



Cambridge International AS & A Level

GEOGRAPHY

9696/12

Paper 1 Core Physical Geography

October/November 2023

1 hour 30 minutes



You must answer on the enclosed answer booklet.

You will need: Answer booklet (enclosed)
Insert (enclosed)

INSTRUCTIONS

- Answer **four** questions in total:
 - Section A: answer **all** questions.
 - Section B: answer **one** question.
- Follow the instructions on the front cover of the answer booklet. If you need additional answer paper, ask the invigilator for a continuation booklet.
- Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [].
- The insert contains all the resources referred to in the questions.

This document has **4** pages. Any blank pages are indicated.

Section A

Answer **all** questions in this section. All questions are worth 10 marks.

Hydrology and fluvial geomorphology

- 1 Fig. 1.1 is a photograph which shows a river in Alaska, USA.
- (a) Name the type of river channel labelled A on Fig. 1.1. [1]
 - (b) Draw a cross-section from B to C shown in Fig. 1.1. Label the main features. [4]
 - (c) Explain how the landform labelled D on Fig. 1.1 may have formed. [5]

Atmosphere and weather

- 2 Fig. 2.1 and Fig. 2.2 show two possible causes of precipitation.
- (a) State the cause of precipitation shown in Fig. 2.1. [1]
 - (b) Compare the causes of precipitation shown in Fig. 2.1 and Fig. 2.2. [4]
 - (c) Explain how precipitation is caused by orographic uplift of air. [5]

Rocks and weathering

- 3 Fig. 3.1 shows the global distribution of young fold mountains and active volcanoes.
- (a) Name **one** young fold mountain range shown in Fig. 3.1 that has no active volcanoes. [1]
 - (b) Compare the distribution of young fold mountains with the distribution of active volcanoes shown in Fig. 3.1. [4]
 - (c) Explain the distribution of young fold mountains shown in Fig. 3.1. [5]

Section B

Answer **one** question from this section. All questions are worth 30 marks.

Hydrology and fluvial geomorphology

- 4 (a) (i) Describe the conditions which lead to overland flow on slopes. [3]
- (ii) Explain how the shape of a drainage basin affects the shape of a storm hydrograph. [4]
- (b) Explain how the Hjulström curve is used to explain erosion and deposition in a river channel. [8]
- (c) With the aid of examples, assess the view that the amount of rainfall is the most important factor in causing a river to flood. [15]

Atmosphere and weather

- 5 (a) (i) Describe **two** ways in which incoming (shortwave) solar radiation is prevented from reaching the Earth's surface. [4]
- (ii) Briefly explain how dew is formed. [3]
- (b) Explain how energy is transferred in the atmosphere within the global energy budget. [8]
- (c) With the aid of examples, assess the extent to which land-sea distribution affects the seasonal variation in global pressure. [15]

Rocks and weathering

- 6 (a) (i) Describe the main differences between mass movement processes of flows and slides. [4]
- (ii) Briefly explain how rills occur on slopes. [3]
- (b) Examine the factors that influence physical weathering in different climates. [8]
- (c) With the aid of examples, assess the extent to which precipitation is the main factor in causing mass movements. [15]

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