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# Geography

## Higher level

### Paper 1

10 May 2024

**Zone A** afternoon | **Zone B** afternoon | **Zone C** afternoon

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 examination 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
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 **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 on page 2 of the accompanying resource booklet.

The map shows the managed aquifer recharge (MAR) sites in the states of Australia.

- (a) (i) Identify the Australian state with the greatest number of MAR sites. [1]
- (ii) State the water source of the aquifer recharge on the coast of the Northern Territory. [1]
- (b) Outline **one** reason why most MAR sites are near cities. [2]
- (c) (i) Explain **one** way in which agricultural activities may cause salinization. [3]
- (ii) Explain **one** consequence of salinization for farmers. [3]

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

**Either**

2. (a) Examine how human activities within drainage basins may affect the characteristics of river hydrographs. [10]

**Or**

2. (b) Examine the costs **and** benefits that dam building brings to different stakeholders. [10]

## End of Option A

**Option B — Oceans and coastal margins**

Answer the following question.

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

The world map shows the tracks of hurricanes, tropical cyclones, and typhoons.

- (a) (i) State the main direction of the tracks of tropical cyclones in the Southern Hemisphere. [1]
- (ii) Using the world map, state which continent experiences typhoons between April and January. [1]
- (b) Outline **one** reason why hurricanes (tropical cyclones/typhoons) usually form over tropical oceans. [2]
- (c) Explain **two** reasons why stakeholders value mangrove swamps. [3 + 3]

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

**Either**

4. (a) Examine the contribution of conservation areas to the management of oceanic fish stocks. [10]

**Or**

4. (b) Examine the roles of wind and vegetation in the development of coastal sand dunes. [10]

**End of Option B**

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### Option C — Extreme environments

Answer the following question.

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

The photograph shows a glaciated landscape and a footbridge in New Zealand.

- (a) Identify landform **A** and landform **B** shown in the photograph. [1 + 1]
- (b) Outline **one** way in which accessibility may cause a challenge for resource development in the area shown in the photograph. [2]
- (c) (i) Explain how **one named** landscape feature in a hot, arid environment is formed by wind erosion. [3]
- (ii) Explain how **one named** landscape feature in a hot, arid environment is formed by water. [3]

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

**Either**

6. (a) Examine the opportunities **and** challenges associated with mineral extraction in **one** extreme environment. [10]

**Or**

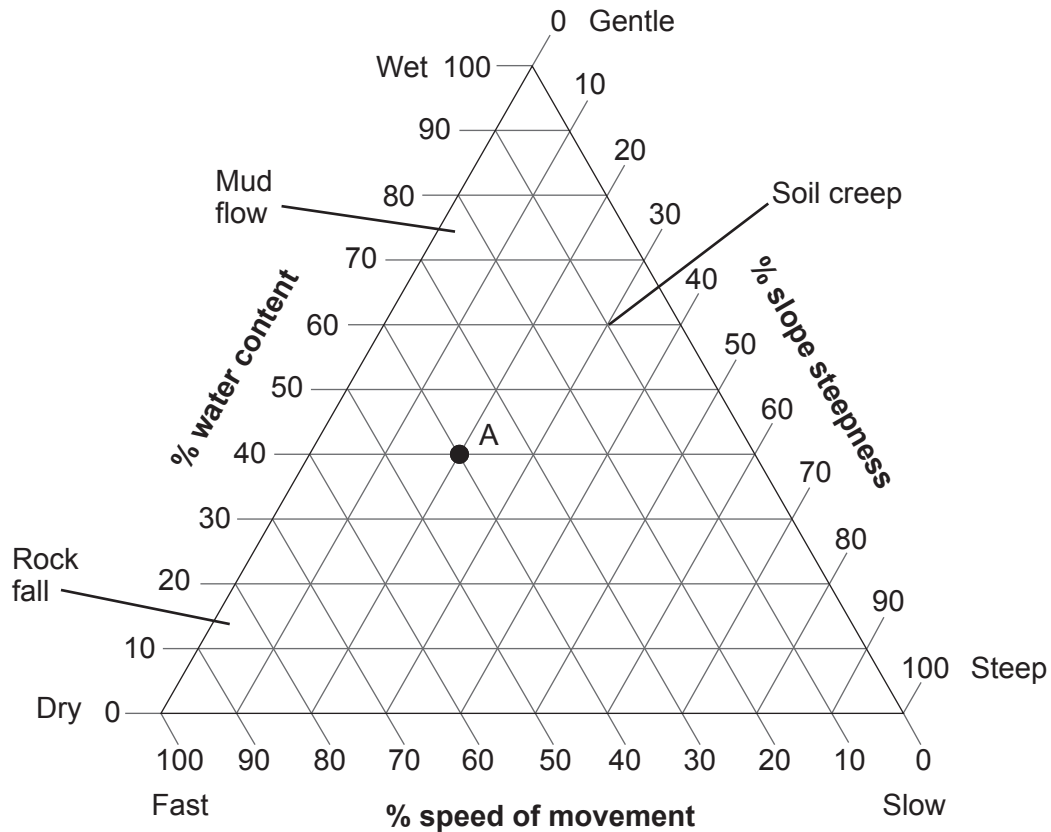
6. (b) Examine the reasons why desertification is accelerating in some arid regions. [10]

## End of Option C

### Option D — Geophysical hazards

Answer the following question.

