

# Cambridge International AS & A Level

GEOGRAPHY 9696/12

Paper 1 Core Physical Geography

May/June 2020

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:

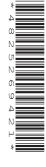
Section A: answer all questions.

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. Blank pages are indicated.

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#### Section A

Answer all questions in this section. All questions carry 10 marks.

## Hydrology and fluvial geomorphology

- 1 Fig. 1.1 shows part of a drainage basin system.
  - (a) Using Fig. 1.1, name:
    - (i) output A [1]
    - (ii) flow B. [1]
  - **(b)** With reference to Fig. 1.1, describe **two** types of below ground flow. [4]
  - (c) Explain why channel flow may change over time. [4]

### **Atmosphere and weather**

- **2** Fig. 2.1 shows a simplified diagram of one part of the energy budget over land.
  - (a) Using Fig. 2.1:
    - (i) calculate the value of energy at A in W/m<sup>2</sup> [1]
    - (ii) name transfer B. [1]
  - (b) With reference to Fig. 2.1, describe how solar radiation is absorbed. [4]
  - (c) Explain why reflected solar radiation from clouds may vary over time. [4]

#### Rocks and weathering

- **3** Fig. 3.1 is a photograph which shows a slope that has been modified to reduce mass movement.
  - (a) Identify **two** strategies used to increase the stability of the slope shown in Fig. 3.1. [2]
  - (b) Describe how **one** strategy you identified in (a) can increase the stability of the slope. [3]
  - (c) Explain how human activities may decrease the stability of a slope. [5]

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#### **Section B**

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

# Hydrology and fluvial geomorphology

- 4 (a) (i) Define the fluvial terms helicoidal flow and saltation. [4]
  - (ii) Briefly explain how river bluffs are formed. [3]
  - (b) Explain how a storm hydrograph is affected by the size and shape of a drainage basin. [8]
  - (c) With the aid of examples, evaluate the effectiveness of flood forecasts **and** warnings in reducing the impacts of river flooding. [15]

# Atmosphere and weather

- 5 (a) (i) Briefly explain the formation of hail. [3]
  - (ii) Explain how the frontal uplift of air may cause precipitation. [4]
  - **(b)** Explain the global latitudinal pattern of radiation. [8]
  - (c) 'The causes of global warming are a result of physical factors.'
    - With the aid of examples, how far do you agree? [15]

# **Rocks and weathering**

- 6 (a) (i) Define the weathering terms carbonation and hydrolysis. [4]
  - (ii) Briefly explain how rock can be weathered by heating and cooling. [3]
  - **(b)** Explain how **two** factors affect the type **and** rate of weathering. [8]
  - (c) With the aid of examples, assess the role of tectonic processes in determining the type of landforms at different plate boundaries. [15]

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