



Cambridge International AS & A Level

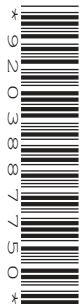
GEOGRAPHY

9696/13

Paper 1 Core Physical Geography

May/June 2021

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.

2**Section A**

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

Hydrology and fluvial geomorphology

- 1** Fig. 1.1 and Fig. 1.2 show catchment flows in a drainage basin system before and after deforestation.
- (a) (i) Name flow X in Fig. 1.1. [1]
- (ii) Calculate flow Y in Fig. 1.2. [1]
- (b) Using Fig. 1.1 and Fig. 1.2, describe the changes to the catchment flows after deforestation. [3]
- (c) Suggest reasons for the changes you described in (b). [5]

Atmosphere and weather

- 2** Fig. 2.1 is a photograph which shows weather phenomena.
- (a) (i) Describe the characteristics of the weather shown in Fig. 2.1. [2]
- (ii) Briefly explain the formation of the weather phenomena shown in Fig. 2.1. [3]
- (b) Suggest reasons why precipitation may not result from the weather shown in Fig. 2.1. [2]
- (c) Briefly explain the formation of frontal precipitation. [3]

Rocks and weathering

- 3** Fig. 3.1 shows the location of ocean trenches in the Pacific Ocean.
- (a) Describe the distribution of ocean trenches shown in Fig. 3.1. [3]
- (b) Using Fig. 3.1, explain the formation of ocean trenches. [4]
- (c) Briefly explain the global distribution of ocean ridges. [3]

3

Section B

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

Hydrology and fluvial geomorphology

- 4 (a) (i) Describe the formation of a river cliff. [3]
- (ii) Briefly explain **two** characteristics of a drainage basin which influence its drainage density. [4]
- (b) Explain how flood forecasts and warnings may prevent and ameliorate river floods. [8]
- (c) 'Rock type is the most significant influence on the shape of a storm hydrograph.'
- With the aid of examples, how far do you agree? [15]

Atmosphere and weather

- 5 (a) (i) Define the atmospheric terms *melting* and *reflected solar radiation*. [4]
- (ii) Briefly explain **one** way solar energy absorbed into the surface affects the diurnal energy budget. [3]
- (b) Explain the seasonal variation in global wind belts. [8]
- (c) 'The most significant effect of human activity on urban climates is on temperature.'
- With the aid of examples, how far do you agree? [15]

Rocks and weathering

- 6 (a) (i) Describe the effects of a mass movement flow on a slope. [3]
- (ii) Briefly explain the small-scale movements of sediment on slopes. [4]
- (b) Explain how temperature influences the type and rate of weathering. [8]
- (c) With the aid of case study material, evaluate attempts to reduce mass movement on slopes. [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 the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.