International Baccalaureate®
Baccalauréat International
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Geography

Higher and standard level

Specimen papers 1, 2 and 3

For first examinations in 2019

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Diploma Programme
Programme du diplôme
Programa del Diploma

Geography
Higher level
Paper 1

SPECIMEN

2 hours 15 minutes

Instructions to candidates

- Do not open this examination paper until instructed to do so.
- Answer the questions in three options.
- The accompanying geography resource booklet is required for this paper.
- The maximum mark for this examination paper is **[60 marks]**.

Option	Questions
Option A — Freshwater	1–2
Option B — Oceans and coastal margins	3–4
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Option F — Food and health	11–12
Option G — Urban environments	13–14

Answer the questions in **three** 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. Refer to the map and key on pages 2 and 3 of the accompanying resource booklet.

The map shows an area in western Mexico containing river floodplains and wetlands. The scale is 1:250 000 and the contour interval is 100 metres.

(a) Briefly describe **two** natural features of the river Rio Grande de Santiago downstream from the settlement of La Presa (grid square 3721). [2]

(b) Outline **one** possible threat to this area's wetlands. [2]

(c) Referring to map evidence, suggest **three** ways in which local people might benefit economically from this area's wetlands and/or river landforms. [2+2+2]

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

Either

2. (a) Examine the impacts of human activity on river hydrographs. [10]

Or

2. (b) Evaluate the contribution individuals and communities can make towards minimizing their local area's vulnerability to water scarcity. [10]

End of Option A

Option B — Oceans and coastal margins

Answer the following question.

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

The aerial photograph shows part of a coastline near Montego Bay on the Caribbean island of Jamaica.

(a) Referring to the aerial photograph, describe **two** features that show that the shape of this coastline has been modified due to human intervention. [2+2]

(b) Referring to the aerial photograph, explain **three** possible benefits to human activity that have resulted from modifying this coastline. [2+2+2]

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

Either

4. (a) Examine the environmental and economic impacts of El Niño events. [10]

Or

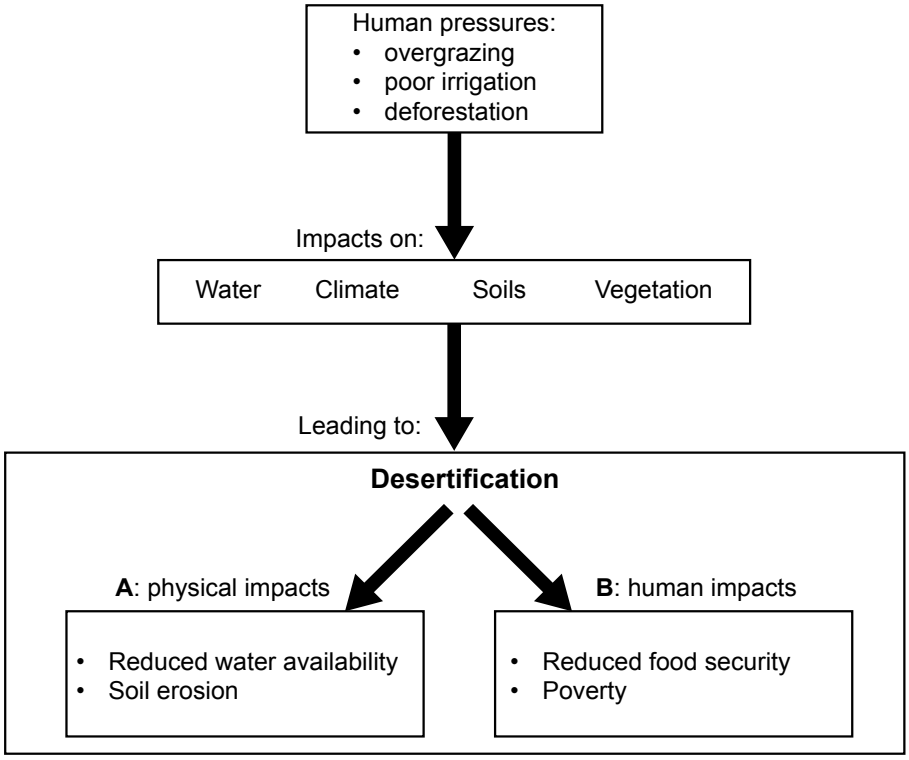
4. (b) Examine why the ownership of oceanic resources is often disputed. [10]

End of Option B

Option C — Extreme environments

Answer the following question.

5. The diagram shows some causes and consequences of desertification.



[Source: copyright International Baccalaureate, 2016]

(a) State **two** additional physical impacts that could be included in box **A**. [1+1]

(b) State **two** additional human impacts that could be included in box **B**. [1+1]

(c) Referring to the diagram, suggest **one** reason why it can be hard to slow down the desertification process. [2]

(d) Explain how overgrazing can lead to desertification. [4]

(Option C continues on the following page)

(Option C continued)

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

Either

6. (a) Examine the opportunities and challenges associated with tourism in cold extreme environments. [10]

Or

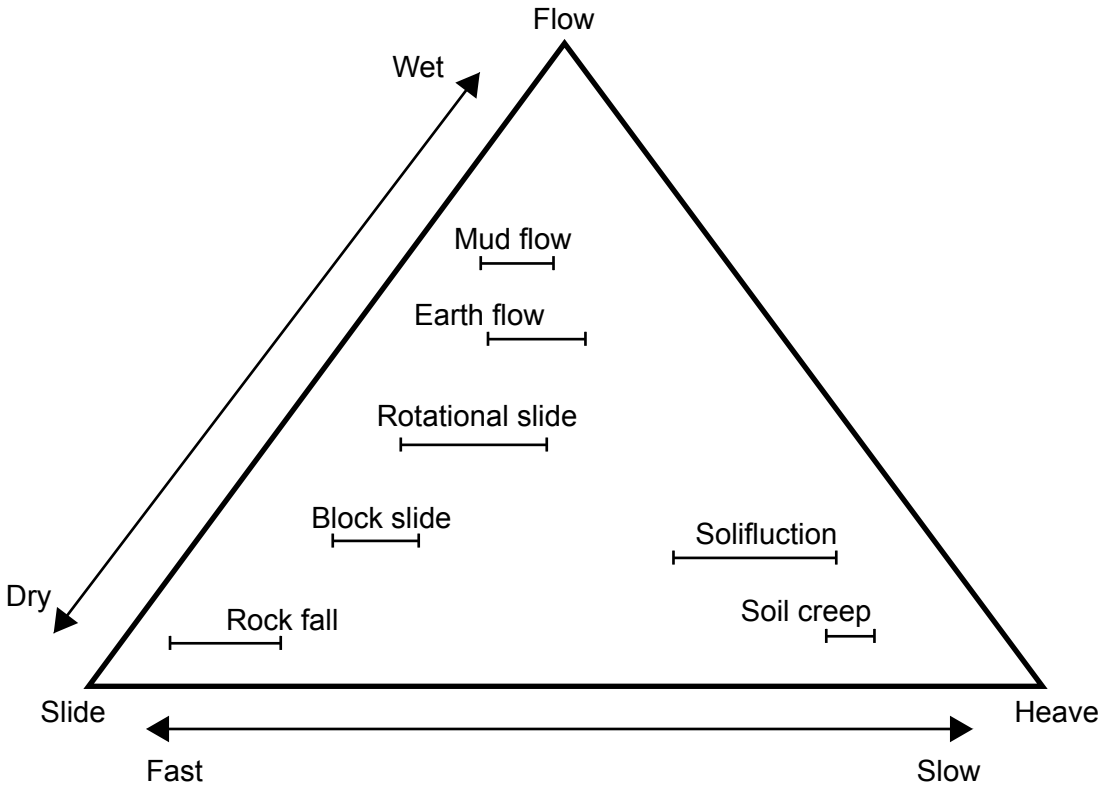
6. (b) Examine the relative importance of glacial (ice) erosion and deposition for the development of glacial troughs and moraines. [10]

End of Option C

Option D — Geophysical hazards

Answer the following question.

7. The diagram shows a classification of selected types of mass movement.



[Source: copyright International Baccalaureate, 2016]

(a) Referring to the diagram, state the characteristics of a rotational slide. [2]

(b) Outline **one** situation in which a mud flow would be classified as a secondary hazard. [2]

(c) Distinguish between the strategies used to manage the risks of rock falls and soil creep. [6]

(Option D continues on the following page)

(Option D continued)

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

Either

8. (a) Examine the role of plate margin type in determining the severity of volcanic hazards. [10]

Or

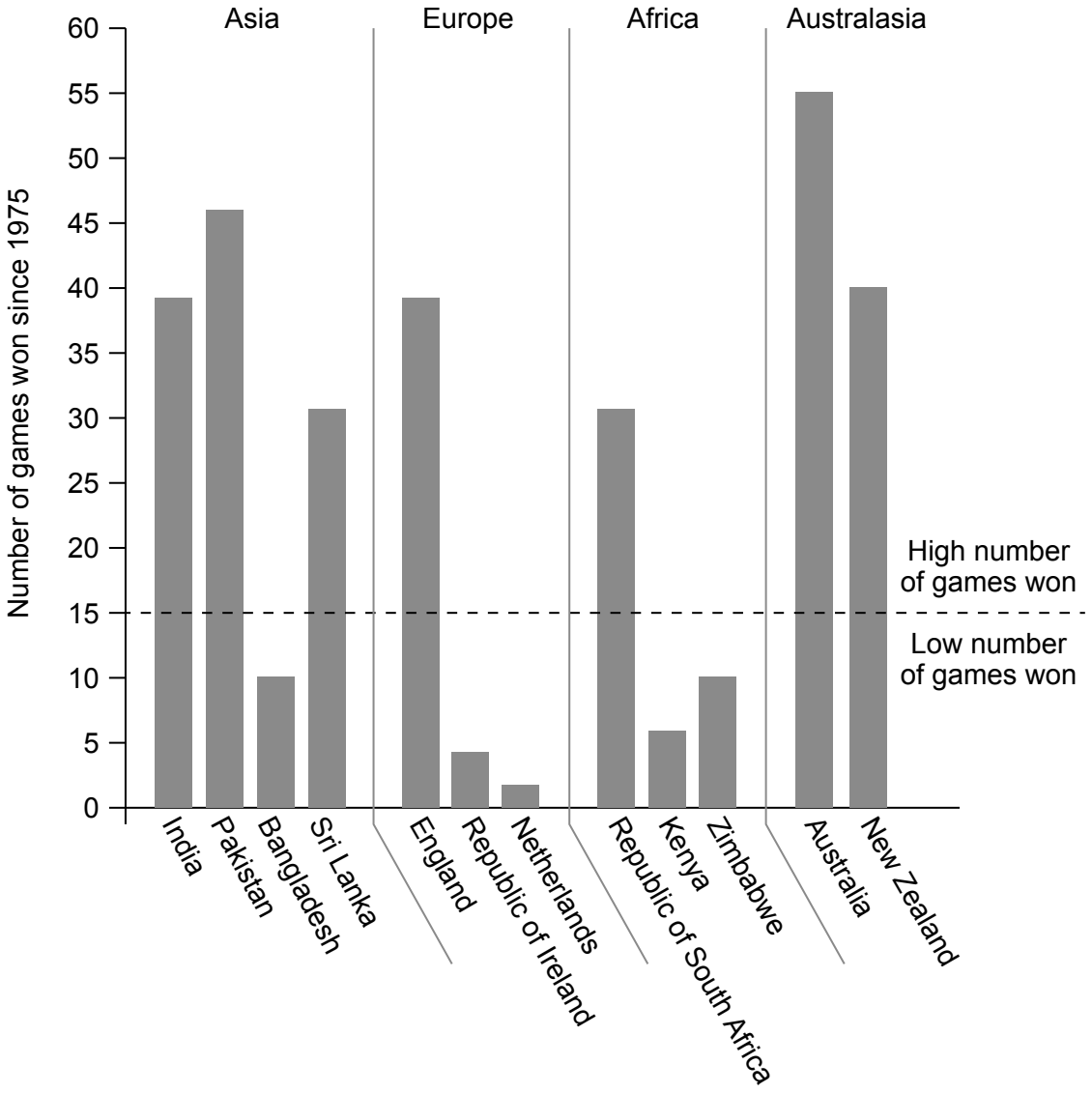
8. (b) Evaluate the success of attempts to predict tectonic hazard events and their possible impacts. [10]

End of Option D

Option E — Leisure, tourism and sport

Answer the following question.

9. The graph shows the number of games won since 1975 by selected countries in a particular international sporting event.



[Source: copyright International Baccalaureate, 2016]

(a) Briefly describe the global pattern shown by the graph. [2]

(b) State **two** possible political factors influencing where the event might take place in any year. [1+1]

(c) Suggest **three** reasons for the low number of games won by some of the countries shown on the graph. [2+2+2]

(Option E continues on the following page)

(Option E continued)

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

Either

10. (a) Evaluate the costs **and** benefits of tourism as a national development strategy. [10]

Or

10. (b) Examine the impacts of **one or more** festivals on surrounding rural area(s). [10]

End of Option E

Option F — Food and health

Answer the following question.

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

The map shows the female health-adjusted life expectancy at birth (HALE) in Africa in 2012.

(a) Referring to the map, describe the pattern of female health-adjusted life expectancy (HALE) in African countries north of the equator. [2]

(b) Outline **one** reason why female health-adjusted life expectancy (HALE) remains below 50 years in some countries. [2]

(c) Explain **two** disadvantages and **one** advantage of using HALE as an indicator of the health of the populations of the countries shown on the map. [2+2+2]

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

Either

12. (a) Evaluate the role of agribusinesses and new technologies in increasing world food supply. [10]

Or

12. (b) Examine the relationship between food security and health. [10]

End of Option F

Option G — Urban environments

Answer the following question.

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

The map shows driving times in a city in North America, together with the average price of a detached home in each zone of driving time.

(a) State the compass direction from the city centre to the airport. [1]

(b) Estimate the furthest distance north that can be travelled in 30 minutes by car from the city centre. [1]

(c) State **two** possible reasons why places that are the same distance from the city centre have different driving times. [1+1]

(d) Suggest **three** reasons, **other than** driving time, why housing in zones A and D is more expensive than housing in other zones. [2+2+2]

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

Either

14. (a) Evaluate **two or more** strategies designed to improve the sustainability of cities. [10]

Or

14. (b) Examine the patterns of urban stress that have developed in **one or more named** cities. [10]

End of Option G

Diploma Programme
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Geography
Higher level and standard level
Paper 1

SPECIMEN

Resource booklet

Instructions to candidates

- Do not open this booklet until instructed to do so.
- This booklet accompanies paper 1.

Option A — Freshwater

1. The map shows an area in western Mexico containing river floodplains and wetlands. The scale is 1:250 000 and the contour interval is 100 metres.

