10]

(Option C continues on the following page)

Turn over

(Option C continued)

6. (a) (i) Briefly outline **two human** factors that are possible causes of desertification in a hot, arid environment. [2]

(ii) Briefly outline **two physical** factors that influence the occurrence of flash floods in hot, arid environments. [2]

(b) Explain **three** reasons why there are concentrations of people in some parts of hot, arid areas. [2+2+2]

(c) Examine the severity of the different challenges for resource development in periglacial areas. [10]

End of Option C

Option D — Hazards and disasters – risk assessment and response

7. If you choose to answer this question refer to the map on pages 2 and 3 in the resources booklet.

The map shows Marrakech and the surrounding area. The scale of the map is 1:160 000 and the contour interval is 40 metres.

Marrakech is located in a semi-arid agricultural area, with an average rainfall of 281 mm/year, mainly falling between October and May. The area is prone to droughts, which have become more frequent in recent years.

(a) (i) State the height in metres of the highest point north of the Oued Tensift river. [1]

(ii) State the four-figure grid reference for this point. [1]

(iii) Briefly describe the distribution of fruit farming areas shown on the map. [2]

(b) (i) Explain **two** possible human impacts that could occur as a result of a long-term drought in the area shown on the map. [2+2]

(ii) Suggest **one** short-term strategy that the local community could use to help overcome the problem of drought in the area shown on the map. [2]

(c) Examine the reasons why people continue to live in areas affected by frequent earthquake or volcanic activity. [10]

8. (a) Outline **two** factors that can influence the vulnerability of a community to the impacts of a tectonic hazard event. [2+2]

(b) Briefly explain the occurrence of **either** volcanoes **or** earthquakes at:

(i) constructive plate margins; [3]

(ii) destructive plate margins. [3]

(c) Examine the effectiveness of short- and long-term responses to **one** recent disaster caused by a hurricane (tropical cyclone/typhoon). [10]

End of Option D

Turn over

Option E — Leisure, sport and tourism

9. (a) (i) Define the term *tourism*.   [2]

         (ii) State **two** possible reasons why not all international arrivals can be classified as
               tourists.   [1+1]

    (b) Explain **two** strategies designed to manage the environmental damage caused by
         tourism in **one named** large town or city.   [3+3]

    (c) Discuss the view that the economic benefits of tourism in **one** country you have studied
         outweigh its negative social and environmental impacts.   [10]

10. If you choose to answer this question refer to the photograph on page 4 in the
   resources booklet.

         The photograph shows tourists at a popular site in Tokyo, Japan.

    (a) With reference to the photograph, identify:

         (i) **one** primary tourist attraction;   [1]

         (ii) **one** secondary tourist attraction.   [1]

    (b) Using photographic evidence, suggest why the perceptual carrying capacity of this site
         might have been reached.   [2]

    (c) For **one named** international sporting event, explain how **one physical** factor **and**
         two human factors influenced the choice of venue(s).   [2+2+2]

    (d) Examine the extent to which the aims of sustainable tourism might be achieved in **two**
         different environments.   [10]

End of Option E

Option F — The geography of food and health

11. The map shows the spread of the Zika virus between 1947 and 2016.
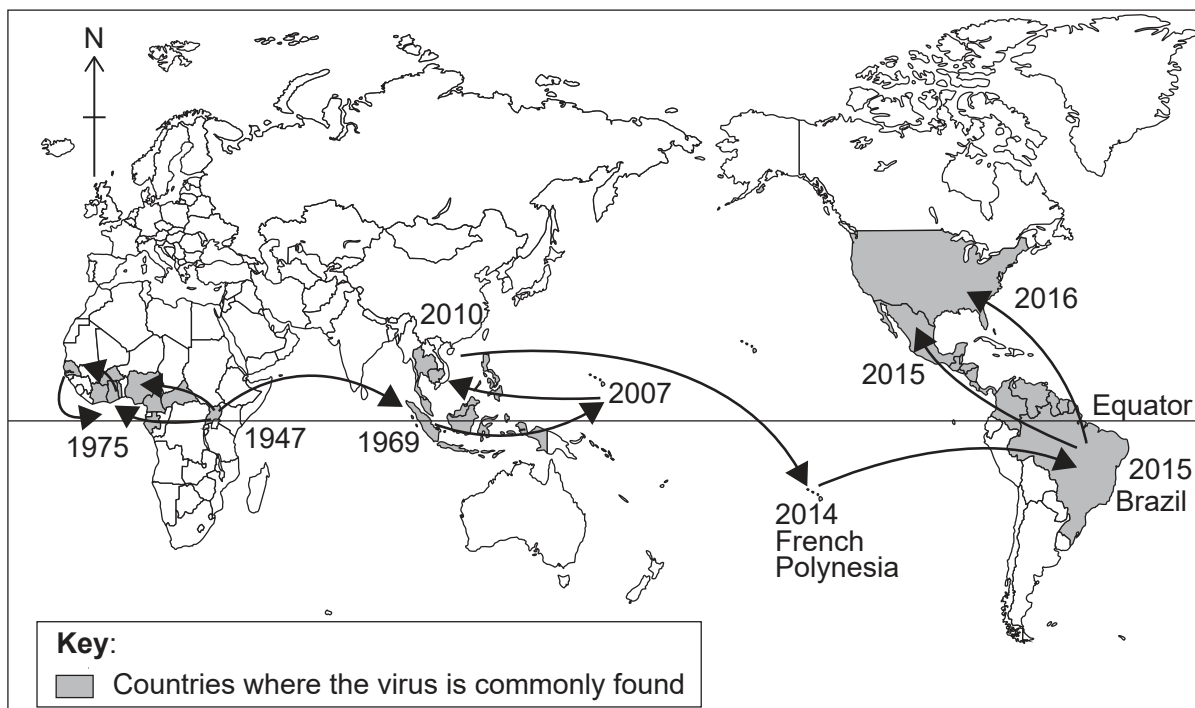
[Source: Adapted from 'Zika virus: a previously slow pandemic spreads rapidly through the Americas' in *Journal of General Virology* by D. Gatherer and A.Kohl. Lancaster University.]

