



Cambridge International AS & A Level

GEOGRAPHY

9696/12

Paper 1 Core Physical Geography

October/November 2022

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 Iceland.
- (a) Name the type of river channel shown in Fig. 1.1. [1]
 - (b) Identify the features labelled X, Y and Z shown in Fig. 1.1. [3]
 - (c) Explain how features X, Y and Z may have formed. [6]

Atmosphere and weather

- 2 Fig. 2.1 shows albedo values for various surface conditions.
- (a) Identify the highest albedo value for snow shown in Fig. 2.1. [1]
 - (b) Compare the albedo values for the surface conditions shown in Fig. 2.1. [4]
 - (c) Explain how albedo affects the diurnal energy budget. [5]

Rocks and weathering

- 3 Fig. 3.1 and Fig. 3.2 show two convergent plate boundaries.
- (a) State the tectonic process occurring at Z in Fig. 3.1. [1]
 - (b) Compare the tectonic processes shown in Fig. 3.1 and Fig. 3.2. [4]
 - (c) Explain the tectonic processes associated with divergent plate boundaries. [5]

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 *recharge* and *infiltration*. [4]
- (ii) Briefly explain how interception is affected by vegetation type. [3]
- (b) Describe and explain helicoidal patterns of flow and turbulent patterns of flow in river channels. [8]
- (c) With the aid of examples, assess the view that rainfall intensity is the most important factor in causing a river to flood. [15]

Atmosphere and weather

- 5 (a) (i) Outline the main characteristics of greenhouse gases. [3]
- (ii) Explain how a mountain range can lead to precipitation. [4]
- (b) Explain how latitude influences the seasonal variation of temperature and pressure. [8]
- (c) With reference to a case study, assess the extent to which human activity has affected the climate of an urban area. [15]

Rocks and weathering

- 6 (a) (i) Describe how a rotational slide can affect a slope. [3]
- (ii) Define the terms *sheetwash* and *rills*. [4]
- (b) Explain how the chemical composition of rocks and the physical structure of rocks affect the way they are weathered. [8]
- (c) 'Mass movement on slopes is mainly the result of human activity.'
- With the aid of examples, how far do you agree? [15]

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