[Source: Extract from a map of Tepic, Mexico (F13–8), produced by Instituto Nacional de Estadistica y Geografia (INEGI), www.inegi.org.mx]

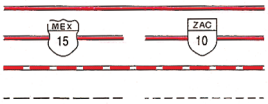
Key:

Populations

Locality
With more than 500 000 inhabitants
50 001 To 500 000 inhabitants
15 001 To 50 000
2501 To 15 000
Less than 2501 inhabitants
Temporary location or name of place

Terrestrial routes

Paved road
State or federal road number signposting
Unpaved road/dirt track
Breach, path

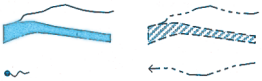


Representation of the relief

Contour line in metres
Normal contour line

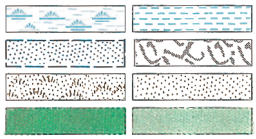
Hydrographic characteristics

Body of water: perennial, intermittent
Spring, disappearing current



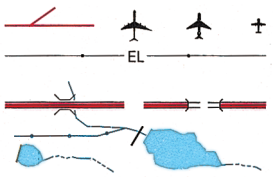
Other areas

Marsh, land subject to flooding
Salt mines, malpais
Dunes, sandy area
Dense vegetation, green urban area



Other cultural characteristics

Runway, airport: international, national, local
Electric transmission line with electricity pylons
Bridge, tunnel
Canal, dam
Border (earth ridge for controlling flow of irrigation)



Option B — Oceans and coastal margins

3. The aerial photograph shows part of a coastline near Montego Bay on the Caribbean island of Jamaica.

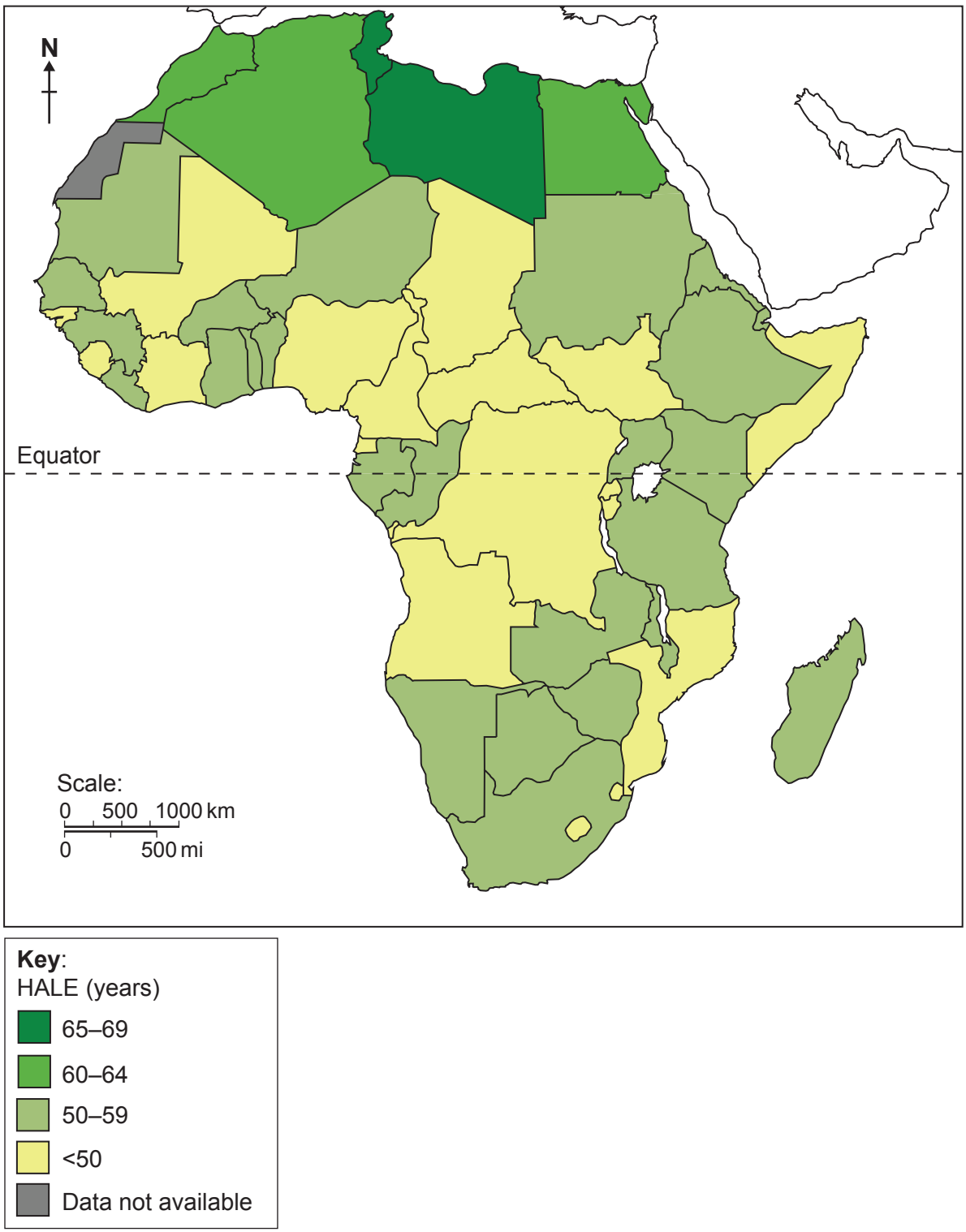
feet 2000
metres 700

N

[Source: Google Earth]

Option F — Food and health

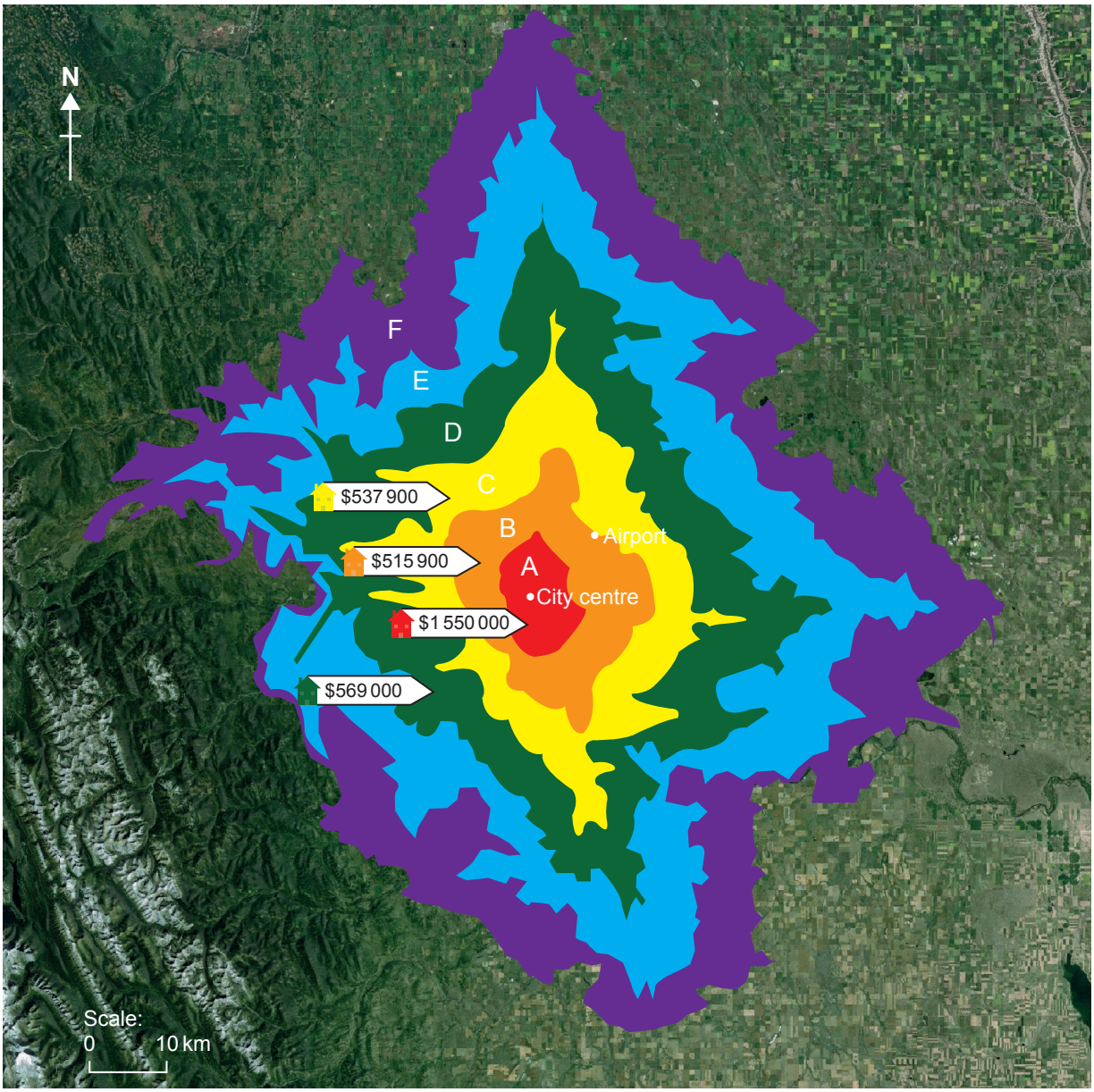
11. The map shows the female health-adjusted life expectancy at birth (HALE) in Africa in 2012.



[Source: http://gamapserver.who.int/mapLibrary/Files/Maps/Global_HALE_Females_2012.png]

Option G — Urban environments

13. The map shows driving times in a city in North America, together with the average price of a detached home in each zone of driving time.



Key:
Driving time from city centre:

- A: <10 minutes
- B: 11–20 minutes
- C: 21–30 minutes
- D: 31–40 minutes
- E: 41–50 minutes
- F: 51+ minutes

[Source: http://www.macleans.ca/economy/realestateeconomy/savings-on-house-prices-per-minute-of-driving-map-calgary/]

SPEC/3/GEOGR/BP1/ENG/TZ0/XX/M

Diploma Programme
Programme du diplôme
Programa del Diploma

Markscheme

Specimen

Geography

Higher level and standard level

Paper 1

24 pages

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Paper 1 markbands

These markbands are to be used for paper 1 at both standard level and higher level.

Marks	Level descriptor		
	AO1: Knowledge and understanding of specified content **AO2: Application and analysis of knowledge and understanding**	**AO3: Synthesis and evaluation**	**AO4: Selection, use and application of a variety of appropriate skills and techniques**
0	The work does not reach a standard described by the descriptors below.		
1–2	**The response is too brief, lists unconnected information, is not focused on the question and lacks structure.** • The response is very brief or descriptive, **listing** a series of unconnected comments or largely irrelevant information. The knowledge and understanding presented is very general with large gaps or errors in interpretation. Examples or case studies are not included or only **listed**. • There is no evidence of analysis. • Terminology is missing, not defined, irrelevant or used incorrectly.	• No evidence of evaluation or conclusion is expected at this level.	• Information presented is not grouped logically (in paragraphs or sections). • Maps, graphs or diagrams are not included, are irrelevant or difficult to decipher (only if appropriate to the question).
3–4	**The response is too general, lacks detail, is not focused on the question and is largely unstructured.** • The response is very general. The knowledge and understanding presented **outlines** examples, statistics, and facts that are both relevant and irrelevant. Links to the question are **listed**. • The argument or analysis presented is not relevant to the question. • Basic terminology is defined and used but with errors in understanding or used inconsistently.	• If appropriate to the question, the conclusion is irrelevant. • There is no evidence of critical evaluation of evidence (examples, statistics and case studies).	• Most of the information is not grouped logically (in paragraphs or sections). • Maps, graphs or diagrams included lack detail, are incorrectly or only partially interpreted without explicit connections to the question (only if appropriate to the question).
5–6	**The response partially addresses the question, but with a narrow argument, an unsubstantiated conclusion, and limited evaluation.** • The response **describes** relevant supporting evidence (information, examples, case studies et cetera), **outlining** appropriate link(s) to the question. • The argument or analysis partially addresses the question or elaborates one point repeatedly. • Relevant terminology is defined and used with only minor errors in understanding or is used inconsistently.	• If appropriate to the question, the conclusions are general, not aligned with the evidence presented and/or based on an incorrect interpretation of the evidence. • Other perspectives on evidence (examples, statistics and case studies) and/or strengths and weaknesses of evidence are **listed**.	• Logically related information is grouped together (in sections or paragraphs) but not consistently. • Maps, graphs or diagrams included do not follow conventions, and include relevant and irrelevant interpretations in the text (only if appropriate to the question).

<table>
<tr><td>7–8</td><td colspan="3">The response addresses the whole question, the analysis is evaluated and the conclusion is relevant but lacks balance.</td></tr>
<tr><td></td><td>• The response describes relevant supporting evidence correctly (information, examples and case studies) that covers all the main points of the question, describing appropriate links to the question.
• The argument or analysis is clear and relevant to the question but one-sided or unbalanced.
• Complex terminology is defined and used correctly but not consistently.</td><td>• If appropriate to the question, the conclusion is relevant to the question, aligned with the evidence but unbalanced.
• Other perspectives on evidence (examples, statistics and case studies) and/or strengths and weaknesses of evidence are described.</td><td>• Logically related information is grouped together (in sections) consistently.
• Maps, graphs or diagrams included contribute to/support the argument or analysis (only if appropriate to the question).</td></tr>
<tr><td>9–10</td><td colspan="3">The response is in-depth and question-specific (topic and command term); analysis and conclusion are justified through well-developed evaluation of evidence and perspectives.</td></tr>
<tr><td></td><td>• The response explains correct and relevant examples, statistics and details that are integrated in the response, explaining the appropriate link to the question.
• The argument or analysis is balanced, presenting evidence that is discussed, explaining complexity, exceptions and comparisons.
• Complex and relevant terminology is used correctly throughout the response.</td><td>• If appropriate to the question, the conclusion is relevant to the question, balanced and aligned with the evidence.
• Evaluation includes a systematic and detailed presentation of ideas, cause and effect relations, other perspectives; strengths and weaknesses of evidence are discussed; (if appropriate) includes justification of the argument and conclusion.</td><td>• Response is logically structured with discussion (and if appropriate to the question, a conclusion) focusing on the argument or points made, making it easy to follow.
• Maps, graphs or diagrams are annotated following conventions and their relevance is explained and support the argument or analysis (only if appropriate to the question).</td></tr>
</table>

Option A — Freshwater

1. (a) Briefly describe **two** natural features of the river Rio Grande de Santiago downstream from the settlement of La Presa (grid square 3721). **[2]**

Award ***[1]*** *for describing each characteristic.*

For example: Several (five or six) well-developed meanders **[1]**, a small ox-bow lake around 100 m from the main channel **[1]**.

Only award a maximum of ***[1]*** *for two stated features without description ("Meander. Ox-bow lake.").*

(b) Outline **one** possible threat to this area's wetlands. **[2]**

Award ***[1]*** *for identifying a natural or human threat.*
Award ***[1]*** *for further outlining or exemplification.*

For instance: "Climate change might bring reduced rainfall to this part of Mexico **[1]**, this could result in the land no longer being saturated for many months of the year **[1]**.

(c) Referring to map evidence, suggest **three** ways in which local people might benefit economically from this area's wetlands and/or river landforms. **[2+2+2]**

Award ***[1]*** *for a valid economic benefit and* ***[1]*** *for use of supporting map evidence. Possible benefits of wetlands and/or river landforms include: tourism, nature reserves, farming, aquaculture, natural flood defences.*

For example: Square 3618 contains an extensive wetland area **[1]** which might attract nature tourists who spend money staying in larger settlements such as La Presa **[1]**.

2. (a) Examine the impacts of human activity on river hydrographs. **[10]**

Marks should be allocated according to the markbands.

