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Diploma Programme
Programme du diplôme
Programa del Diploma

Geography
Standard level
Paper 1

Friday 5 November 2021 (afternoon)

45 minutes

Instructions to candidates

- Do not open this examination paper until instructed to do so.
- Answer the questions in one option.
- The accompanying **geography resource booklet** is required for this examination paper.
- The maximum mark for this examination paper is **[20 marks]**.

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

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. Refer to the satellite image on page 2 of the accompanying resource booklet.

The satellite image shows part of the Red Rock River in Montana, USA.

(a) (i) State the direction from point **A** to point **B**. [1]

(ii) Estimate the percentage of the satellite image that is covered by dense vegetation. [1]

(b) Outline the relationship between river discharge and hydraulic radius. [2]

(c) Suggest **two** landform changes that could be caused by river processes in an environment such as this. [3 + 3]

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

Either

2. (a) Examine the management challenges that internationally shared water resources can create. [10]

Or

2. (b) Examine why some communities and environments may benefit more than others from the building of large dams. [10]

End of Option A

Option B — Oceans and coastal margins

Answer the following question.

3. Refer to the pie chart on page 3 of the accompanying resource booklet.

The pie chart shows the aquaculture production of Asia, by country, in 2016.

(a) (i) Identify the country with the third largest aquaculture production. [1]

(ii) Estimate the aquaculture production in China in millions of tonnes. [1]

(b) Outline **one** environmental problem associated with the growth of aquaculture. [2]

(c) Suggest how sustainable management of ocean fish stocks in low- and middle-income countries may have benefits for:

(i) local communities; [3]

(ii) the global environment. [3]

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

Either

4. (a) Examine the positive **and** negative impacts of La Niña events for different parts of the world. [10]

Or

4. (b) Evaluate the relative importance of vegetation in the development of coastal sand dunes. [10]

End of Option B

Option C — Extreme environments

Answer the following question.

5. Refer to the map on page 4 of the accompanying resource booklet.

The map shows the distribution of buildings on the continent of Antarctica.

(a) (i) Identify **one** feature of the way buildings are dispersed across Antarctica. [1]

(ii) Estimate the latitude of building **A**. [1]

(b) Outline **one** reason why a long-term fall in temperature might cause glaciers to advance. [2]

(c) Explain **two** geographic factors that can make very high-latitude polar regions challenging for human activity. [3 + 3]

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

Either

6. (a) Examine why opportunities for agriculture vary from place to place in hot, arid environments. [10]

Or

6. (b) Evaluate the main opportunities **and** challenges for indigenous groups in extreme environments. [10]

End of Option C

Option D — Geophysical hazards

Answer the following question.

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

The map shows the land use of areas affected by a landslide in a mountainous region of an Asian country with heavy seasonal rainfall.

(a) (i) Identify the land use with the largest area. [1]

(ii) Estimate the distance, in metres, between **A** and **B** of the landslide on the map. [1]

(b) Outline **one** physical factor that increases the speed of onset in a mass movement event. [2]

(c) Suggest how **two** pre-event management strategies could reduce the negative impact of mass movement in an area such as this. [3 + 3]

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

Either

8. (a) Examine the reasons why earthquakes vary in magnitude and frequency between different places. [10]

Or

8. (b) Examine how different human factors can affect community vulnerability to **one or more** geophysical hazards. [10]

End of Option D

Option E — Leisure, tourism and sport

Answer the following question.

9. The table shows the number of visitors to 15 selected major tourist hotspots in 2017.

Rank	City	Total international visitors (million)
01	Bangkok (Thailand)	20.0
02	London (United Kingdom)	19.0
03	Paris (France)	17.5
04	Dubai (United Arab Emirates)	15.5
05	Singapore	14.0
06	New York (United States of America)	13.0
07	Kuala Lumpur (Malaysia)	12.6
08	Tokyo (Japan)	12.0
09	Istanbul (Turkey)	10.7
10	Seoul (South Korea)	9.5
11	Phuket (Thailand)	9.3
12	Mecca (Saudi Arabia)	9.2
13	Hong Kong (China)	9.0
14	Barcelona (Spain)	8.5
15	Bali (Indonesia)	8.3

(a) (i) State the range of number of visitors, in millions, for the 15 major tourist hotspots. [1]

(ii) State the median number of visitors, in millions, for the 15 major tourist hotspots. [1]

(b) Outline **one** way in which investment by transnational corporations (TNCs) can help places grow as tourist destinations. [2]

(c) Suggest **two** reasons why further visitor growth at major tourist hotspots such as these could be unsustainable. [3 + 3]

(Option E continues on the following page)

(Option E continued)

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

Either

10. (a) Examine how people's participation in leisure activities can be affected by their country's level of human development. [10]

