Diploma Programme
Programme du diplôme
Programa del Diploma

Geography
Standard level
Paper 1

Wednesday 8 May 2019 (afternoon)

1 hour 30 minutes

Instructions to candidates

- Do not open this examination paper until instructed to do so.
- Answer the questions in two options.
- The accompanying **geography resource booklet** is required for this examination paper.
- The maximum mark for this examination paper is **[40 marks]**.

Option	Questions
Option A — Freshwater	1 – 2
Option B — Oceans and coastal margins	3 – 4
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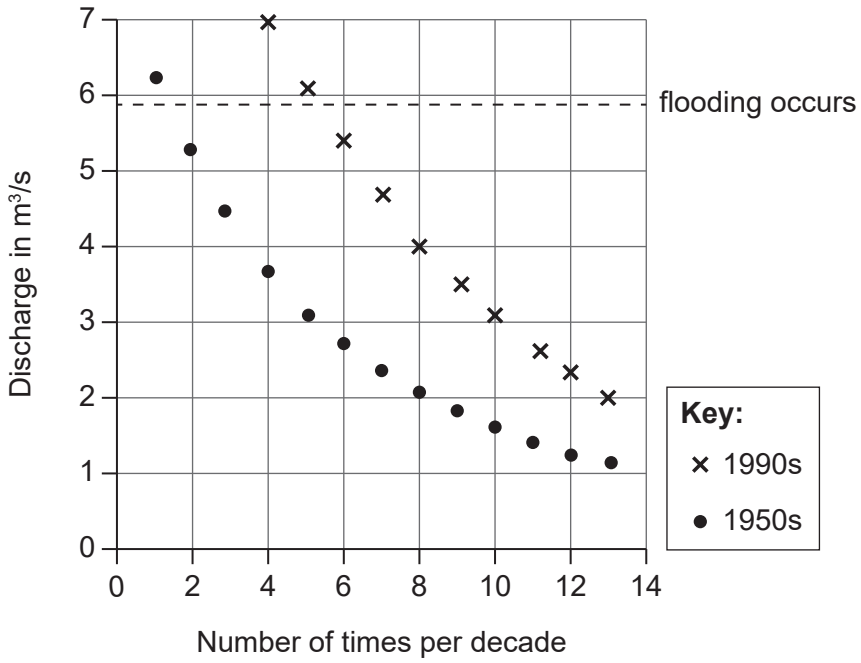
Answer the questions in **two** options.

When relevant, answers should refer to case studies or examples, and where appropriate include well-drawn maps or diagrams.

Option A — Freshwater

Answer the following question.

1. The diagram shows the changing frequency of discharge* in a small drainage basin during two different time periods.



[Source: © International Baccalaureate Organization 2019]

(a) Estimate the highest discharge of the river during the 1950s. [1]

(b) State the number of times that river discharge reached 4 m^3/s (cubic metres per second) during the 1990s. [1]

(c) Outline **two** possible land use changes that could account for the increase in river discharge over time shown in the diagram. [2+2]

(d) Explain how different channel modifications in a small drainage basin such as this can:

(i) increase flood risk; [2]

(ii) assist with flood mitigation. [2]

(Option A continues on the following page)

* frequency of discharge: how often a river reaches or exceeds a particular discharge level

(Option A continued)

Answer either part (a) or part (b).

Either

2. (a) Examine the costs and benefits, for different stakeholders, of **one** recent integrated drainage basin management (IDBM) plan. [10]

Or

2. (b) Examine the relative importance of erosion and deposition in the formation of floodplains **and** meanders. [10]

End of Option A

Option B — Oceans and coastal margins

Answer the following question.

3. Refer to the table and map on page 2 of the accompanying resource booklet.

The table and map show management zones created to control human activities along a nation's coastal margin that includes coral reefs.

(a) Identify the least controlled activity in the coastal margin shown on the map. [1]

(b) Estimate the distance, in kilometres, between the Preservation Zone and Cardwell. [1]

(c) Outline **one** possible physical reason **and one** possible human reason for the location of the Preservation Zone. [2+2]

(d) Explain **two** sovereignty rights that the nation in the map possesses over the area of water shown. [2+2]

Answer either part (a) or part (b).

Either

4. (a) Examine why some hurricanes could have a greater impact than others on coastal margin landscapes. [10]

Or

4. (b) Examine why conflicting land-use pressures on coastlines can be difficult to resolve. [10]

End of Option B

Option C — Extreme environments

Answer the following question.

5. Refer to the map on page 3 of the accompanying resource booklet.

The map shows predicted permafrost conditions in Greenland and North America in 2080.

(a) Briefly describe the distribution of thawing permafrost in Greenland. [2]

(b) Outline **one** possible reason why some permafrost in area A has not thawed. [2]

(c) Suggest **three** possible ways in which the melting of permafrost could affect local populations in areas such as those shown on the map. [2+2+2]

Answer either part (a) or part (b).