Response of hydrograph should be addressed in terms of lag time, peak discharge, rising and recessional limb, overland flow/throughflow contributions, *etc*.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- answers may refer to the reasons for the rapid response areas in which human activity is present, for example, in urban areas due to lack of interception, impermeable surfaces (roads, roofs, paving), thereby reducing infiltration, and the presence of artificial and rapid drainage channels (drains, sewers, flood channels). Urbanization is used to explain the effects on the rapid rising limb, high peak discharge and rapid falling limb on account of overland flow/runoff
- other reasons would be due to changes to land use, agricultural practices, deforestation/afforestation. The slower and lower response in a vegetated or forested area could be explained by higher interception, the retention of water by litter, absorption by root systems, high soil and bedrock permeability.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which examines the relative importance of the impacts of different human activities, or possible interactions between them. Another approach might be to examine the different time scales over which impacts are experienced *eg* urbanization occurs over a far longer time period compared with the seasonal effects of agriculture (vegetation cover removal and compacting of soil).

For 5–6 marks, expect some weakly evidenced outlining of the impact of human activity on hydrographs.

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of the impact of human activity on hydrographs
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

2. (b) Evaluate the contribution individuals and communities can make towards minimizing their area's vulnerability to water scarcity. **[10]**

Marks should be allocated according to the markbands.

Physical water scarcity is where water resource development reaches unsustainable levels. Economic water scarcity is where water is available locally but not accessible for human reasons.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- water saving/rationing/recycling/re-use are strategies which can be led by individuals and communities, but may also be promoted by local and national government
- water harvesting (*eg* use of rainwater barrels) can make a very important contribution towards building community resilience especially in more arid areas
- farmers/gardeners may adopt drought-resistant crops/plants
- individuals and communities have a role to play in supporting or challenging integrated drainage basin management, or the introduction of dams and reservoirs. The importance of their contribution will depend on the context presented as evidence.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) of the statement in a way that is carefully structured around different aspects of vulnerability *eg* the varying power of individuals, households, farmers or industries to make a difference in this context. There may not be a possibility of entirely eradicating risks/vulnerability, and this might be commented on. So too might climate change and changing physical processes which cannot be easily tackled due to their scale, or human issues such as corruption.

For 5–6 marks, expect some weakly evidenced outlining of water scarcity vulnerability and the contribution/actions of individuals/communities.

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of water scarcity vulnerability and the contribution/actions of individuals/communities
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

Option B — Oceans and coastal margins

3. (a) Referring to the aerial photograph, describe **two** features that show that the shape of this coastline has been modified due to human intervention. **[2+2]**

*Award **[1]** for identification of the feature, naming or describing the intervention/modification, and **[1]** for further development such as location, shape, building material or how it functions/works.*

For example:
- unusually straight and/or narrow "headland" type features **[1]** running perpendicular to the coast between successive bays **[1]**
- offshore seawalls, groynes or breakwaters **[1]** running parallel to the coastline or man-made jetty **[1]**
- regular-shaped bays **[1]** of similar proportions, almost equally spaced over only a short distance **[1]**.

(b) Referring to the aerial photograph, explain **three** possible benefits to human activity that have resulted from modifying this coastline. **[2+2+2]**

*Award **[1]** for identifying a benefit and further **[1]** for development.*

For example: Greater protection for low-lying infrastructure, buildings, hotels, and yachts against storms **[1]** because wave strength will be diminished inside bays by this pattern of bays and headlands **[1]**.

Other possible benefits or advantages may include:
- creation of new land, and a longer coastline, with more waterfront may raise land prices and allow more building sites and development
- the headlands and creation of bays where waves will be refracted creates areas that are safer for beach activities and swimming
- reducing distance between "headlands" may allow for entrance to one or more bays to be "netted", decreasing risk of jellyfish/shark attacks and increasing swimmer safety
- the artificially extended coastline may provide the ideal conditions for the development of an artificial reef in the future which would bring a new water-based attraction to this area.

4. (a) Examine the environmental and economic impacts of El Niño events. **[10]**

Marks should be allocated according to the markbands.

El Niño is officially defined as a sustained sea surface temperature anomaly across the central tropical Pacific Ocean (lasts 2 to 7 years).

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- El Niño events are associated with warm and very wet summers (December to February) along the coasts of northern Peru and Ecuador, with the economic costs of major flooding hazards whenever the event is strong or extreme
- further afield, El Niño events also result in drier conditions in parts of Southeast Asia and parts of Australia and the economic impacts of this, including bush fires, can also be addressed. On the other hand, fewer tropical cyclones in the western Pacific reduces the economic impacts from storm hazards in those areas
- changes to ocean currents can affect local fishing industries along affected coastlines (for instance, Peruvian anchovies may migrate south to Chilean waters)
- El Niño events can also have impacts which extend well beyond the Pacific region.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which examines the statement in a way that considers different types of <u>place</u> (context), or the impacts of different physical <u>processes</u>. There is a <u>possibility</u> of both positive and negative impacts in both instances, and the time <u>scale</u> these operate on might also be examined.

For 5–6 marks, expect some weakly evidenced outlining of two valid impacts of El Niño events/hazards.

For 7–8 marks, expect a well-structured account which includes

- <u>either</u> well-evidenced explanation of three or more valid impacts of El Niño events/hazards
- <u>or</u> a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect <u>both</u> of these traits.

4. (b) Examine why the ownership of oceanic resources is often disputed. **[10]**

Marks should be allocated according to the markbands.

Oceanic resources include both biotic and abiotic resources. There are a range of possible challenges arising from competition over oceanic resources, and they often lead to dispute between states.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- sovereignty rights and territorial limits where there are competing claims over the ocean and its resources, *eg* China and the Philippines
- ownership of islands, coastal margins and their territorial resources
- the Arctic Ocean and competition from Arctic Circle nations over ownership of ocean floor resources including fossil fuels
- conflict over fishing and competing perspectives over ownership of a resource that forms part of "the global commons".

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which examines the statement in a way that considers different types and scales of dispute or conflict between nations and places. Another approach might be to show how different countries/organizations/interest groups have varying perspectives on who, if anyone, can lay claim to ocean resources. There is also a possibility of some disputes persisting due to a failure to agree sovereignty rights in disputed regions.

For 5–6 marks, expect some weakly evidenced outlining of two relevant disputes.

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of two relevant disputes
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

Option C — Extreme environments

5. (a) State **two** additional physical impacts that could be included in box **A**. **[1+1]**

Award ***[1]*** *for stating each possible physical impact.*

For example: Loss of biodiversity, reduced productivity, migration of species, salinization.

(b) State **two** additional human impacts that could be included in box **B**. **[1+1]**

Award ***[1]*** *for stating each possible human impact.*

For example: Environmental refugees/migration, falling crop yields/carrying capacity reduced, conflict over land.

(c) Referring to the diagram, suggest **one** reason why it can be hard to slow down the desertification process. **[2]**

*Award **[1]** for a valid human or physical reason and **[1]** for further development/exemplification.*

For example: Desertification of some places means that cattle are moved to other previously unaffected areas **[1]**. However, these other areas may become desertified as a result and so the process does not slow down overall **[1]**.

(d) Explain how overgrazing can lead to desertification. **[4]**

*Award **[1]** for each valid explanatory statement and **[1]** for each further development/exemplification.*

For example: Overgrazing means more vegetation is removed over a period of time by grazing animals than can regrow **[1]**. Removal of vegetation and prevention of sufficient replacement growth means fewer roots to hold soil together **[1]**. Less vegetation means overgrazing will accelerate if the number of grazing animals is not diminished **[1]**. Trampling of ground that is not protected by vegetation can lead to compaction and further reduced vegetation growth. **[1]** This downward cycle of land degradation is desertification.

6. (a) Examine the opportunities and challenges associated with tourism in cold extreme environments. **[10]**

Marks should be allocated according to the markbands.

The focus of the response should be on the cold extreme environment and the opportunities and challenges that it poses for tourism.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- opportunities for tourism include the aesthetic value, the physical characteristics of the environment (*eg* relief) that – in spite of being a challenge for the local population – present unique possibilities for selected tourist activities
- other opportunities include economic gains, protection of fragile areas, employment of local populations, possibility of different forms of recreation
- challenges include pressure on resources, land degradation and slower recovery rates, waste disposal, vulnerability to and frequency of hazards, the seasonal nature of tourism. Responses may consider other factors, including social, economic, political, demographic, and cultural factors
- the physical challenge of construction (in permafrost areas) could also be considered.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which examines the variety and balance of challenges and opportunities in varying <u>places</u>, at different <u>scales</u> and in varying geographic contexts *eg* polar as opposed to tundra regions or different economic development contexts. They may also examine the time <u>scale</u> over which tourism develops. Another approach might be to look at how <u>interactions</u> with other places can help or harm tourism.

For 5–6 marks, expect some weakly evidenced outlining of one relevant opportunity and one relevant challenge.

For 7–8 marks, expect a well-structured account which includes:

- <u>either</u> well-evidenced explanation of relevant opportunities and challenges (do not expect perfect balance)
- <u>or</u> a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect <u>both</u> of these traits.

6. (b) Examine the relative importance of glacial (ice) erosion and deposition for the development of glacial troughs and moraines. **[10]**

Marks should be allocated according to the markbands.

The focus of the response should be on both erosional and depositional processes and their associated landforms. Although some landforms owe their character mainly to erosion or deposition, many landforms have developed over time as a result of both erosion and deposition. For example, glacial troughs were carved by erosion but have also experienced deposition subsequently on the valley floor.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- glacial trough formation may be accounted for using knowledge of erosional processes (plucking, abrasion). Depositional processes also play a role in shaping the landform (till depositional or ground moraine)
- moraines are predominantly depositional features (lateral, medial and terminal moraines). However, the material itself could not have been produced without erosion and also valley-side weathering.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which examines the statement in a way that shows understanding of the complex interactions between erosional and depositional processes that are responsible for landform development (rather than explaining the landforms as being purely erosional or depositional in origin). Another approach might be to examine changing processes over different time scales (*eg* periods of glacial advance and retreat).

For 5–6 marks, expect some weakly evidenced outlining of erosion and deposition processes in relation to two relevant landforms (trough and one type of moraine).

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of erosion and deposition processes, and their influence on three relevant landforms (trough and more than one type of moraine)
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

Option D — Geophysical hazards

7. (a) Referring to the diagram, state the characteristics of a rotational slide. **[2]**

semi-liquid/medium moisture content **[1]**
range of speeds from fast to medium **[1]**

(b) Outline **one** situation in which a mud flow would be classified as a secondary hazard. **[2]**

*Award **[1]** for a valid situation (most likely the occurrence of a primary hazard such as an earthquake or storm event) and **[1]** for further development/exemplification.*

For example: "An earthquake occurs (primary hazard) **[1]** and this triggers a landslide **[1]**.

(c) Distinguish between the strategies used to manage the risks of rock falls and soil creep. **[6]**

Rock falls (as shown by the diagram) are fast/sudden/unpredictable **[1]** whereas soil creep is slow/steady/can be monitored **[1]**.

*The remaining marks are allocated for details of actual strategies for the two hazards (both must be addressed). Award **[1]** for each strategy and **[1]** for further development or exemplification.*

Possibilities include:
- netting or gabions to stabilize cliffs
- removal of loose cliff material
- vegetation/control of grazing animals to stabilize soils
- walls to retain/stabilize creeping soils.

For example: "Land-zoning to avoid areas of unpredictable rock fall **[1]** *eg* temporary closing of Chapman's Peak in Cape Town **[1]**."

8. (a) Examine the role of plate margin type in determining the severity of volcanic hazards. **[10]**

Marks should be allocated according to the markbands.

Different processes operate at destructive and constructive margins, resulting in different hazard events for inhabited areas.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- destructive margins are usually more dangerous due to viscosity of lava and explosive events. Constructive margins are usually associated with less violent, effusive eruptions
- important aspects of eruptions also include pyroclastic flows, tephra ejection and gas release
- many additional factors affect severity of hazards. Secondary hazards (snow melt, mass movements) may play a role. The scale of the eruption also matters (including "supervolcano" events at volcanic hotspots)
- human factors may be most important however: the number of people affected, their vulnerability, the presence of mitigation measures and use of technology all play a role.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which examines the statement in a way that shows understanding of the relative power of physical and human factors to determine outcomes in different contexts, places and over varied time scales. Another approach might be to examine who technology is creating new possibilities for monitoring volcanoes (GPS sensors on cones), meaning that access to technology is becoming the most important factor.

For 5–6 marks, expect some weakly evidenced outlining of two plate margin types, and a relevant hazard for each type.

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of two plate margin types and their relevant hazards
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

8. (b) Evaluate the success of attempts to predict tectonic hazard events and their possible impacts. **[10]**

Marks should be allocated according to the markbands.

Tectonic hazard events include volcanoes, earthquakes, mass movements and secondary hazards that follow from any of these. There are also different types/aspects of volcanic hazards to consider.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- prediction can range from long-term (using recurrence intervals to consider the likelihood of an event in a given year) to short-term attempts (spotting signs that suggest an event is immanent). Events in places that are extensively monitored are more likely to be predicted than events in places that are less populated/studied
- in recent years, some events have been successfully identified using technology such as GPS crater monitoring. Signals such as minor earthquakes, gas release and possibly animal behaviour have some track record of success. "Swarms" of small earthquakes may help suggest the arrival a large earthquake (*eg* L'Aquila in Italy)
- a distinction can be drawn between predicting an event and predicting what its impacts will be in terms of damages and losses.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) of the statement that shows critical understanding of what "success" might mean in different geographic contexts and <u>places</u> (*eg* it might be measured by the number of lives saved or the value of property saved). Another approach might be to evaluate the success of attempts to calculate statistical probability compared with the success to pinpoint the exact day when an event may occur (<u>process</u> complexity). Another approach might be to evaluate how far <u>perspectives</u> may differ on what constitutes a "success" especially in relation to events of varying <u>scale</u>.

For 5–6 marks, expect some weakly evidenced outlining of two attempts to predict a valid hazard event should be described.

For 7–8 marks, expect a well-structured account which includes:

- <u>either</u> well-evidenced explanation of a range of relevant attempts to predict hazards
- <u>or</u> a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect <u>both</u> of these traits.

Option E — Leisure, tourism and sport

9. (a) Briefly describe the global pattern shown by the graph. **[2]**

Asia has the most wins **[1]**
Australasia has second largest number of wins **[1]**
Europe and Africa have fewer **[1]**
Variations within regions – Europe has larger range than Australasia **[1]**

(b) State **two** possible political factors influencing where the event might take place in any year. **[1+1]**

Possibilities include:
- government support and investment
- corruption
- sanctions against other countries
- lack of conflict/political security.

(c) Suggest **three** reasons for the low number of games won by some of the countries shown on the graph. **[2+2+2]**

*Award **[1]** for each reason suggested, such as the financial costs of training and facilities, social attitudes favouring particular sports, recent entry to the event (not all countries may have joined in 1975). Award **[1]** for further development, exemplification or use of the graph (including quantification).*

For instance: "Some low income countries may lack the money to invest in training facilities **[1]**, this could explain why Kenya has only scored 6 wins **[1]**."

10. (a) Evaluate the costs **and** benefits of tourism as a national development strategy. **[10]**

Marks should be allocated according to the markbands.