7. The triangular graph shows some characteristics of mass movement.



- (a) (i) Identify the mass movement type with the slowest speed of movement. [1]
- (ii) State the percentage slope steepness for point **A**. [1]
- (b) Outline **one** situation in which a rock fall would be classified as a **secondary** hazard. [2]
- (c) (i) Explain **one** reason why mass movement hazard risk could **increase** in the future. [3]
- (ii) Explain **one** reason, **other than** the one you identified in (c)(i), why mass movement hazard risk could **decrease** in the future. [3]

(Option D continues on the following page)

**(Option D continued)**

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

**Either**

8. (a) Examine why earthquakes of similar magnitude may have contrasting human impacts. [10]

**Or**

8. (b) Examine how processes at plate boundaries affect volcanic hazard event profiles. [10]

**End of Option D**



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**Option E — Leisure, tourism and sport**

Answer the following question.

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

The map shows the town of Lerwick in the Shetland Isles, Scotland.

- (a) (i) Estimate the straight-line distance, in metres, between Fort Charlotte and the Lodberrie. [1]
- (ii) State **one** recreational activity that might take place at the Knab. [1]
- (b) Outline **one** reason for the location of the Clickimin Leisure Complex. [2]
- (c) Explain **two** management strategies to increase site resilience in **urban** tourist hotspot areas. [3 + 3]

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

**Either**

10. (a) To what extent does personal affluence affect people's participation in leisure activities? [10]

**Or**

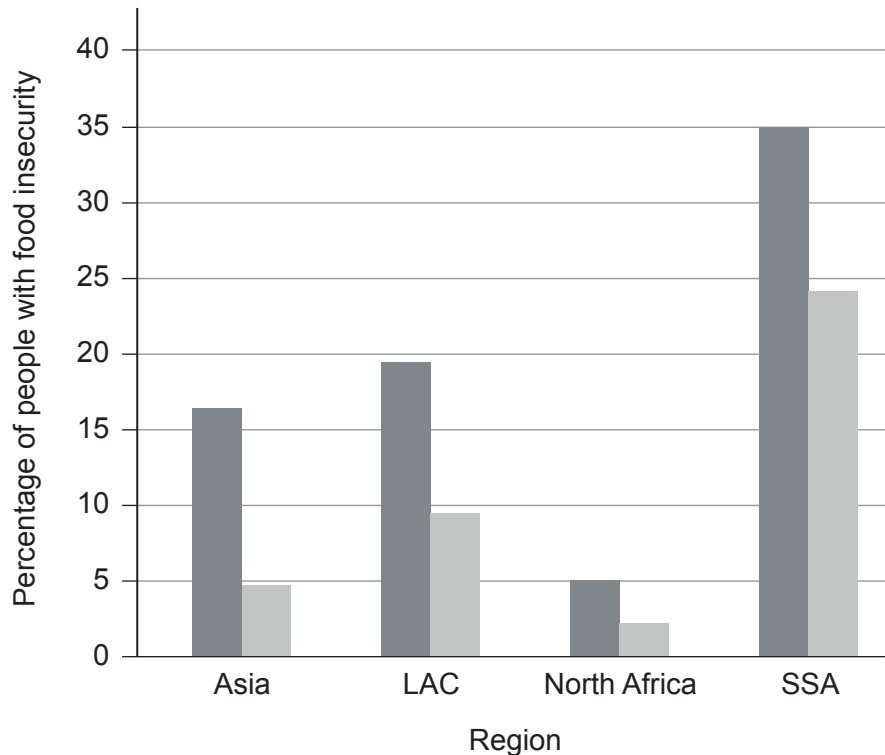
10. (b) Examine the environmental **and** economic impacts of a festival in a rural location. [10]

**End of Option E**

**Option F — Food and health**

Answer the following question.

11. The graph shows the percentage of people with food insecurity in certain regions and the predicted change between 2018 and 2028.



**Key:**



LAC = Latin America and the Caribbean

SSA = Sub-Saharan Africa

- (a) (i) State the percentage of people with food insecurity in Sub-Saharan Africa in 2018. [1]
- (ii) State which region will have the greatest decrease in percentage of people with food insecurity between 2018 and 2028. [1]
- (b) Outline **one** political factor that may lead to high levels of food insecurity. [2]
- (c) Explain **two** disadvantages of relying on international aid to reduce the severity of famine in a region. [3 + 3]

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

**(Option F continued)**

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

**Either**

12. (a) Examine the importance of economic factors in the incidence of water-borne disease. [10]

**Or**

12. (b) To what extent do genetically modified organisms (GMOs) and vertical farming improve food security in different places? [10]

**End of Option F**

## Option G — Urban environments

Answer the following question.

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

The graph shows the trends in urban population growth since 1950 and predicted to 2050 in the populated continents.

- (a) (i) State which continent shows the greatest increase in percentage of urban population between 1950 and 2050. [1]
- (ii) State the year in which **world** urbanization reached 50 %. [1]
- (b) Outline **one** factor that could influence the slower urban population growth in some continents. [2]
- (c) Explain **two** causes of **urban** deindustrialization. [3 + 3]

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

**Either**

- 14.** (a) Examine the contribution of smart city design to the sustainable management of urban systems and services. [10]

**Or**

- 14.** (b) Examine the role of different stakeholders in the management of urban social deprivation. [10]

## End of Option G

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### References:

- 11.** U.S. Department of Agriculture, 2018. *Drivers of Improvements in Global Food Security*. [online] Available at: <https://www.usda.gov/media/blog/2018/08/21/drivers-improvements-global-food-security> [Accessed 25 July 2023]. Source adapted.

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