



# Cambridge International AS & A Level

---

## GEOGRAPHY

9696/11

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 shows the annual peak discharge recurrence interval for the Dwarkeswar River in India.

- (a) Using Fig. 1.1, state the annual peak discharge with a recurrence interval of 10 years. [1]
- (b) Describe the relationship between annual peak discharge and recurrence interval shown in Fig. 1.1. [3]
- (c) Use Fig. 1.1 to suggest how recurrence intervals can be used in flood prediction and prevention. [6]

### Atmosphere and weather

2 Fig. 2.1 shows afternoon temperatures across an urban area.

- (a) (i) Name the effect shown in Fig. 2.1. [1]
- (ii) Calculate the range in temperature shown in Fig. 2.1. [1]
- (b) Describe the pattern of temperature shown in Fig. 2.1. [4]
- (c) Give reasons for the pattern of temperature shown in Fig. 2.1. [4]

### Rocks and weathering

3 Fig. 3.1 is a photograph which shows a slope in Somerset, UK.

- (a) Name the type of mass movement at A shown in Fig. 3.1. [1]
- (b) Draw a labelled diagram of the mass movement shown in Fig. 3.1. [3]
- (c) Explain **two** ways a slope may be modified to reduce mass movement. [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 *infiltration* and *interception*. [4]

(ii) Describe a river levée. [3]

(b) Explain the formation of meanders and oxbow lakes. [8]

(c) 'Climate is the most significant factor which influences discharge within a drainage basin.' With the aid of examples, how far do you agree with this statement? [15]

### Atmosphere and weather

5 (a) (i) Describe the albedo effect. [3]

(ii) Explain why not all incoming (shortwave) solar radiation reaches the surface of the Earth. [4]

(b) Explain the causes of precipitation. [8]

(c) With the aid of examples, evaluate whether the atmospheric impact of global warming might vary with location. [15]

### Rocks and weathering

6 (a) (i) Define the weathering terms *freeze-thaw* and *pressure release (dilatation)*. [4]

(ii) Describe the weathering process of vegetation root action. [3]

(b) Explain how rock type and rock structure affect the rate of weathering. [8]

(c) 'The movement of tectonic plates is determined by the process of subduction.' With the aid of examples, how far do you agree with this statement? [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](http://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.