Tourism is an important development strategy for many high, middle and low-income countries. Its use helps diversify economies which may have been over-dependent on raw materials and commodities.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- costs and benefits can be economic, social, cultural or environmental and operate on different time scales. For instance, developed high-income countries may also gain from using tourism as a post-industrial strategy to help with sustainable economic development in the long-term
- sustainable ecotourism is an increasingly popular national strategy that attempts to maximise benefits and minimise costs across a range of criteria
- knowledge of important specialist concepts like carrying capacity, threshold and cultural dilution can be used to support an answer.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) of the statement in a way that reaches an evidenced judgement or shows understanding that perspectives may differ on whether costs outweigh benefits (*eg* views of people who may have been displaced by infrastructure projects). Another approach might be to evaluate the temporal or spatial scale over which costs and benefits are experienced (they may not be the same), or to question the underlying assumptions about what a "national development strategy" involves (economic development goals may be met more easily than social ones, for instance).

For 5–6 marks, expect some weakly evidenced outlining of one relevant cost and one relevant benefit.

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of a range of relevant costs and benefits (do not expect balance)
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

10. (b) Examine the impacts of **one or more** festivals on surrounding rural area(s). **[10]**

Marks should be allocated according to the markbands.

The Geography subject guide defines festivals as "musical, religious or sporting events of temporary duration". Some festivals may be held in remote/wilderness areas whereas others may be in the rural-urban fringe (example/s of each are acceptable).

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- economic benefits and multiplier effects enjoyed by surrounding areas and their populations
- negative consequences of exceeding carrying capacity in fragile rural areas, such as trampling and soil erosion
- pollution of waterways, congestion of traffic leading to noise and air pollution, littering and the disposal of non-recyclable materials
- cultural changes as local populations encounter tourists and visitors (especially true of youth-orientated events)
- development of infrastructure to transport and accommodate visitors, bringing landscape changes.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which examines the relative severity of different negative impacts *eg* there is a possibility that the environment is resilient because the impacts are temporary. Another approach might be to examine the sustainability of economic processes (visitors are only there for a few days). Another approach might be to examine how some neighbouring places benefit more than others or suffer more adverse impacts *eg* next to roads or areas that planners have allowed the festival to be sited next to. Perspectives of different stakeholders are likely to differ on how the net overall impact is viewed.

For 5–6 marks, expect some weakly evidenced outlining of two relevant impacts.

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of a range of relevant impacts
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

Option F — Food and health

11. (a) Referring to the map, describe the pattern of female health-adjusted life expectancy (HALE) in African countries north of the equator. **[2]**

*Award **[2]** for two valid descriptions, one of which must be quantified.*

Possibilities include:
- the northern coastline is where it is highest/lower towards the equator
- two coastal north African countries are especially high (65–69)
- the lowest scores are often found inland.

(b) Outline **one** reason why female health-adjusted life expectancy (HALE) remains below 50 years in some countries. **[2]**

*Award **[1]** for a stated reason and **[1]** for further outlining or exemplification which demonstrates understanding of what HALE measures.*

For example: "Debilitating diseases/conditions *eg* hookworm affect many women in some sub-Saharan countries **[1]**. As a result, women lose many years of healthy life resulting in a low HALE score **[1]**."

Other possibilities include:
- complications resulting from childbirth in countries where medial infrastructure is lacking
- sickness linked with poor nutrition and compromised immunity.

(c) Explain **two** disadvantages and **one** advantage of using HALE as an indicator of the health of the populations of the countries shown on the map. **[2+2+2]**

*Award **[1]** for each disadvantage/advantage and **[1]** for further development or exemplification.*

Possibilities include:
<u>Disadvantages</u>
- it is an average **[1]** so doesn't show regional/racial/urban-rural contrast **[1]**
- governments might not record data or not record it accurately **[1]** so data is unreliable/unavailable **[1]**.

<u>Advantages</u>
- HALE includes an adjustment for time spent in ill health due to disease and/or injury **[1]**. This is an advantage compared with the crude measure of life expectancy when studying development/disparities/comparing places **[1]**
- can be used to help countries plan for health provision **[1]** which is especially advantageous for developing countries whose governments have limited public spending **[1]**.

12. (a) Evaluate the role of agribusinesses and new technologies in increasing world food supply. **[10]**

Marks should be allocated according to the markbands.

Agribusinesses include some of the world's largest TNCs: Del Monte, Cargill, *etc*. These companies operate on a global scale and control significant amounts of global food trade. New technologies may include fertilisers, pesticides, machinery and GM crops. Solar powered irrigation systems are used increasingly in Morocco and South Africa.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- agribusinesses they operate economies of scale that may increase overall food supply; and are at the forefront of use of a range of technologies, including fertilizers, pesticides, machinery and GM crops to maximize output and crop yield
- new and emerging technologies may also be available to smallholders and cooperatives, and not just TNCs. However, funding is required (microloans have played an important role in helping may smallholders to modernize in recent years, from Malawi to Bangladesh)
- other actors and factors play a role too in influencing food supply. These could include governments (policies for waste reduction), charities and even climate change (which may act to increase food supply in some areas such as northern Europe).

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) of the statement in a way that shows understanding of the power agribusinesses hold in relation to other actors and stakeholders. Another approach might be to focus on the interactions between agribusiness and technology and to evaluate the importance of the ways in which they intersect. Perspectives may differ on whether the role of agribusiness and new technology is ultimately viewed positively or negatively depending on the importance different stakeholders attach to issues such as biodiversity and local land ownership. Perspectives may also differ on whether agribusiness of technology has the greater role.

For 5–6 marks, expect some weakly evidenced outlining of how agribusinesses and one relevant technology have affected world food supply.

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of how agribusinesses and relevant technologies have affected world food supply
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

12. (b) Examine the relationship between food security and health. **[10]**

Marks should be allocated according to the markbands.

Food security relates to the supply of food to societies and individuals. It can be achieved domestically through increased output and improved distribution; or through trade and imports.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- poor food security results in health problems linked with famine, underweight children and malnutrition. Susceptibility to disease increases in these cases due to a weakened immune system
- food security does not necessarily improve all aspects of health, whoever. A distinction can still be made between improved national food security and the obstacles that may yet exist to effective food distribution at the local/village level
- high-income countries where food is readily and cheaply available often develop "diseases of affluence" and health concerns such as diabetes (almost half a billion people globally now suffer from this).

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which examines the statement in a way that shows understanding of the non-linear and complex interactions between food and health. This is, for instance, demonstrated by the rising possibility of diseases of affluence in many countries. Another approach might be to examine the relationship at different geographical scales, from global to local.

For 5–6 marks, expect some weakly evidenced outlining of two ways in which food security/supply and people's health are linked.

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of ways in which food security/supply and people's health are linked
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

Option G — Urban environments

13. (a) State the compass direction from the city centre to the airport. **[1]**

North east

(b) Estimate the furthest distance north that can be travelled in 30 minutes by car from the city centre. **[1]**

40 km (allow 36 to 44)

(c) State **two** possible reasons why places that are the same distance from the city centre have different driving times. **[1+1]**

*Award **[1]** for each reason.*

Possibilities include: Superior road network, flatter land for easier travel, levels of congestion in different areas, presence of traffic calming measures or traffic lights.

(d) Suggest **three** reasons, **other than** driving time, why housing in zones A and D is more expensive than housing in other zones. **[2+2+2]**

*Award **[1]** for each reason and **[1]** for further development/explanation.*

For full marks, suggestions must be made for both zones A and D.

For example: "There may be environmental reasons why zone D is expensive **[1]** such as the quality of the schools or proximity to city parks **[1]**."

Other possible reasons include:

- land prices may be so high in the centre (zone A) that only very expensive homes can be justified if/when land is redeveloped
- zones B and C may be deindustrialised areas which have yet to be redeveloped and suffer from high rates of dereliction or crime.

14. (a) Evaluate **two or more** strategies designed to improve the sustainability of cities. **[10]**

Marks should be allocated according to the markbands.

The sustainability of cities has environmental, economic and social dimensions. Strategies can take many forms depending on the focus for actions (*eg* economy or environment). Some strategies aim to limit growth; others seek to enable growth but in more sustainable ways.

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- resilient cities, eco-cities and "smart cities" use technology and design to help meet environmental and social challenges whilst also delivering new employment opportunities
- measures to address housing, sanitation and health issues, which many planners will view as the most important aspect of urban sustainability
- economic development initiatives can also be credited if they are clearly focused on delivering economic and social sustainability in the long-term
- environmental measures *eg* traffic controls have social benefits and can help attract new economic investment as city image in improved
- the desirability of strategies (and their outcomes) may not be agreed on by all user groups; some strategies may target one aspects of sustainability (*eg* the environment) but lack a holistic approach that also meets social needs.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) of the statement in a way that shows understanding of the different contexts and challenges faced by city planners in different <u>places</u> and contexts. Housing provision may be easier to deliver is established cities with low growth than in emerging megacities in Africa or Asia where demographic <u>processes</u> offer a greater challenge to planners. Another approach might be to evaluate the extent to which different sustainability goals can <u>interact</u> virtuously with another (environmental improvement in post-industrial cities may help attract investment and migration, for instance). Planning-led gentrification <u>processes</u> can be evaluated from different <u>perspectives</u>.

For 5–6 marks, expect some weakly evidenced outlining of two relevant strategies.

For 7–8 marks, expect a well-structured account which includes:

- <u>either</u> well-evidenced explanation of two relevant strategies
- <u>or</u> a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect <u>both</u> of these traits.

14. (b) Examine the patterns of urban stress that have developed in **one or more named** cities. **[10]**

Marks should be allocated according to the markbands.

Urban stress can relate to pollution (air and noise), the depletion of green space, traffic congestion, economic stress (unemployment) and crime or social disorder. Patterns of stress may be spatial or social (and the two are linked through the social geography of neighbourhoods).

Possible **applied** themes (AO2) **demonstrating knowledge and understanding** (AO1):

- the effects of human activity on urban microclimate and the health stresses this creates in particular places
- pollution and the effect of prevailing winds and other meteorological conditions on urban environmental and social stress
- consequences of inadequate sewage and waste disposal systems for urban populations, especially in particular development contexts
- overcrowding, traffic congestion and noise, and the patterns of stress that develop (linked with major road arteries)
- urban patterns of social deprivation, crime and inequality (linked with the distribution of housing areas or zones)
- stress patterns are dynamic and change over time or in response to management
- clear differences emerge depending on context: developing world megacities may suffer the worst stress while regulation/governance and reduced incomer pressure help to ameliorate stress in affluent cities and neighbourhoods.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which examines the statement in a way that shows understanding of how stresses vary according to place and context. Another approach might be to examine the interactions between different patterns of stress *eg* multiple deprivation, and how these interactions may develop over time. Another approach might be to examine how patterns of stress reflect the power of some groups to control/use land markets and therefore distance themselves from pollution/crime/stress.

For 5–6 marks, expect some weakly evidenced outlining of two relevant patterns.

For 7–8 marks, expect a well-structured account which includes:

- either well-evidenced explanation of two relevant patterns
- or a discursive conclusion (or on-going evaluation) grounded in geographical concepts and/or perspectives.

For 9–10 marks, expect both of these traits.

Diploma Programme
Programme du diplôme
Programa del Diploma

Geography
Higher level and standard level
Paper 2

SPECIMEN

Candidate session number

1 hour 15 minutes

Instructions to candidates

- Write your session number in the boxes above.
- Do not open this examination paper until instructed to do so.
- Section A: answer all questions.
- Section B: answer the question.
- Section C: answer one question.
- The accompanying geography resource booklet is required for this examination paper.
- Answers must be written in the boxes provided.
- The maximum mark for this examination paper is **[50 marks]**.

16 pages

Section A

Answer **all** questions.

Answers must be written in the boxes provided.

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

1. Changing population

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

The map shows the projected megacities of 2030 and their predicted growth rate between 2014 and 2030.

(a) (i) Identify the minimum population size needed for an urban area to be classified as a megacity. [1]

. . . . . .

(ii) Identify the **two** nations that are predicted to have the greatest number of megacities in 2030. [1]

. . . . . .

. . . . . .

(b) Suggest **two** possible reasons for the projected population change in Tokyo. [2]

Reason 1: . . . . . .

. . . . . .

Reason 2: . . . . . .

. . . . . .

(This question continues on the following page)

(Question 1 continued)

(c) Explain **two** possible negative consequences for the cities projected to experience very rapid growth. [2 + 2]

Negative consequence 1: . . . . . .

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Negative consequence 2: . . . . . .

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(d) Explain **one** reason why a country could experience a demographic dividend. [2]

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2. Global climate – vulnerability and resilience

(a) State **two** naturally occurring greenhouse gases **other than** carbon dioxide. [1]

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. . . . . .

(b) Explain **two** positive feedback loops that contribute to climate change. [3 + 3]

Positive feedback loop 1: . . . . . .

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Positive feedback loop 2: . . . . . .

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. . . . . .

(This question continues on the following page)

(Question 2 continued)

(c) State **and** explain **one** geopolitical attempt to reduce the challenges posed by global climate change. [1 + 2]

Geopolitical attempt: . . . . . .

. . . . . .

Explanation: . . . . . .

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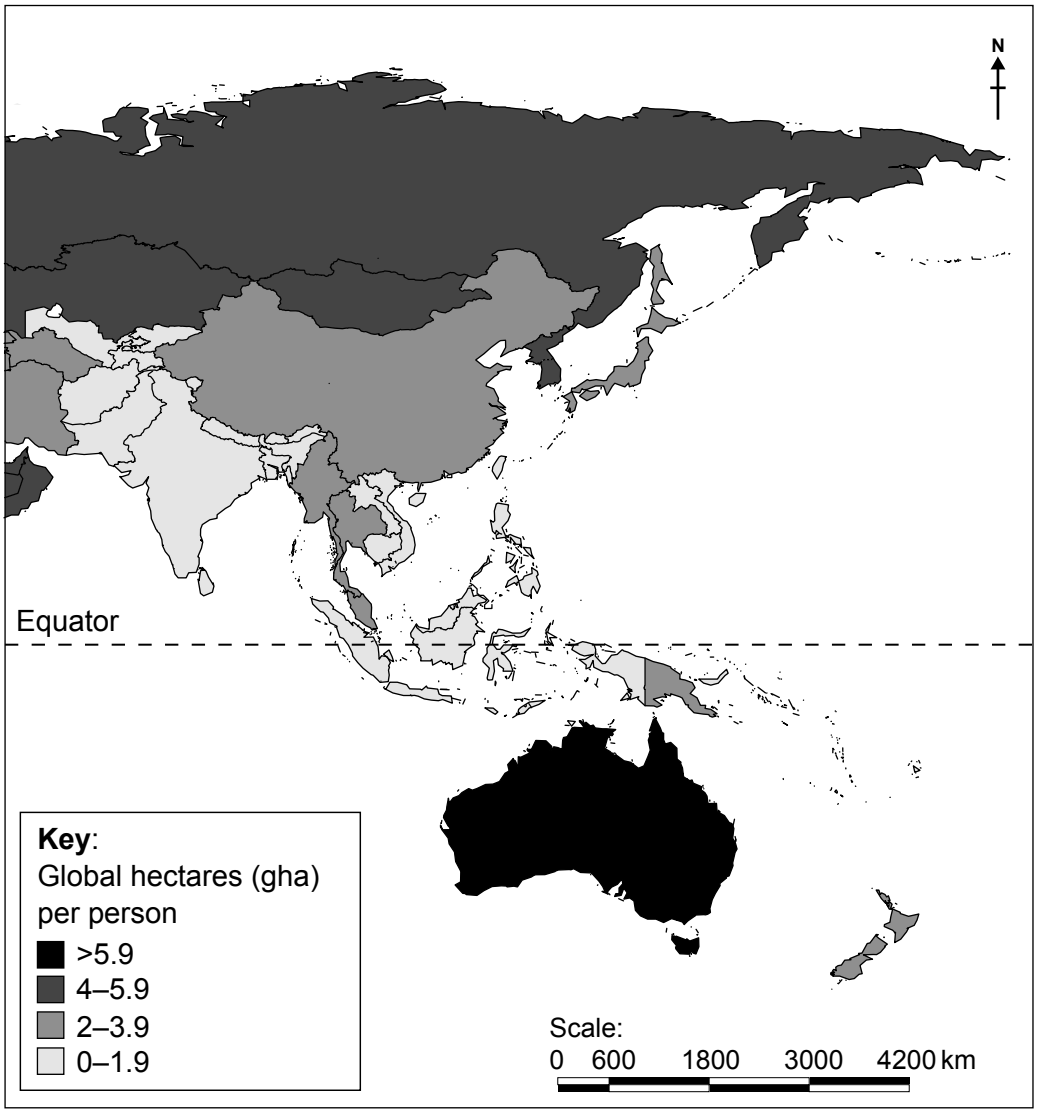
3. Global resource consumption and security

The map shows the ecological footprint for a selected part of the world in 2014 in global hectares per person.



