



Cambridge International AS & A Level

GEOGRAPHY

9696/13

Paper 1 Core Physical Geography

May/June 2024

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 Wales.
- (a) Name feature A shown in Fig. 1.1. [1]
 - (b) Draw a sketch map of the area located at B in Fig. 1.1. Label the main features. [4]
 - (c) Explain the formation of feature C shown in Fig. 1.1. [5]

Atmosphere and weather

- 2 Fig. 2.1 is a satellite image of Hawaii, USA. Fig. 2.2 is a map of Hawaii, USA.
- (a) Estimate the proportion of cloud cover over Hawaii shown in Fig. 2.1. [1]
 - (b) Describe the pattern of cloud cover shown in Fig. 2.1. [4]
 - (c) Suggest reasons for the pattern of cloud cover shown in Fig. 2.1. [5]

Rocks and weathering

- 3 Fig. 3.1 is a diagram which shows a mass movement classification.
- (a) (i) Name the type of mass movement found at X in Fig. 3.1. [1]
 - (ii) Identify the type of mass movement shown in Fig. 3.1 which occurs at an intermediate rate of movement and is wet. [1]
 - (b) Using Fig. 3.1, compare the water content and rate of movement for landslide and rockfall. [2]
 - (c) Explain the differences between the mass movement processes of slide and flow. [6]

Section B

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

Hydrology and fluvial geomorphology

- 4 (a) (i) Define the hydrological terms *percolation* and *baseflow*. [4]
- (ii) Describe how drainage basin shape affects discharge within drainage basins. [3]
- (b) Explain how recurrence intervals can be used in the prediction of flood risk. [8]
- (c) With the aid of a case study, evaluate the attempts to reduce the impact of a recent river flood event. [15]

Atmosphere and weather

- 5 (a) (i) Define the atmospheric terms *incoming solar radiation* and *evaporation*. [4]
- (ii) Describe how land/sea distribution affects the seasonal variation of temperature. [3]
- (b) Explain the latitudinal pattern of radiation excesses and deficits. [8]
- (c) With the aid of a case study of an urban area, assess the extent to which human activity affects its climate. [15]

Rocks and weathering

- 6 (a) (i) Define the terms *subduction* and *conservative plate boundary*. [4]
- (ii) Briefly explain the formation of volcanic island arcs. [3]
- (b) Explain how the strategies of afforestation and grading can be used to reduce mass movements. [8]
- (c) With the aid of examples, assess the extent to which types of weathering are influenced by climate. [15]

BLANK PAGE

The boundaries and names shown, the designations used and the presentation of material on any maps contained in this question paper/insert do not imply official endorsement or acceptance by Cambridge Assessment International Education concerning the legal status of any country, territory, or area or any of its authorities, or of the delimitation of its frontiers or boundaries.

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cambridgeinternational.org after the live examination series.

Cambridge Assessment International Education is part of Cambridge Assessment. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which is a department of the University of Cambridge.