Cambridge International AS & A Level

Cambridge International Examinations
Cambridge International Advanced Subsidiary and Advanced Level

GEOGRAPHY **9696/11**

Paper 1 Core Physical Geography **May/June 2018**

1 hour 30 minutes

No Additional Materials are required.

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 the relationship between velocity and size of particles eroded, transported and deposited within a river.

(a) Using Fig. 1.1:

(i) state the minimum velocity needed for particles of 0.1 mm to be eroded; [1]

(ii) state the minimum size of particle deposited at a velocity of 1.0 cm / sec. [1]

(b) With reference to Fig. 1.1, describe the relationship between velocity and size of particles deposited. [3]

(c) Explain why the velocity needed to pick up particles varies with their size. [5]

[Total: 10]

Atmosphere and weather

2 Fig. 2.1 shows annual precipitation totals across a mountain range.

(a) Using Fig. 2.1:

(i) state the precipitation total at location A; [1]

(ii) state the location with the highest precipitation total. [1]

(b) With reference to evidence from Fig. 2.1, describe the relationship between precipitation totals and distance from the sea. [3]

(c) Suggest reasons for the different precipitation totals shown in Fig. 2.1. [5]

[Total: 10]

Rocks and weathering

3 Fig. 3.1 shows some possible causes of slope instability.

(a) Using Fig. 3.1, state **one** human activity which could cause slope instability. [1]

(b) Explain how the human activity stated in **(a)** could cause slope instability. [3]

(c) With the aid of an annotated diagram, explain how a slope may be modified to reduce mass movements. [6]

[Total: 10]

Section B

Answer **one** question from this section.

Hydrology and fluvial geomorphology

4 **(a)** **(i)** Define the hydrological terms *stemflow* and *overland flow*. [4]

(ii) Briefly explain what is meant by a water table. [3]

(b) Explain how the shape of a storm hydrograph is influenced by precipitation type and intensity. [8]

(c) With the aid of examples, examine the extent to which hard engineering prevents river floods. [15]

[Total: 30]

Atmosphere and weather

5 **(a)** **(i)** Define the atmospheric terms *reflected solar radiation* and *sensible heat transfer*. [4]

(ii) Briefly explain how dew forms. [3]

(b) Explain the role of absorbed energy in the diurnal energy budget. [8]

(c) With the aid of examples, discuss the view that wind belts are the most important influence on the atmospheric transfer of energy. [15]

[Total: 30]

Rocks and weathering

6 **(a)** **(i)** Briefly describe the process of subduction at convergent (destructive) plate boundaries. [3]

(ii) Explain why the process of sea floor spreading only occurs at some tectonic plate boundaries. [4]

(b) Explain how rainfall affects the type and rate of weathering. [8]

(c) With the aid of examples, assess the extent to which the speed of movement is the most important factor in classifying the types of mass movement. [15]

[Total: 30]

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