[Source: *WWF Living Planet Report* (2014)]

(a) Describe the pattern of the ecological footprint shown on the map. [2]

. . . . . .

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(This question continues on the following page)

(Question 3 continued)

(b) Suggest **two** reasons for the changing importance of nuclear power. [2 + 2]

Reason 1: . . . . . .

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Reason 2: . . . . . .

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(c) Explain **two** characteristics of the circular economy. [2 + 2]

Characteristic 1: . . . . . .

. . . . . .

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. . . . . .

Characteristic 2: . . . . . .

. . . . . .

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Section B

Answer the following question.

4. Refer to the infographic on pages 4 and 5 of the accompanying resource booklet.

The infographic shows the generation of electricity in Africa.

(a) State the number of locations that:

(i) have future plans for nuclear power. [1]

. . . . . .
. . . . . .

(ii) already have hydroelectric power. [1]

. . . . . .
. . . . . .

(b) Suggest **one** way in which the bar graph depicting electricity generation and population by region could be improved. [2]

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. . . . . .
. . . . . .
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(This question continues on the following page)

(Question 4 continued)

(c) Evaluate **two** ways in which Africa is portrayed negatively in this infographic, **other than** in the bar graph. [3 + 3]

1: . . . . . .

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2: . . . . . .

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Section C

Answer **one** question.

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

5. "Climate change will eventually become the main reason for human migration." To what extent do you agree with this statement? [10]

6. "Energy security is the most important aspect of resource security for nations." To what extent do you agree with this statement? [10]

Diploma Programme
Programme du diplôme
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Geography
Higher level and standard level
Paper 2

SPECIMEN

Resource booklet

Instructions to candidates

- Do not open this resource booklet until instructed to do so.
- This booklet accompanies paper 2.

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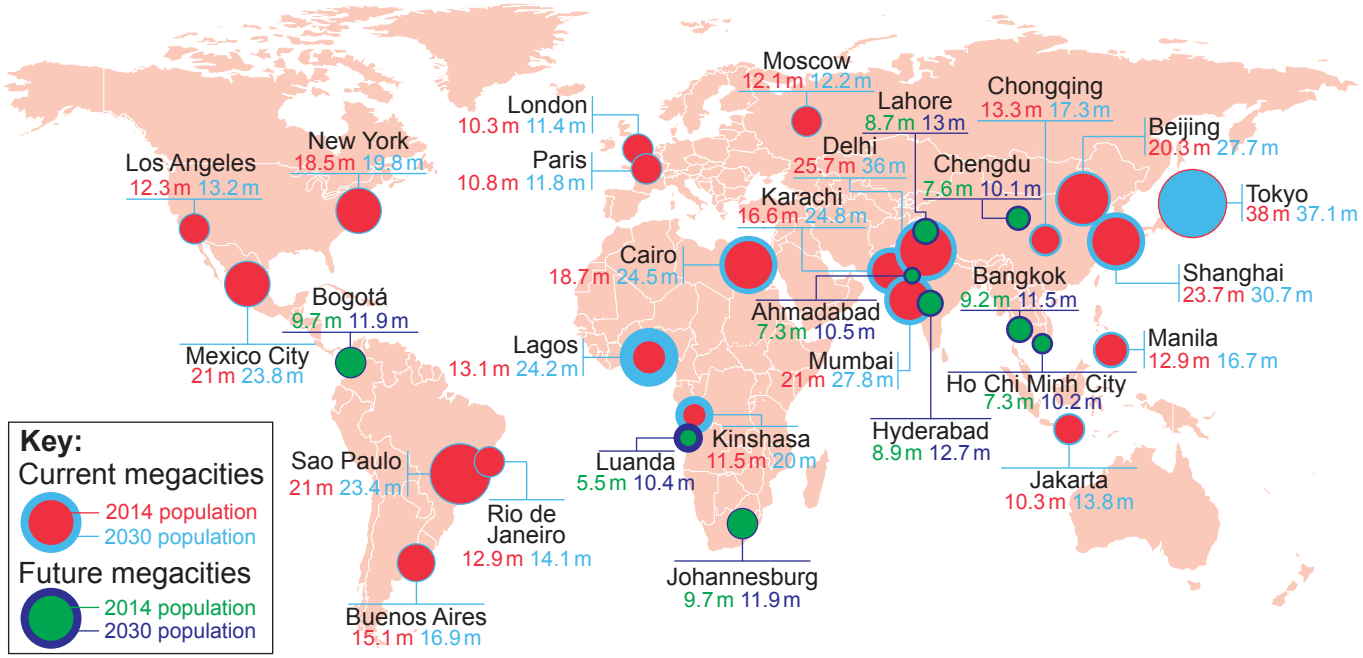
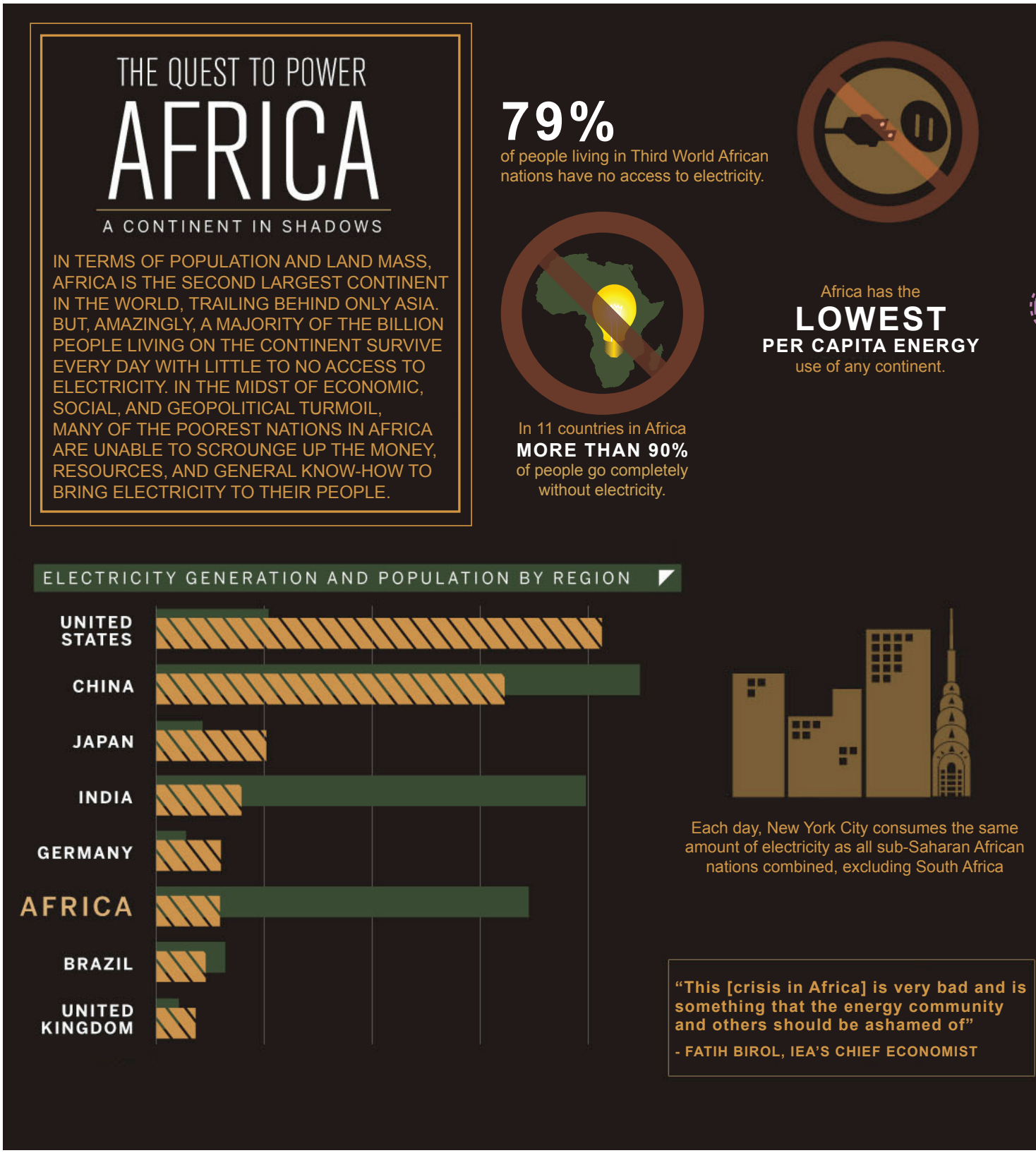
1. Changing population

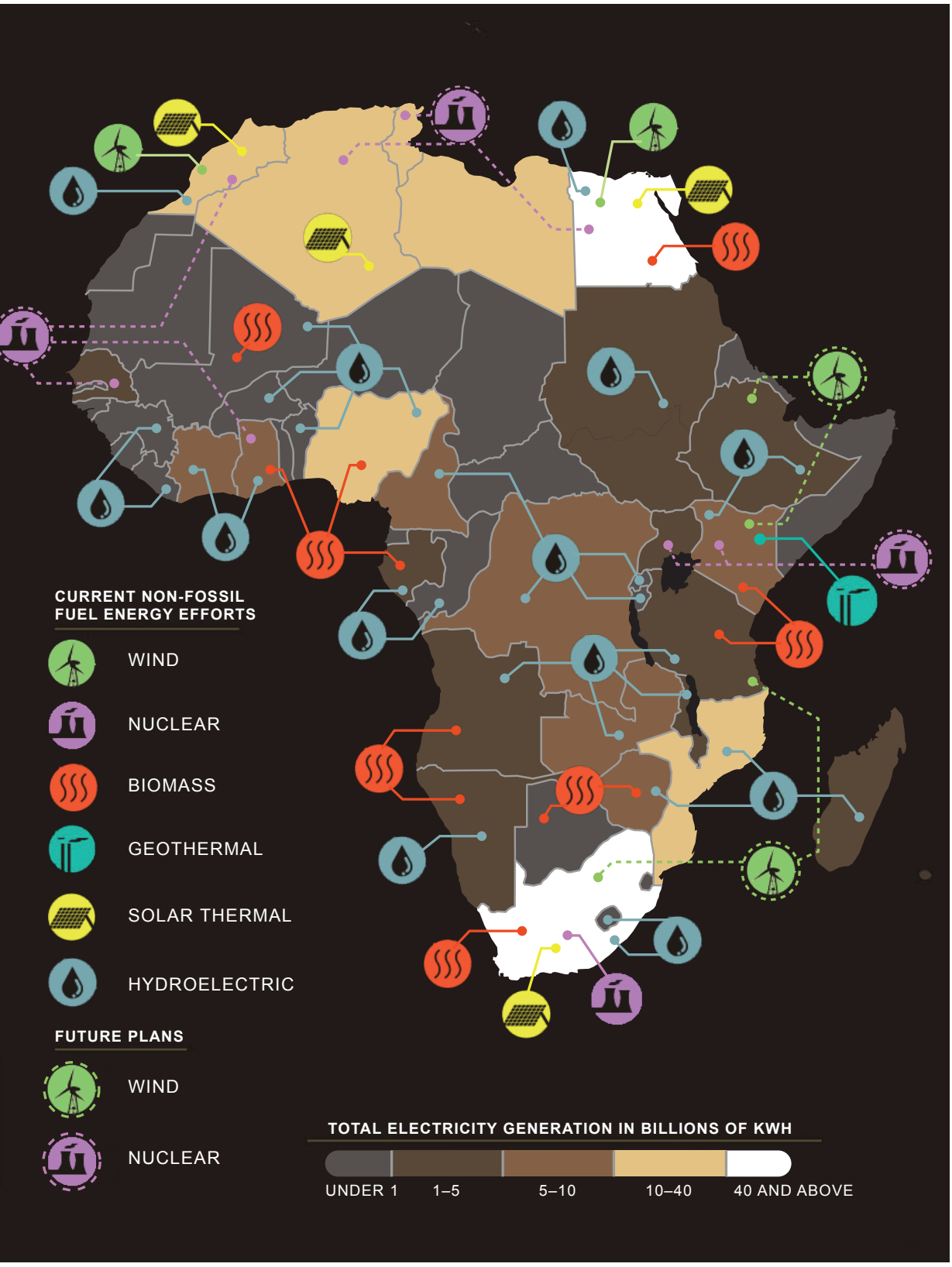
The map shows the projected megacities of 2030 and their predicted growth rate between 2014 and 2030.



[Source: www.allianz.com]

4. The infographic shows the generation of electricity in Africa





[Source: http://awesome.good.is]

Diploma Programme
Programme du diplôme
Programa del Diploma

Markscheme

Specimen

Geography

Higher and standard level

Paper 2

10 pages

International Baccalaureate®
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Paper 2 Section C markbands

Marks	Level descriptor		
	AO1: Knowledge and understanding of specified content **AO2: Application and analysis of knowledge and understanding**	**AO3: Synthesis and evaluation**	**AO4: Selection, use and application of a variety of appropriate skills and techniques**
0	The work does not reach a standard described by the descriptors below.		
1–2	**The response is too brief, lists unconnected information, is not focused on the question and lacks structure.**		
	• The response is very brief or descriptive, **listing** a series of unconnected comments or largely irrelevant information. The knowledge and understanding presented is very general with large gaps or errors in interpretation. Examples or case studies are not included or only **listed**. • There is no evidence of analysis. • Terminology is missing, not defined, irrelevant or used incorrectly.	• No evidence of evaluation or conclusion is expected at this level.	• Information presented is not grouped logically (in paragraphs or sections). • Maps, graphs or diagrams are not included, are irrelevant or difficult to decipher (only if appropriate to the question).
3–4	**The response is too general, lacks detail, is not focused on the question and is largely unstructured.**		
	• The response is very general. The knowledge and understanding presented **outlines** examples, statistics, and facts that are both relevant and irrelevant. Links to the question are **listed**. • The argument or analysis presented is not relevant to the question. • Basic terminology is defined and used but with errors in understanding or used inconsistently.	• If appropriate to the question, the conclusion is irrelevant. • There is no evidence of critical evaluation of evidence (examples, statistics and case studies).	• Most of the information is not grouped logically (in paragraphs or sections). • Maps, graphs or diagrams included lack detail, are incorrectly or only partially interpreted without explicit connections to the question (only if appropriate to the question).
5–6	**The response partially addresses the question, but with a narrow argument, an unsubstantiated conclusion, and limited evaluation.**		
	• The response **describes** relevant supporting evidence (information, examples, case studies et cetera), **outlining** appropriate link(s) to the question. • The argument or analysis partially addresses the question or elaborates one point repeatedly. • Relevant terminology is defined and used with only minor errors in understanding or is used inconsistently.	• If appropriate to the question, the conclusions are general, not aligned with the evidence presented and/or based on an incorrect interpretation of the evidence. • Other perspectives on evidence (examples, statistics and case studies) and/or strengths and weaknesses of evidence are **listed**.	• Logically related information is grouped together (in sections or paragraphs) but not consistently. • Maps, graphs or diagrams included do not follow conventions, and include relevant and irrelevant interpretations in the text (only if appropriate to the question).

