

Cambridge International AS & A Level

GEOGRAPHY

Paper 1 Core Physical Geography

9696/13

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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.

Section A

2

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 ²	[1]
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- (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.				
	(c)		h the aid of examples, evaluate the effectiveness of flood forecasts and warning ucing the impacts of river flooding.	js in [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.				
	(c)	'The causes of global warming are a result of physical factors.'				
		With the aid of examples, how far do you agree?				
Po	oko /	and	voathoring			
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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