



Cambridge International AS & A Level

GEOGRAPHY

9696/12

Paper 1 Core Physical Geography

October/November 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 shows mean annual hydrographs of the Niger River, at Niamey, Niger.
- (a) State the highest discharge shown in Fig. 1.1. [1]
 - (b) Compare the mean annual hydrograph for 1971–1990 with the mean annual hydrograph for 2011–2020. [4]
 - (c) Explain why annual hydrographs might vary from year to year. [5]

Atmosphere and weather

- 2 Fig. 2.1 shows the predicted change in annual number of mild days from the 1986–2005 average to the average predicted for the period 2081–2100.
- (a) State the predicted change in the number of mild days for location X shown in Fig. 2.1. [1]
 - (b) Describe the pattern of predicted change in the number of mild days shown in Fig. 2.1. [4]
 - (c) Explain the enhanced greenhouse effect. [5]

Rocks and weathering

- 3 Fig. 3.1 shows a model of a mass movement.
- (a) State the type of mass movement shown in Fig. 3.1. [1]
 - (b) Describe the features of the mass movement shown in Fig. 3.1. [4]
 - (c) Explain how the mass movement process of heave may occur. [5]

Section B

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

Hydrology and fluvial geomorphology

- 4 (a) (i) Describe the main features of a braided river channel. [3]
- (ii) Explain **two** processes of erosion in a river channel. [4]
- (b) Explain the formation of river cliffs and point bars. [8]
- (c) With the aid of examples, assess the extent to which land use changes affect water flows above ground and below ground. [15]

Atmosphere and weather

- 5 (a) (i) Define the atmospheric terms *sensible heat transfer* and *evaporation*. [4]
- (ii) Briefly explain how frontal uplift of air may result in precipitation. [3]
- (b) Describe and explain the latitudinal pattern of radiation in the global energy budget. [8]
- (c) 'Land/sea distribution is the main factor influencing seasonal variations in temperature.'
With the aid of examples, how far do you agree with this statement? [15]

Rocks and weathering

- 6 (a) (i) Describe the process of subduction. [3]
- (ii) Explain the weathering process of carbonation. [4]
- (b) Examine the factors that influence sheetwash and rills on slopes. [8]
- (c) With the aid of a case study, assess the extent to which human activity has increased the stability of slopes. [15]

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