<table>
<tr><td>7–8</td><td colspan="3">The response addresses the whole question, the analysis is evaluated and the conclusion is relevant but lacks balance.</td></tr>
<tr><td></td><td>• The response describes relevant supporting evidence correctly (information, examples and case studies) that covers all the main points of the question, describing appropriate links to the question.
• The argument or analysis is clear and relevant to the question but one-sided or unbalanced.
• Complex terminology is defined and used correctly but not consistently.</td><td>• If appropriate to the question, the conclusion is relevant to the question, aligned with the evidence but unbalanced.
• Other perspectives on evidence (examples, statistics and case studies) and/or strengths and weaknesses of evidence are described.</td><td>• Logically related information is grouped together (in sections) consistently.
• Maps, graphs or diagrams included contribute to/support the argument or analysis (only if appropriate to the question).</td></tr>
<tr><td>9–10</td><td colspan="3">The response is in-depth and question-specific (topic and command term); analysis and conclusion are justified through well-developed evaluation of evidence and perspectives.</td></tr>
<tr><td></td><td>• The response explains correct and relevant examples, statistics and details that are integrated in the response, explaining the appropriate link to the question.
• The argument or analysis is balanced, presenting evidence that is discussed, explaining complexity, exceptions and comparisons.
• Complex and relevant terminology is used correctly throughout the response.</td><td>• If appropriate to the question, the conclusion is relevant to the question, balanced and aligned with the evidence.
• Evaluation includes a systematic and detailed presentation of ideas, cause and effect relations, other perspectives; strengths and weaknesses of evidence are discussed; (if appropriate) includes justification of the argument and conclusion.</td><td>• Response is logically structured with discussion (and if appropriate to the question, a conclusion) focusing on the argument or points made, making it easy to follow.
• Maps, graphs or diagrams are annotated following conventions and their relevance is explained and support the argument or analysis (only if appropriate to the question).</td></tr>
</table>

Section A

1. Changing population

(a) (i) Identify the minimum population size needed for an urban area to be classified as a megacity. **[1]**

10 million inhabitants.

(ii) Identify the **two** nations that are predicted to have the greatest number of megacities in 2030. **[1]**

India and China (both needed).

(b) Suggest **two** possible reasons for the projected population change in Tokyo. **[2]**

*Award **[1]** per valid distinct statement.*

Possible statements include:
- falling birth rates
- reduced levels of immigration
- counter-urbanisation.

(c) Explain **two** possible negative consequences for the cities projected to experience very rapid growth. **[2 + 2]**

*Award **[1]** for each valid negative consequence be it social, economic or environmental and another **[1]** for development or exemplification.*

eg A strain on the existing infrastructure **[1]** resulting in increased traffic congestion **[1]** or vice versa.

Other possibilities could include:
- Lack of employment opportunities
- Housing shortages and the growth of informal settlements
- Crime from growing inequality
- Increased air pollution.

(d) Explain **one** reason why a country could experience a demographic dividend. **[2]**

*Award **[1]** for each valid distinct reason and another **[1]** for development/ or exemplification.*

The DD is accelerated economic growth that may result from a decline in a country's birth and death rates and the subsequent change in the age structure of the population – Population Reference Bureau.

eg an increase in the proportion of the working age population **[1]** as a result of falling fertility/birth rates **[1]**.

Other possibilities include:

- reduced mortality rates increasing the proportion in the working age group
- correctly describing the appropriate change in the structure of the population age structure of the population
- change in dependency ratio/ working age increases relative to the youthful population.

2. Global climate – vulnerability and resilience

(a) State **two** naturally occurring greenhouse gases **other than** carbon dioxide. **[1]**

*Must have two of the following for **[1]**:*
- Methane
- Nitrous oxide
- Water vapour
- Tropospheric/ground level ozone.

(b) Explain **two** positive feedback loops that contribute to climate change. **[3 + 3]**

*Award **[1]** for a factor, **[1]** for consequences and **[1]** for an explanation of the feedback loop.*

Possibilities include:

eg Arctic ice melts reducing albedo **[1]** less incoming solar radiation is reflected **[1]** and this increases further melting of Arctic ice **[1]**.

eg Increased temperatures result in greater evaporation **[1]** more water vapour in the atmosphere acting as a greenhouse gas **[1]** leads to increased temperature **[1]**.

eg Melting tundra releases methane **[1]** methane is a GHG **[1]** and so temperature rises **[1]** and more tundra melts.

(c) State **and** explain **one** geopolitical attempt to reduce the challenges posed by global climate change. **[1 + 2]**

A valid geopolitical strategy should be identified **[1]**
The remaining **[2]** should be reserved for an explanation of the strategy.

For example: international agreements on emissions *eg* Kyoto 1997 **[1]**. This means that the signing nation states have agreed to cut GHG emissions **[1]** this will reduce the enhanced GHE **[1]** reducing global warming.

Other possibilities include:
- sharing technology
- development of alternative energies
- actions of MGOs *eg* feed-in tariffs on renewable energy
- international aid.

3. Global resource consumption and security

(a) Describe the pattern of the ecological footprint shown on the map. **[2]**

*Any two valid statements for **[1]**; effective use of data **[1]**.*

Possible statements include:
- highest in Australia – over 6 gha
- lowest in south Asia/south-east Asia/Oceania – below 1.19 gha
- Russia/northern Asia has a middle range value – 2 to 5.9 gha.

(b) Suggest **two** reasons for the changing importance of nuclear power. **[2 + 2]**

Award **[1]** for a valid suggestion and **[1]** for development/exemplification

For example: Safety concerns regarding potential accidents **[1]** *eg* the Fukushima incident in Japan **[1]**.

Concerns about future energy security **[1]** many believe nuclear energy is the only valid alternative future energy that will meet the growing demand **[1]**.

Other possibilities:
- technology has made this a much safer option
- contributes less to GHG
- issues with storage of waste as radioactive for a long time
- expensive alternative compared to other forms of energy.

(c) Explain **two** characteristics of the circular economy. **[2 + 2]**

*Award **[1]** for each valid characteristic and **[1]** for development/exemplification.*

For example: consumers rent products from companies instead of buying them **[1]** which means responsibility for recycling when the product eventually breaks lies with the company **[1]**.

Other possibilities include:
- researchers are developing new “cradle to cradle” design ideas
- materials designed to be used again and again
- materials are kept circulating (in flows) and do not enter landfill
- people become product users rather than consumers.

Section B

4. (a) State the number of locations that:

(i) have future plans for nuclear power; **[1]**

Eight.

(ii) already have hydroelectric power. **[1]**

Twenty nine.

(b) Suggest **one** way in which the bar graph depicting electricity generation and population by region could be improved. **[2]**

*Award **[1]** for each valid point and **[1]** for development.*

Possibilities include:
- would be better if like was compared with like **[1]** and Africa is a continent not a country – others are all countries **[1]**
- the title should indicate the type of energy sources used in generating electricity **[1]**, *ie* renewable electricity generation or all electricity generation **[1]**
- The graph would be more effective if it showed electricity generation per capita rather than kilowatts **[1]** because larger countries may have more electricity generation/needs **[1]**.

(c) Evaluate **two** ways in which Africa is portrayed negatively in this infographic, **other than** in the bar graph. **[3 + 3]**

*Award **[1]** for each negative portrayal identified, and up to **[2]** for each effective evaluation of why this is a negative portrayal.*

For example:
Use of images – the two “no entry/prohibition” signs **[1]** seem to portray no lighting/lightbulbs/ electricity in Africa **[1]**, and this is incorrect/misleading **[1]**.

Tone of language in box in top left corner, *eg* “unable to scrounge up the money, resources, and general know-how to bring energy to their people” **[1]** – this is very patronizing, over-simplistic and insulting use of language about Africa **[1]** which is made up of over 50 diverse countries **[1]**.

Possible areas for evaluation include:
- tone of language
- use of terminology
- use of labels and headings
- sources used
- generalizations
- use of images
- use of colour
- use of data
- intended audience
- scales and proportions or projection of the map
- effectiveness of the key.

Section C

5. "Climate change will eventually become the main reason for human migration." To what extent do you agree with this statement? **[10]**

Marks should be allocated according to the markbands on pages 2–3.

Reponses may tackle the question on a regional or global scale. They should have a clear understanding of the terms "climate change" and "migration" and comment on the direct links or lack of links between the two using a well-developed case study/studies or developed example(s).

Possible **applied** themes (AO2) demonstrating **knowledge and understanding** (AO1):

- Climate change can be explained as a possible cause of migration (push/pull) at local, national or regional scales, for example: drought, increased meteorological hazards and/or rising sea levels.
- The findings of climate change predictions and projections (IPCC reports) can be explained, along with the eventual implications for population migration.
- Responses may also describe migrations which have limited links to climate change *eg* with economic or political push/pull factors as opposed to environmental.
- Responses may make describe the unprecedented number of refugees and economic migrants who are now living in countries where they were not born.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which evaluates the relative importance of climate change or other economic/political factors in causing migration. Another approach might be to focus on possible interactions between different factors (conflicts causing mass movement of people may have climate change as one of their long term causes). Another approach might be to examine the different time scales over which impacts are experienced or could comment that climate change is often difficult to identify as a push factor as many migrations happen for a package of reasons, which are all, interlinked.

For 5–6 marks
Expect weakly-evidenced outlining of climate change and/or migration themes.

For 7–8 marks
Expect a well-structured account which includes:

- **EITHER** a well evidenced synthesis which links together several well-evidenced climate change and migration themes from the Guide
- **OR** a critical conclusion (or on-going evaluation) informed by geographical concepts and/or perspectives.

For 9–10 marks
Expect both traits.

6. "Energy security is the most important aspect of resource security for nations." To what extent do you agree with this statement? **[10]**

Marks should be allocated according to the markbands on pages 2–3.

Reponses may tackle the question on a national, regional or global scale. They should have a clear understanding of the terms "energy security" and "resource security" and comment on the links between the two using well-developed case studies or developed examples.

Possible **applied** themes (AO2) demonstrating **knowledge and understanding** (AO1):

- Responses may explain that the "importance" of energy security depends on the nation in question due to differing levels of for example: development, access to, production and consumption levels and climate. These are some factors that may determine which resource (water, food or energy) is the most important for security. For example for some Middle Eastern nations with vast oil supplies, water and food security may be more of a priority than energy.
- Responses may explain how recent trends in production, consumption, pricing and technology may be impacting upon the importance of energy security in relation to water and food security. Stronger responses may explain how over time climate change is having more of an impact for some regions in terms of their water and food security. Responses could explain the differing arguments that relate to population and resource consumption using the neo Malthus and anti-Malthus debate.

Good answers may be **well-structured** (AO4) and may additionally offer a **critical evaluation** (AO3) which focuses on the recent past and explicitly addresses the issue of "most important" using national examples. Responses could evaluate the relative importance of energy security in relation to resource security and the possible interactions between the two. Another approach might be to evaluate the different time scales over which the importance of water, food and energy may vary in importance.

For 5–6 marks
Expect weakly-evidenced outlining of energy and/or resource security themes.

For 7–8 marks
Expect a well-structured account which includes:

- **EITHER** a well evidenced synthesis which links together several well-evidenced resource security themes from the Guide
- **OR** a critical conclusion (or on-going evaluation) informed by geographical concepts and/or perspectives.

For 9–10 marks
Expect both traits.

Diploma Programme
Programme du diplôme
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Geography
Higher level
Paper 3

SPECIMEN

1 hour

Instructions to candidates

- Do not turn over this examination paper until instructed to do so.
- Answer one question.
- The maximum mark for this examination paper is **[28 marks]**.

Answer **one** question.

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

You can make use of geographic perspectives related to both global change and global interactions.

1. (a) Using examples, analyse how technological developments can threaten the security of states. [12]

(b) To what extent does a global culture exist? [16]

2. (a) Using examples, analyse how the global shift of different industries affects the physical environment. [12]

(b) Examine how powerful places maintain their global influence over time. [16]

3. (a) Using examples, explain the strategies used by transnational corporations (TNCs) to increase their global markets. [12]

(b) “Inequalities within countries are greater than inequalities between countries.” Discuss this statement. [16]

Diploma Programme
Programme du diplôme
Programa del Diploma

Markscheme

Specimen

Geography

Higher level

Paper 3

11 pages

International Baccalaureate®
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Paper 3 part (a) markbands

Marks	Level descriptor		
	AO1: Knowledge and understanding of specified content **AO2: Application and analysis of knowledge and understanding**	**AO3: Synthesis and evaluation**	**AO4: Selection, use and application of a variety of appropriate skills and techniques**
0	The work does not reach a standard described by the descriptors below.		
1–3	**The response is general, not focused on the question, and lacks detail and structure.**		
	• The response is very brief or general, **listing** a series of unconnected comments or largely irrelevant information. Evidence is general or relevant to the topic, but not to the question. • Evidence (that is, facts, statistics, examples or theories) is **listed**, lacks detail, and the relevance to the question is unclear. • Evidence is not used to formulate an argument or an analysis. • Everyday language is used; there is little use of geographical terminology or it is used with errors in understanding.	• No evidence of synthesis or evaluation is expected.	• Information is **listed** but is not grouped together in paragraphs, or paragraphing is erratic. • If present, the conclusion is brief, does not summarize the argument and/or does not address the question.
4–6	**The response only partially addresses the question; evidence is both relevant and irrelevant and is largely unstructured.**		
	• The response partially addresses the question and/or does not meet the requirements of the command term. Key evidence is not included. • A mix of relevant and irrelevant evidence is **outlined** (that is, facts, statistics, examples or theories) and any links to the question are only **listed**. • The evidence presented supports only one element or interpretation of the question. • Key geographical terms are defined briefly. The terminology used is both relevant and irrelevant to the question.	• No evidence of synthesis or evaluation is expected.	• Paragraphs do not reflect grouping of information that addresses a specific element of the question. • If present, the conclusion is one-sided, addressing only part of the question.
7–9	**The response addresses most parts of the question and outlines an analysis supported by relevant evidence but may lack clear links between paragraphs.**		
	• The question is broken down into parts and most parts of the question are addressed in the response, with supporting evidence for each aspect of the question. The response meets the requirements of the command term. • Relevant evidence (that is, facts, statistics, examples or theories) is **described**, focused on the question and mostly correct. Links with the question are **described**. • The analysis **outlines** a two-sided argument briefly (if appropriate) and is mostly descriptive, using examples as explanation. • Correct definitions are given, and relevant and irrelevant specialist geographical terms are used with occasional errors; or everyday language is used.	• No evidence of synthesis or evaluation is expected.	• A series of standalone paragraphs each addressing a specific element of the question but lacking clear links connecting them all into a coherent whole. • The conclusion repeats and summarizes the analysis or argument, but may contain new information as well.