Either

6. (a) Examine the importance of water in the development of hot, arid landscape features. [10]

Or

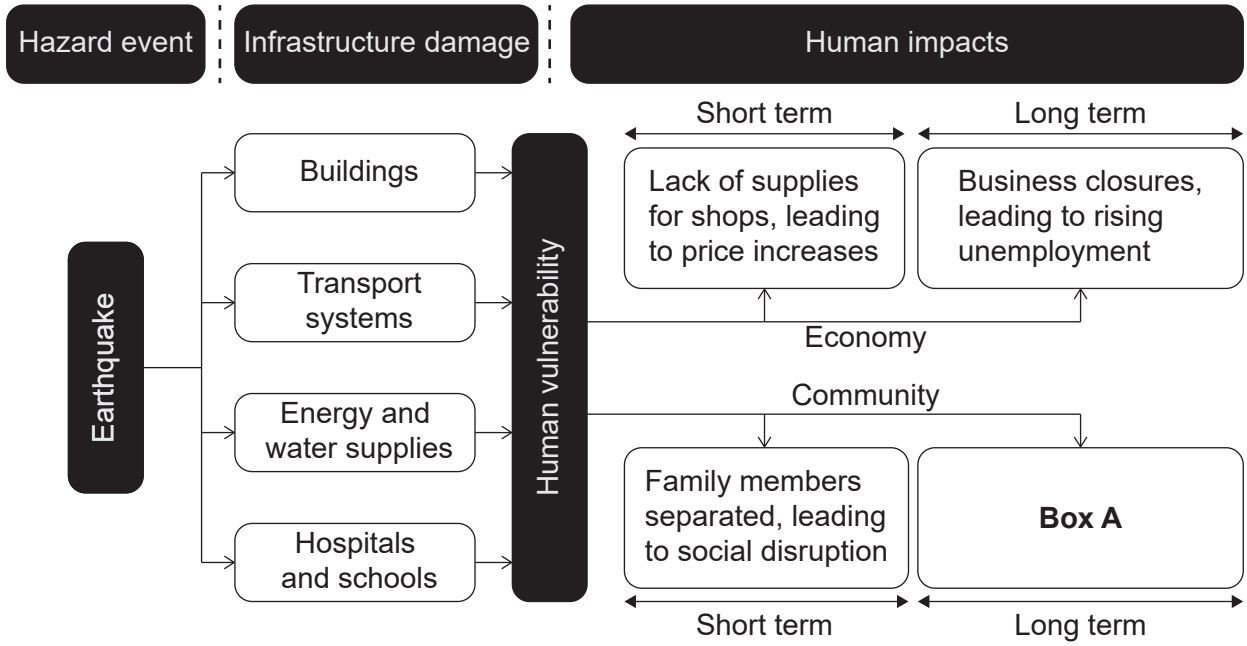
6. (b) Examine the extent to which new technologies might contribute to sustainable development in **one or more** kinds of extreme environment. [10]

End of Option C

Option D — Geophysical hazards

Answer the following question.

7. The diagram shows possible impacts of an earthquake on a city and its community.



[Source: Grant Agreement No 244061 – Project acronym: SYNER-G]

(a) Briefly outline **two** long-term impacts of infrastructure damage that could be included in Box A. [1+1]

(b) Outline how **one** characteristic of a community's population structure can affect its vulnerability to earthquakes. [2]

(c) Explain **three** strategies that could increase the personal resilience of community members to an earthquake event such as the one shown in the diagram. [2+2+2]

Answer either part (a) or part (b).

Either

8. (a) Examine how physical processes affect the level of volcanic hazard risk in different places. [10]

Or

8. (b) Examine why mass movement hazard risk in some places could change in the future. [10]

End of Option D

Option E — Leisure, tourism and sport

Answer the following question.

9. Refer to the aerial photograph on page 4 of the accompanying resource booklet.

The aerial photograph shows a growing coastal tourist destination in a middle-income country.

(a) Referring to the photograph, describe the distribution of **two** touristic activities. [1+1]

(b) Using photographic evidence, suggest **one physical** reason why this destination may have reached its environmental carrying capacity. [2]

(c) Explain **three** local **human** factors that could reduce the number of tourist arrivals at a destination such as the one shown in the photograph. [2+2+2]

Answer either part (a) or part (b).

Either

10. (a) Examine how international sporting events bring social and economic benefits to different places. [10]

Or

10. (b) Examine the physical and human reasons why some rural areas have become important for leisure activities. [10]

End of Option E

Option F — Food and health

Answer the following question.

11. Refer to the diagram on page 5 of the accompanying resource booklet.

The diagram shows projected changes in the total number of affluent people (those earning US$10 a day or more) and their distribution for four world regions between 2009 and 2030.

(a) Estimate the percentage increase in the total number of affluent people. [1]

(b) State whether the number of affluent people in Africa is projected to increase, decrease or stay approximately the same. [1]

(c) Outline **one** way in which rising affluence in Asia may affect food consumption in other regions shown in the diagram. [2]

(d) Suggest **three** possible reasons why the health of populations in Asia might deteriorate as a result of the rising affluence shown in the diagram. [2+2+2]

Answer either part (a) or part (b).

Either

12. (a) Examine the view that food waste reduction is the best way to achieve future food security. [10]

Or

12. (b) Examine the relative importance of physical and human factors in the diffusion **over time** of **one** vector-borne disease. [10]

End of Option F

Option G — Urban environments

Answer the following question.

13. Refer to the map on pages 6 and 7 of the accompanying resource booklet.

The map shows part of Den Haag (a post-industrial city in Europe).

(a) Using map evidence, state why traffic congestion may occur at De Bataaf (grid square 4722). [1]

(b) State the direction from Vredespaleis (4720) to World Forum (4621). [1]

(c) Outline **one** possible recent change in urban function in box A. [2]

(d) Explain **one possible** physical factor **and two possible** human factors that can affect the pattern of residential development in a post-industrial city such as Den Haag. [2+2+2]

Answer either part (a) or part (b).

Either

14. (a) Examine the contribution eco city design could make to the management of urban challenges in the future. [10]

Or

14. (b) Examine ways in which deindustrialization has helped bring positive changes to some urban areas and communities. [10]

End of Option G