



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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