10–12	**The response addresses all aspects of the question; the analysis is explained using evidence integrated in the paragraphs, and it is well structured.**		
	• All aspects of the question are addressed and the response meets the requirements of the command term. • Detailed evidence (that is, facts, statistics, examples or theories) are integrated in sentences and paragraphs, and links made between evidence and the question are **explained** and relevant. • The response **explains** how the two sides of the argument (if appropriate) are supported by detailed evidence that is integrated in sentences. • Clear, correct definitions and use of geographical language is integrated in the sentences and throughout the response.	• No evidence of synthesis or evaluation is expected.	• Paragraphs focus on a relevant point of the argument and integrate the supporting evidence. Paragraphs are linked and support the logical flow of the argument and response. • The conclusion summarizes the evidence and argument, and links all back to the question.

Paper 3 part (b) markbands

Marks	Level descriptor		
	AO1: Knowledge and understanding of specified content **AO2: Application and analysis of knowledge and understanding**	**AO3: Synthesis and evaluation**	**AO4: Selection, use and application of a variety of appropriate skills and techniques**
0	The work does not reach a standard described by the descriptors below.		
1–4	**The response is general, not focused on the question, and lacks detail and structure.**		
	• The response is very brief or general, **listing** a series of unconnected comments or largely irrelevant information. Evidence is general or relevant to the topic, but not the question. • Evidence (that is, facts, statistics, examples or theories) is **listed**, lacks detail, and the relevance to the question is unclear. • Evidence is not used to formulate an argument or an analysis. • Everyday language is used; there is little use of geographical terminology or it is used with errors in understanding.	• No synthesis or evaluation is expected at this level. • No links are presented between the response and (sub)topics in the guide. • No valid opinion or perspective on the issue is formulated.	• Information is **listed** but is not grouped together in paragraphs, or paragraphing is erratic. • If present, the conclusion is brief, does not summarize the argument and/or does not address the question.
5–8	**The response only partially addresses the question with limited links to the guide; evidence is both relevant and irrelevant and is largely unstructured.**		
	• The response partially addresses the question and/or does not meet the requirements of the command term. Key evidence is not included. • A mix of relevant and irrelevant evidence is **outlined** (that is, facts, statistics, examples or theories) and any links to the question are only **listed**. • The evidence presented supports only one element or interpretation of the question. • Key geographical terms are defined briefly. Terminology used is both relevant and irrelevant to the question.	• No synthesis or evaluation is expected at this level. • The link(s) between the response and the guide focus on one topic; other potential links are **listed**. • A valid but limited opinion or perspective on the issue is formulated.	• Paragraphs do not reflect grouping of information that addresses a specific element of the question. • If present, the conclusion is one-sided, addressing only part of the question.
9–12	**The response addresses most parts of the question with developed links to the guide and outlines an analysis supported by relevant evidence but may lack clear links between paragraphs.**		
	• The question is broken down into parts and most parts of the question are addressed in the response, with supporting evidence for each aspect of the question. The response meets the requirements of the command term. • Relevant evidence (that is, facts, statistics, examples or theories) is **described**, focused on the question and mostly correct.	• Synthesis **or** evaluation is required at this level. • Links between the response and the guide refer to multiple topics and are **described.** • Opinion or perspective presented is aligned with the response but the links are not made explicit or the link is a general statement. Other perspectives or	• A series of standalone paragraphs each addressing a specific element of the question but lacking clear links connecting them all into a coherent whole. • The conclusion repeats and summarizes the analysis or argument, but may contain new information as well.

	Links with the question are **described**. • The analysis **outlines** a two-sided argument briefly (if appropriate) and is mostly descriptive, using examples as explanation. • Correct definitions are given, and relevant and irrelevant specialist geographical terms are used with occasional errors; or everyday language is used.	interpretations are **listed** without details.	
13–16	**The response addresses all aspects of the question; the analysis is explained and evaluated using evidence integrated in the paragraphs, and it is well structured.**		
	• All aspects of the question are addressed and the response meets the requirements of the command term. • Detailed evidence (that is, facts, statistics, examples or theories) are integrated in sentences and paragraphs, and links made between evidence and the question are **explained** and relevant. • The response **explains** how the two sides of the argument (if appropriate) are supported by detailed evidence that is integrated in sentences. • Clear, correct definitions and use of geographical language is integrated in the sentences and throughout the response.	Synthesis **and** evaluation is required at this level. Links between the response and (sub)topics from the guide are **explained** and supported by the evidence in the response. The opinion or perspective presented is explicitly linked to the range of evidence included in the response, including critical analysis of the relative certainty of evidence used, describing other perspectives or interpretations of evidence.	Paragraphs focus on a relevant point of the argument and integrate the supporting evidence. Paragraphs are linked and support the logical flow of the argument and response. The conclusion summarizes the evidence and argument, and links all back to the question.

1. (a) Using examples, analyse how technological developments can threaten the security of states. **[12]**

Marks should be allocated according to the markbands on pages 2 to 3.

Credit a broad interpretation of "technological developments" and "security" (thus the use of transport to traffic illegal migrants can be credited as a "threat"). Security of the state can also be seen as its economic viability: some responses may analyse the threats posed by companies' use of ICT to transfer profits between territories and avoid taxes.

Possible technological themes for analysis include: hacking, cyber-espionage and drone missile, attacks in addition to the on-going refinement of more conventional weaponry. Possible evidence may include alleged sabotage of US companies by Chinese and North Korean agencies, the use of drone missiles by the USA in Pakistan, Yemen or Somalia, or terrorist groups hacking into government websites/social media accounts. Answers might also analyse the potential security threat posed to state sovereignty by companies who have storage of sensitive economic and legal data not in a national location but in cyberspace.

Good answers may **apply** (AO2) a wider range of **knowledge and understanding** (AO1) in a **well-structured** way (AO4). One approach might be to analyse direct attacks on national governments *in addition to* targeted security threats against particular individuals and companies residing *within* a state (such as on-line fraud and identity theft). Details might be provided of what/who the geographical targets are, in addition to the technologies that are being deployed (there are threats against military and economic targets, for instance). Another approach might be to provide a structured analysis of overt/covert or real/virtual security threats.

For 4–6 marks, expect some weakly-evidenced outlining of one or two relevant technological developments.

For 7–9 marks, expect a structured, evidenced analysis of:
- either two relevant and distinct technological developments
- or two relevant and different aspects of state security.

For 10–12 marks, expect both of these traits.

(b) To what extent does a global culture exist? **[16]**

Credit all content in line with the markbands. Marks should be allocated according to the markbands on pages 4 to 5. Credit unexpected approaches wherever relevant.

The phrase "global culture" suggests a homogenous culture shared by different countries and groups of people living in different places worldwide. This culture comprises several shared traits such as language, diet, fashion and music. Responses might also consider the extent to which social/political norms – such as the valuing of equality and human rights – are universal.

Not all traits are adopted to the same extent in different places. Global culture does not necessarily replace local cultures, especially in hard-to-reach, isolated areas of developing countries.

Possible **applied** themes (AO2) include **knowledge and understanding** (AO1) of:
- some countries' leading role in cultural globalization (4.1.1)
- the soft power of global superpowers and their cultural influence (4.1.2)
- FDI by TNCs which diffuses cultural traits globally (4.2.2)
- the shrinking world of telecommunications (4.3.2)
- cultural imperialism (5.2.2)
- glocalisation and branded commodities (5.2.2)
- cultural landscape changes (5.2.2)
- the role of diasporas in global culture (5.2.3)
- anti-immigration movements (5.3.1)
- correlation between increased globalization and renewed nationalism/tribalisation (6.1.3)
- *expect themes from the core units (1–3) to be used also.*

Good answers may **synthesise** (AO3a) three or more of these themes in a **well-structured** (AO4) way.

Good answers may additionally offer a **critical evaluation** (AO3b) of the extent to which a global culture has supplanted / replaced local cultures, or exists alongside them (processes of change). Candidates could also evaluate the extent to which all citizens within a nation share a global culture equally or whether some groups or locations resist change (power and scale), while others embrace it (differing perspectives). The extent to which a global culture is truly uniform, or appears in various local adapted / hybrid forms in different countries may also be discussed (places and interactions). Another approach might be to evaluate the extent to which some cultural traits that are shared to a greater degree (*eg* some spoken English, modern architecture, western clothing *eg* trainers) compared with those that are not (*eg* religions).

For 5–8 marks, expect weakly-evidenced outlining of two or three relevant themes.

For 9–12 marks, expect:
- either a structured synthesis which links together several well-evidenced themes from the Guide
- or a critical conclusion (or on-going evaluation) informed by geographical concepts and/or perspectives.

For 13–16 marks, expect both of these traits.

2. (a) Using examples, analyse how the global shift of different industries affects the physical environment. **[12]**

Marks should be allocated according to the markbands on pages 2 to 3.

Possible themes for analysis include:

- the development of global food systems by large agribusinesses. The resulting global shift of cereal and meat production into new territories has been linked with: pollution (run-off and eutrophication); biodiversity loss from monoculture; concerns over GM crops; soil erosion; flooding; albedo changes; possible links with global warming and climate change (*eg* methane emissions from cattle)
- global shift of manufacturing industries. This has had a range of polluting effects (including the processing of e-waste and factories in regions with limited environmental governance).

Good answers may **apply** (AO2) a wider range of **knowledge and understanding** (AO1) in a **well-structured** way (AO4). One approach might be to provide a structured analysis of the impact of different sectors of industry; or to analyse local effects, such as flooding, in addition to global concerns such as biodiversity loss, or climate change. Candidates might provide more information on global agribusinesses and industries (names, locations, markets), rather than offering merely a more generic analysis of the harmful impacts of farming on the environment. Another approach might be to analyse beneficial effects, such as economic benefits that can, in turn, support ecosystem restoration or conservation measures. The escalation of negative effects over time might also be analysed: companies have responded to technological advancement and the global growth of consumerism by building even more complex global production networks with a greater footprint size.

For 4–6 marks, expect some weakly-evidenced outlining of one or two environmental effects of the global shift of industry.

For 7–9 marks, expect a structured, evidenced analysis of:

- either two relevant and distinct environmental effects of global shift
- or two relevant and different sectors/types of industry involved in global shift.

For 10–12 marks, expect both of these traits.

(b) Examine how powerful places maintain their global influence over time. **[16]**

Credit all content in line with the markbands. Marks should be allocated according to the markbands on pages 4 to 5. Credit unexpected approaches wherever relevant.

"Power" is a concept with multiple constituent parts. Expect some discussion of economic power/influence (TNCs, trade flows, aid, lending), political power (influence over MGOs *eg* IMF, EU, UN, NATO) and soft power/cultural influence/cultural imperialism. Some candidates may additionally examine the role of military "hard" power or state control of energy supplies and pathways. Diaspora can be examined as another possible means of gaining global influence. "Places" may not only refer to states but can also include global hubs / world cities such as Tokyo or Paris, or particular regions such as the US "BosWash" region.

Possible **applied** themes (AO2) include **knowledge and understanding** (AO1) of:
- some countries' leading role in steering economic and political globalization (and in ways which are to their own advantage) (4.1.1)
- global superpowers and their past (colonial) or present-day economic, geopolitical and cultural influence over other places (4.1.2)
- some countries' participation and disproportionate influence over G7/8/20, OECD and OPEC groups, or other global institutions (4.1.3)
- the disproportionate influence of some states over IMF and Wold Bank policy (4.1.3)
- some countries or cities' strategic role within global networks and control of global flows (4.2.1)
- membership of, and influence over, multi-governmental organizations such as the EU (4.3.1)
- the importance of raw material availability (4.3.3)
- cultural imperialism by some states (5.2.2)
- the importance of diaspora for some states' global influence (5.2.3)
- the use of disruptive technology to maintain power (6.1.2)
- *expect themes from the core units (1–3) to be used also.*

Good answers may **synthesise** (AO3a) three of more of these themes in a **well-structured** (AO4) way.

Good answers may additionally offer a **critical evaluation** (AO3b) which examines ways in which states or smaller-scale places / world cities maintain influence (<u>places</u>, <u>scale</u> and <u>power</u>). They may involve synthesising their ideas in a way which highlights how different strategies reinforce each other (<u>interactions</u>). Another approach could be to examine what is the most important means of maintaining influence (<u>perspectives</u>). Another approach could be to examine change over time, also included in the statement, and give some consideration to the strategies which may have greatest longevity (<u>possibilities</u>). The concept of "global influence" may also be examined; some states *eg* Nigeria have a powerful regional presence but views may diverge on the extent to which Nigeria is a globally influential power (<u>perspectives</u>).

For 5–8 marks, expect weakly-evidenced outlining of two or three relevant themes

For 9–12 marks, expect:
- <u>either</u> a structured synthesis which links together several well-evidenced themes from the Guide
- <u>or</u> a critical conclusion (or on-going evaluation) informed by geographical concepts and/or perspectives.

For 13–16 marks, expect <u>both</u> of these traits.

3. (a) Using examples, explain the strategies used by transnational corporations (TNCs) to increase their global markets. **[12]**

Marks should be allocated according to the markbands on pages 2 to 3.

Possible strategies for explanation include:
- foreign direct investment (either into production *eg* factories or consumption *eg* stores; and also in the form of joint ventures and mergers)
- the use of glocalised products to maximise share in new markets
- outsourcing (as part of a strategy to maximise profits and reinvest in new markets)
- agreements between TNCs and governments (*eg* in relation to funding of infrastructure projects).

Good answers may **apply** (AO2) a wider range of **knowledge and understanding** (AO1) in a **well-structured** way (AO4). One approach might be to provide a structured analysis of how some TNCs establish a direct presence in new markets, through the establishment of their own branded stores (Carrefour, Apple) while others expand through well-advertised exporting (Coca-Cola). Another approach might be to analyse the strategies of different industry sectors *eg* oil companies and media companies build global markets in different ways, with the latter making greater use of "glocalisation". Another approach might be to analyse the phrase "global market" in more varied ways *eg* TNCs adopting strategies which appeal to different age, ethnic or gender groups in all countries, in order to maximise global market share.

For 4–6 marks, expect some weakly-evidenced outlining of one or two strategies used by TNCs.

For 7–9 marks, expect a structured, evidenced analysis of:
- either two relevant strategies used by TNCs
- or two relevant and different categories/sectors of industry.

For 10–12 marks, expect both of these traits.

(b) "Inequalities within countries are greater than inequalities between countries." Discuss this statement. **[16]**

Credit all content in line with the markbands. Marks should be allocated according to the markbands on pages 4 to 5. Credit unexpected approaches wherever relevant.

"Inequalities" can be interpreted as disparities in wealth, or other aspects of development, linked with issues of social, political or environmental justice, including gender roles in society. All are creditable topics for discussion. Many states have seen economic growth in recent years, from low- to middle-income status. However, the gap between the highest and lowest ranked states, measured using criteria such as GNI per capita, remains very high. Economic inequalities within many states are high, though viewpoints differ on whether internal economic disparities are accentuated or reduced by national growth (linked with different ways in which data are measured, interpreted and used).

