Cambridge International AS & A Level

Cambridge International Examinations
Cambridge International Advanced Subsidiary and Advanced Level

GEOGRAPHY **9696/13**

Paper 1 Core Physical Geography **October/November 2018**

1 hour 30 minutes

No Additional Materials are required.

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READ THESE INSTRUCTIONS FIRST

An answer booklet is provided inside this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Section A
Answer **all** questions.
Section B
Answer **one** question.
Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.
All the resources referred to in the questions are contained in the Insert.

The number of marks is given in brackets [ ] at the end of each question or part question.
The total number of marks for this paper is 60.

This document consists of **3** printed pages, **1** blank page and **2** Inserts.

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Section A

Answer **all** questions in this section.

Hydrology and fluvial geomorphology

1 Fig. 1.1 shows components of the drainage basin system.

(a) Using Fig. 1.1, identify:

(i) output A; [1]

(ii) store B. [1]

(b) With reference to Fig. 1.1, describe the effect of the trees on the drainage basin system. [3]

(c) Explain why, during a rain event, there could be more overland flow than infiltration. [5]

[Total: 10]

Atmosphere and weather

2 Fig. 2.1 shows average annual solar radiation received on land.

(a) Using Fig. 2.1, give:

(i) the average annual solar radiation at 50°S; [1]

(ii) the maximum average annual solar radiation at 40°N. [1]

(b) Briefly describe the general pattern of solar radiation shown in Fig. 2.1. [3]

(c) Explain the pattern of solar radiation between the Tropic of Cancer and the Tropic of Capricorn shown in Fig. 2.1. [5]

[Total: 10]

Rocks and weathering

3 Fig. 3.1 shows a photograph of a mass movement.

(a) Name the type of mass movement shown in Fig. 3.1. [1]

(b) Draw a labelled sketch diagram of the main features of the mass movement shown in Fig. 3.1. [4]

(c) Explain how the type of mass movement shown in Fig. 3.1 might have occurred. [5]

[Total: 10]

Section B

Answer **one** question from this section.

Hydrology and fluvial geomorphology

4 **(a)** **(i)** Describe how helicoidal flow occurs in rivers. [3]

(ii) Briefly explain how sediment is transported in rivers. [4]

(b) Describe and explain the formation of braided river channel landforms. [8]

(c) With reference to a recent river flood event, explain the causes of the flood and evaluate attempts to reduce its impact. [15]

[Total: 30]

Atmosphere and weather

5 **(a)** **(i)** Define the terms *evaporation* and *sublimation*. [4]

(ii) Describe the processes that lead to the formation of clouds. [3]

(b) Explain how land and sea distribution affects seasonal variations in atmospheric pressure. [8]

(c) With the aid of examples, evaluate the possible causes and atmospheric impacts of the enhanced greenhouse effect. [15]

[Total: 30]

Rocks and weathering

6 **(a)** **(i)** Define the weathering terms *hydrolysis* and *vegetation root action*. [4]

(ii) Briefly explain how salt crystal growth weathers rock. [3]

(b) Explain how ocean trenches and volcanic island arcs are formed. [8]

(c) 'Rock type is the most important factor in determining the type and rate of weathering.'

With the aid of examples, how far do you agree? [15]

[Total: 30]

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