Or

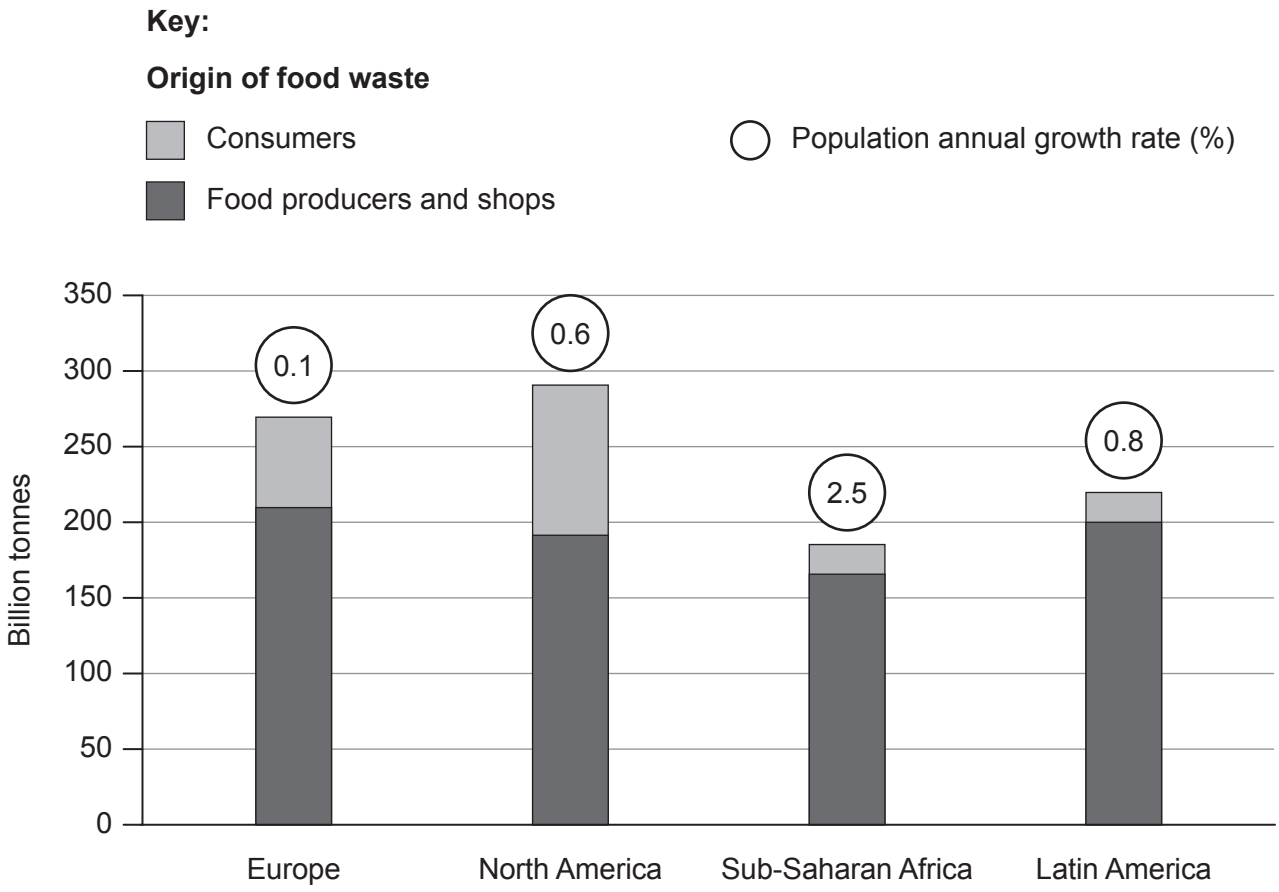
10. (b) Examine how different tourism strategies might contribute to the development of **one or more** countries. [10]

End of Option E

Option F — Food and health

Answer the following question.

11. The graph shows the total amount of food waste that is created each year in selected world regions with varying population growth rates.



(a) (i) State which world region has the least food waste created by food producers and shops. [1]

(ii) Estimate the amount of food waste, in billions of tonnes, created by consumers in North America. [1]

(b) Outline how vertical farming can help increase long-term global food availability. [2]

(c) Explain **two** strengths of food waste reduction as a strategy to improve food security in the world regions shown on the graph. [3 + 3]

(Option F continues on the following page)

(Option F continued)

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

Either

12. (a) Examine the relative importance of prevention **and** treatment in limiting the spread of **one or more** diseases. [10]

Or

12. (b) Examine how governments **and** other stakeholders can affect the severity of famine. [10]

End of Option F

Option G — Urban environments

Answer the following question.

13. Refer to the graph on page 6 of the accompanying resource booklet.

The graph shows how much green space remains in the streets of three neighbourhoods in a large city.

(a) (i) State which neighbourhood has the lowest amount of green space remaining. [1]

(ii) State which neighbourhood has 30 % of green space remaining on its streets. [1]

(b) Outline **one** reason why urban temperatures are sometimes higher than those of surrounding rural areas. [2]

(c) Suggest how the loss of green spaces over time in large cities like this could be explained by:

(i) **one** economic factor; [3]

(ii) **one** political factor. [3]

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

Either

14. (a) Examine reasons for the location of different economic activities in **one or more** cities. [10]

Or

14. (b) Evaluate the use of eco-city design as a way of managing large cities more sustainably. [10]

End of Option G

References:

9. Mastercard, Dubai one of the World's Most Visited Cities: Mastercard Global Destination Cities Index 2018. [online] Available at: https://newsroom.mastercard.com/mea/press-releases/dubai-one-of-the-worlds-most-visited-cities-mastercard-global-destination-cities-index-2018/ [Accessed 26 October 2020].

11. © FAO. 2011. Page 5. *Global food losses and food waste – Extent, causes and prevention*. https://www.fao.org/3/mb060e/mb060e.pdf. Reproduced with permission.

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