Possible **applied** themes (AO2) include **knowledge and understanding** (AO1) of:

- disparities in the level of globalization shown by different states (4.1.1)
- disparities in the level of state participations on global flows and networks (4.2.1)
- global patterns of profit repatriation to TNCs' countries of origin (6.1.2)
- international aid as an indicator of economic inequality between states (4.2.1)
- economic migration as an indicator of economic inequality between states (4.2.1)
- disparities in the degree of international power and influence which different places possess, giving rise to international but also national-scale core-periphery inequality (4.1.2)
- gender and ethnic differences in relation to development and equality at varying scales (5.1.2)
- disparities in exposure to pollution at varying scales (6.2.2)
- microfinance networks within nations (5.1.3)
- internet freedoms and disparities at varying scales (5.3.3)
- *expect themes from the core units (1–3) to be used also*

Good answers may **synthesise** (AO3a) three of more of these themes in a **well-structured** (AO4) way.

Good answers may additionally offer a **critical evaluation** (AO3b) of the statement which discusses how its veracity depends on the way in which "inequality" is conceptualised (perspectives). Another approach might be to critically discuss and compare the levels of internal inequality in different countries (place) perhaps of differing sizes (scale). Another approach might be to discuss how the two sets of inequalities are possibly linked and interact with one another (interactions), for instance TNCs domiciled in high-income countries sometimes work in partnership with powerful elites in low-income countries (power). Another approach might be to discuss changes that have taken place over time (*eg* recent increases in the share of global wealth that billionaires in many states possess).

For 5–8 marks, expect weakly-evidenced outlining of two or three relevant themes

For 9–12 marks, expect:

- either a structured synthesis which links together several well-evidenced themes from the Guide
- or a critical conclusion (or on-going evaluation) informed by geographical concepts and/or perspectives

For 13–16 marks, expect both of these traits.

Diploma Programme
Programme du diplôme
Programa del Diploma

Geography
Standard level
Paper 1

SPECIMEN

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 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
Option C — Extreme environments	5–6
Option D — Geophysical hazards	7–8
Option E — Leisure, tourism and sport	9–10
Option F — Food and health	11–12
Option G — Urban environments	13–14

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. Refer to the map and key on pages 2 and 3 of the accompanying resource booklet.

The map shows an area in western Mexico containing river floodplains and wetlands. The scale is 1:250 000 and the contour interval is 100 metres.

(a) Briefly describe **two** natural features of the river Rio Grande de Santiago downstream from the settlement of La Presa (grid square 3721). [2]

(b) Outline **one** possible threat to this area's wetlands. [2]

(c) Referring to map evidence, suggest **three** ways in which local people might benefit economically from this area's wetlands and/or river landforms. [2+2+2]

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

Either

2. (a) Examine the impacts of human activity on river hydrographs. [10]

Or

2. (b) Evaluate the contribution individuals and communities can make towards minimizing their local area's vulnerability to water scarcity. [10]

End of Option A

Option B — Oceans and coastal margins

Answer the following question.

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

The aerial photograph shows part of a coastline near Montego Bay on the Caribbean island of Jamaica.

(a) Referring to the aerial photograph, describe **two** features that show that the shape of this coastline has been modified due to human intervention. [2+2]

(b) Referring to the aerial photograph, explain **three** possible benefits to human activity that have resulted from modifying this coastline. [2+2+2]

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

Either

4. (a) Examine the environmental and economic impacts of El Niño events. [10]

Or

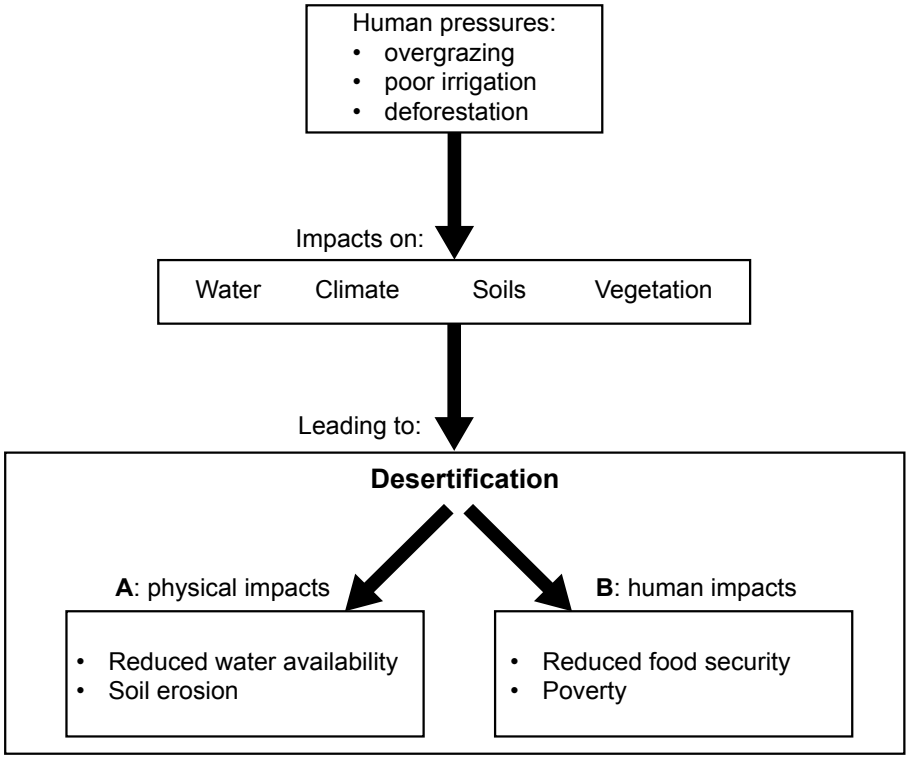
4. (b) Examine why the ownership of oceanic resources is often disputed. [10]

End of Option B

Option C — Extreme environments

Answer the following question.

5. The diagram shows some causes and consequences of desertification.



[Source: copyright International Baccalaureate, 2016]

(a) State **two** additional physical impacts that could be included in box **A**. [1+1]

(b) State **two** additional human impacts that could be included in box **B**. [1+1]

(c) Referring to the diagram, suggest **one** reason why it can be hard to slow down the desertification process. [2]

(d) Explain how overgrazing can lead to desertification. [4]

(Option C continues on the following page)

(Option C continued)

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

Either

6. (a) Examine the opportunities and challenges associated with tourism in cold extreme environments. [10]

Or

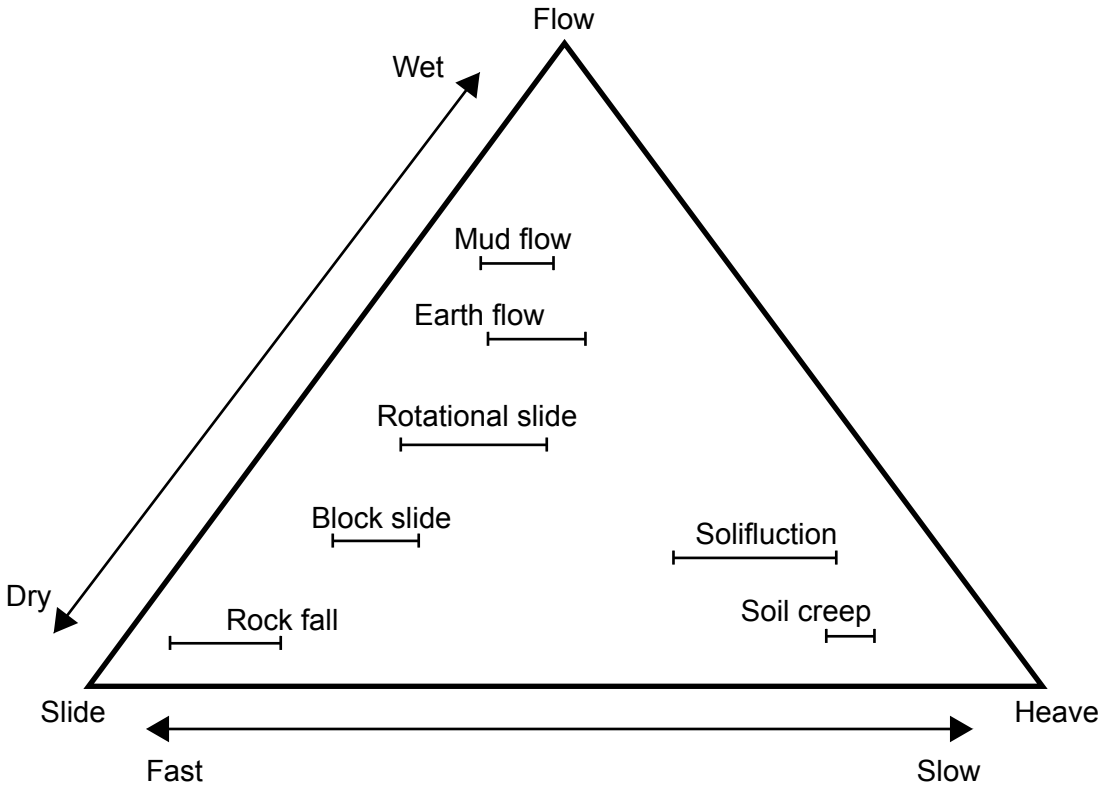
6. (b) Examine the relative importance of glacial (ice) erosion and deposition for the development of glacial troughs and moraines. [10]

End of Option C

Option D — Geophysical hazards

Answer the following question.

7. The diagram shows a classification of selected types of mass movement.



[Source: copyright International Baccalaureate, 2016]

(a) Referring to the diagram, state the characteristics of a rotational slide. [2]

(b) Outline **one** situation in which a mud flow would be classified as a secondary hazard. [2]

(c) Distinguish between the strategies used to manage the risks of rock falls and soil creep. [6]

(Option D continues on the following page)

(Option D continued)

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

Either

8. (a) Examine the role of plate margin type in determining the severity of volcanic hazards. [10]

Or

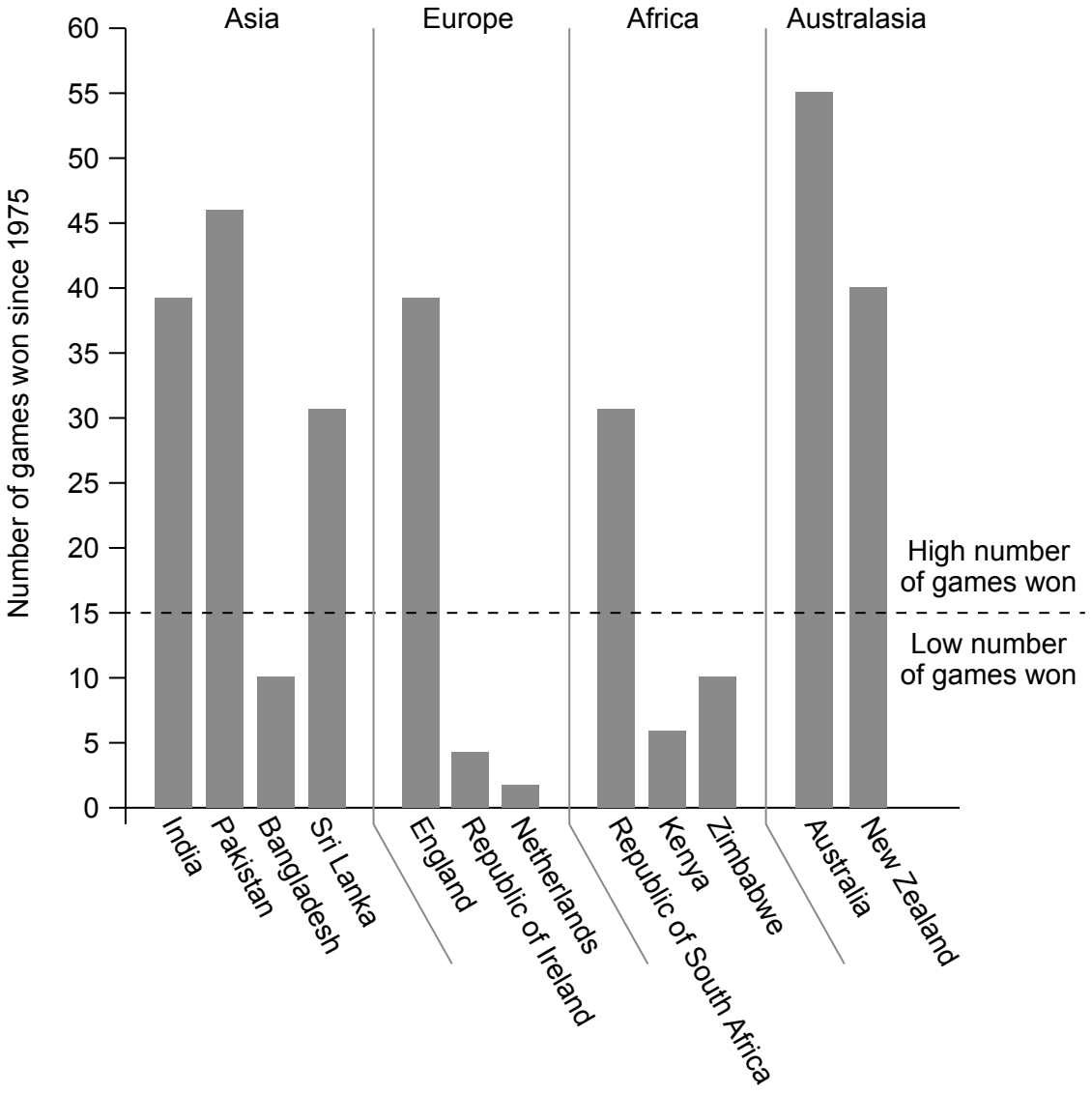
8. (b) Evaluate the success of attempts to predict tectonic hazard events and their possible impacts. [10]

End of Option D

Option E — Leisure, tourism and sport

Answer the following question.

9. The graph shows the number of games won since 1975 by selected countries in a particular international sporting event.



[Source: copyright International Baccalaureate, 2016]

(a) Briefly describe the global pattern shown by the graph. [2]

(b) State **two** possible political factors influencing where the event might take place in any year. [1+1]

(c) Suggest **three** reasons for the low number of games won by some of the countries shown on the graph. [2+2+2]

(Option E continues on the following page)

(Option E continued)

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

Either

10. (a) Evaluate the costs **and** benefits of tourism as a national development strategy. [10]

Or

10. (b) Examine the impacts of **one or more** festivals on surrounding rural area(s). [10]

End of Option E

Option F — Food and health

Answer the following question.

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

The map shows the female health-adjusted life expectancy at birth (HALE) in Africa in 2012.

(a) Referring to the map, describe the pattern of female health-adjusted life expectancy (HALE) in African countries north of the equator. [2]

(b) Outline **one** reason why female health-adjusted life expectancy (HALE) remains below 50 years in some countries. [2]

(c) Explain **two** disadvantages and **one** advantage of using HALE as an indicator of the health of the populations of the countries shown on the map. [2+2+2]

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

Either

12. (a) Evaluate the role of agribusinesses and new technologies in increasing world food supply. [10]

Or

12. (b) Examine the relationship between food security and health. [10]

End of Option F

Option G — Urban environments

Answer the following question.

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

The map shows driving times in a city in North America, together with the average price of a detached home in each zone of driving time.

(a) State the compass direction from the city centre to the airport. [1]

(b) Estimate the furthest distance north that can be travelled in 30 minutes by car from the city centre. [1]

(c) State **two** possible reasons why places that are the same distance from the city centre have different driving times. [1+1]

(d) Suggest **three** reasons, **other than** driving time, why housing in zones A and D is more expensive than housing in other zones. [2+2+2]

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

Either

14. (a) Evaluate **two or more** strategies designed to improve the sustainability of cities. [10]

Or

14. (b) Examine the patterns of urban stress that have developed in **one or more named** cities. [10]

End of Option G