(a) (i) Referring to areas on the map, describe the spread of the Zika virus between 1947 and 2010. [3]

(ii) State what type of diffusion accounts for the spread of the Zika virus from French Polynesia to Brazil. [1]

(b) Explain **three** health improvements that have led to an increase in life expectancy in many low-income countries in recent years. [2+2+2]

(c) Examine the strengths and limitations of the energy efficiency ratio as an indicator of sustainable agriculture. [10]

12. (a) (i) Briefly outline what is meant by the term "food security". [2]

(ii) Outline **one** way in which the health of a population can be affected by chronic hunger. [2]

(b) Explain **three** geographic impacts at a national scale of **one named** water-borne **or** sexually transmitted disease. [2+2+2]

(c) To what extent were physical factors responsible for **one** recent famine? [10]

End of Option F

Turn over

Option G — Urban environments

13. This Lorenz curve shows the distribution of wealth in a South American city.
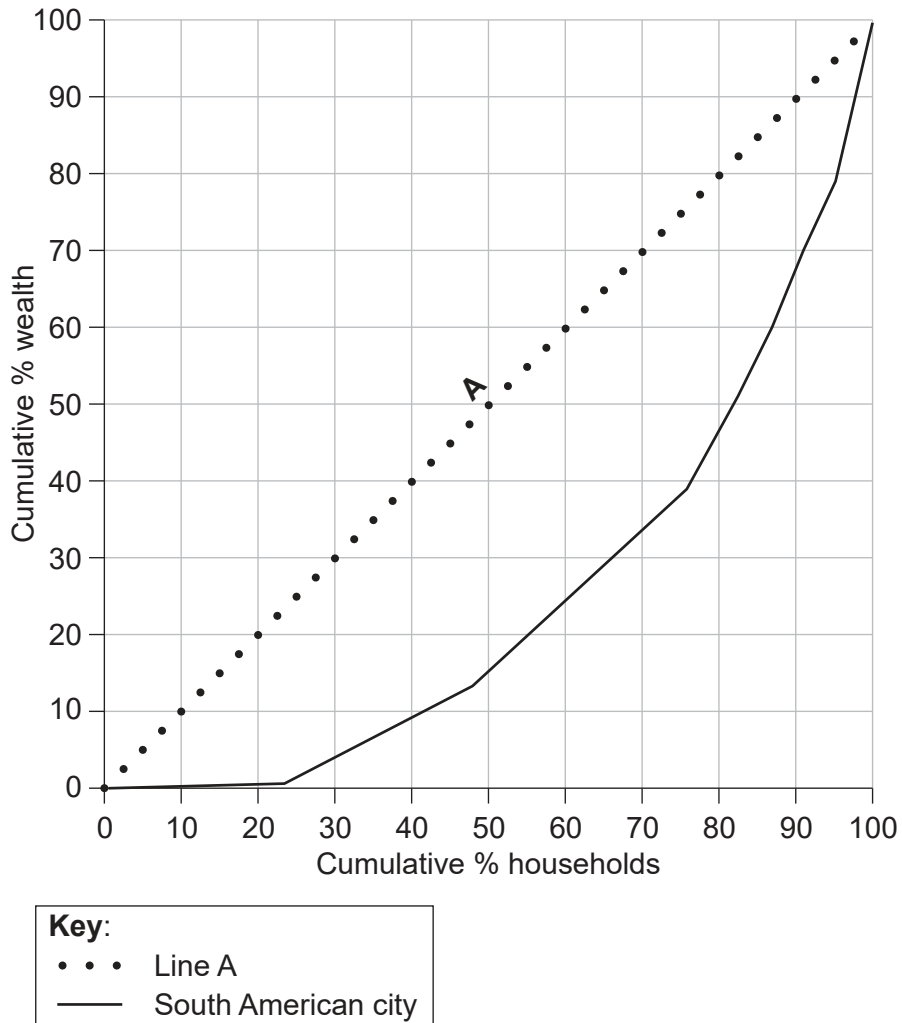
[Source: © 2010. Lincoln Institute of Land Policy. Lorenz Curve of the Distribution of Residential Wealth by Housing Value Groups in Metro Rio, D Vetter *et al*.]

(a) (i) Describe what line A represents. [1]

(ii) Estimate what percentage of the city's total wealth belongs to the wealthiest 10 % of households. [1]

(iii) Referring to the graph, outline the evidence that many households in this city suffer from poverty. [2]

(Option G continues on the following page)

(Option G, question 13 continued)

    (b)   Explain why people's choice of residential location within a city might be influenced by their:

        (i)   ethnicity;   [3]

        (ii)   family status (stage in lifecycle).   [3]

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

14.   (a)   (i)   Describe **two** differences between a circular city system and a linear city system.   [1+1]

        (ii)   Outline how **one** transport management strategy can contribute to a circular city system.   [2]

    (b)   Explain **two** reasons for the location of retail activities in the central business district (CBD) of **one** city you have studied.   [3+3]

    (c)   Examine the consequences of the movements of different socio-economic groups within a city.   [10]

End of Option G